Child and Adult Care Food Program (CACFP)

Assessment

of

Sponsor Tiering Determinations

2006

Tiering Level II

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Child and Adult Care Food Program (CACFP) Assessment of Sponsor Tiering Determinations 2006

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EXECUTIVE SUMMARY

The Improper Payments Information Act of 2002 (Public Law 107-300) requires all Federal agencies to calculate the amount of erroneous payments in Federal programs and to periodically conduct detailed assessments of vulnerable program components. This study of the Family Day Care Home (FDCH) component of the U.S. Department of Agriculture's (USDA) Child and Adult Care Food Program (CACFP) developed and conducted a program assessment for producing a national estimate of the share of CACFP FDCHs that are misclassified into the wrong reimbursement tier. Misclassifications translate into improper payments because misclassified FDCHs do not receive the appropriate level of reimbursement for the meals and snacks provided to the children. As in the initial 2005 study, the purpose of the 2006 study is to identify erroneous payments arising from the misclassification of FDCHs for Tier I or Tier II program reimbursements.

To develop national estimates of erroneous payments in this program component, the study drew a nationally representative sample of sponsor files for 3,150 Tier I and II FDCHs from 92 distinct sponsors in 14 States. This represented approximately 2 percent of all FDCHs and 10 percent of all sponsors. Data collectors went to each of these sponsors with randomly drawn lists of 30 to 90 FDCHs and extracted meal counts and tiering decision information from the sponsors' files. In addition to information on tiering, information was collected on the number of meals reimbursed by tier type (Tier II FDCHs can be reimbursed at Tier I rates for the meals of individual children who are income eligible.), meal type, and month, from October 2005 through September 2006.

The analysis of the data collected for each FDCH produced a determination of what tiering level the documents supported and what tiering level the sponsor had designated. Whenever there was a discrepancy between these two determinations, a procedural misclassification was identified.[1] Almost 20 percent of all FDCH homes had a procedural misclassification (i.e., their file documentation did not support the tiering determination).

Slightly more than 77 percent of procedural misclassifications were attributable to errors in the school boundary method for determining Tier I status, including inadequate documentation linking an FDCH to an eligible school or inadequate documentation of an eligible school.

Independent validation procedures were used to confirm the Tier I status of FDCHs with procedural errors related to school boundary, provider income, categorical eligibility, and the Census tiering determination methods. The independent validation only reviewed the documentation present in the FDCH sponsor file, and was limited to using the existing documentation to determine if the Tier I status could be supported by using either the school boundary method, the primary validation method, or by using the Census block group method, the secondary validation method. The Census block group method was only attempted in cases where the school boundary method resulted in either an inconclusive or lower tiering status determination.[2] After these procedures, 97.08 percent of all homes were found to be correctly

[1] A procedural error may or may not lead to an improper payment; the latter are addressed later in this document.

[2] It should be noted that the school boundary method was attempted first in the independent verification procedures for all tiering methods except for those cases where the original tiering status was determined using the Census block group method. In this instance, the original method was first attempted independently and then the school boundary method was attempted. This ordering is outlined in the algorithms presented in Chapter 3 of this report.

classified. The rate of misclassification was determined to be 2.92 percent for all FDCHs and 4.03 percent for Tier I homes (see Exhibit A).

Exhibit B shows the estimated costs associated with the verified estimates of misclassifications, including findings from both the primary and secondary validation processes. The total amount of improper payments[3] associated with misclassified FDCHs for this study is estimated to be $9.4 million, with a 90 percent confidence range of between $6.5 and $12.2 million; which represents 1.4 percent of the total FDCH meal reimbursements in 2006.

The total estimated expenditures for meal reimbursements for all homes (covering the period from October 2005 to September 2006) were $671,764,329 (Exhibit C).

[3] That is, the sum of the overpayments to Tier I homes and the absolute value of the underpayments to Tier II homes.

Exhibit A: Estimated Misclassification Rates by Tiering Status in FY 2006

Type of Home	Pre-Verification Estimate of Misclassification Rate	Lower Limit*	Upper Limit*	Pre-Verification Estimate of FDCHs Incorrectly Classified**	Pre-Verification Estimate of FDCHs Correctly Classified	Estimated Total FDCHs
Tier I	27.48%	23.80%	31.20%	28,419	74,989	103,408***
Tier II	0.22%	0.10%	0.40%	94	42,790	42,884***
All Tier I or Tier II	19.49%	17.50%	21.50%	28,512	117,779	146,292
Type of Home	**Preliminary Verified Estimate of Misclassification Rate**	**Lower Limit***	**Upper Limit***	**Preliminary Verification Estimate of FDCHs Incorrectly Classified**	**Preliminary Verification Estimate of FDCHs Correctly Classified**	**Estimated Total FDCHs**
Tier I	4.78%	3.46%	6.10%	4,944	98,464	103,408***
Tier II	0.22%	0.08%	0.36%	94	42,790	42,884***
All Tier I or Tier II	3.44%	2.65%	4.23%	5,038	141,255	146,292
Type of Home	**Final Verified**** Estimate of Misclassification Rate**	**Lower Limit***	**Upper Limit***	**Secondary Verification Estimate of FDCHs Incorrectly Classified**	**Secondary Verification Estimate of FDCHs Correctly Classified**	**Estimated Total FDCHs**
Tier I	4.03%	2.76%	5.31%	4,171	99,237	103,408***
Tier II	0.22%	0.08%	0.36%	94	42,790	42,884***
All Tier I or Tier II	2.92%	2.14%	3.69%	4,265	142,027	146,292

* 90 percent confidence level: ** All sampled FDCHs for which Tier I status cannot be documented, either initially or through follow up, are deemed incorrectly classified. ***Total homes estimated from sample. Source: 2006 CACFP Tiering Assessment, weighted estimates. Final Verified findings include the outcomes of the secondary verification of FDCHs with procedural errors using primarily the Census block group method.

Exhibit B: Costs of Verified Misclassifications in FY 2006

Primary Verification****	Estimated Costs*	Lower Bound Estimate**	Upper Bound Estimate**	Estimated Total FDCHs
Misclassified Tier I FDCHs	$11,249,292	$8,301,852	$14,196,731	103,408***
Misclassified Tier II FDCHs	$146,852	$77,938	$215,765	42,884***
All Misclassified FDCHs	$11,396,144	$8,441,351	$14,350,936	146,292
Secondary Verification**	**Estimated Costs***	**Lower Bound Estimate****	**Upper Bound Estimate****	**Estimated Total FDCHs**
Misclassified Tier I FDCHs	$9,206,139	$6,407,469	$12,004,810	103,408***
Misclassified Tier II FDCHs	$146,852	$77,938	$215,765	42,884***
All Misclassified FDCHs	$9,352,991	$6,547,135	$12,158,847	146,292

* Cost estimates are the seasonally adjusted expected values where the expectation takes into account the average number of meals and snacks for which a Tier II home would be compensated at the highest (Tier I) level. ** 90 percent confidence level. ***Total homes estimated from the sample. Source: 2006 CACFP Tiering Assessment. ****Data for Primary Verification presents the findings after the initial wave of independent follow-up of procedural errors using the school boundary method had been conducted. Secondary Verification represents the findings after the Census block group method had been attempted on the remaining procedural errors.

Exhibit C: Meals and Expenditures Reimbursed at Tier I and Tier II Rates

	Number of Meals and Snacks	Expenditures	Share of Meals and Snacks	Share of Expenditures
Tier I	477,872,447	$586,774,703	77%	87%
Tier II	144,753,831	$84,989,626	23%	13%
Total	622,626,278	$671,764,329	100%	100%

Source: 2006 CACFP Tiering Assessment. National, weighted, seasonally adjusted estimates based on sponsor files for 3,150 FDCHs.

CHAPTER 1. INTRODUCTION TO THE STUDY

The U.S. Department of Agriculture's (USDA's) Child and Adult Care Food Program (CACFP) plays a vital role in improving the quality of day care by reimbursing providers for their costs of meals and snacks. Each day, 2.9 million children receive nutritious meals and snacks through CACFP.[4] USDA's Food and Nutrition Service (FNS) administers CACFP by means of grants to States, typically State educational agencies. Independent centers and sponsoring organizations enter into agreements with State agencies to assume administrative and financial responsibility for CACFP operations.

Since the establishment of CACFP in 1968 (Section 17 of the National School Lunch Act [42 U.S.C. 1766]), the number of children served has grown and the method of compensating meals has changed. Participation was originally limited to center-based child care in areas where poor economic conditions existed. In 1976, family day care homes (FDCHs) also became eligible to participate, provided they met State-licensing requirements or otherwise obtained approval from an appropriate State or local agency. Rather than have FDCHs apply directly to State agencies, they were required to be sponsored by a public or private nonprofit organization that assumed responsibility for ensuring compliance with Federal and State regulations and acted as a conduit for meal reimbursements.[5]

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) changed the meal reimbursement structure for FDCHs, establishing two tiers of reimbursement rates (Tier I and Tier II). The intent of this change to CACFP was to target program benefits more closely to low-income children. Now, FDCHs in low-income areas or those operated by low-income persons meeting the guideline of being at 185 percent below the poverty line are classified as Tier I and are reimbursed for meals at higher rates than all other FDCHs, referred to as Tier II FDCHs. All other homes, referred to as Tier II homes, are reimbursed at lower rates, meaning they receive less money per meal served. Tier II FDCHs can still receive the higher Tier I reimbursement rates for meals served to children from families with incomes at or below 185 percent of the poverty level, but the individual child's eligibility must be documented.

Sponsoring organizations are responsible for determining that FDCHs meet CACFP eligibility criteria, providing training and other support, designating each FDCH as either Tier I or Tier II, and monitoring the FDCHs to ensure that they comply with applicable Federal and State regulations. Sponsors receive and verify the claims of FDCHs for CACFP reimbursement, forward the claims to their State CACFP offices, receive the reimbursements, and distribute the meal reimbursements to the FDCHs.

The Improper Payments Information Act of 2002 (Public Law 107-300) requires Federal agencies to identify and reduce erroneous over- and under-payments in various programs, including CACFP.

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[4] Another 86,000 adults are served.

[5] The CACFP Website (http://www.fns.usda.gov/cnd/Care/CACFP/cacfpfaqs.htm) presents a detailed history of the changes in program participation and rules.

As in the Base year study in 2005,[6] the purpose of this study is to identify erroneous payments arising from the misclassification of FDCHs for Tier I or Tier II program reimbursement.[7] Specifically, the objectives of the study are to—

1. Develop the program assessment design and methodology for producing nationally representative estimates of the number of FDCHs participating in CACFP that have been assigned an incorrect tiering status.

2. Collect the required data to develop nationally representative estimates of FDCHs participating in CACFP that have been assigned an incorrect tiering status.

3. Report an estimated range from the highest to the lowest likely amount of the cost, in terms of misallocated meal/snack reimbursements, of misclassifying FDCHs as Tier I as well as the underpayments associated with inaccurate Tier II designations.

The remainder of this report presents the assessment design and methodology, a discussion of the data collection procedures, analysis outcomes, and study findings.

[6] Child and Adult Care Food Program (CACFP): Assessment of Sponsor Tiering Determinations, 2005 Final Report.
[7] FNS has been conducting a comprehensive onsite assessment of a sample of participating FDCH sponsors to review compliance with recordkeeping requirements and supportability of claims for meal reimbursement by FDCHs.

CHAPTER 2. ASSESSMENT DESIGN AND METHODOLOGY

The purpose of this chapter is to explain in depth the procedures that were adopted to meet the study design objectives. The assessment design employed in this study was based on the design used in the 2005 study, where the key methodological tasks were (1) establishing a procedure to verify the current tiering status of FDCHs as they are listed in sponsors' files, (2) developing a sampling design to estimate the misclassification rate within an upper and lower bound of 2.5 percentage points at the 90 percent confidence level, and (3) estimating the upper and lower bound of the amount of overpayments associated with misclassified Tier I FDCHs and underpayments associated with misclassified Tier II FDCHs.

In the 2005 study, the analysis of preliminary findings revealed the need for validation[8] activities to be conducted in cases where the tiering determination documentation was ambiguous and did not clearly support the original tiering determination. To address this methodological need, a series of algorithms were developed to validate sponsors' tiering determinations. The assessment plan for determining tiering misclassification was expanded to a two-stage approach to allow for follow-up verification procedures for cases where there is an initial misclassification resulting from insufficient or incomplete documentation at the sponsor level (procedural misclassifications). These algorithms, providing for alternative means of validating a tiering decision, are presented as a part of this discussion as well. The discussion begins by reviewing the necessary criteria for establishing procedures to verify the current status of FDCHs determined by sponsors, before presenting a discussion of the other major characteristics of the assessment design.

STAGE ONE VERIFICATION: ESTABLISHING PROCEDURES TO VERIFY THE CURRENT TIERING STATUS OF FDCHS

Procedures for Verifying Tier I Status

The assessment design for the study was based directly on the regulations set forth in 7 C.F.R. §226.2. The definitions of tiering status are as follows:

Tier I day care home means (a) a day care home that is operated by a provider whose household meets the income standards for free or reduced-price meals, as determined by the sponsoring organization based on a completed free and reduced-price application, and whose income is verified by the sponsoring organization of the home in accordance with §226.23(h)(6); [The quoted definition does not mention that a day care home operated by a provider currently participating in a Government means-tested program in which the income of the provider's household is less than 185 percent of the poverty level is deemed categorically eligible for Tier I reimbursements.] (b) A day care home that is located in an area served by a school enrolling elementary students in which at least 50 percent of the total number of children enrolled are certified eligible to receive free or reduced-price meals; or (c) A day care home that is located in a geographic area, as defined by FNS based on Census data, in which at least 50 percent of the children residing in the area are members of households that meet the income standards for free or reduced-price meals.

[8] In this report, the term validation is used to refer to activities conducted to assess the inadequacy of sponsor documentation and check alternatives for documenting the tiering status of an FDCH. The term verified is used to refer to the conclusion and results of this follow-up process.

A Tier II day care home means a day care home that does not meet the criteria for a Tier I day care home. Sponsors are responsible for the determination of the tiering level of each FDCH.[9] There are two broad methods for FDCH tier determination status in CACFP: 1) Area Eligibility or 2) Income Eligibility. Area Eligibility methods rely on the geographic location of the provider in an area where at least 50 percent of the total number of children residing in the area lives in a household that meets the income standards for free or reduced-price meals. Proof of Area Eligibility can be shown in one of two ways—

1. *School Boundary Area*: The provider must be served by a school enrolling elementary students in which at least 50 percent of the total number of children enrolled is certified eligible to receive free or reduced-price meals.

2. *Census Block Group:* The provider must be located in a Census block group in which at least 50 percent of the total number of children residing in the area live in a household that meets the income standards for free or reduced-price meals.[10]

In contrast, Income Eligibility methods rely on proof that household income of the FDCH provider meets the criteria for free or reduced-price school meals (185 percent of Federal poverty guideline or below), and can be achieved through two means—

1. *Provider's Documented Annual Income*: A completed income eligibility statement for the provider that lists all household members and associated income. (Sponsors are required to verify income eligibility information through such documents as pay statements and tax returns from households).

2. *Categorical Eligibility:* The FDCH provider is currently participating in a Government means-tested program that has a household income eligibility level less than or equal to 185 percent of the Federal poverty level (e.g., the Food Stamp, TANF, or Food Distribution Program on Indian Reservation [FDPIR] programs.

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[9] The tiering determination is one of the primary responsibilities of sponsors, which make the decision based on official guidelines found in the FNS guidance (Child and Adult Care Food Program: Eligibility Guidance for Family Day Care Homes) that details the requirements for Tier I status.

[10] There may be some confusion about using the Census approach to establish Tier I status because of the instructions in FNS's Child and Adult Care Food Program: Eligibility Guidance for Family Day Care Homes. In a section entitled "Questions & Answers About Classification of Family Day Care Homes," the third question is: "If there is a conflict between Census data and elementary school free and reduced price enrollment data, how should a determination be based?" The answer on page 18 is: "Census block group data should not be used when relevant, current-year information on free and reduced price eligibility in neighborhood elementary schools is available." This answer mirrors the discussion on pages 6 and 7 of FNS's CACFP document where the use of Census data is limited to relatively few situations (rural area, magnet school, and local area does not reflect elementary school conditions). However, §226.15 (f) states:

> Day care home classifications. Each sponsoring organization of day care homes shall determine which of the day care homes under its sponsorship are eligible as Tier I day care homes. A sponsoring organization may use current school or Census data provided by the State agency or free and reduced price applications collected from day care home providers in making a determination for each day care home. When using elementary school or Census data for making Tier I day care home determinations, a sponsoring organization shall first consult school data, except in cases in which busing or other bases of attendance, such as magnet or charter schools, result in school data not being representative of an attendance area's household income levels. This directive only requires that sponsors check school data; they may use Census data even if relevant school data are available.

An FDCH can be classified as a Tier I home on the basis of one of three grounds—

1. If the income of the proprietor is less than 185 percent of the poverty line (Income Eligibility).

2. If a home is located in the catchment area of an elementary school in which at least 50 percent of the students are eligible for free and reduced-priced meals (Area Eligibility—School).

3. If the home is in a Census tract in which at least 50 percent of the children under 13 years old are in families with household income at or below 185 percent of the poverty line (Area Eligibility—Census).

A Tier I designation is only valid for a limited period (depending on the method of qualification). In June 2004, homes that were classified as Tier I homes on the basis of Area Eligibility—School could keep this classification for 5 years (previously, it had been for 3 years). By contrast, Tier I homes that are classified on the basis of proprietor's income must be reviewed every year. Finally, Tier I classifications on the basis of Census information are valid until the next Census data are available. FNS does not require sponsors to make changes in Area Eligibility during these periods even if there is reason to believe that there has been a change in status. In contrast, a Tier II designation never has to be reviewed unless the FDCH requests a review of its status.

There are only two types of FDCHs (Tier I or Tier II). Any FDCH that does not qualify as a Tier I FDCH is automatically a Tier II FDCH. For each of the tiering determination methods, various documents can be used to prove eligibility. Therefore, each approach requires a detailed listing of the necessary dated documents that must be present in the sponsor's file for an FDCH to be properly classified as Tier I. Each of these four approaches or "algorithms" is explained in detail below.

Area Eligibility: School Boundary Area

The following algorithm specifies the evidence considered acceptable for determining[11] Tier I area eligibility on the basis of local elementary school boundary data.

1. The tiering decision was made after Oct 1, 2002.[12]

2. The FDCH provider's address must be linked to a specific school. All of the following were acceptable forms of documentation:

    - A dated official school boundary-identifying map
    - Pages from a dated address directory linking the FDCH's address to a specific elementary school
    - A dated and signed letter from a local school official indicating that the FDCH's address is served by the school
    - A report (initialed and dated) of a phone call to a school official indicating that the FDCH's address is served by the school
    - A printed copy of a Website linking addresses to specific elementary schools; some form of dating must be present.

3. The named school must have at least 50 percent of its students eligible for free or reduced-price meals. Acceptable documentation includes the following:

    - A dated State master list of schools indicating which elementary schools are eligible or showing the percentage of children receiving free and reduced-price meals
    - A dated and signed letter from a local school official indicating that at least 50 percent of enrolled children are eligible for free or reduced-price meals.

4. If there was no documentation in the file about the share of students at the listed school eligible for free and reduced-price meals, the lists provided by the States identifying whether the elementary school met the eligibility standard were checked.

Area Eligibility: Census Block Group

The following algorithm specifies the evidence considered acceptable for determining Tier I area eligibility on the basis of Census block group data.

1. Documentation that the address lays within a specific block group. Acceptable documentation includes an official map, output from a geo-mapping computer program, or output linking specific addresses and Census block groups.

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[11] In one State in this study, the State agency, rather than the sponsors, determined the tiering status on the basis of school and census eligibility. While this is inconsistent with the CACFP rule that the sponsors have to determine eligibility, FNS instructed that the State determinations be accepted as valid even though there was no documentation onsite in the sponsors' files.

[12] The change in the standard from 3 to 5 years for the duration of valid school catchment area-based tiering determinations means that all FDCHs tiered in June 2004, with the proper supporting documentation, have a valid tiering date for the next 5 years. However, the study is following last year's methodology in reviewing those FDCHs that have a tiering determination date prior to June 2004. The previous year's study identified the baseline date for a valid tiering determination as occurring 3 years before the beginning of the data collection window, June 1, 2001. FDCHs tiered under the old guidelines, with the proper supporting determination, would have been valid at the data collection point of June 2004 in the original study. For the current study, applying this method results in a date of October 2002, 3 years before the beginning of the current study's data collection window (October 2005).

2. Documentation that 50 percent of children under 13 years old within the block group live in households with income less than or equal to 185 percent of the Federal poverty level.

Income Eligibility: Provider Income

The following algorithm specifies the evidence considered acceptable for determining Tier I income eligibility on the basis of provider's income, which must be less than or equal to 185 percent of the Federal poverty level for the number of people in the household.

1. A signed and dated application (equivalent to the free and reduced-price meals benefit form). This form must have contained the provider's Social Security Number and been filled out after October 1, 2005 (based on the data window for the current study).

2. A listing of all of the sources of income for each member of the household with income. Income from retirement accounts or from child care payments was included.

3. No business loss can be used to offset other sources of income.

4. Each income source must be dated to show that it documented income from April 1, 2005 on.[13] However, tax forms for 2004 were acceptable as long as the provider indicated that the information on the return reflects current household income.

5. Each income source had to be dated and validated by one of the following:

    - Tax Forms 1040 or Schedule C (for business income from running an FDCH)
    - Recent pay stub
    - Letter from employer
    - Ledger or tax books
    - Benefit award letter
    - Court decree or divorce agreement (for child support)
    - Bank statement (for direct deposit of Social Security or other monthly retirement check)
    - Copy of checks to document benefits or child support/alimony.

Income Eligibility: Categorical Eligibility

The following algorithm specifies the evidence considered acceptable for determining Tier I income eligibility on the basis of the provider's eligibility for other Government means-tested programs.

1. All forms had to be dated after April 1, 2004.

2. A certification, letter, or printout of a Temporary Assistance for Needy Families (TANF) State program award letter showing that the provider was eligible for TANF benefits at the time of tiering evaluation.

3. A certification, letter, authorization card, or printout showing that the provider was eligible for Food Stamp benefits at the time of tiering evaluation.

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[13] For this year's study, the most recent tax forms would be from year 2005. These forms could be filed anytime between January 1, 2005 and April 2005. However, when present tax forms dated from 1/12004 were accepted as valid, given the form was signed and dated.

4. A notice of eligibility for FDPIR showing that the provider was eligible for FDPIR benefits at the time of tiering evaluation.

5. A certification, letter, authorization card, or printout showing that the provider was eligible for another qualifying Government income-based program at the time of tiering evaluation.

Verifying Tier II Status

Because all FDCHs that are not designated as Tier I are designated as Tier II, no supporting documents are required for this designation. If upon entry to the program, an FDCH is certified as Tier II, sponsors are under no obligation to recertify the FDCH, unless the provider requests recertification to determine whether the FDCH qualifies as Tier I. To verify the status of Tier II FDCHs, the study used the following protocol:

1. For each selected FDCH designated as Tier II by the sponsor, the onsite field data collector reviewed the sponsor's records to determine the date of program certification.

2. All the documents in the file that might be used to qualify the home for Tier I status were copied. These documents were then used to determine whether they were sufficient to qualify the home as Tier I.

3. The onsite sponsor files were examined to determine if there was evidence that the FDCH requested re-certification. If this was true, an investigation was conducted to determine in which elementary school catchment area the FDCH was currently located. Once the FDCH-elementary school link was identified, the school was investigated using the State's master list in the appropriate year to see whether the school qualified as having more than 50 percent of its students being eligible for free and reduced-priced meals.

STAGE TWO VERIFICATION: APPROACH FOR INVESTIGATING PROCEDURAL ERRORS—CASES WHERE THE DOCUMENTATION SUPPORTING THE TIERING DETERMINATION IS INCOMPLETE OR INCONCLUSIVE

As previously described, the second stage of the tiering misclassification approach provided for follow-up assessment of the FDCHs assigned tiering level when the documentation in the sponsor's file was found to be insufficient or inconclusive. Chapter 3 provides a detailed discussion of the enactment of these procedures. Here, the decision algorithms developed to address inconclusive or incomplete documentation supporting a tiering determination for each method of making the decision are presented. Each tiering determination method (Area—School Boundary, Area—Census Block Group, Income—Categorical Eligibility, and Income—Provider Income) had a specific algorithm that was developed to pursue other means of verifying the tiering determination.

Area Eligibility: School Boundary Area

For FDCHs assigned to a tiering level on the basis of the elementary school serving their area, the following procedures were developed:

1. The existing documentation in the FDCH file was used to identify the local elementary school. In cases where the documentation did not indicate a local elementary school, Mapquest was used to identify the closest school, which was used as the starting point

school for verification; or the State local education agency (LEA) was contacted to identify the nearest elementary school.

2. The telephone numbers of the schools were obtained from the National Center for Educational Statistics Website or other Web-based sources.

3. Each of the schools were called to verify that the FDCH was served by that school. The calls also verified that the elementary schools serving the FDCHs had at least 50 percent of their students eligible for a free or reduced-price meal.

4. If a school representative indicated that that the FDCH was not in their attendance area, we asked for a suggestion of the proper school for this address. For this alternative option, the same contact procedures were followed until a definitive response was reached to confirm the FDCH location was within the school catchment area. If a new school was identified, the State list documenting those elementary schools having at least 50 percent of the students eligible for a free or reduced-price meal was cross-checked to verify that the newly identified school met the free and reduced priced meal guidelines.

5. If the FDCH was unable to be verified using the school list, an attempt to validate the tiering determination using the Census block group method was made.

6. The existing documentation was used to identify the address of the FDCH.

7. The Census' "FairData"[14] database at Norfolk State University was used to query for the respective address by Census track.

8. If the FDCH had an address in a Census track where less than 50 percent or more of the children under age 13 live in households at or below 185 percent of poverty, the FDCH was considered misclassified by this method. If it met the criteria for Census block group, it was assigned the tiering status supported by this method.

9. If the follow-up verification of the school successfully resolved the status of the school, but resulted in a lower tiering status, the Census block group method was assessed for the tiering determination it would assign when possible. The tiering criteria (school or Census) that would assign the FDCH the tiering status with the highest level of reimbursement was adopted for the FDCH.

Area Eligibility: Census Block Group

For FDCHs assigned to a tiering level based on Census data where data was inconclusive (no record of the census block group on file), the following procedures were developed to verify the tiering status of the FDCH:

1. The existing documentation in the FDCH file was used to identify the address of the FDCH.

[14] This interactive map was developed for local groups who need highly detailed (street-level) census information to identify neighborhoods and communities for Child and Adult Care Food Program sites. The default map shows percentage themes for the population under age 13 and below the 185% poverty level. The tool was developed by the Norfolk State University Dept. of Political Science, and uses Census 2000 adjusted data as the basis for the map generation.

2. The Census' "FairData" database was used to query for the respective address by Census track.

3. If the FDCH had an address in a Census track where less than 50 percent or more of the children under age 13 live in households at or below 185 percent of poverty, the FDCH was considered misclassified as Tier I.

4. If the validation procedure supported a tiering determination using this method that resulted in a lower tiering status than that originally assigned by the sponsor, the address was used to match the FDCH with a school to assess the tiering status based on that method. Once a school had been identified, the follow up investigation verified whether the identified school was on the respective State's list of eligible schools having more than 50 percent of its students being eligible for free and reduced-priced meals. If this link existed, the school method was used to determine the tiering status of the FDCH.

5. The tiering criteria (school or census) that assigned the FDCH the tiering status with the highest level of reimbursement was adopted for the FDCH.

Income Eligibility: Categorical Eligibility or Provider Income

For FDCHs with inadequate income tiering documentation, either categorical or provider income, the following procedures were employed to verify the tiering status of the FDCH:

1. We used sponsor documentation to identify the local elementary school. In cases where the documentation did not indicate a local elementary school, we used Mapquest or contacted the State LEA to identify the nearest elementary school.

2. We then obtained the telephone numbers of the schools from the National Center for Educational Statistics Website or other Web-based sources.

3. We made follow-up verification phone calls to determine whether these FDCHs were indeed served by elementary schools in which at least 50 percent of the students are eligible for a free or reduced-price meal. Each of the schools was called to verify that the address of the FDCH was served by that school.

4. If a school representative indicated that the FDCH was not in their service area, we asked for a suggestion of the proper school for this address. For this alternative option, we followed the same contact procedures until a definitive response was reached. If a new school was identified, we also cross-checked our State lists of schools (in which at least 50 percent of the students were eligible for a free or reduced-price meal) to verify its existence on this list.

5. If the case's tiering status was confirmed using the school method, but the tiering status was lower than the sponsor assignment, the case was reviewed using the Census block group method.

6. Alternatively, if the FDCH was not verified using the school method, the case was reviewed using the Census block group method.

7. If neither attempt at verification resulted in evidence supporting the sponsor's Tier I determination for the FDCH, it was considered misclassified.

8. However, if the FDCH was determined to meet the Census block group criteria, the case was verified as Tier I. In all cases, the tiering criteria that assigned the FDCH the tiering status with the highest level of reimbursement was adopted for the FDCH.

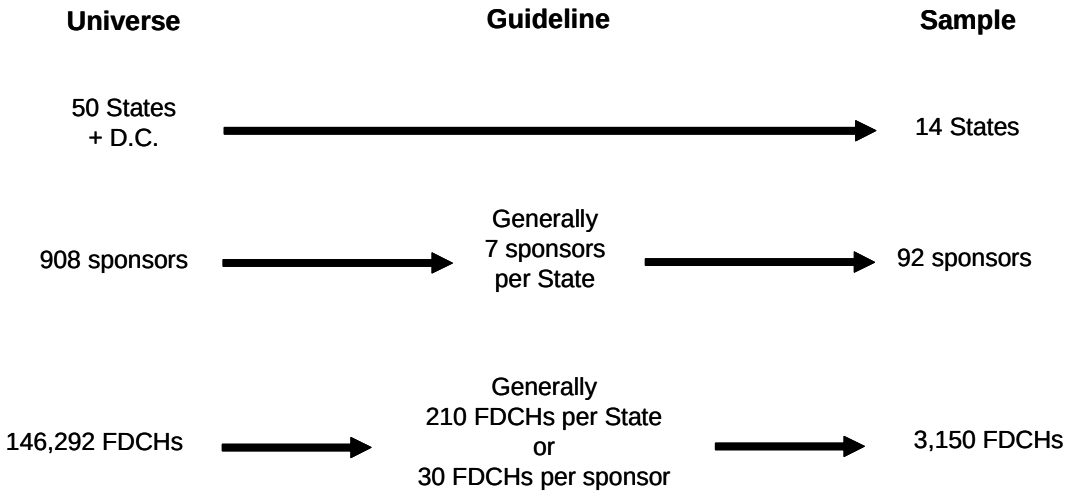
DEVELOPING A SAMPLING DESIGN: CONSTRUCTING A SAMPLE

For this study, a sampling strategy was required to produce national estimates of an error rate with 90 percent certainty for no greater than plus or minus 2.5 percentage points (i.e., if the results of the assessment indicated that 20 percent of all FDCHs were misclassified, then the computed confidence level with 90 percent certainty would lie between 17.5 and 22.5 percent). Appendix 2 provides a discussion of the statistical details of the sampling.

To minimize any design effect, each FDCH had approximately the same probability of selection. The approach used produces approximately the same probability of selection for every FDCH while retaining a diversity of States. Exhibit 2.1 summarizes the sampling procedures that were used.[15]

On the basis of the data provided by FNS, 14 distinct States were sampled.[16] For all of the States but California, 210 FDCHs were included in the sample. For California, 420 FDCHs were included in the sample.

Exhibit 2.1: Sample Selected by Sampling Level



Having selected the States, the next step was to select 7 sponsors from each State (except California, where 14 sponsors were selected). The sponsors within each State were chosen randomly on the basis of the number of FDCHs served by each sponsor. One sponsor had to be replaced when it was discovered that they had gone out of business and the records were inaccessible.

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[15] The data supplied for sampling reflected the number of FDCH's determined to be active in the third quarter of 2006, from FNS files. This was the most recent data available. It should be noted that in selecting the 92 unique sponsors for the sample, some did have the probability of being selected more than once due to their size.
[16] The District of Columbia and Virginia were sampled as one unit in the study.

The next step involved choosing the FDCHs to be included in the study. An FDCH was eligible for selection if it had been reimbursed for meals served during September 2006, the quality control month for this year's study.[17] For each sponsor, 30 FDCHs that had been active in September 2006 were randomly selected and an additional 11 FDCHs were selected as possible replacements. Some sponsors were so large that they were selected more than once. For sponsors that had been selected more than once, multiples of 30 FDCHs were chosen depending on the number of times the sponsor had been selected (see Appendix 2 for details).

ESTIMATING THE SHARE OF MISCLASSIFIED FDCHS

Once all of the data were entered into the analytic database (the creation of which is described in the next chapter), the tiering algorithm was applied and each FDCH was classified by Macro as either Tier I or Tier II. The validity of the documentation supporting an FDCH's tiering determination was based on whether the study-determined tiering was the same as the one that appeared in the sponsor's files.

To develop a national estimate of the procedural (i.e., document-based) misclassification rate, the data collection process had to be reviewed to determine the weights to be assigned to each FDCH. Although the sampling design was developed to be approximately self-weighing, there were data inconsistencies between the various sources of information on the number of FDCHs per sponsor and per State. These differences reflected the fact that FDCH providers move in and out of the program. Consequently, the number of FDCHs per sponsor or per State was constantly changing.[18]

These discrepancies meant that weights had to be developed for each sponsor to get the best, unbiased national estimate of misclassified FDCHs. See Appendix 3 for a more detailed discussion.

The formula used to determine the percentage of misclassified FDCHs is presented in the following equation:

(2.1) $P(X) = \sum_{i=1}^{3,150} w_i x_i$ divided by 146,292[19], where

xi is equal to 1 when FDCHi is misclassified, and 0 otherwise;

wi is equal to the weighted probability of selection; and

P(X) is the percentage of misclassified FDCHs

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[17] Sponsors have up to 90 days to submit initial or revised meal counts, so September 2006 was the last month in which reliable, final data were available to the data collectors beginning in December of 2006.

[18] Depending on when the data were collected, State, national, and sponsor information can vary in three ways. First, in choosing States and sponsors, FDCH counts from FNS were used to select the States. However, the total number of FDCHs derived from the State list varied from the number derived from the national list. Second, a similar discrepancy arose in dealing with sponsors: Sponsors were chosen on the basis of the number of FDCHs that the State said the sponsor had. However, this number varied from the number of FDCHs on the sponsors' lists. Third, when the data collectors appeared at the sponsors' administrative headquarters with their lists of randomly chosen FDCHs, in a handful of cases a selected FDCH was found not to have been active in September 2006 and hence was ineligible to be in the sample. This was not a problem because replacement options were available, so the data collectors were able to extract information easily for the appropriate number of FDCHs at that sponsor site. However, discrepancies between State-supplied and sponsor-provided lists required further adjustment of weights.

[19] This number is the number of homes used in the sample, obtained from FNS files.

A similar computation was done separately for the 2,220 sampled FDCHs classified by sponsors as Tier I and the 930 sampled FDCHs classified as Tier II.

ESTIMATING THE SHARE OF MEALS AFFECTED IN MISCLASSIFIED FDCHS

Determining the cost of each misclassified FDCH required different approaches for Tier I and Tier II FDCHs. The cost of any misclassification took into account the fact that the meals of some children in Tier II FDCHs are reimbursed at Tier I rates.

For Tier II FDCHs, a misclassification meant that all of the meals should have been reimbursed at Tier I rates. Therefore, the added cost of reimbursement at the higher, Tier I rate had to be applied to all of the meals that were originally reimbursed at Tier II rates.

In misclassified Tier I FDCHs, the added costs only applied to the meals served to children who do not qualify individually for Tier I reimbursement rates, even if the FDCH was Tier II. However, there was no information available to determine how many children in each misclassified Tier I FDCH would qualify for the higher reimbursement rates. Consequently, an estimate of this number was developed on the basis of the experience of Tier II FDCHs in the State in which the FDCH was located.

As Exhibit 2.2 shows, an estimated 15 to 16 percent of meals at Tier II FDCHs were reimbursed at Tier I levels. The variation across States, however, was quite large. In State 9, for example, between 7 and 8 percent of meals in Tier II FDCHs were compensated at the higher rate. In contrast, the corresponding numbers for State 11 were 40 to 74 percent. These State ratios by meal type were used to develop a national estimate of the number of meals that would have been reimbursed at Tier I rates for misclassified Tier I FDCHs.

Exhibit 2.2: Share of Tier I Meal Types at Tier II FDCHs by State

State	Tier I Breakfasts	Tier I Lunches/Dinners	Tier I Snacks
1	12%	20%	16%
2	19%	25%	20%
3	10%	16%	12%
4	16%	17%	18%
5	31%	30%	38%
6	16%	17%	18%
7	11%	9%	9%
8	16%	18%	17%
9	8%	7%	8%
10	22%	21%	23%
11	40%	72%	74%
12	28%	22%	26%
13	17%	16%	16%
14	19%	39%	33%
National Estimate	15%	16%	16%

Source: 2006 CACFP Tiering Assessment. Table contains weighted estimates based on sponsor files for 930 Tier II FDCHS. Percentages by State are for descriptive purposes only because State-level samples are too small to produce robust State-level estimates.

Annual Estimates of Under- and Over-Payments because of Misclassifications

The choice of using FDCHs that were reimbursed in a single month (September 2006) had consequences for how the annual costs associated with misclassified FDCHs were estimated. Ideally, the sample would have been drawn from all FDCHs that were active at any point from October 2005 through September 2006.[20] That was not feasible and instead, the sample was drawn only from FDCHs that had reimbursable meals in September 2006. By using only FDCHs active in September, FDCHs that did not have reimbursable meals in September but had been active in some of the prior 11 months (October 2005 through August 2006) were missed. To compensate for this loss, FDCHs that were active in September were treated as if they were open all 12 months of the year. For many FDCHs, this was not true because they had been part of the program for less than 12 months or because they had no reimbursements for at least 1 month of the year. Consequently, the meals that were added to the FDCHs for which the FDCHs had actually not been reimbursed are assumed to offset the meals that were missed from FDCHs that were active at some point in the previous 12 months but not active in September.[21]

Last year, another problem was that 17 sponsors did not provide meal counts for all 12 months. This year, there was only one sponsor that did not provide all 12 months of meal counts. This sponsor provided 11 months. To account for this, an "adjusted" yearly total of meals was created by type of meal and level of reimbursement (Tier I or Tier II). This was done by taking an average monthly meal count by type of meal and level of reimbursement, based on the number of months during which the FDCH had reimbursed meals, and multiplying by 12. Before finding the average monthly meal count, a seasonality factor (based on the national total meals served by type and by month; see data in Appendix Table A1.2) was calculated for each month the FDCH had reimbursed meals. This was to avoid any bias associated with specific months in which the FDCHs were open. Therefore, the average monthly figures were first seasonally adjusted by month before they were combined into yearly totals.

Similar to income guidelines, reimbursement rates are made on an annual basis, and are also based on the period from July 1 through June 30. Because of a time shift in the study start date, this year's data collection period covered two different reimbursement rate periods, from July 1, 2005 through June 30, 2006, and July 1, 2006 through June 30, 2007. The same method used for applying income guidelines was used, applying 75 percent of the rates from the period July 1, 2005 through June 30, 2006, and 25 percent of the rates from the period July 1, 2006 through June 30, 2007. This method was only necessary to calculate the cost of Lunch and Dinner Meals, as they were the only rates that increased from the previous year.[22]

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[20] It should be noted that this year's data collection an analysis window was slightly different from the initial year's study, where the study year was June 2004 to May 2005. This year's study spanned the 12 months from October 2005 to September 2006. The shift in the study year was primarily due to the contractual start date for the study option, which was delayed.

[21] This approach results in an unbiased annual estimate of the number of meals served. However, because the sample could not be drawn from all homes that had been active at some point from October 2005 through September 2006, the variance of the final estimates was higher.

[22] This weighting method does not have an effect on the amount of under- and over-under payments, as the difference between Tier I and Tier II reimbursement rates does not change from year to year, although the rate itself does increase. However, the weighting method does affect total expenditures for Tier I and Tier II.

At this point, the total under- and over-payments resulting from tiering misclassification were computed. For Tier I FDCHs that were not validly classified, the cost for each FDCH was determined by the sum of equations 2.2 to 2.4, presented on the following page.

(2.2) Breakfast loss = 12 * AvgMonthlyBrks * (1 - BRSHAREState) * (1.06 - .39)

where…

BRSHAREState = the share of breakfasts in Tier II FDCHs in that State that were reimbursed at Tier I rates

AvgMonthlyBrks = the average number of breakfasts served by the FDCH in a month

(1.06 - .39) = the difference between Tier I and Tier II payments

(2.3) Snack loss = 12 * AvgMonthlySnks * (1 - SNSHAREState) * (.58 - .16)

where…

SNSHAREState = the share of snacks in Tier II FDCHs in that State that were reimbursed at Tier I rates

AvgMonthlySnks = the average number of snacks served by the FDCH in a month

(.58 - .16) = the difference between Tier I and Tier II payments

(2.4) Lunch/Supper loss = 12 * AvgMonthlyLDs * (1 - LNSHAREState) * [.75 * (1.96 - 1.18) + .25 * (1.97 - 1.19)]

where…

LNSHAREState = share of lunches and suppers in Tier II FDCHs in that State that were reimbursed at Tier I rates

AvgMonthlyLDs = the average number of lunches and suppers served by the FDCH in a month

.75 * (1.96 - 1.18) + .25 * (1.97 - 1.19) = the difference between Tier I and Tier II payments

To obtain an estimate of the monies not paid to Tier II FDCHs that were misclassified, a similar strategy of getting monthly totals was followed. Because the share of children who were already being reimbursed at Tier I rates was known, no State-based estimates were needed.

The national estimates of monies under- and over-compensated at Tier I and Tier II FDCHs was simply the total of each misclassified FDCH multiplied by its respective weight.

Estimating Upper and Lower Bounds of the Misclassification Rate

In a complex survey design as used in this study, the calculation of the variances of the estimates is likewise complex. The Taylor expansion method was used to estimate sampling errors of estimators.[23] This method obtains a linear approximation for the estimator and then uses the variance estimate for this approximation to estimate the variance of the estimate.

For a multistage sample design, the variance estimation method depends only on the first stage of the sample design. Therefore, the required input includes only first-stage cluster or primary sampling units (PSUs) and first-stage stratum identification. There is no need to input design information about any additional stages of sampling. This variance estimation method assumes that the first-stage sampling fraction is small or that the first-stage sample is drawn with replacement. If the sampling rate varies (unequal probability sampling), as in this study, one can create strata that approximate a uniform sampling rate.

The PSUs (clusters) in the study were the States. However, one State (California) was a certainty and one (Minnesota) was a near-certainty. In these two States, each sponsor became a PSU. In Minnesota, one of the sponsors was large and was sampled four times. For Minnesota, the large sponsor was divided into four PSUs and two of the smaller ones were combined.

The clusters were then paired up into "strata." The strata were designed so that clusters in the same strata were of the same kind (State or sponsor), in the same State (for sponsors) and with similar probabilities of selection. As in the previous study, there were 32 clusters and 16 strata in this year's sample. The average probability of selection of the two clusters in a stratum were entered as the sampling rate of the stratum. This pairing of clusters is common in many variance estimation procedures, particularly when one needs to use a finite population correction.

The first estimate was the proportion of misclassifications, obtained for the total population and the Tier I and Tier II domains separately. The estimate was obtained by adding the weights of the FDCHs incorrectly classified and dividing them by the sum of the weights.

The second estimate was the total dollars associated with meals in validated misclassified FDCHs (174 Tier I FDCHs and 2 Tier II FDCHs). In this case, the average was first obtained and then was multiplied by the reported total number of FDCHs (see Appendix Table A1.1). In this way, the variance of the estimates of the total number of FDCHs in the program did not have to enter into the variance.

The variance estimates have their own error of estimate. As a result, when calculating the confidence intervals, one must take into account the variance of the variance estimates. In order to do this, one must first obtain the degrees of freedom (the number of clusters minus the number of strata) and multiply the standard error by the t value for the 90% confidence interval for the degrees of freedom in question.

[23] The SAS procedure SURVEYMEANS was used. For further explanation of the statistical qualities of this approach, see: http://www.pop.upenn.edu/cores/computing/sasdoc/sashtml/stat/chap11/sect3.htm.

CHAPTER 3. THE DATA COLLECTION PROCESS

The data collected for this study was abstracted from sponsor files on site in a highly organized operation. Trained field data collectors abstracted the files containing documentation to support the tiering determination from sampled sponsors and FDCHs, and meal count information was collected for a 12-month period (October 2005 to September 2006). This discussion outlines the processes used to collect the study data.

OVERVIEW OF THE DATA COLLECTION INSTRUMENT USED FOR THE STUDY

The data collection instrument used for the 2006 study was developed, pre-tested, and used in the Base year (2005). That instrument, known as the Tiering Determination Instrument, was developed using algorithms that were created for validating a tiering determination based on the tiering method used (these algorithms were discussed in the previous chapter). The data collection instrument did not include the algorithms used for validating the determination: these algorithms were applied separately after the initial field data collection efforts. The Tiering Determination Instrument was a paper form created to collect the essential data elements needed to verify sponsors' tiering designations. The instrument was used for Tier I and Tier II FDCHs, with the objective of recording all of the available information. The 2006 instrument was slightly modified from the previous version used in the 2005 study. The limited changes included updating the meal count portion of the instrument to reflect the current study's duration, and minor adjustments to enhance readability and to clarify instructions to data collectors. In addition to collecting information on tiering, information on the number of meals reimbursed by tier type (Tier II FDCHs can have the meals of individual children who are income-eligible reimbursed at Tier I rates), meal type, and month during the period from October 2005 to September 2006 was recorded on the form.[24] The data collection instrument can be found in Appendix 3.

Training of the Data Collectors

A comprehensive training was developed for the 16 experienced field data collectors recruited for this study. All but two of the field data collectors had participated in the study in the Base year, and all of the field data collectors had experience in the field on other national studies. In addition to reviewing the sampling design and intricacies of the data collection instrument, the training also developed two additional methods for data collectors to use to ensure the sponsor identified all of the relevant documentation on site.[25] The first method was an exit interview

[24] Most sponsors only had information on the number of meals for which they claimed reimbursement and not the number of children served per month. During the day, FDCHs can serve up to six food courses: breakfast, morning snack, lunch, afternoon snack, dinner, and evening snack. For each individual child, FDCHs can be reimbursed for a maximum of 2.5 meals (where a snack counts as a half of a meal). Consequently, during each day, different children receive different reimbursable meals and snacks, and one cannot determine the total number of children served during the day from just counts of meals claimed for reimbursement. This problem is obviously complicated even further when only monthly meal counts are available, as the same children need not be served all of the days that the FDCH is open. Therefore, there is no method to translate monthly meal counts to a total number of children for whom meal reimbursement claims are made that month.

[25] In the 2005 study, the validation effort determined that sponsors sometimes did not have all of the documents for a FDCH in one folder, especially in the case of the school boundary map. To account for this occurrence, this year's procedures were developed to assist the sponsor in identifying all possible locations of information used in the tiering determination of the sampled FDCHs once on site. Sponsors did not know the identity of the sampled FDCHs before the data collector arrived on site. This procedure minimized the possibility that a sponsor would alter the FDCH files in any way before the data abstraction.

protocol, which the data collectors used to ask the sponsor final questions about the organization and location of the FDCH files. The second method was a Sponsor Verification Form, which asked the sponsor to indicate by their signature that all of the relevant documentation for the sampled FDCHs had been identified and made available for copying by the data collector. The objective of both strategies was to prompt the sponsor into reviewing their files to identify any additional information that may have been stored separately from the FDCH file, but used in making the most recent tiering determination.

To prepare for the field data collection, each of the data collectors participated in a 2-day training held in the Washington, DC area on November 30 and December 1, 2006. The training provided a comprehensive background on the program, understanding of the methods used to make a tiering determination, and hands-on review of and practice with documentation that was likely to be found on site in sample files. The purpose was for the data collector to gain familiarity with the actual types of documents that would be encountered in the field and from which data would be abstracted. Five mock files were created, and there were separate practice sessions filling out the collection instrument for each of the mock cases.

During the training, each data collector was provided with a field data manual to obtain a solid background in the purpose and procedures of the project, to be effective at interacting with staff at sponsoring organizations when reviewing and abstracting data from files, and to communicate effectively with supervisory staff at Macro headquarters. The data collectors referred to the manual when questions arose in the field, and, if necessary, they were instructed to call Macro to address any unforeseen issues during a site visit.

Arranging for Site Visits

The process of arranging for the actual onsite data abstraction began with efforts in creating the sample (described further in Appendix 2). After the States for the sample were selected, FNS Regional Offices contacted State representatives. Then Macro contacted States (first by mail, then by phone) to explain the purpose of the project, enlist their support, and determine whether there were any unique features in how the CACFP operated in their State. The first task was to get the requisite information to pull the sponsor sample for each State, including the number of sponsors and the number of FDCHs for each sponsor. Macro called the selected States to identify whether there were any unique features of the program that would affect the data collection. In one State, the State office was responsible for determining Tier I area eligibility on the basis of Census and elementary school eligibility.[26]

Once the sponsors were selected, they were sent a letter of introduction that explained the purpose of the study. A follow-up phone call was made to ask questions about where sponsor tiering determination documents were kept. Because sponsors organize their files in different ways, data collectors asked detailed questions about accessing the files. Data collectors completed a detailed telephone interview to abstract as much information as possible about the organization and location files, as well as the availability of meal count data over the October 2005 to September 2006 timeframe. By asking multiple questions about file locations, enough information was obtained to ensure that the data collectors would be able to complete the data collection instrument accurately. The exact date of each site visit was established by the data

[26] As in the Base year (2005) the State office overseeing the program in one of the sampled States had responsibility for making all tiering determinations.

collectors, who called the relevant sponsor contact to establish a mutually convenient time for the visit.

Collecting Data at Sponsor Administrative Sites

When the data collectors arrived at the sponsor locations, they presented the sponsor's representative with the list of FDCHs that were to be abstracted. This was the first time the sponsors were provided with the list of FDCHs to be studied. A couple of sponsors had asked to see the list before arrival, so they could have the relevant files ready when the data collectors arrived. Though this seemed to be a good faith effort to be cooperative, the sponsors' request were refused to avoid the possibility of them altering the data for the FDCHs.

Once at the site, most of the data collectors were left alone to complete the abstraction. In one State, a State representative accompanied the data collector on each of the site visits. This occurred in the previous study, and did not seem to have a negative impact on the data collection. The State representative helped the data collector to number pages and photocopy documents. From time to time, sponsor representatives also checked on the data collectors to ensure that everything was going smoothly. These contacts did not affect the data collection.

The central part of the data collection was filling out the Tiering Determination Instrument and photocopying all relevant documents in each FDCH's records, beginning with the meal counts. This information was collected first because each data collector needed to verify that the sampled FDCHs had received reimbursements in September 2006. If the meal count records indicated that some of the sampled FDCHs did not have meal reimbursements in September, the FDCH was dropped. The data collector used the ordered list of replacement FDCHs to replace the FDCH that was not in scope.

In last year's sample, 22 of the 95 sponsors surveyed did not have meal counts for the previous 12 months available because they had been archived at a storage facility offsite, with 8 sponsors having fewer than 9 months of meal counts. As shown in Appendix Table A1.3, all but one of the sponsors had 12 months of meal counts in this year's study. The remaining sponsor had 11 months of meal counts.

The remaining data collection tasks involved the identification of appropriate documentation in each file. In most cases, there was at least a single sheet of paper indicating the provider's name, when the FDCH was open, and what tier the FDCH was assigned. In all Tier I files and some Tier II files, it was critical to identify any documentation attempting to demonstrate eligibility for Tier I status. Documentation of Tier II FDCHs was collected to determine whether any of these FDCHs were eligible for Tier I status. Because Tier II is the default status, no documentation is needed. Consequently, the vast majority of Tier II FDCHs had no documents in their folders other than the sponsor statement indicating that the FDCH was a Tier II FDCH. However, any indication that Tier I status was applied for was abstracted for the FDCH. If there was information showing that an FDCH tried to qualify for Tier I status in more than one manner, all of the data were collected and evaluated.

Data collectors completed the remaining portions of the tiering determination instrument and copied the appropriate documents, all of which where transmitted in an individually labeled file for each case to Macro for final review. The data collection event concluded with the exit interview and completion of the Sponsor Verification Form. Trained project staff reviewed these files and made the final determination as to whether the FDCH was correctly classified while editing the file.

Creating the Data Analysis File

After the data collection instruments were returned, they were checked for completeness and legibility. Recorded meal counts were carefully reviewed, as was the supporting documentation for each case. These edited data collection instruments were double-key entered with a 100 percent accuracy check.

After all of the instruments had been transferred to an electronic format, a thorough review of the data elements was conducted to verify meal counts, check for missing data elements, and verify that all listed elementary schools met the standard of at least half of its students being eligible for free and reduced-price meals (when adequate documentation for this was missing from the file). Tiering classifications were carefully evaluated for correctness. Because of the complexity of the income eligibility process (there were often many different sources of income from different family members), every FDCH in which income data were entered was rechecked to ensure that all of the fields were correctly edited and entered.

Data Validation Procedures

The outcomes of the data validation procedures are presented in Chapter 4, but this discussion highlights the steps taken in applying the validation algorithms to cases identified as being misclassified in the initial analysis. Once the analytic data set was created, a computer analysis program was developed to determine which FDCHs were improperly classified and what the reason was for the deficiency. Although these cases were technically deficient, it was likely that most of these FDCHs were indeed Tier I eligible, based on outcomes of a similar process in the 2005 study. To confirm the status of these procedural errors, a series of follow-up validation operations were undertaken for each type of error in a sequential fashion.

The procedural errors that occurred in cases attempting to use school boundary area as the basis for Tier I status were verified by using the validation algorithm described in Chapter 2. When the documentation did not support a clear FDCH-elementary school link, the Mapquest feature was used to identify the nearest elementary school, which was then tentatively chosen as the elementary school serving these FDCHs. This was only a preliminary allocation that was verified by follow-up phone calls. Once all the FDCHs had a school identified, the telephone numbers of the schools were obtained from the National Center for Educational Statistics Website[27] or other Web-based sources. Each of the schools was called to verify that the address of the FDCH was served by that school. In most cases, the person answering the phone (often an administrative assistant or secretary) was able to give a definitive response. If not, other school representatives were contacted until a definitive answer was obtained.

[27] http://nces.ed.gov/ccd/schoolsearch/.

When school representatives said that the FDCH was not in their attendance area, they were asked for a suggestion of the proper school for this address. In most cases, an alternative school was given. When no alternative option was given, Mapquest was used to identify the next most likely school. This school was then contacted to verify that they served the address of the FDCH. This process was repeated until a definitive positive answer was received. Once a new school was identified, the State lists of eligible elementary schools having at least 50 percent of the students eligible to receive a free or reduced price meal were used to confirm that the correct school was on the list. If the school was not on the list, then the FDCH was considered as misclassified. The Census block group method was then used to determine if these misclassified cases should remain misclassified and receive the lower tiering status. The Census Fairdata CACFP mapper tool was used for follow up with these cases. In cases where the Census method indicated the FDCH qualified for Tier I status, that status was maintained by the case. In all other cases, the FDCH remained misclassified.

For those cases that attempted to use the Census block group method as the basis for the initial tiering determination, procedural errors were followed up on by first using the information in the existing file to conduct the Census lookup independently. In cases where the Census method did not validate the Tier I status, the follow-up then moved to use the existing data to identify an elementary school for the FDCH and continued with the established procedure for identifying and verifying an FDCH-elementary link and the eligibility of the elementary school. In cases where there was no information allowing for a school match, or in cases where the school boundary method resulted in the lower tiering status, the case remained misclassified.

For cases where the procedural errors were related to the provider income method, the existing documentation was first reviewed to determine if an elementary school could be identified for the FDCH. If so, this information was used to attempt the school boundary method tiering determination. For the remaining cases where no school was identified, research was conducted using Mapquest to identify a possible elementary school, and then calls were made to confirm the link between the FDCH and the elementary school in question. In cases where the calls indicated that the FDCH-school link did not exist, the Census method was used to validate the tiering determination. In cases where the school was not on the State list of qualifying schools, the Census method was also employed to validate the tiering determination. Out of these cases, those for which the Census method confirmed the lower tiering status retained the misclassification designation.

For those FDCHs where the documentation did not support a Tier I determination based on categorical eligibility, the documentation was reviewed to determine whether there was any evidence to support investigation by Census. The FDCH address was used in the Census Fairdata CACFP mapping tool, and the results were then used to confirm or deny the Tier I status of the FDCH. In cases where the Census method did not confirm the original Tier I determination, an attempt to qualify the FDCH based on the school boundary method was made. The Census method was attempted in these cases first because the available evidence in files where categorical eligibility is used often did not contain any identifying information outside of the FDCH address. For cases where the school boundary method was determined to not be viable, the case remained misclassified.

CHAPTER 4. RESULTS OF DATA COLLECTION, VALIDATION, AND ANALYSIS

This chapter presents the outcomes of the data collection, follow-up validation, and analysis, beginning with a summary of the analysis findings prior to the data validation efforts. An overview of those FDCHs classified as Tier I and meal reimbursements by tier is presented first, and then misclassification rates based on reviews of documentation in sponsor files during the initial data collection period. Outcomes of the analysis of procedural misclassifications are then presented, followed by the revised misclassification rates and their associated costs.

In this section, all percentages shown are weighted and derived from the study sample. Actual numbers of FDCHs cited are unweighted. As expected in a sample that uses probabilities proportional to size, the weighted percentages are often very close to those that would have been obtained from unweighted data.

TIER I SHARE OF FDCHS AND MEAL REIMBURSEMENTS

This discussion begins with a summary of the analysis of data based on the initial data collection activities. On the basis of the sampling and weighting procedures of this data collection prior to the follow-up validation activities, 71 percent of FDCHs were classified as Tier I by their sponsors (see Exhibit 4.1) during the 12-month study period.[28] The findings reflect considerable variation across sponsors and States on the share of Tier I FDCHs. As Exhibit 4.1 indicates, at the State level, three States had more than 90 percent of their FDCHs classified as Tier I, while four States had fewer than 60 percent of its FDCHs designated as Tier I. At the sponsor level, 12 sponsors classified all of their FDCHs as Tier I, while 17 sponsors classified 50 percent or less of their FDCHs as Tier I (see Appendix Table A1.4).

[28] Of the 3,150 FDCHs surveyed, 2,220 were classified as Tier I.

Exhibit 4.1: Share of FDCHs Classified as Tier I by their Sponsors by State, Before Data Validation

State	Tier I Share
11	100%
5	92%
12	90%
10	86%
3	77%
2	75%
6	70%
13	60%
4	63%
1	63%
7	59%
8	54%
14	52%
9	42%
National Estimate	71%

Source: 2006 CACFP Program Assessment. Based on sponsor files for 3,150 FDCHs. Percentages by State are for descriptive purposes only because State-level samples are too small to produce robust State-level estimates.

Another way to look at the use of program resources is by the share of expenditures for Tier I reimbursed meals and snacks. This figure is greater than the share of Tier I FDCHs for two reasons. First, since Tier I meals are reimbursed at much higher rates, the monetary share of Tier I reimbursed meals was higher than the share of FDCHs. Second, at Tier II FDCHs, many meals and snacks (15 to 16 percent nationally) were reimbursed at Tier I rates because of the income status of individual children. Consequently, the national estimate from this study concludes that 77 percent of the meals and snacks, and 87 percent of expenditures were for Tier I reimbursed meals and snacks (see Exhibit 4.2) during the study period.

Exhibit 4.2: Meals and Expenditures Reimbursed at Tier I and Tier II Rates

	Number of Meals and Snacks	Expenditures	Share of Meals and Snacks	Share of Expenditures
Tier I	477,872,447	$586,774,703	77%	87%
Tier II	144,753,831	$84,989,626	23%	13%
Total	**622,626,278**	**$671,764,329**	**100%**	**100%**

Source: 2006 CACFP Tiering Assessment. National, weighted, seasonally adjusted estimates based on sponsor files for 3,150 FDCHs.

The most common way in which FDCHs were qualified by their sponsors for Tier I status was through area eligibility using the local elementary school (74.7 percent), followed by provider income (14.5 percent), area eligibility using Census (6.7 percent), and income eligibility by categorical documents (1.3 percent). Approximately 3 percent of FDCH records included at least partial documentation for two or three different approaches (Exhibit 4.3).

Exhibit 4.3: Basis of Tier I Qualification and Procedural Misclassification Rates—Original Data Collection Sponsor Files

Documentation Type	Percentage of Documentation*	Procedural Misclassification Rate	Weighted National Estimates of Tier I FDCHs
School	74.7%	27.6%	21,288
Income	14.5%	33.7%	5,076
Census	6.7%	6.9%	475
Categorical	1.3%	52.8%	608
Multiple Types of Documentation	2.8%	29.3%	881

*The percentage of documentation sums to more than 100% because of rounding. Source: 2006 CACFP Tiering Assessment. Based on sponsor files for 2,220 Tier I FDCHs (unweighted).

Initial analysis also produced a misclassification rate for the tiering status of FDCHs. After all the data were extracted from sponsor records of the sampled FDCHs, the tiering algorithms were applied to determine whether the available documentation supported the listed tiering status assigned by sponsor. The lack of supporting documentation or ambiguous documentation was deemed a procedural error and flagged for follow-up verification in the validation data collection, as described in Chapter 3. Of the 2,220 Tier I FDCHs, sponsors did not have adequate supporting documentation of this status for 632 FDCHs. Of the 930 Tier II FDCHs, 2 had documents in the file showing that they were eligible for Tier I status. In percentage terms, the weighted procedural misclassification rates were 27.5 and 0.22 percent for Tier I and Tier II FDCHs, respectively. For the Nation as a whole, the overall estimated procedural misclassification rate was 19.5 percent.

Exhibit 4.3 also displays the procedural misclassification rate by type of approach used to qualify for Tier I status. For sponsors using multiple types of documentation, an FDCH was considered procedurally misclassified if the documentation in the file did not support Tier I classification regardless of which approach might have been used.[29] The highest rate of procedural error (52.8 percent) occurred when sponsors used categorical eligibility as the basis for the tiering determination. The error rate for cases based on categorical eligibility was highest due to the small number of cases on which the error rate is based. This meant that every case that was in error represented a larger proportion of all cases involving categorical eligibility.[30] For each additional home that is in error, the error rate will increase substantially. As the exhibit illustrates, while the procedural error rate for the school boundary method is 27.6

[29] It is worth emphasizing that the FDCH was considered procedurally and not substantively misclassified. In 2.8 percent of cases, sponsors attempted to qualify FDCHs for Tier I status using two or three criteria. The procedural misclassification rate relates the percentage of times that the use of a specific criterion—without regard to the number of criteria they may have attempted—failed to support the claim for Tier I status. Thus, when a sponsor attempted to use the characteristics of the local elementary school solely, they failed to document the school's eligibility almost 28 percent of the time. However, in the majority of such cases, further investigation led to the conclusion that the FDCH was indeed qualified for Tier I status even though sponsor documentation was inadequate. For about 3 percent of the FDCH records examined, sponsors attempted to use multiple approaches. In about 29 percent of these instances, none of the approaches supported the sponsor's classification of Tier I.

[30] Note that the sample was designed to produce reliable national estimates, not estimates by type of sponsor classification method. The small number of homes classified by this method does not adversely affect the national estimates of error. This discussion is for descriptive, not estimation, purposes.

percent, the largest percentage of FDCHs (75 percent) were classified through this approach.[31] Hence, the vast majority of procedural errors involved linking an FDCH with an eligible school. The large proportion of procedural errors associated with the school boundary method is similar to the 2005 study findings.

Exhibit 4.4 provides additional information on the specific types of errors found in the FDCH files. In about 20 percent of these potential errors, there was no map or official school map (e.g., a Mapquest map). In about 46 percent of the cases, there was an official map but it was either undated (23 percent) or not valid (22.5 percent) because the date preceded the 3-year qualification window for tiering determinations. There were also many FDCHs in which the income statement of the provider did not adequately meet the requirements of the program. The most common problem was the verification of self-declared financial information. This was resolved in some cases, when legitimate documentation on both income and expenses was present in the file. Otherwise, it was not possible to accept self-declared information. Other documentation errors included incomplete income eligibility forms (not properly signed, dated, or not including the provider's Social Security Number), failure to date or document a source of income, or total income being above the threshold set for the household size.

[31] As Exhibit 4.3 indicates, 75 percent of FDCHs attempting to qualify for Tier I status attempted to do so on the basis of the local elementary school only. However, including the 3 percent that took multiple approaches, some involved the use of local elementary school demographics, raising the overall rate to 77 percent.

Exhibit 4.4: Causes of Tier I Procedural Misclassifications

Causes of Misclassification	Percentage	Weighted National Estimates of Tier I FDCHs with Procedural Misclassifications
SCHOOL BOUNDARY METHOD		
No Date on Map	23.0%	6,548
Expired Date on Map	22.5%	6,387
Inappropriate or Missing Map	19.8%	5,623
School Not Eligible	8.7%	2,482
PROVIDER INCOME METHOD		
Missing Element on Income Eligibility Application	6.6%	1,885
Unacceptable Ledger Sheet	5.2%	1,484
No Date or Initial on Memo	4.6%	1,315
Excess Income	4.5%	1,279
No Documentation for Income Source	2.3%	647
CATEGORICAL ELIGIBILITY METHOD		
Categorical	1.8%	524
CENSUS BLOCK GROUP METHOD		
Census	0.9%	245
Total	100.0%	28,419

Source: 2006 CACFP Assessment. Weighted estimates based on sponsor files for 2,220 Tier I FDCHs.

In this year's study, 11 sponsors with at least half of their FDCHs classified as Tier I had procedural misclassification rates above 50 percent. Conversely, 9 sponsors with at least 50 percent of their FDCHs classified as Tier I did not have a single error relating to classification in their files (see Appendix Table A1.4).

As for Tier II FDCHs, the two FDCHs in error did have documentation in the file showing that the home was Tier I qualified on the basis of income. There was proper documentation of Tier I status, but the wrong tiering level had been assigned by the sponsor.

RESULTS OF THE INDEPENDENT TWO-STAGE VALIDATION APPROACH OF TIERING DETERMINATIONS WITH PROCEDURAL MISCLASSIFICATIONS

As described earlier, independent verification of the FDCH's tiering level was conducted when the documentation in the sponsor's file was found to be insufficient or inconclusive. In contrast to the 2005 study where only those cases with errors related to the school boundary method were investigated, the 2006 study included the review of procedural errors in the Census block group, as well as categorical and income eligibility methods. It was not within the scope of the study to review any other documentation other than what was present in the FDCH sponsor file. Follow-up for FDCHs with procedural errors was limited to using the existing documentation to determine if the Tier I status could be supported by using either the school boundary method, the primary validation method, or the Census block group method, the secondary validation method. As described in Chapter 3, the Census block group method was only attempted in

cases where the school boundary method resulted in either an inconclusive or lower tiering status determination.[32]

In the following discussion, the results of the primary independent verification of Tier I status using the school boundary method are presented first, including the impact of the verified FDCHs on the estimates of the costs of misclassification. The report then presents the results of the secondary verification using the Census block group method and incorporates these findings in the final analysis.

Exhibit 4.5 presents an overview of the initial procedural misclassifications for each of the four tiering determination methods. Of the total 632 Tier I FDCHs with a procedural misclassification, 489 were the result of poor documentation in the school boundary method.

Of these cases, 430 lacked documentation clearly linking a specific elementary school to the FDCH's address, while for 57 cases, the supporting documents in their files were too weak to definitively link that school to the FDCH. Two cases had no supporting documentation at all. The high number of cases with procedural errors related to the school boundary method is very similar to the number of cases with this error in the 2005[33] study (641 FDCHs with unsupported tiering status in 2005; 632 in 2006; 488 were the result of poor school boundary documentation in 2005, 489 in 2006). The next largest number of procedural misclassifications (113) occurred with documentation used to support provider income as the basis for the tiering determination.[34]

[32] It should be noted that the school boundary method was attempted first in the independent verification procedures for all tiering methods except for when the original tiering status was determined using the Census block group method. In this instance, the original method was first attempted independently and then the school boundary method was attempted. This ordering is outlined in the algorithms presented in Chapter 3.

[33] Child and Adult Care Food Program (CACFP): Assessment of Sponsor Tiering Determinations, 2005 Final Report.

[34] For sponsors attempting multiple methods of tiering determination and failing at each attempt, the case was classified as an error based on a hierarchy of determination methods using FRP eligibility as a guideline for prioritizing the listing (school, Census, categorical, and then income) and then assigned the error code according to whatever means was the first to be attempted in this listing. For example, if a sponsor tried to qualify based on school and Census, and failed at each, the error is classified as an error in the school method. If a sponsor used Census and income and failed at both, the error was classified as a Census error.

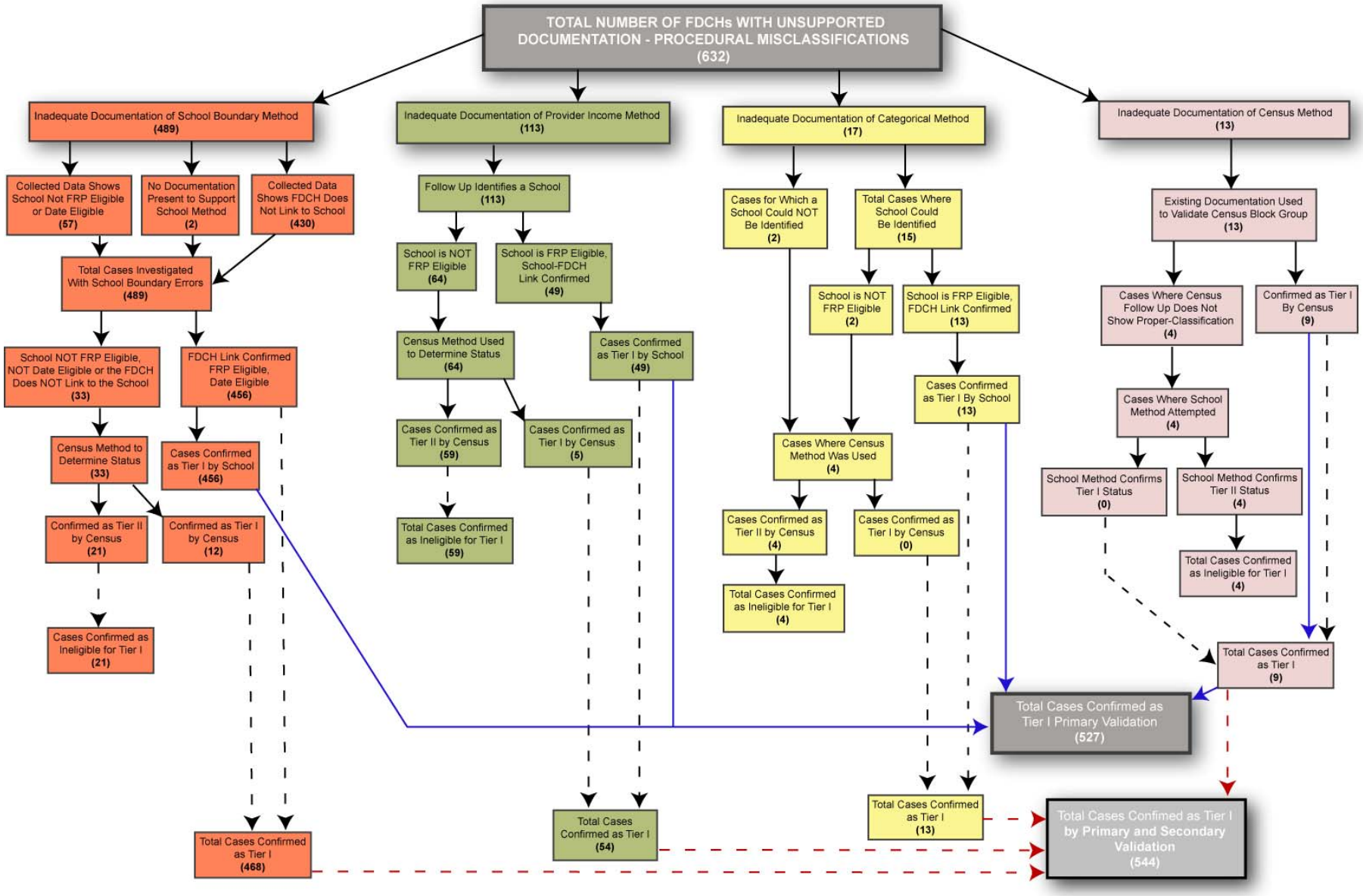
Exhibit 4.5: Procedural Misclassification and Documentation Failure: Identifying Cases for Verification Follow-up

Documentation of Tier I Status Failure	Unweighted Count of Sampled Tier I FDCHs
Collected Data Shows FDCH Does Not Link to the School	430
A Specific, Qualified School Could Not Be Identified from Documentation	57
No Documentation Supporting School Method	2
School Boundary Errors	489
Ledger Sheet Errors	31
No Documentation	13
Other Income Errors	69
Provider Income Documentation	113
Categorical Eligibility Documents Missing Dates, Signatures or Expired	17
Categorical Eligibility Errors	17
No Documentation of Census Method Outcome	13
Census Block Group Method Errors	13
Follow-up Conducted to Verify Procedural Misclassifications	632
Total Tier I Procedural Misclassifications (unweighted)	632

PROCEDURES USED TO VERIFY THE ELIGIBILITY OF FDCHS WITH PROCEDURAL MISCLASSIFICATIONS

As described in Chapter 3, each tiering method had a distinct algorithm for determining tiering status. The procedures used for the validation data collection are described in detail for each tiering method used in the following discussion. Exhibit 4.6 presents a flowchart depicting the procedures used for validating the errors associated with each tiering determination method. It presents the results of the primary validation of procedural errors (using the school boundary method) to independently determine the tiering status of the FDCH. The flowchart then presents findings where the Tier I status could not be supported by the school boundary method and the Census block group method was attempted.

Exhibit 4.6: Total Number of FDCHs with Unsupported Documentation—Procedural Misclassifications and Cases Confirmed as Tier I through the Primary and Secondary Validation Procedures



Primary Validation of Procedural Misclassifications in the Original Tiering Method: Using the School Boundary Method to Verify Tier I Status

Primary Validation of Procedural Misclassifications: School Boundary

The analysis identified 489 cases where the school boundary method was used and documentation was inconclusive in determining the tiering status of the FDCH. Of these, 430 FDCHs did not have documentation supporting the FDCH-school link, 2 had no documentation supporting either the FDCH link or school eligibility criteria, and 57 FDCHs lacked supporting documentation that the school met the FRP guidelines.

The primary validation of these procedural misclassifications began by examining the 430 cases where the files lacked documentation clearly linking a specific elementary school to the FDCH's address, or the supporting documents in the files were too weak to definitively link that school to the FDCH. The first step in this process was to verify that the FDCH address did link to a qualifying elementary school for these cases. Where the documentation was weak, Mapquest was used to identify a possible elementary school that served the FDCH. The National Center of Education Statistics Website (http://nces.ed.gov/globallocator/) was used to identify telephone numbers for these schools, and they were contacted by phone to verify that the FDCH address was within the school catchment area for the elementary school. For the 430 cases with this error, the verification procedures confirmed that the school attendance area included the specific FDCH in question.

Once the FDCH-school link was confirmed, the validation activities continued by referring to the State lists of qualifying elementary schools to ensure that the school in question did indeed meet the criteria of having at least 50 percent of its students eligible for a free or reduced-price meal. All 430 of the FDCHs examined at this stage were found to meet this criterion.

A separate examination of the 57 FDCHs where the documentation indicated that the school was ineligible was then conducted. These cases required investigation of the State school lists to confirm the elementary school eligibility as well. Of these 57 cases, 24 FDCHs were confirmed as being linked to the school attendance area and linked to an eligible school.

A separate investigation was conducted for the two cases with no documentation. Mapquest was used to identify a school; the school was contacted to verify the link. The next step was to check the State lists of eligible schools. The outcome of this research was that both of the two FDCHs were linked to a school that was eligible. At this stage of the validation process, 456 FDCHs were confirmed as being Tier I, while additional attempts using the school boundary method were unsuccessful for the remaining 33 FDCHs. Notably, the validation procedures reduced the school boundary method misclassification rate from 27.6 to 2.1 percent (see Exhibit 4.7).

Primary Validation of Procedural Misclassifications: Provider Income

There were a considerable number of FDCHs (113) where the documentation did not support Tier I status based on provider income. The validation data collection began with attempts to validate the Tier I status of these FDCHs using the school boundary method. A review of the existing files was conducted to determine if an elementary school could be identified for the FDCH. Research was conducted using Mapquest to identify a possible elementary school for a majority of the FDCHs. After the elementary school and the telephone number were identified,

verification telephone calls to schools were made to confirm that the elementary school attendance area did include the FDCH. When the school representative indicated that the FDCH was not in their service area, the representative was asked for a likely suggestion, and that alternate school was contacted.

Once the FDCH-school link was confirmed, the State lists were also consulted to confirm school eligibility. Of the 113 FDCHs with procedural misclassifications for provider income, 49 were confirmed as having both the FDCH-school link and an eligible school. The remaining 64 FDCHs were linked to elementary schools that were not eligible, based on State lists. The primary validation procedures had a more limited effect on the misclassification rate in this instance, as the provider income misclassification rate changed from 33.7 to 18.6 percent (see Exhibit 4.7).

Primary Validation of Procedural Misclassifications: Categorical Eligibility

The validation of the 17 FDCHs where documentation did not support Tier I status based on categorical eligibility began with an examination of FDCH files for information to conduct an independent school boundary determination. Mapquest was used to identify an elementary school located near the FDCH address, and the National Center for Educational Statistics Website was used to identify contact numbers for these schools. The telephone verification procedure identified 15 FDCHs as having the necessary FDCH-school link. When the State eligibility lists were checked against these 15 FDCHs, 2 of them were affiliated with schools that were not eligible based on the free and reduced-price meal criterion. At this stage in the validation follow-up, 13 of the 17 FDCHs were confirmed in their Tier I status using the school boundary method. The remaining 4 FDCHs could not be confirmed using the school boundary method. Thus, validation procedures reduced the categorical method misclassification rate from 52.8 to 13.4 percent (see Exhibit 4.7).

Primary Validation of Procedural Misclassifications: Census Method

The validation of the 13 FDCHs where documentation did not support Tier I status began with an examination of the FDCH files for information on conducting an independent Census block group method determination. FDCH address information was present in the files of all 13 cases, and this information was used with the Fairdata Web-based tool. Through this method, 9 of the 13 FDCHs were confirmed to be Tier I eligible. In this case, the validation procedures reduced the Census method misclassification rate from 6.9 to 2.3 percent (see Exhibit 4.7).

Exhibit 4.7: Primary Verified Misclassification Rates by Tiering Method

Documentation Type	Percentage of Documentation	Procedural Misclassification Rate	Primary Verified Misclassification Rate	Verified Weighted National Estimates of Tier I FDCHs
School	74.7%	27.6%	2.1%	1,635
Income	14.5%	33.7%	18.6%	2,798
Census	6.7%	6.9%	2.3%	158
Categorical	1.3%	52.8%	13.4%	173
Multiple Types of Documentation	2.8%	29.3%	4.8%	136

The end result of these data validation procedures was that out of the 632 FDCHs with procedural misclassifications, 527 FDCHs retained their Tier I status based on the outcomes of the primary validation efforts (see Exhibit 4.6).

Results after Incorporating the Primary Independent Verification of Procedural Misclassification

The primary independent verification procedures resulted in confirmed Tier I status for 527 of the 632 surveyed FDCHs with procedural misclassifications. Using these findings, the national estimate of the misclassification rate was then determined to be 4.78 percent for Tier I FDCHs (see Exhibit 4.8), compared with the 27.5 percent of FDCHs (procedurally weighted) for which documentation in sponsor files was missing or inadequate in the first round. The Tier II misclassification rate was not subject to further investigation and remained at 0.22 percent. The overall misclassification rate fell to 3.44 percent from 19.49 percent by incorporating the results of the primary verification procedures. Also included in Exhibit 4.8 are estimates for the upper and lower bounds of these estimates. Exhibit 4.9 presents the unweighted counts of both procedural and verified errors.

Exhibit 4.8: Primary Verified Misclassification Rates by Tiering Status

Type of FDCH	Primary Verified Misclassification Rate	Lower Limit*	Upper Limit*	Weighted National Estimates of FDCHs***
Tier I	4.78%	3.46%	6.10%	103,408
Tier II	0.22%	0.08%	0.36%	42,884
All Tier I or Tier II FDCHs	3.44%	2.65%	4.23%	146,292

* 90 percent confidence level. ***Total homes estimated from sample. Source: 2006 CACFP Tiering Assessment. Based on sponsor files for 3,150 FDCHs and follow-up verification (weighted estimates).

Exhibit 4.9: Comparison of Procedural to Primary Verified Errors for Sampled FDCHs

Type of Home	Procedural Error		Primary Verified Error	
	Yes	No	Yes	No
Tier I	632	1,588	105	2,115
Tier II	2	928	2	928
All Sampled Tier I or Tier II FDCHs	634	2,516	107	3,043

Source: 2006 CACFP Tiering Assessment. Based on sponsor files for 3,150 FDCHs including follow-up for 489 Tier I FDCHs with procedural misclassifications based upon local elementary school.

Exhibit 4.10 presents the causes of the primary verified errors for the 105 Tier 1 FDCHs for which the validation data collecting activities confirmed that the Tier I status was unsupported.

Exhibit 4.10: Causes of Primary Verified Misclassification for Tier I FDCHs

Causes of Misclassification	Percentage	Weighted National Estimates of Misclassified Tier I FDCHs
Unacceptable Ledger Sheet	18.6%	921
Excess Income	18.0%	889
Inappropriate or Missing Map	15.2%	753
No Date on Map	12.5%	620
Missing Element on Income Eligibility Application	11.1%	550
No Documentation for Income Source	8.9%	438
School Not Eligible*	6.2%	305
Categorical	3.5%	173
Census	3.2%	158
Multiple Forms of Documentation**	2.8%	136
Expired Date on Map	0.0%	0
No Date or Initial on Memo	0.0%	0
Total	100.0%	4,943

* All FDCHs without any documentation are assumed to have been Tier I on the basis of area eligibility by elementary school. ** Some FDCHs had documents in their files that supported different approaches for Tier I eligibility. Source: 2006 CACFP Tiering Assessment. Based on sponsor files for 2,220 Tier I FDCHs and follow-up verification (weighted estimates are provided).

Of the 92 sponsors in the sample, 45 did not have a single Tier I misclassification after the primary validation procedures were completed. Another 33 sponsors had a misclassification rate of less than 10 percent, including 13 sponsors with a misclassification rate of 5 percent or less. Of the remaining 14 sponsors, 2 had a misclassification rate of over 30 percent (see Appendix Table A1.4). At the State level, 2 States had misclassification rates over 10 percent. At the other extreme, one State had no misclassifications (see Exhibit 4.11).

Exhibit 4.11: Primary Verified Tier I Misclassification Rate by State

State	Verified Tier I Misclassification Rate
9	19.0%
14	13.0%
7	7.0%
5	6.7%
4	5.8%
10	5.5%
1	5.2%
2	4.9%
8	4.5%
13	3.8%
12	2.0%
6	2.0%
3	1.2%
11	0.0%
National Estimate	4.78%

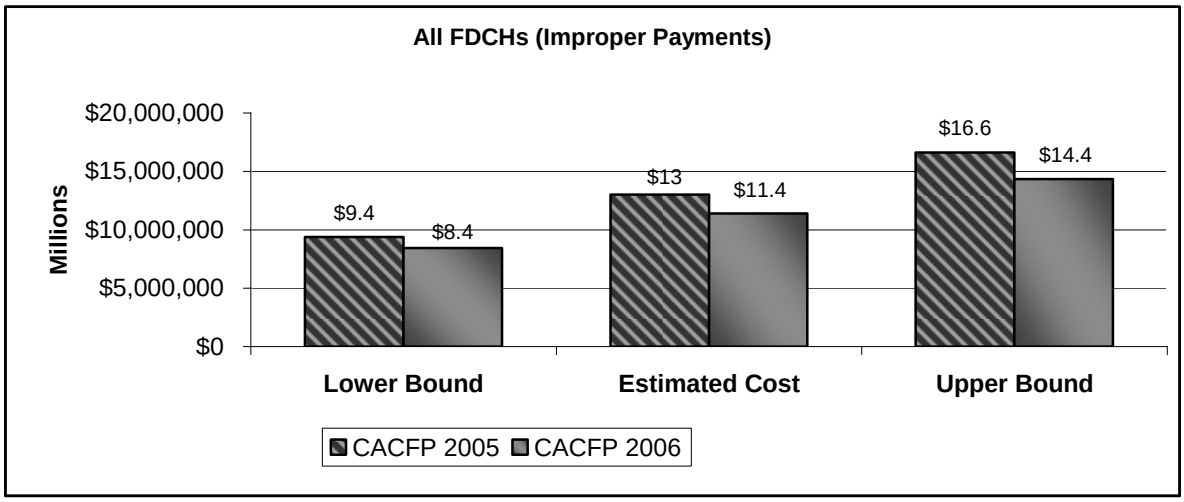
Source: 2006 CACFP Tiering Assessment. Based on sponsor files for 2,220 Tier I FDCHs and verification follow-up. Percentages by State are for descriptive purposes only because State-level samples are too small to produce robust State-level estimates.

Costs of Misclassifications after the Primary Validation of Procedural Errors

Using the procedures discussed in Chapter 2, the annual cost of improper payments[35] associated with misclassified FDCHs for this study was calculated incorporating the findings from the primary validation efforts. The annual cost of improper payments[36] associated with misclassified FDCHs is estimated to be $11.4 million, with a 90 percent confidence range of between $8.4 and $14.4 million (see Exhibit 4.13), which includes the findings from the primary independent tiering verification process. Exhibit 4.12 presents a comparison of estimated costs of improper payments for all FDCHs in 2005 and 2006 after the primary validation procedures. As the chart depicts, the overall estimated costs of misclassifications decreased in 2006 by about $1.6 million dollars.

[35] That is, the sum of the overpayments to Tier I homes and the absolute value of the underpayments to Tier II homes.
[36] That is, the sum of the overpayments to Tier I homes and the absolute value of the underpayments to Tier II homes.

Exhibit 4.12: Comparison of Estimated Costs of Improper Payments for All FDCHs, 2005 and 2006, After Primary Verification of Procedural Errors* **



* 2005 and 2006 CACFP Tiering Assessment. Chart depicts rounded data. **90 percent confidence level.

The greater part of these overpayments are due to misclassified Tier I FDCHs, estimated to be $11.2 million, with a confidence range between $8.3 and $14.2 million based on the verification of errors using the school boundary method. Overpayments to Tier I FDCHs represent 2.0 percent of the estimated expenditures for meal reimbursements for Tier I FDCHs ($560,405,651[37]). This ratio is less than the misclassification rate of Tier I FDCHs (4.78 percent) because only part of the cost of the meal—the difference between Tier I and Tier II reimbursement rates—translates into an overpayment. More specifically, meals at misclassified Tier I FDCHs would be reimbursed at approximately half the rate of Tier I reimbursed meals (especially when accounting for the fact that about 16 percent of Tier II FDCH meals are reimbursed at the higher Tier I rate).

[37] The total amount of meal reimbursements for Tier I FDCHs (after subtracting out the estimated reimbursements for children who qualify for Tier I rates, regardless of their FDCHs' classifications) that could potentially be classified as erroneous over-payments or costs.

Exhibit 4.13: Costs of Misclassifications after Primary Verification Procedures

	Estimated Cost	Cost as % of Total Reim-burse-ments	Lower Bound Estimate*	Lower Bound as % of Total	Upper Bound Estimate*	Upper Boun d as % of Total	Weighted National Estimates of FDCHs ** *
Tier I FDCHS (Overpayment)	$11,249,292	2.00%	$8,301,852	1.64%	$14,196,731	2.80%	103,408
Tier II FDCHs (Underpayment)	$146,852	0.13%	$77,938	0.07%	$215,765	0.19%	42,884
All FDCHs (Improper Payments)	$11,396.144	1.7%	$8,441,351	1.37%	$14,350,936	2.32%	146,292

* 90 percent confidence level. *** Based on the sample. Source: 2006 CACFP Tiering Assessment. National estimates based on sponsor files for 3,150 FDCHs and verification follow-up. Weighted figures are presented.

For Tier II FDCHs, the amount of underpayments was estimated to be $146,852, which represents less than 1 percent of the total funding for meals for Tier II FDCHs (an estimated $111,358,679[38]). Combining the absolute value of the estimated cost of Tier I and Tier II misclassifications leads to a total amount of under- and over-spending of $11,396,144 which represents approximately 1.7 percent of total spending for all Tier I and II FDCHs.

Exhibit 4.14 shows the number of meals provided to FDCHs by their listed tiering level and the number of meals reimbursed at the wrong rate after the primary verification of errors. For Tier I FDCHs, 18.3 million of the 459.7 million meals reimbursed were reimbursed at the wrong rate. For Tier II homes, 227,423 out of 162.9 million meals served were reimbursed at the wrong rate.

[38] The total amount of meal reimbursements for Tier II FDCHs (after taking under consideration the estimated reimbursements for children who qualify for Tier I rates, regardless of their FDCHs' classifications) that could potentially be classified as erroneous under-payments or costs.

Exhibit 4.14: Annual Number of Meals Served and Number of Meals Reimbursed at Incorrect Rate by FDCH Tier Type, after Primary Verification Procedures

	Breakfasts	Lunches and Suppers	Snacks	Total Meals and Snacks
Tier I FDCHs				
Total	112,500,623	176,541,213	170,658,448	459,700,284
Reimbursed at Wrong Rate*	5,355,922	6,138,669	6,839,560	18,334,221
Tier II FDCHs				
Total	44,115,045	58,286,729	60,524,219	162,925,993
Reimbursed at Wrong Rate	28,636	122,709	76,078	227,423

Source: 2006 CACFP Tiering Assessment. Figures based upon seasonally adjusted monthly averages within States. *The calculation of meals at Tier I FDCHs reimbursed at the wrong rate takes into account the fact that, with a change in tiering status, not all meals would be reimbursed at Tier II rates. The adjustment is made by deducting State proportions of Tier I meals served in Tier II homes. For Tier II FDCHs, only meals reimbursed at Tier II rates are subject to error. Eighteen of the Tier I FDCHs in the sample that were incorrectly classified claimed some Tier II meals. These Tier II meals were not included in the estimate of meals reimbursed at the wrong rate, but are included in the total meals for Tier I FDCHs.

Secondary Validation of Remaining Procedural Misclassifications in the Original Tiering Method: Using the Census Block Group Method to Verify Tier I Status

Overall, 105 of the 632 FDCHs remained in error after the primary validation phase had concluded. As outlined in Chapter 3, the next phase of the verification of procedural errors called for the use of the Census block group method to be applied to any remaining FDCHs where the original tiering status could not be verified. This discussion presents the results of the Census block group independent verification of Tier I status for those errors that were not resolved using the school boundary method.

Secondary Validation of Procedural Misclassifications: School Boundary

The primary validation follow-up had resulted in 456 of the 489 cases with procedural errors being confirmed as valid Tier I FDCHs, leaving 33 FDCHs that could not be verified using this method. The Census block group method was used to try to validate the tiering status of these 33 remaining procedural misclassifications. The Census block group method investigation used the Census Fairdata CACFP mapper tool (http://www.fairdata2000.com/CACFP/) to identify whether the FDCH had an address in a Census track where at least 50 percent or more of the children under age 13 lived in households at or below 185 percent of the poverty level. The FDCH address for each of these 33 cases was entered into the tool. A Census block map, indicating percentages of the students under age 13 living in households at or below the poverty level, was then generated. This procedure was followed for each of the 33 FDCHs, resulting in an additional 12 FDCHs confirmed as Tier I using the Census method. The remaining 21 procedural misclassifications could not be validated as Tier I by the Census method either, and these cases retained their misclassification designation. The secondary validation procedures reduced the school boundary misclassification rate further, from 2.1 percent after the primary validation efforts to 1.5 percent (see Exhibit 4.15).

Secondary Validation of Procedural Misclassifications: Provider Income

Of the 113 procedural errors with the provider income method, 64 cases were not able to be independently confirmed as Tier I using the school boundary method. The Census method was then used to attempt to validate the tiering status of these 64 remaining cases. Once again, the Fairdata tool was used, and only 5 FDCHs were confirmed as having Tier I status using this method. The remaining 59 FDCHs remained misclassified. The secondary validation procedures had a more limited effect on the misclassification rate in this instance, as the provider income misclassification rate changed from 18.6 percent to 17.1 percent (see Exhibit 4.15).

Secondary Validation of Procedural Misclassifications: Categorical Eligibility

The validation of the 17 FDCHs where documentation did not support Tier I status confirmed 13 of these 17 cases as Tier I through the school boundary method, leaving 4 cases that needed follow-up using the Census block group method. When the Census method was attempted, none of these 4 FDCHs could be confirmed as having Tier I status and thus remained misclassified. The secondary validation procedures did not have any effect on the categorical method misclassification rate, as it remained at 13.4 percent (see Exhibit 4.15).

Secondary Validation of Procedural Misclassifications: Census Method

As stated earlier, the validation protocol required that in cases where it was possible, the original tiering determination method should be independently attempted to resolve the procedural error. This meant that in the case of FDCHs that were determined to be Tier I using the Census approach, the primary verification method was an independent attempt at the Census method. Nine of the 13 procedural errors associated with this method were confirmed as Tier I under the primary verification process, leaving 4 remaining cases as procedural errors. The school boundary method was attempted for the remaining 4 FDCHs. As the files contained no information identifying a local elementary school, Mapquest was used to first identify possible elementary schools that served the FDCHs. Once schools were identified, the National Center for Educational Statistics Website was used to identify contact numbers, and follow-up verification phone calls were made to determine whether these FDCHs were indeed served by elementary schools in which at least 50 percent of the students are eligible for a free or reduced-price meal. For all 4 FDCHs, the FDCH-school link was confirmed, but the elementary school was not on the State list of eligible schools. These 4 FDCHs remained misclassified. The secondary validation procedures did not alter the Census method misclassification rate, as it remained at 2.3 percent (see Exhibit 4.15).

Exhibit 4.15: Misclassification Rates by Tiering Method, Secondary Verification Procedures

Document-ation Type	Percentage of Document-ation	Procedural Misclassific-ation Rate	Primary Verification Misclassific-ation Rate	Secondary Verification Misclassific-ation Rate	Verified Weighted National Estimates of Tier I FDCHs
School	74.7%	27.6%	2.1%	1.5%	1,130
Income	14.5%	33.7%	18.6%	17.1%	2,573
Census	6.7%	6.9%	2.3%	2.3%	158
Categorical	1.3%	52.8%	13.4%	13.4%	173
Multiple Types of Documentation	2.8%	29.3%	4.8%	4.8%	136

RESULTS AFTER INCORPORATING THE SECONDARY INDEPENDENT VERIFICATION OF PROCEDURAL MISCLASSIFICATIONS

The secondary independent verification procedures resulted in confirmed Tier I status for an additional 17 cases, resulting in a total of 544 FDCHs confirmed as Tier I through the verification procedures of the 632 surveyed FDCHs with procedural misclassifications. Overall, 88 of the cases with procedural errors remained in error. Using these findings, the national estimate of the misclassification rate was then determined to be 4.03 percent for Tier I FDCHs (see Exhibit 4.16). Once again, the Tier II misclassification rate was not subject to further investigation and remained at 0.22 percent. Using the findings from the secondary verification procedures, the overall misclassification rate fell to 2.92 percent from 3.44 percent. Exhibit 4.17 presents the unweighted counts of both procedural and verified errors, for both the primary and secondary validation procedures.

Exhibit 4.16: Secondary Verified Misclassification Rates by Tiering Status

Type of FDCH	Verified Misclassification Rate	Lower Limit*	Upper Limit*	Weighted National Estimates of FDCHs***
Tier I	4.03%	2.76%	5.31%	103,408
Tier II	0.22%	0.08%	0.36%	42,884
All Tier I or Tier II FDCHs	2.92%	2.14%	3.69%	146,292

* 90 percent confidence level. ***Total homes estimated from sample. Source: 2006 CACFP Tiering Assessment. Based on sponsor files for 3,150 FDCHs and follow-up verification (weighted estimates).

Exhibit 4.17: Comparison of Procedural to Verified Errors for Sampled FDCHs, Primary and Secondary Validation Procedures

Type of Home	Procedural Error		Primary Verified Error		Secondary Verified Error	
	Yes	No	Yes	No	Yes	No
Tier I	632	1,588	105	2,115	88	2,132
Tier II	2	928	2	928	2	928
All Sampled Tier I or Tier II FDCHs	634	2,516	107	3,043	90	3,060

Source: 2006 CACFP Tiering Assessment. Based on sponsor files for 3,150 FDCHs including follow-up for 489 Tier I FDCHs with procedural misclassifications based upon local elementary school.

Overall, the secondary validation process resulted in a reduction of the misclassification rate for 11 sponsors. Of the 92 sponsors in the sample, an additional 5 sponsors, for a total of 50, were found to not have any misclassification errors after the secondary validation procedures were completed. The secondary validation process increases to 15 the number of sponsors in the sample with a misclassification rate of less than 5 percent. Only 1 of the 92 sponsors had a misclassification rate over 30 percent after the secondary validation process (see Appendix Table A1.4). At the State level, the secondary validation procedures resulted in modest decreases in the misclassification rate within States, and reduced the national misclassification rate from 4.78 percent to 4.03 percent (see Exhibit 4.18).

Exhibit 4.18: Verified Tier I Misclassification Rate by State

State	Primary Verification Tier I Misclassification Rate	Secondary Verification Tier I Misclassification Rate
9	19.0%	17.8%
14	13.0%	12.0%
7	7.0%	7.0%
5	6.7%	6.2%
4	5.8%	4.3%
10	5.5%	4.3%
13	5.2%	3.8%
1	4.9%	3.7%
2	4.5%	3.7%
8	3.8%	2.7%
6	2.0%	1.3%
3	2.0%	1.2%
12	1.2%	1.0%
11	0.0%	0.0%
National Estimate	4.78%	4.03%

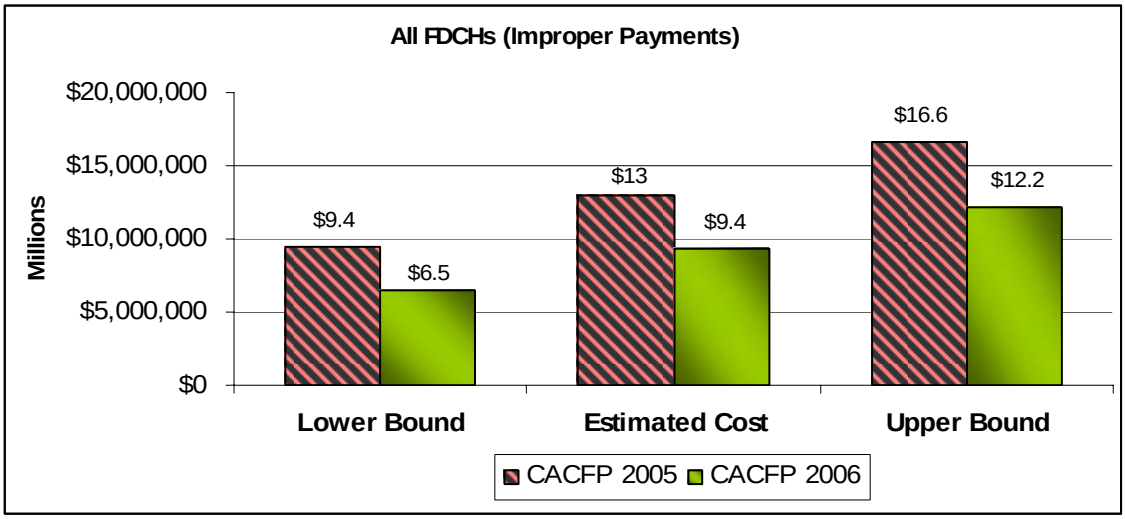
Source: 2006 CACFP Tiering Assessment. Based on sponsor files for 2,220 Tier I FDCHs and verification follow-up. Percentages by State are for descriptive purposes only because State-level samples are too small to produce robust State-level estimates.

COSTS OF MISCLASSIFICATIONS AFTER THE SECONDARY VERIFICATION OF PROCEDURAL ERRORS

The next step in the analysis was to include the findings from the secondary validation procedures into those calculations developed for determining the annual cost of improper payments. Using this data, the annual cost of improper payments[39] associated with misclassified FDCHs for this study is estimated to be approximately $9.4 million, with a 90 percent confidence range of between $6.5 and $12.2 million (see Exhibit 4.20), which includes the findings from both the primary and secondary independent tiering validation processes.

Using this data, the overall estimated costs of misclassifications have decreased in 2006 by approximately $3.6 million dollars (Exhibit 4.19).

Exhibit 4.19: Comparison of Estimated Costs of Improper Payments for All FDCHs, 2005 and 2006* **



* 2005 and 2006 CACFP Tiering Assessment. Chart depicts rounded data. **90 percent confidence level.

When examining the findings, the majority of improper payments are the result of overpayments to misclassified Tier I FDCHs, estimated to be $9.2 million, with a confidence range between approximately $6.5 and $12 million. Using the findings from both the primary and secondary verification of procedural errors, overpayments to Tier I FDCHs represent 1.64 percent of the estimated expenditures for meal reimbursements for Tier I FDCHs ($560,405,651[40]). Once again, this ratio is less than the misclassification rate of Tier I FDCHs (4.03 percent) because only part of the cost of the meal—the difference between Tier I and Tier II reimbursement rates—translates into an overpayment.

[39] That is, the sum of the overpayments to Tier I homes and the absolute value of the underpayments to Tier II homes.

[40] The total amount of meal reimbursements for Tier I FDCHs (after subtracting out the estimated reimbursements for children who qualify for Tier I rates, regardless of their FDCHs' classifications) that could potentially be classified as erroneous over-payments or costs.

Exhibit 4.20: Costs of Misclassifications

	Estima-ted Cost	Cost as % of Total Reimburs ements	Lower Bound Estimate*	Lower Bound as % of Total	Upper Bound Estimate*	Upper Boun d as % of Total	Weighted National Estimates of FDCHs ***
Tier I FDCHs (Overpayment)	$9,206, 139	1.64%	$6,407,469	1.14%	$12,004,810	2.14%	103,408
Tier II FDCHs (Underpayment)	$146,852	0.13%	$77,938	0.07%	$215,765	0.19%	42,884
All FDCHs (Improper Payments)	$9,352, 991	1.39%	$6,547,135	0.97%	$12,158,847	1.81%	146,292

* 90 percent confidence level. *** Based on the sample. Source: 2006 CACFP Tiering Assessment. National estimates based on sponsor files for 3,150 FDCHs and verification follow-up. Weighted figures are presented.

For Tier II FDCHs, the amount of estimated underpayments remained unchanged after the secondary verification efforts. This amount, $146,852, still represents less than 1 percent of the total funding for meals for Tier II FDCHs (an estimated $111,358,679[41]). Combining the absolute value of the estimated cost of Tier I and Tier II misclassifications leads to a total amount of under- and over-spending of $9,352,991, which represents approximately 1.4 percent of total spending for all Tier I and II FDCHs.

Exhibit 4.21 incorporates the findings from the secondary validation process, showing the number of meals provided to FDCHs by their listed tiering level and the number of meals reimbursed at the wrong rate. For Tier I FDCHs, 15 million of the 459.7 million meals reimbursed were reimbursed at the wrong rate, and for Tier II homes, 227,423 out of 162.9 million meals served were reimbursed at the wrong rate.

[41] The total amount of meal reimbursements for Tier II FDCHs (after taking under consideration the estimated reimbursements for children who qualify for Tier I rates, regardless of their FDCH`s' classifications) that could potentially be classified as erroneous under-payments or costs.

Exhibit 4.21: Annual Number of Meals Served and Number of Meals Reimbursed at Incorrect Rate by FDCH Tier Type

	Breakfasts	Lunches and Suppers	Snacks	Total Meals and Snacks
Tier I FDCHs				
Total	112,500,623	176,541,213	170,658,448	459,700,284
Reimbursed at Wrong Rate* - Primary Verification	5,355,922	6,138,669	6,839,560	18,334,221
Reimbursed at Wrong Rate* - Secondary Verification	4,425,949	4,987,253	5,596,895	15,010,097
Tier II FDCHs				
Total	44,115,045	58,286,729	60,524,219	162,925,993
Reimbursed at Wrong Rate	28,636	122,709	76,078	227,423

Source: 2006 CACFP Tiering Assessment. Figures based upon seasonally adjusted monthly averages within States.

*The calculation of meals at Tier I FDCHs reimbursed at the wrong rate takes into account the fact that, with a change in tiering status, not all meals would be reimbursed at Tier II rates. The adjustment is made by deducting State proportions of Tier I meals served in Tier II homes. For Tier II FDCHs, only meals reimbursed at Tier II rates are subject to error. Eighteen of the Tier I FDCHs in the sample that were incorrectly classified claimed some Tier II meals. These Tier II meals were not included in the estimate of meals reimbursed at the wrong rate, but are included in the total meals for Tier I FDCHs.

CHAPTER 5. CONCLUSION

The study findings indicate that the most common way in which FDCHs were qualified by their sponsors for Tier I status was through area eligibility using the local elementary school (74.7 percent), followed by income of the provider (14.5 percent), area eligibility using Census (6.7 percent), and income eligibility by categorical documents (1.3 percent). Records for about 3 percent of sampled FDCHs included at least partial documentation for two or three different approaches. These findings are similar to those of the 2005 study.

The national estimate from this study found that 77 percent of the meals and snacks, and 87 percent of expenditures, were for Tier I reimbursed meals (see Exhibit 4.2) during the study period. Procedural errors in tiering determinations, if left unchecked, have a significant negative impact on improper payments. The initial review of the information collected from sponsor files for 3,150 FDCHs yielded weighted procedural misclassification rates of 27.5 percent and 0.22 percent for Tier I and Tier II FDCHs, respectively, resulting in an overall misclassification rate of 19.5 percent. After independently verifying the tiering status of 632 Tier I FDCHs with a procedural misclassification, the misclassification rate declined to 3.44 after the primary verification of these errors, and to 2.92 percent overall after the secondary verification efforts.

Even after attempts to establish Tier I status through approaches not used by the sponsor, there were some notable procedural misclassifications associated with the provider income method. A review of the errors associated with this method of determining tier status suggests that sponsors may have difficulty explaining the provider income guidelines to FDCH providers. Several sponsors seemed unaware of the provisions that disallowed negative business income and, in most cases, supporting receipts or pay stubs were missing from the files. While procedural errors associated with provider income were not validated in the 2005 study, a review of the documentation indicated that many of the errors were caused by the same mistakes in documenting the tiering determination.

While provider income errors were an issue, the largest proportion of procedural errors were still related to attempts at qualifying an FDCH using the school boundary method, a finding that is similar to the outcomes of last year's study. As was the case in the 2005 study, a majority of the procedural errors in the 2006 study (489) were related to issues in documenting the FDCH-school link. Errors in adequate documentation of maps connecting the address of an FDCH to a specific elementary school, maps that were out of date, and maps missing dates and official initials were identified in the initial analysis (Exhibit 4.4). The rules are clear: only an official school boundary map can be used, the map must be dated, and the date must be current or a note must be present indicating that a map with an old date is still applicable. If maps are not available, telephone calls to schools are permitted as long as there is an initialed and dated memo in the file indicating the name of person who verified that the school served the FDCH address. Based on the analysis, some sponsors do not maintain proper documentation to correctly link a FDCH to a qualifying elementary school, even though the validation efforts often result in a confirmation of the Tier I status.

Sponsors failed to adequately document the tiering status of 2.92 percent of all Tier 1 or Tier II FDCHs after secondary verification efforts. The lower and upper bounds of this rate were 2.14 and 3.69 percent, respectively (Exhibit 4.16). In terms of dollars for either overpayments on Tier I reimbursements or underpayments on Tier II reimbursements, the total amount of improper payments is estimated at approximately $9.4 million, with a lower bound of $6.5 million and an upper bound of $12.2 million. Overall, in the 2005 study, the combined over and under payments to misclassified FDCHs were estimated to be about $13 million, with a 90 percent

confidence range of between $9.4 and $16.6 million. The difference in the total improper payments of $9.4 million in 2006 and $13 million in 2005 may be attributable to the two stage validation approach that was developed to check procedural errors for all Tier I FDCHs.

The two stage validation approach, (which consisted of primary verification using the school boundary method to independently document the Tier I status of FDCHs with procedural errors, and secondary verification using the Census block group method) resulted in the ability to support the Tier I status for a large number of procedural errors. The two stage validation approach had a limited impact on some types of procedural errors (errors with documentation that relied on the categorical or provider income tiering determination methods), but did result in a sizeable reduction of procedural errors in the school boundary method, reducing the procedural error in this tiering method from 27.6 percent to 1.5 percent. The two stage approach also resulted in 50 of the 92 sponsors (54 percent) in the sample having no Tier I misclassifications after the validation process.

Appendix 1.
Tables

Table A1.1: Sample of States

State	FDCHs	Sampled
AK	491	0
AL	1,304	0
AR	890	0
AZ	3,650	0
CA	19,536	2
CO	2,094	0
CT	929	0
DE	869	0
FL	2,412	1
GA	3,378	0
HI	321	0
IA	2,241	0
ID	382	0
IL	7,725	1
IN	1,751	0
KS	4,160	1
KY	714	0
LA	5,488	1
MA	5,057	1
MD	3,667	0
ME	1,277	0
MI	6,664	0
MN	9,679	1
MO	1,694	0
MS	528	0
MT	875	0
NC	3,501	0
ND	1,413	1
NE	2,721	0
NH+VT	730	0
NJ	700	0
NM	5,818	0
NV	254	0
NY	8,191	1
OH	3,411	0
OK	2,944	0
OR	2,655	0
PA	2,119	0
RI	417	0
SC	780	0
SD	652	0
TN	1,558	1
TX	7,011	1
UT	1,975	0
VA+DC	2,518	1
WA	3,477	1
WI	3,605	1
WV	1,617	0
WY	448	0

Table A1.2: Monthly Adjustments for Seasonality

	Breakfasts	Snacks	Lunch/Dinners
JANUARY	1.01	1.01	0.97
FEBRUARY	0.96	0.95	0.91
MARCH	1.11	1.11	1.07
APRIL	0.96	0.96	0.95
MAY	1.10	1.08	1.05
JUNE	1.03	1.03	1.13
JULY	0.87	0.90	1.02
AUGUST	1.05	1.06	1.14
SEPTEMBER	0.95	0.94	0.89
OCTOBER	1.02	1.01	0.96
NOVEMBER	0.98	0.98	0.94
DECEMBER	0.95	0.96	0.97

Table A1.3: Maximum Months of Available Meal Counts

Number of Months	Number of Sponsors	Percentage
11	1	1.1
12	91	98.9

Table A1.4: Sponsor Tier I Classifications and Misclassification Rates

Sponsor	Sampled FDCHs	Share of FDCHs Sponsor Classified as Tier I	Tier I Misclassification Rates		
			Procedural Misclassification Rate	Primary Verified Misclassification Rate	Secondary Verified Misclassification Rate
93	31	87.1%	0.0%	0.0%	0.0%
94	31	61.3%	26.3%	5.3%	0.0%
101	31	96.8%	30.0%	3.3%	3.3%
102	31	67.7%	33.3%	0.0%	0.0%
103	31	77.4%	16.7%	0.0%	0.0%
104	31	83.9%	76.9%	0.0%	0.0%
105	31	64.5%	5.0%	5.0%	5.0%
106	31	41.9%	23.1%	0.0%	0.0%
107	31	80.6%	68.0%	8.0%	4.0%
108	31	71.0%	31.8%	0.0%	0.0%
109	31	80.6%	40.0%	0.0%	0.0%
110	31	41.9%	92.3%	0.0%	0.0%
111	31	87.1%	77.8%	3.7%	3.7%
112	30	50.0%	46.7%	0.0%	0.0%
113	31	87.1%	37.0%	3.7%	3.7%
114	29	51.7%	80.0%	0.0%	0.0%
115	15	100.0%	100.0%	0.0%	0.0%
116	15	73.3%	45.5%	18.2%	18.2%
117	28	64.3%	38.9%	0.0%	0.0%
118	60	53.3%	28.1%	12.5%	12.5%
119	31	41.9%	53.8%	7.7%	7.7%
120	31	87.1%	22.2%	7.4%	7.4%
121	31	38.7%	0.0%	0.0%	0.0%
122	31	90.3%	25.0%	7.1%	7.1%
123	31	100.0%	51.6%	6.5%	0.0%
124	31	67.7%	33.3%	0.0%	0.0%
125	31	90.3%	0.0%	0.0%	0.0%
126	31	93.5%	34.5%	0.0%	0.0%
127	31	93.5%	3.4%	0.0%	0.0%
128	31	96.8%	0.0%	0.0%	0.0%
129	31	74.2%	34.8%	0.0%	0.0%
130	31	67.7%	19.0%	0.0%	0.0%
131	62	59.7%	16.2%	0.0%	0.0%
132	31	61.3%	5.3%	5.3%	5.3%
133	61	57.4%	28.6%	17.1%	11.4%
134	31	83.9%	26.9%	3.8%	3.8%
135	31	16.1%	80.0%	20.0%	20.0%
136	31	80.6%	12.0%	4.0%	0.0%
137	31	67.7%	9.5%	4.8%	4.8%
138	30	73.3%	13.6%	0.0%	0.0%
139	31	83.9%	11.5%	3.8%	3.8%
140	31	45.2%	21.4%	21.4%	14.3%
141	31	100.0%	6.5%	0.0%	0.0%
142	31	100.0%	3.2%	0.0%	0.0%

Sponsor	Sampled FDCHs	Share of FDCHs Sponsor Classified as Tier I	Tier I Misclassification Rates		
			Procedural Misclassification Rate	Primary Verified Misclassification Rate	Secondary Verified Misclassification Rate
143	31	96.8%	16.7%	0.0%	0.0%
144	31	100.0%	0.0%	0.0%	0.0%
145	63	100.0%	0.0%	0.0%	0.0%
146	31	100.0%	48.4%	0.0%	0.0%
147	31	83.9%	0.0%	0.0%	0.0%
148	31	35.5%	0.0%	0.0%	0.0%
149	30	40.0%	16.7%	8.3%	8.3%
150	31	64.5%	25.0%	10.0%	0.0%
151	91	46.2%	9.5%	4.8%	4.8%
152	31	35.5%	36.4%	36.4%	36.4%
153	31	29.0%	22.2%	0.0%	0.0%
154	115	48.7%	32.1%	21.4%	19.6%
155	24	33.3%	0.0%	0.0%	0.0%
156	30	30.0%	11.1%	0.0%	0.0%
157	93	57.0%	43.4%	13.2%	11.3%
158	15	60.0%	44.4%	22.2%	22.2%
159	15	93.3%	28.6%	7.1%	7.1%
160	61	24.6%	53.3%	20.0%	20.0%
161	31	45.2%	42.9%	7.1%	7.1%
162	31	100.0%	45.2%	9.7%	3.2%
163	30	70.0%	19.0%	9.5%	9.5%
164	31	83.9%	26.9%	11.5%	11.5%
166	60	100.0%	6.7%	1.7%	1.7%
167	30	100.0%	20.0%	0.0%	0.0%
168	23	87.0%	5.0%	0.0%	0.0%
169	6	100.0%	0.0%	0.0%	0.0%
170	30	100.0%	43.3%	3.3%	0.0%
171	31	93.5%	0.0%	0.0%	0.0%
172	27	92.6%	96.0%	20.0%	20.0%
173	31	93.5%	93.1%	10.3%	10.3%
174	31	83.9%	80.8%	7.7%	7.7%
175	31	90.3%	10.7%	7.1%	7.1%
176	31	80.6%	28.0%	4.0%	4.0%
177	31	96.8%	3.3%	0.0%	0.0%
178	31	58.1%	66.7%	0.0%	0.0%
179	31	80.6%	12.0%	0.0%	0.0%
180	31	74.2%	4.3%	4.3%	4.3%
181	31	74.2%	21.7%	0.0%	0.0%
182	31	67.7%	0.0%	0.0%	0.0%
184	31	54.8%	5.9%	5.9%	5.9%
185	31	67.7%	38.1%	23.8%	19.0%
186	31	90.3%	7.1%	3.6%	3.6%
187	31	64.5%	5.0%	0.0%	0.0%
188	31	96.8%	13.3%	0.0%	0.0%
189	31	51.6%	25.0%	6.3%	6.3%
190	62	93.5%	96.6%	3.4%	3.4%

Sponsor	Sampled FDCHs	Share of FDCHs Sponsor Classified as Tier I	Tier I Misclassification Rates		
			Procedural Misclassification Rate	Primary Verified Misclassification Rate	Secondary Verified Misclassification Rate
191	31	48.4%	53.3%	6.7%	6.7%
192	31	51.6%	12.5%	0.0%	0.0%
Unweighted Total	3,150	74.2%	27.4%	4.78%	4.03%

Appendix 2.
Assumptions in Sample Selection and Weighting Procedures

APPENDIX 2: ASSUMPTIONS IN SAMPLE SELECTION AND WEIGHTING PROCEDURES

SAMPLING DESIGN

The sampling approach was designed to allow for the production of national point estimates of the number of misclassified FDCHs and a cost range, in terms of misallocated reimbursements, that could be associated with these erroneous tiering designations. The study required 90 percent confidence in these estimates, plus or minus 2.5 percentage points. The Office of Research, Nutrition and Analysis (ORNA) requested that we develop a sampling strategy that assumes an error rate no greater than 25 percent in the assignment of tiering levels by sponsor, and that was based on a population of 160,000 FDCHs at the time the initial design was derived. To obtain a sample of the required power and precision for Year 1(2005 study), it was determined that the process would require the selection of 30 FDCHs for each of 7 sponsors within 15 States, for a total of 3,150 FDCHs. The standard errors obtained from such a sample were examined at the end of the study and were found acceptable for the objectives of the study. Even though some additional variables were examined, the sampling design for 2006 was identical to that of the 2005 study. For the rationale for the sampling design, see the Year 1 sampling plan (2005 CACFP Tiering Assessment).

Again as in the 2005 study, FDCHs are clustered within sponsors, which in turn, are nested within individual States. To derive the equivalent of a random sample at an acceptable cost, we first selected the States.[42] Then, within the selected States sponsors were selected. States were selected on the basis of probabilities proportionate to size (PPS) and the same was done for sponsors within selected States once contact information from the State agencies was provided. Once sponsors were selected, we obtained a list of homes from each sponsor, and we selected FDCHs for assessment and abstraction of files randomly. For (i) States and (ii) sponsors, the size measure was the number of FDCHs relative to (i) the number of FDCHs participating in the United States and (ii) the number of homes participating in the sponsors' States.

SELECTING STATES

Because many other processes depended on an expedited selection of States, Macro accomplished that task based upon the most current data available from FNS at the beginning of the study in September 2006. As outlined above, the assumption of an error rate no greater than 25 percent in the assignment of tiering levels inferred an optimal sampling design that called for 30 homes to be sampled from each of the 7 sponsors in each of 15 States, for a total of 3,150 homes. To minimize the design effect through weighting, the design also needed to assign each home approximately the same probability of selection as every other home. This was done with the PPS sampling procedure described earlier, whereby our size measure was the number of FDCHs in each State. PPS Sampling may be done with replacement (where a sampled State always has a chance of being selected again), without replacement (where a State can only be sampled once) or with minimal replacement (where only States with sizes that exceed the sum of the sizes divided by the number to be sampled can be sampled more than once). Sampling with minimal replacement guarantees approximately the same probability of

[42] Territories such as Guam, Puerto Rico and the Virgin Islands were excluded; although the District of Columbia was included.

selection to every home while retaining a diversity of States. To implement this approach, we allowed for the possibility that States containing more than 1/15 of the total number of FDCHs might be sampled more than once. The calculation of the expectations of selection indicated that California was the only State that could be selected more than once in the study.

Our process for drawing the sample of States began after receiving the list indicating the number of FDCHs in each State from FNS. Each State needed to have at least 210 FDCHs participating in the CACFP (7 sponsors x 30 FDCHs). If a State had fewer than 210 homes, its sponsors and FDCH were combined with those of a neighboring State. This was done twice, once combining New Hampshire and Vermont, and again combining the District of Columbia and Virginia. For each State—combined or singularly—the proportion of all the U.S. FDCHs found in that State were multiplied by the number of States to be sampled (15) to provide the expectation of selection for the State. If this expectation was less than 1, the expectation represented the probability that the State would be selected once. If it was greater than 1, the integer represented the number of times the State was to be selected with certainty, and the modulus (the fractional part less than 1) became the probability that the State would be selected an additional time. The sum of all expectations equaled 15.

Once expectations were calculated, States were sorted by FNS region. Subsequently, and within region, they were resorted ("shuffled") randomly. This procedure guaranteed proportional representation by region. With this approach, the number of States selected within each region was set within one,[43] and each region was guaranteed to be represented by a minimum of one State. This last guarantee was not merely an artifact of the methodology, but was based on the fact that no region had less than 1/15 of the homes in the Nation.

The following exhibit, using the latest FNS data, indicates the expected number of States to be selected for each region:

Exhibit A2.1: The Expectation of the Number of Homes Selected per Region

REGION	HOMES	EXPECTATION
1	16,601	1.70
2	11,491	1.18
3	14,176	1.45
4	32,835	3.37
5	22,152	2.27
6	18,273	1.87
7	30,764	3.15
Total	146,292	15.00

[43] That is, before the sample was drawn, the allocation of States per region could be determined within one. For example, if the expectation for a particular region (the sum of the expectations for the States within the region) was 1.7, then we can know that at least one State in the region would be selected, and possibly two. Conversely, if the regional expectation was 0.7, then we could be sure that one State might be selected; but then again, it would be possible that zero State within the sample might be selected. Because the expectation for each region was never less than one, we could be certain—before selection—that at least one State in every region would be drawn.

The exhibit shows that, in Regions 1, 2, 3, and 6, at least one State be selected, and some chance of two States in a region. We knew with certainty that at least two States and, perhaps, three would represent Region 4. Similarly, Regions 4 and 7 would be represented by a minimum of three States. Note that the regional expectations sum to 15, the number of States required by the sampling plan.

The next step in the process was to generate a random number between 0 and 1 and add it to the expectation of the first State in the ordering to form the first State's cumulative expectation. For each subsequent State, the expectation for that particular State was added to the cumulative expectation of the previous State to form its cumulative expectation. The expectation for each State was equal to the number of FDCHs in the State, divided by the total number of FDCHs in the country, times the required number of States (15). Thus, in Exhibit A2.2, the expectation for Rhode Island was (417/146,292) $\times$ 15 = 0.0428. Given that the cumulative expectation for Rhode Island is 0.7418, we could tell that the random number used to start the process was 0.7418 – 0.0428 = 0.6991. Similarly, the expectation for New York was equal to (8191/146,292) $\times$ 15 = 0.8399, although its cumulative expectation was formed by adding this value to the cumulative expectation for Rhode Island.

The number of times a State was sampled can be represented by the equation:

(8) $sj = Int(cj) - Int(cj-1)$

where c0 is the random number used to begin the process, cj is the cumulative expectation for Statej, cj-1 is the cumulative expectation for Statej-1, and Int(cj) resolves to the largest integer less than or equal to cj. In Exhibit A2.2, the expression of equation (8) becomes 1 for New York, where sj = Int(1.5817) - Int(0.7418) = 1 – 0 = 1. New York, therefore, is selected once.[44] As shown in the following exhibit, California was sampled twice and 13 States were sampled once. One of the two-State combinations (VA + DC) was entered in the sample. As expected, all regions were represented.

[44] That is to say, 7 sponsors and 30 FDCHs per sponsor were selected from New York.

Exhibit A2.2: State Sampling Procedure and the Resulting Sample of States

PSU*	STATE	HOMES	REGION	EXPECTATION	CUMULATIVE	SAMPLED
1	RI	417	1	0.0428	0.7418	0
2	NY	8,191	1	0.8399	1.5817	1
3	CT	929	1	0.0953	1.6769	0
4	MA	5,057	1	0.5185	2.1955	1
5	NH+VT	730	1	0.0749	2.2703	0
6	ME	1,277	1	0.1309	2.4012	0
7	DE	869	2	0.0891	2.4904	0
8	MD	3,667	2	0.3760	2.8664	0
9	VA+DC	2,518	2	0.2582	3.1246	1
10	WV	1,617	2	0.1658	3.2904	0
11	NJ	700	2	0.0717	3.3622	0
12	PA	2,119	2	0.2173	3.5794	0
13	SC	780	3	0.0800	3.6594	0
14	AL	1,304	3	0.1337	3.7932	0
15	KY	714	3	0.0732	3.8664	0
16	FL	2,412	3	0.2473	4.1137	1
17	NC	3,501	3	0.3590	4.4727	0
18	GA	3,378	3	0.3464	4.8191	0
19	MS	528	3	0.0541	4.8732	0
20	TN	1,558	3	0.1598	5.0330	1
21	MN	9,679	4	0.9925	6.0255	1
22	MI	6,664	4	0.6833	6.7087	0
23	WI	3,605	4	0.3696	7.0783	1
24	OH	3,411	4	0.3498	7.4281	0
25	IN	1,751	4	0.1796	7.6077	0
26	IL	7,725	4	0.7920	8.3997	1
27	TX	7,011	5	0.7189	9.1186	1
28	OK	2,944	5	0.3019	9.4205	0
29	AR	890	5	0.0912	9.5117	0
30	LA	5,488	5	0.5627	10.0744	1
31	NM	5,818	5	0.5966	10.6710	0
32	IA	2,241	6	0.2297	10.9008	0
33	ND	1,413	6	0.1449	11.0457	1
34	WY	448	6	0.0459	11.0916	0
35	SD	652	6	0.0669	11.1585	0
36	NE	2,721	6	0.2790	11.4375	0
37	UT	1,975	6	0.2025	11.6400	0
38	MO	1,694	6	0.1737	11.8137	0
39	MT	875	6	0.0897	11.9034	0
40	KS	4,160	6	0.4265	12.3300	1
41	CO	2,094	6	0.2147	12.5447	0
42	AZ	3,650	7	0.3743	12.9189	0
43	WA	3,477	7	0.3565	13.2754	1
44	CA	19,536	7	2.0031	15.2785	2
45	NV	254	7	0.0260	15.3045	0
46	ID	382	7	0.0391	15.3436	0
47	AK	491	7	0.0503	15.3939	0
48	OR	2,655	7	0.2723	15.6662	0

*Note: PSU = primary sampling unit

SELECTING SPONSORS AND HOMES

Having selected the States, the next step was to select approximately seven sponsors from each State for each time the State was selected. Since we had no reason to select sponsors within States according to any criteria (e.g., location), the seven sponsors within States were chosen randomly. Further, the selection procedure for sponsors was identical to that used to select States, with sponsors known to have fewer than 30 homes combined with other sponsors.

Once sponsors were selected, Macro contacted them to find out if they had multiple offices. They were asked for the number of homes for which records could be found in each office. One office was selected with PPS for each time the sponsor was sampled. This was designed to reduce the time the data collector had to spend at the sponsor's various offices.

The sampling design was developed in such a way that if a fixed number of FDCHs (in this case, 30) were selected from each sponsor, the sample will be approximately self-weighing; that is, every FDCH participating in the CACFP nationally will have the same probability of selection, hence an equal weight. We describe it as only approximately self-weighing because, at every step, size measures were obtained from different sources.

Also at the time of initial contact, sponsors were asked whether they could provide a list of all active FDCHs under their sponsorship (by e-mail or by fax). In the 2005 study, we had hoped to be able to come up with a list of homes that were active at any point during that study's data window, June 2004 through May 2005. This turned out to be impossible to obtain; in fact, many sponsors could not provide us with the names of the FDCHs that had been active in any of the last 3 months. Consequently, to be consistent across the country, we drew our sample based on the FDCHs that were active (i.e., received some reimbursements) during May 2005. We likewise based our sample on homes reported to be active in that month. For this year's study, the quality control month was September 2006. We drew the sample based on this month, asking sponsors to supply us with a list of all active FDCHs for September 2006. The 12-month retrospective data window was October 2005 to September 2006 for the current study.

In drawing the sample of FDCHs, we obtained a list of homes from each sponsor. If the sponsor gave us a list of homes active in the designated month (September 2006), we selected the sample with equal probability prior to the data collection activities, and gave the data collector a list specifying the exact name of each FDCH to be selected. If we were unable to obtain this type of list, we provided an ordered list to the data collector, who was instructed to select the first 31 homes in the sponsor's files that were active in the designated month and to report the number of homes not active that month. While the selection of 30 homes was the original intent, in some cases fewer homes were abstracted, since a sufficient number was not actually available. Our procedure called for the abstraction of 1 extra home when feasible at each site. These data were examined and processed. After the data were processed, a sufficient number was added to the analytic file, as needed across projects, to bring the total sample to the intended total.

WEIGHTING PROCEDURES

The sampling design was developed to be approximately self-weighing; that is, every FDCH participating in the CACFP nationally will have the same probability of selection, hence an equal weight. However, in choosing States and sponsors, we relied on home counts from FNS initially, then the States. Because of the different sources, the home count varied. In other words, in selecting States, we used national summary data provided by FNS. For example, let's

say that State A was selected and then contacted to provide a list of sponsors and numbers of homes per sponsor. The FNS data may have reported 4,000 homes for State A, while the State data on homes listed 3,500 homes. Similarly, the State data may have said that Sponsor B had 300 homes, but when we contacted this sponsor, their list showed 350 active homes.

The discrepancy in these numbers means that the assumptions under which we chose the sample were incorrect. Since State A was chosen on the basis of having 4,000 homes, when it had only 3,500 homes, the chance of a home being selected from State A was higher than it should have been (4,000 is greater 3,500). To offset this bias, we had to "weight" the observations in each State on the basis of the difference between the number of homes that we thought was in the State and the number of homes that were actually in the State.

The same logic applied to the choice of sponsors. In the example, we chose Sponsor B on the basis of having 300 active homes, when it actually had 350 homes. We had to make a second adjustment in computing the weight of each home from this sponsor to account for this difference. We followed similar procedures in last year's study.

Finally, there is the issue of homes that were selected for each sponsor. In a handful of cases, we found that a home was not active in September 2006, when we collected meal counts at the sponsors' location. As noted, we drew a replacement home, but this factor also affected the randomness of the selection process. If 3 of the 30 homes selected from Sponsor B are found to be out of scope, we assumed that 10 percent of Sponsor B's entire list of homes would also be out of scope. So the effective number of homes from Sponsor B would not be 350 homes, but 315 homes.

In selecting weights, one uses the probability of selection; but this is a somewhat ambiguous term. One can use the unconditional probability of selection, which means that one uses the probability of selection of a unit as calculated before the sampling procedure even begins. Or one can use the probability of selection at each stage, conditional on the results of the sampling at the previous stage. The original intent was to use the unconditional probabilities. However, preliminary reports indicate that the intraclass correlation (i.e., the degree to which errors cluster in States and sponsors) would be higher than anticipated, and recent findings (Saavedra 2005) indicate that the conditional probability of selection is more effective under those circumstances. But it is not the case that every home has the same probability of selection at every stage. Hence, even with exact counts, using weights would be more effective than using unweighted estimates.

The specific procedures we used in obtaining the weight of an FDCH—correctly or incorrectly classified—are described below in equations 9–14. By example, we describe the probability of selection of an FDCH from a State that contains less than 1/15 of all FDCHs nationally and from a sponsor that administrates less than 1/7 of all FDCHs within the State. The probability of selection for the home will be equal to the probability that the State is selected, multiplied by the probability that the home's sponsor is selected (given that the State was selected m times), multiplied by the probability that the FDCH is selected (given that the FDCH sponsor was selected k times). If data acquired from all sources were completely accurate and 30 homes were selected from each sponsor, we would have—

(9) Pr[State is selected] = $15 * \left(\frac{N(FDCH\ in\ State)}{N(FDCH\ in\ Nation)}\right)$ for the probability of State selection;

(10) Pr[Sponsor selected|State selected] = $7 * (\frac{N(FDCH\ in\ Sponsor)}{N(FDCH\ in\ State)})$ for the probability that the sponsor is selected given that the State is selected; and

(11) Pr[FDCH selected|sponsor selected] = $(\frac{30}{N(FDCH\ in\ Sponsor)})$ for the probability that the FDCH is selected given that the sponsor is selected, where Pr signifies "probability that", N(FDCHs in Nation) denotes the total number of FDCHs in the Nation, and N(FDCHs in State) denotes the total number of FDCHs in the selected State, and so forth.

Multiplying these three probabilities while recalling that we have already determined that we will select 30 FDCHs within each of 7 sponsors within each of 15 States, we get …

(12) Pr[FDCH is selected] = $\frac{3{,}150}{N(FDCH\ in\ Nation)} = \frac{3{,}150}{146{,}292} = 0.02$

However, there are two sources of information for N(FDCHs in State) and two for N(FDCHs in Sponsor), and these sources did not reconcile perfectly. FNS and the sampled States each provided a count of FDCHs in the State. Data from FNS describing N(FDCHs in State) were used to select the State, while the State provided a count that was used to select sponsors. Likewise, both the State and the selected sponsors provided a count of N(FDCHs in sponsor). Therefore, the probability of selection of a home is …

(13) Pr[FDCH is selected] =

$$\frac{15 * N(FDCH\ in\ State \Leftarrow FNS)}{N(FDCH\ in\ Nation \Leftarrow FNS)} * \frac{7 * N(FDCH\ in\ sponsor \Leftarrow State)}{N(FDCH\ in\ State \Leftarrow State)} * \frac{30}{N(FDCH\ in\ sponsor \Leftarrow sponsor)}$$

which can be rewritten as…

(14)

$$3{,}150 * (\frac{N(FDCH\ in\ State \Leftarrow FNS)}{N(FDCH\ in\ State \Leftarrow State)})(\frac{N(FDCH\ in\ Sponsor \Leftarrow State)}{N(FDCH\ in\ Sponsor \Leftarrow Sponsor)}) \Big/ N(FDCH\ in\ Nation)$$

Where $\Leftarrow$ means "according to." Weights differ to the extent that State and sponsor data do not reconcile. The inverse of the probability of selection serves as the initial weight, whereby the probability of selection is calculated by the equation above.

The above equations were calculated based on the assumption of the probabilities of States being selected and of sponsors being selected within States. It should be added that in instances where a State could be selected more than once, we were really dealing with an "expectation" and not a true probability. For example, an expectation of 1.8 means that the State had a 20 percent probability of being selected only once, and an 80 percent probability of being selected twice. However, the weighting scheme presented here used the actual number

of times a State was selected and the actual number of sponsors sampled from that State. Likewise, it used the actual number of times a project is selected and the actual number of homes selected from that sponsor. Thus if a State was selected twice (as is the case with California), the probability of selection of the State was 1, and the probability of selection of the sponsor was based on sampling 14 sponsors from the State. An analogous calculation takes place if a sponsor was selected more than once. Equations 9–11 become:

(9)' Pr[State is selected] = min(1, $15*(\frac{N(FDCH\ in\ State)}{N(FDCH\ in\ Nation)})$) for the probability of State selection;

(10)' Pr[Sponsor selected |State selected m times] = min(1,m* $7*(\frac{N(FDCH\ in\ Sponsor)}{N(FDCH\ in\ State)})$) for the probability that the sponsor is selected given that the State is selected m times; and

(11) Pr[FDCH selected |sponsor selected k times] = min(1.(k* $(\frac{30}{N(FDCH\ in\ Sponsor)})$ for the probability that the FDCH is selected given that the sponsor is selected k times.

However, as was explained, 30 FDCHs were not selected in every case, so the correct probability needed to be multiplied by n/30k, where n is the number of homes actually sampled from the sponsor.

The equations for overall weights proceed analogously.

VARIANCE ESTIMATION

Confidence intervals for several estimates (proportions and total dollars) were produced for the entire population of homes and for the domains of homes classified by the sponsor as Tier 1 and Tier 2. The SAS procedure SURVEYMEANS was used to obtain the confidence intervals.

The SURVEYMEANS procedure* used the Taylor expansion method to estimate sampling errors of estimators based on complex sample designs. This method obtains a linear approximation for the estimator and then used the variance estimate for this approximation to estimate the variance of the estimate itself. When there are clusters or primary sampling units (PSUs) in the sample design, the procedures estimates the variance from the variation among the PSUs. If the design is stratified, the procedures pool stratum variance estimates to compute the overall variance estimate.

For a multistage sample design, the variance estimation method depends only on the first stage of the sample design. Thus, the required input includes only first-stage cluster (PSU) and first-stage stratum identification. One does not need to input design information about any additional stages of sampling. This variance estimation method assumes that the first-stage sampling fraction is small or that the first-stage sample is drawn with replacement, as it often is in practice. However, the design can apply a finite population correction and allows for the input of the sampling rate in each stratum. If the sampling rate varies (unequal probability sampling), as it does in this study, one can create strata that approximate a uniform sampling rate.

The Primary Sampling Units (clusters) in the study were the States. However, one State (California) was a certainty, and one (Minnesota) was a near-certainty. In those States, each sponsor became a PSU for variance estimation purposes. In Minnesota, one of the sponsors, was sampled four times because it was large. For Minnesota, this large sponsor was divided into four PSUs, and two of the smaller ones were combined.

The clusters were then paired up into "strata" assigned so that clusters in the same strata were of the same kind (State or sponsor), in the same State (for sponsors) and with similar probabilities of selection. As in the previous study, there were 32 clusters and 16 strata this year. The average probability of selection of the two clusters in a stratum were entered as the sampling rate of the stratum. This pairing of clusters is common in many variance estimation procedures, particularly when one needs to use a finite population correction.

One kind of estimate developed for the study was the proportion of errors, obtained for the total population and the Tier 1 and Tier 2 domains separately. The estimates (for each Tier and a total) were obtained by adding the weights of the homes incorrectly classified and dividing the result by the sum of the weights.

The second estimate produced was an estimate of total dollar errors. In this case, the average was first obtained and multiplied by the reported total number of homes obtained from the National Data Bank for FY 2006. This way, the variance of the estimates of the total number of homes in the program did not have to be included in the variance.

The variance estimates had their own error of estimate. As a result, when calculating the confidence intervals, one needed to take into account the variance of the variance estimates. To do this, one has to first obtain the degrees of freedom (the number of clusters minus the number of strata) and multiply the standard error by the t value for the 90 percent confidence interval for the degrees of freedom in question.

Appendix 3.
Tiering Determination Instrument

FDCH Name: Study ID #: ST SP FDCH

Part II A – FDCH Monthly Meal Reimbursement (meal count) Requested from the State

Complete the table below for the FDCH name above. Obtain all twelve months (October2005-September 2006) if accessible at data collection site. If not all twelve months are available, collect data for as many months as you can. Data for September 2006 is required.

If, after your initial conversation with the sponsor contact, you find that this sponsor uses blended rates for this FDCH, indicate the conversion factor for this FDCH by using one of the methods below:

1) percent of children eligible for high reimbursement rate: % of children:_____, OR

2) specific rates for each type of meal: breakfast rate:_____ lunch/supper rate: _____ snack rate: _____ , OR

3) number of breakfasts in one month and total reimbursements for these breakfasts: # of breakfasts: _____ total reimbursement: _____

	September 2006						August 2006						July 2006					
	Tier I		Tier II		Tier II blended		Tier I		Tier II		Tier II blended		Tier I		Tier II		Tier II blended	
	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total
# of breakfasts																		
# of snacks																		
# of lunch/ supper																		
	June 2006						May 2006						April 2006					
	Tier I		Tier II		Tier II blended		Tier I		Tier II		Tier II blended		Tier I		Tier II		Tier II blended	
	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total
# of breakfasts																		
# of snacks																		
# of lunch/ supper																		
	March 2006						February 2006						January 2006					
	Tier I		Tier II		Tier II blended		Tier I		Tier II		Tier II blended		Tier I		Tier II		Tier II blended	
	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total
# of breakfasts																		
# of snacks																		
# of lunch/ supper																		
	December 2005						November 2005						October 2005					
	Tier I		Tier II		Tier II blended		Tier I		Tier II		Tier II blended		Tier I		Tier II		Tier II blended	
	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total	adding	total
# of breakfasts																		
# of snacks																		
# of lunch/ supper																		

Part II B – FDCH Basic Information Complete One Form For Each FDCH			Study ID #:	ST	SP / FDCH
FDCH Name:			Sponsor Assigned FDCH ID this may be a name or a number, or not be available) optional:	Term used: ID #:	
FDCH Address:					
Most Recent Tiering Determination (circle one):	Tier I	Tier II	For Tier I: Date of most recent tiering determination: For Tier II: Date of most recent tiering determination optional:	_____ / _____ / _____ mm dd yyyy	
If Tier II, is there evidence that the FDCH requested a new tiering determination in the last three years? (circle one)	Yes	No N/A	If yes, date of request for new tiering determination:	_____ / _____ / _____ mm dd yyyy	
Photocopy needed? Yes. Photocopy most recent tiering determination including the date. If Tier II and there is evidence that FDCH requested a new tiering determination in the last three years, photocopy request.				Photocopies made (check here)?:	
If FDCH is being dropped (after acquiring permission from headquarters), complete the section below					
Reason for dropping FDCH*:	Who approved dropping FDCH?		FDCH being replaced by (study ID # and name of replacement):		
*CODES FOR DROPPING FDCH: 1) No meal reimbursement during study time 2) Other (specify) _____					

In most instances you will collect data in Parts III – VI of this form for FDCH that have a tier I classification. For a tier II FDCH if there is documentation in the file that work was done to gain Tier I status (e.g., copies of income tax forms), complete parts III-VI of this form as you would for a tier I FDCH.

Study ID #:

ST	SP	FDCH

Tiering Determination

Part III – Tiering Determination by Area Eligibility – School Boundary Area
If there is evidence that school boundary information was collected to make the most recent tiering determination, complete the table below. If no such evidence is found, check "NONE" at the bottom of the table.

Full Name of School:

Address of School, if available optional:

If information is available in the file, circle all grades included in the school named above optional:
Pre –K K 1 2 3 4 5 6 7 8 9 10 11 12

A.	B.	C.	D.	E.	F.	G.	H.
Type of Documentation							
	Present at Sponsor Site? Y/N	Dated? Y/N	If dated, enter Date (mm/dd/yyyy) Date may be school year, e.g. 2004-2005	Initial or Signed? Y/N	Photocopy Needed?	Dated wall map or other map not available for photocopy (specify reason)	Photocopy Made? Y/N
Documentation of School Status							
State or county list of schools showing this school meets the low-income eligibility standard*					YES		
Letter from school official to sponsor indicating school has 50% of children eligible for free/reduced meals					YES		
Other (specify): _____					YES		
NONE (check here):_____					YES		
Documentation That FDCH Is In School Boundary Area							
Official School Boundary Identifying map (date may be school year e.g., 2004-2005)					YES		
Letter/Memo from school official or state agency indicating that previous years' map is still valid					YES		
Page(s) from directory linking FDCH address to elementary school**					YES		
Memo to the file about information from school/state official					YES		
Printed copy of website information					YES		
Other (specify): _____					YES		
If NONE you must check here: _____							

*The low income eligibility standard is at least 50% of children eligible for free or reduced priced meals. This can be either a list of all schools showing the share of income eligible children per school OR a list of the names of the schools that meet or surpass the 50% standard. Photocopy the page that displays the relevant elementary school.

**The source of these pages must be from a public agency such as the state Board of Education, local area School District or county busing coordinator

Study ID #:

ST	SP	FDCH

Tiering Determination (continued)

Part IV - Tiering Determination by Area Eligibility – Census Block Group

If there is evidence that census block group information was collected to make the most recent tiering determination, complete the table below. If no such evidence is found, check "NONE" at the bottom of the second section of the table.

Documentation Showing Location Of The Home In A 2000 Census Block Group	Present at Site? (Y/N)	Photocopy Needed?	Photocopy Made? (Y/N)
2000 block group boundary map from either census or geo-mapping computer software program		YES	
Document showing that this address is in a specific census block group		YES	
Other (specify):		YES	

If NONE, you must check here: _____

Documentation Showing That The Block Group Meets Income Eligibility Standard*			
A page from a document showing the census block group is income-eligible*		YES	
A map of the census block group indicating (possibly through color coding) the census block group is income-eligible*		YES	
Other (specify)		YES	

If NONE, you must check here: _____

Other Question

Is there any documentation that the sponsor rejected using the school census block option because the school was in a rural area, had bused in students or was a magnet school? (check one)

Yes _____ No _____

*at least 50% of children are eligible for free and reduced meals

Study ID #:

ST	SP	FDCH

Tiering Determination (continued)
Part V – Tiering Determination by Eligibility of Provider - Categorical
If there is evidence that information was collected about the provider's participation in any of the programs listed below to make the most recent tiering determination, complete the table below. If no such evidence is found, check "NONE" at the bottom of the table.

	Type of Documentation	Present at Site? (Y/N)	Dated? (Y/N)	Expiration Date (mm/dd/yyyy)	Initialed or Signed? (Y/N)	Case Number? (Y/N)	Photocopy Needed?	Photocopy Made? (Y/N)
Food Stamps								
	Certification / Letter / Print out from Food Stamp office						YES	
	Authorization to participate card						YES	
	Memo or record of phone call from agency official confirming eligibility						YES	
TANF / State Welfare								
	Certification / Letter / Print out from TANF office						YES	
	Memo or record of phone call from agency official confirming eligibility						YES	
Food Distribution Programs on Indian Reservations (FDPIR)								
	Document that confirms participation in this program						YES	
Other								
	Document that confirms participation in other government welfare program (specify):						YES	
	If NONE , you must check here: _____							

Study ID #:

ST	SP	FDCH

Tiering Determination (continued)

Part VI A – Tiering Determination by Eligibility of Provider – Income, Information used by sponsor to make latest tiering determination
If there is evidence that information on provider income was collected to make the most recent tiering determination, complete the table below. If no evidence is found for an item, check the appropriate box at the bottom of each section.

This information may be found on form that displays latest tiering determination, application, worksheet or other sponsor kept record.

Type of Information	Amount / Number on Form	Frequency	Y/N	If yes, date (mm/dd/yyyy)	Photocopy Needed?	Photocopy Made? (Y/N)
Income Amount Used In Tiering Determination						
Total household income on tiering determination form or worksheet	$				Yes, if not already made	
If no indication on tiering determination form, worksheet or other sponsor kept record of what amount of household income was used in tiering determination, check here: _____						
Household Size Used In Tiering Determination						
Number of household members on tiering determination form or worksheet	#				Yes, if not already made	
If no indication on tiering determination form, worksheet or other sponsor kept record of what number of household members was used in tiering determination, check here: _____						
Key Questions (YOU MUST RECORD A RESPONSE)						
Is the SSN of the adult who signed the form included on the form?						
Is the form signed by an adult household member?					Yes, if not already made	

**** Frequency of Income on Documentation - A=annual M=monthly TW=every two weeks TM=twice a month W=weekly D=daily
O=any other frequency (specify in table)

Study ID #:

ST	SP	FDCH

Tiering Determination (continued)
Part VI B – Tiering Determination by Eligibility of Provider – Income Documentation found in file
Documentation found in file for provider income

Complete one form for each household member who has income. (Exception: If a tax form is used to verify income and a joint return was filed, put the joint income on this form and write the names of the persons filing jointly and insert the relationship to provider.) If the household member listed under "Member Name" has more than one source of income, and it is not included on a tax form that has already been listed as documentation, fill out an additional row for documentation found for each source of income not already listed on the tax form.

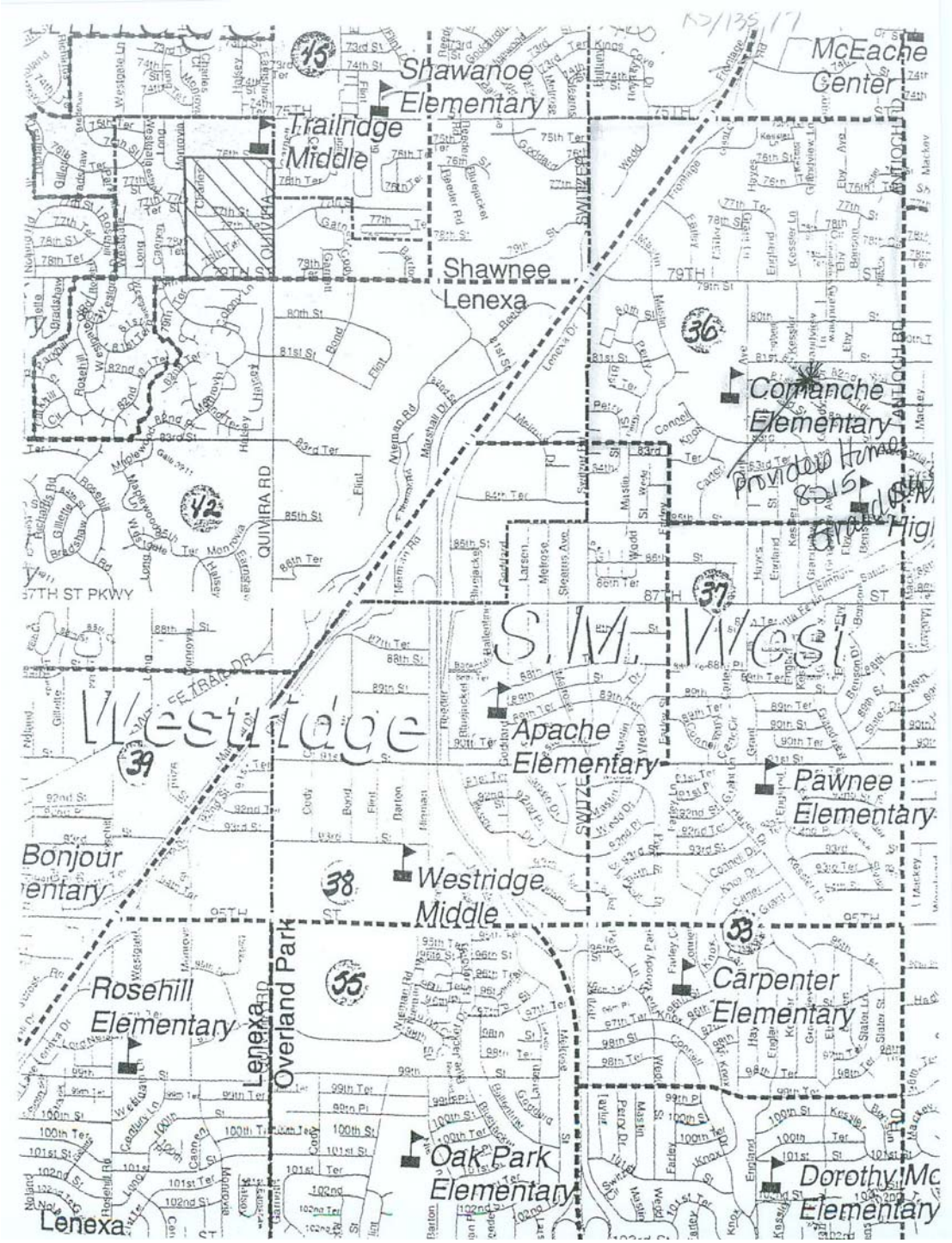
Type of Documentation	Relationship to Provider*	Income Code**	Documentation in File? (Y/N)	Type of Documentation in File***	Date of Documentation (mm/dd/yyyy)	Amount of Income on Doc.+	Net or Gross? (N/G)	Frequency of Amount	Photocopy Needed?	Photocopy Made? (Y/N)
Member Name										
									YES	
Documentation Of Other Income For The Person Listed Under "Member Name" Above										
									YES	
									YES	
	If NONE you must check here): _____									
If Tax Form Filed Jointly, Insert Name Of Joint Filer On Tax Form And Relationship To Provider										

*	Relationship to Care Provider - CP=care provider SP=spouse of CP CH=child of care provider P=parent of care provider O=other (specify relationship in table)
**	Income Codes - E=earned, wages, self-owned business WUC=welfare, unemployment, child support, alimony PS=pensions, retirement, social security O=any other earned income (specify in table)
***	Type of documentation in file - T=Federal tax form CT=schedule C of Federal tax form S=State tax form PS=pay stubs PO=print out from official agency LE=letter from employer BL=benefit letter SF=statements from DC families about payment to provider D=statement from provider (self declaration) O=other (specify in table)
****	Frequency of Income on Documentation - A=annual M=monthly TW=every two weeks TM=twice a month W=weekly D=daily O=any other frequency (specify in table)
+	If abstracting data tax form, use amount on line 22 from Form 1040, line 4 from Form 1040 EZ or line 15 from Form 1040A in the Amount of Income column. If abstracting data from Form 1040 Schedule C to document self-employment income, use line 31; or if Schedule C-EZ is used, use line 3 instead.

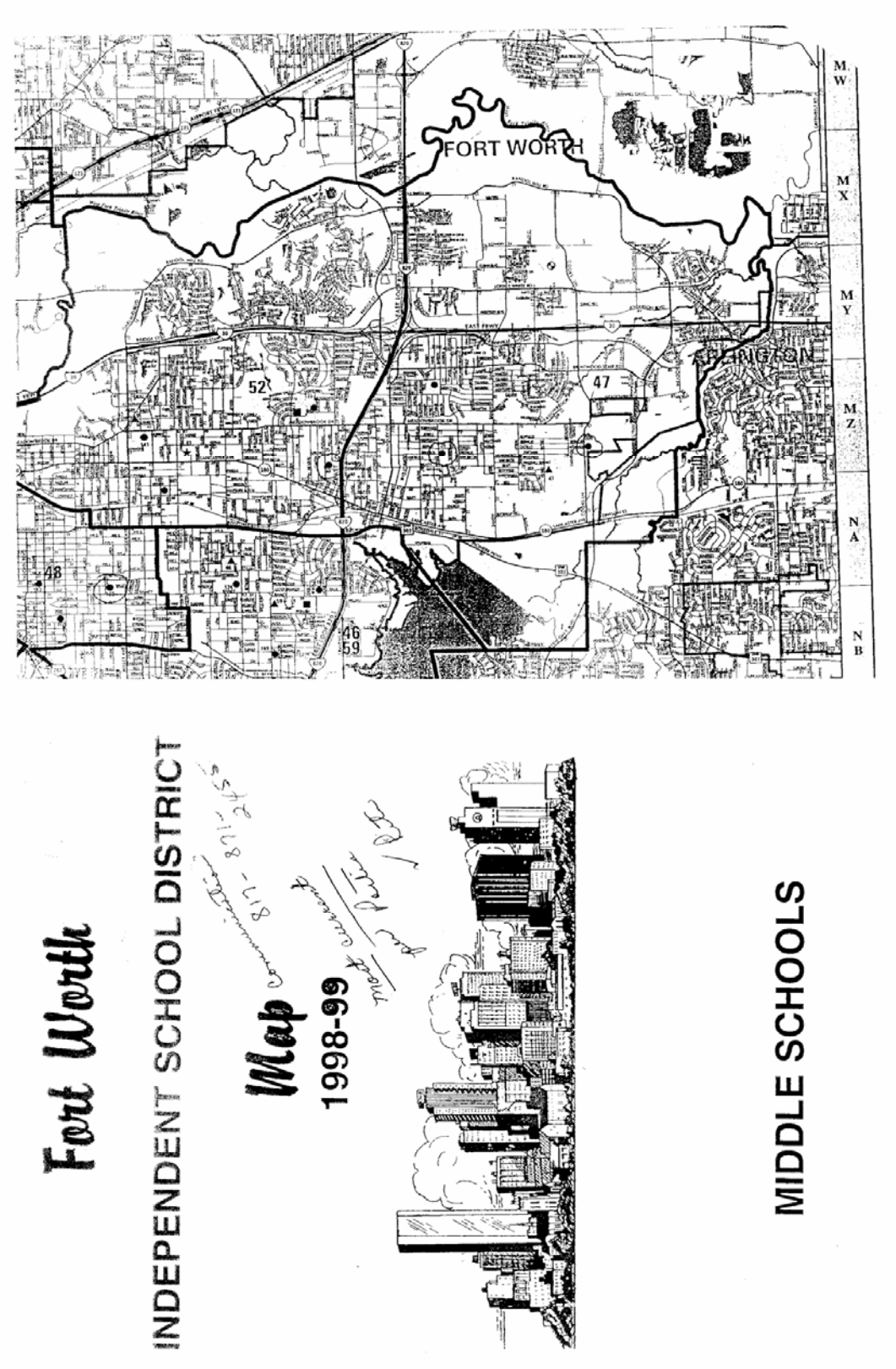
Study ID #:	ST	SP	FDCH
Notes About Meal Counts:			
Notes About Tiering Determination Documents:			
Other Notes:			

Appendix 4.
Examples of Poor Documentation of Tier I Status

Example 1: No Date on School Map Provided in FDCH File



Example 2: Date on School Map in the FDCH Prior to 2002



Example 3: Unofficial School Map in FDCH File, with No Signed Supporting Documentation

Example 4: School Linking to FDCH is FRP Ineligible

Note: the Elementary School identified for the FDCH is Mountainview Elementary, which only has 34% of the students qualifying for a free or reduced price meal.

2001-2002 PEIMS Data
Counts and Percentages of Economically Disadvantaged Children
TEA March 2002

						Economically Disadvantaged Children	
District Name	Campus Name	Street	City	Grades	Students	Number	Percentage
KERRVILLE ISD	K C J D C	1200 SIDNEY BAKER ST	KERRVILLE TX 78028	06-11	42	1	0.023809523
KERRVILLE ISD	NIMITZ EL	100 VALLEY VIEW	KERRVILLE TX 78028	EE-04	573	303	0.528795811
KERRVILLE ISD	STARKEY EL	1030 W MAIN ST	KERRVILLE TX 78028	PK-04	560	275	0.491071428
KILGORE ISD	CHANDLER EL	301 N KILGORE ST	KILGORE TX 75662	01-03	756	405	0.535714285
KILGORE ISD	ELDER COOP ALTER SCHOOL	301 N KILGORE ST	KILGORE TX 75662	05-11	18	15	0.833333333
KILGORE ISD	KILGORE HEIGHTS EL	301 N KILGORE ST	KILGORE TX 75662	EE-KG	409	299	0.731051344
KILGORE ISD	KILGORE INT	301 N KILGORE ST	KILGORE TX 75662	04-05	519	256	0.493256262
KILLEEN ISD	BELL CO DETENTION CTR	P O BOX 967	KILLEEN TX 76540	06-12	70	3	0.042857142
KILLEEN ISD	BELLAIRE EL	108 W JASPER	KILLEEN TX 76542	PK-05	594	343	0.577441077
KILLEEN ISD	BROOKHAVEN INT	3221 HILLIARD AVE	KILLEEN TX 76543	04-05	613	348	0.567699836
KILLEEN ISD	CEDAR VALLEY EL	4801 CHANTZ DR	KILLEEN TX 76542	PK-05	925	316	0.341621621
KILLEEN ISD	CLARKE EL	51600 COMMANCHE AVE	FT HOOD TX 76544	PK-03	560	456	0.814285714
KILLEEN ISD	CLEAR CREEK EL	4800 WASHINGTON BLVD	FT HOOD TX 76544	PK-05	747	561	0.751004016
KILLEEN ISD	CLIFTON PARK EL	2200 TRIMMIER RD	KILLEEN TX 76541	EE-05	382	148	0.387434555
KILLEEN ISD	DUNCAN EL	52400 MUSKOGEE RD	FT HOOD TX 76544	EE-03	621	445	0.716586151
KILLEEN ISD	EAST WARD EL	1608 E RANCIER AVE	KILLEEN TX 76543	PK-05	501	430	0.858283433
KILLEEN ISD	FOWLER EL	1020 TRIMMIER RD	KILLEEN TX 76541	EE-05	357	236	0.661064425
KILLEEN ISD	HARKER HEIGHTS EL	726 SOUTH ANN BLVD	HARKER HEIGHTS TX 76	PK-05	764	543	0.710732984
KILLEEN ISD	HAY BRANCH EL	6101 WESTCLIFF RD	KILLEEN TX 76543	PK-03	881	525	0.596031744
KILLEEN ISD	HAYNES EL	4100 ZEPHYR RD	KILLEEN TX 76543	EE-05	506	309	0.610671936
KILLEEN ISD	KILLEEN J J A E P	P O BOX 967	KILLEEN TX 76540	06-12	47		
KILLEEN ISD	MARLBORO EL	902 REV R A ABERCOMBIE DR	KILLEEN TX 76543	PK-05	243	178	0.732510288
KILLEEN ISD	MAXDALE ELEMENTARY	2600 WESTWOOD DR	KILLEEN TX 76549	EE-05	656	336	0.512195122
KILLEEN ISD	MEADOWS EL	422 27TH ST	FT HOOD TX 76544	PK-05	660	304	0.460606060
KILLEEN ISD	METROPLEX SCHOOL	P O BOX 967	KILLEEN TX 76540	01-11	25	7	0.28
KILLEEN ISD	MONTAGUE VILLAGE EL	84001 CLEMENT DR	FT HOOD TX 76544	PK-05	599	378	0.631051752
KILLEEN ISD	MOUNTAIN VIEW EL	500 MOUNTAIN LION	HARKER HEIGHTS TX 76	PK-05	819	308	0.376068376
KILLEEN ISD	NOLANVILLE EL	901 OLD NOLANVILLE RD	NOLANVILLE TX 76559	EE-05	755	259	0.343046357
KILLEEN ISD	PEEBLES EL	1800 NORTH W S YOUNG DR	KILLEEN TX 76543	EE-03	674	425	0.630563798
KILLEEN ISD	PERSHING PARK EL	1500 W CENTRAL TX EXP	KILLEEN TX 76542	PK-05	644	348	0.540372670
KILLEEN ISD	REECES CREEK EL	400 W STAN SCHLUETER LOOP	KILLEEN TX 76542	PK-05	843	451	0.534994068
KILLEEN ISD	SUGAR LOAF EL	1517 BARBARA LANE	KILLEEN TX 76542	PK-05	586	312	0.532423208
KILLEEN ISD	TRIMMIER EL	4400 SUCCESS DR	KILLEEN TX 76542	EE-05	559	248	0.443649373
KILLEEN ISD	VENABLE VILLAGE EL	60160 VENABLE RD	FT HOOD TX 76544	PK-05	727	535	0.735900962
KILLEEN ISD	WEST WARD EL	709 W DEAN AVE	KILLEEN TX 76541	PK-05	584	459	0.785958904
KILLEEN ISD	WILLOW SPRINGS EL	2501 W STAN SCHLUETER LOOP	KILLEEN TX 76542	PK-05	819	417	0.509157509
KINGSVILLE ISD	HARREL EL	P O BOX 871	KINGSVILLE TX 78364	PK-01	219	184	0.840182648
KINGSVILLE ISD	HARVEY EL	P O BOX 871	KINGSVILLE TX 78364	PK-01	280	209	0.746428571
KINGSVILLE ISD	HOMEBOUND	P O BOX 871	KINGSVILLE TX 78364	01-12	9	7	0.777777777
KINGSVILLE ISD	KLEBERG EL	P O BOX 871	KINGSVILLE TX 78364	02-04	313	252	0.805111821
KINGSVILLE ISD	L A S E R EXPULSION/SUSPENSION	P O BOX 871	KINGSVILLE TX 78364	05-11	30	24	0.8
KINGSVILLE ISD	LAMAR EL	P O BOX 871	KINGSVILLE TX 78364	EE-01	491	386	0.786150712
KINGSVILLE ISD	MCROBERTS EL	P O BOX 871	KINGSVILLE TX 78364	02-04	266	196	0.744360902
KINGSVILLE ISD	PEREZ EL	P O BOX 871	KINGSVILLE TX 78364	02-04	329	230	0.699088145
KIPP INC CHARTER	KIPP ACADEMY	10811 KIPP WAY	HOUSTON TX 77099	05-09	338	303	0.896449704
KIRBYVILLE CISD	KIRBYVILLE EL	2100 S MARGARET AVE	KIRBYVILLE TX 75956	EE-06	827	418	0.505441354
KLEIN ISD	BENFER EL	18027B KUYKENDAHL RD	KLEIN TX 77379	EE-05	674	107	0.158753709
KLEIN ISD	BRILL EL	9102 HERTS RD	KLEIN TX 77379	PK-05	801	112	0.139825218
KLEIN ISD	EHRHARDT EL	6603 ROSEBROOK LN	KLEIN TX 77379	EE-05	633	85	0.134281200
KLEIN ISD	EILAND EL	6700 N KLEIN CIRCLE DR	HOUSTON TX 77088	EE-05	745	433	0.581208053

4,732 Total Records

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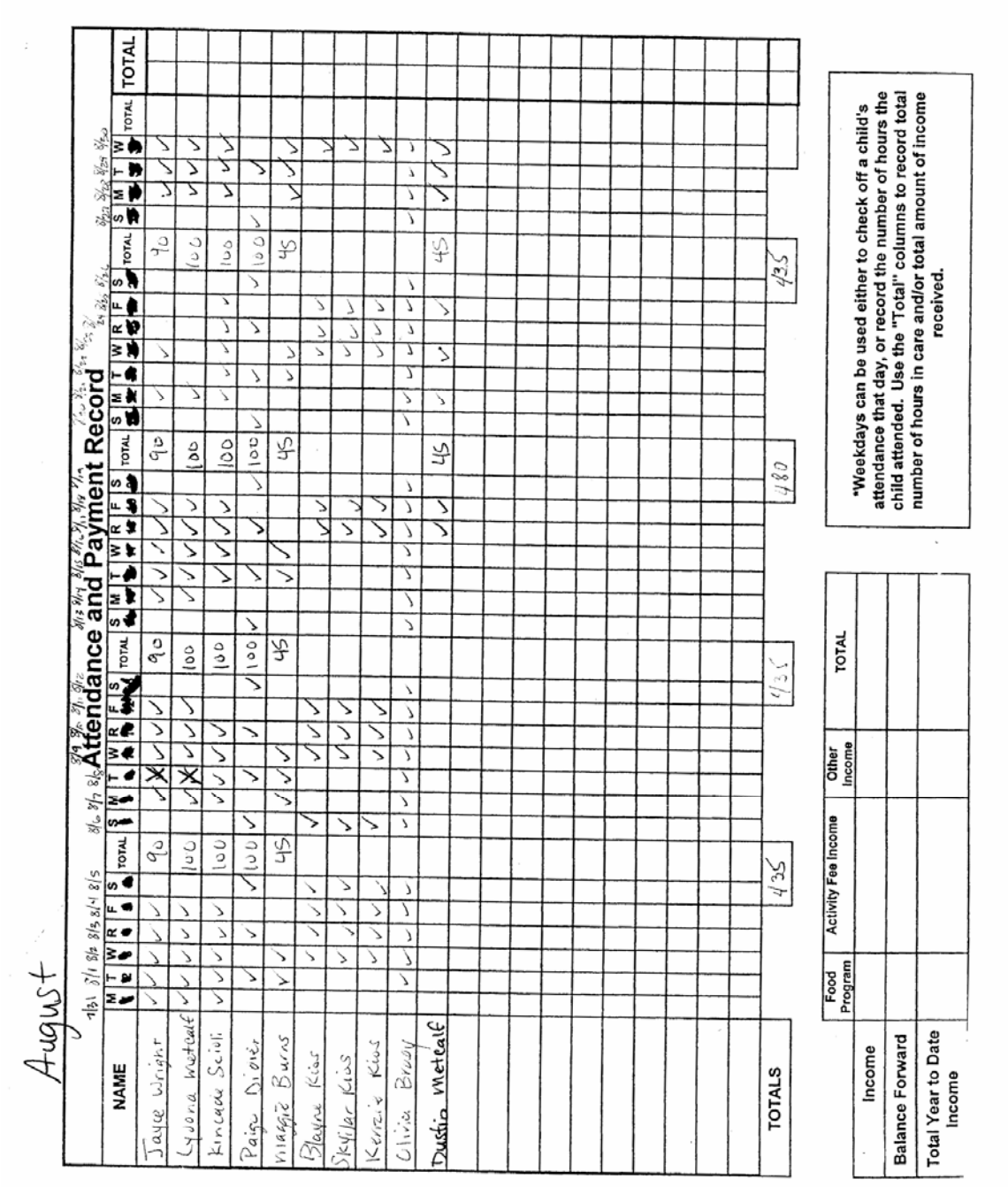
SNF 03/13/2002

Example 5A: Self-Reported Ledger Sheet



August

Attendance and Payment Record

NAME	M	T	W	R	F	S	S	TOTAL	S	M	T	W	R	F	S	TOTAL	S	M	T	W	R	F	S	TOTAL	S	M	T	W	TOTAL
Jaye Wright	✓	✓	✓	✓				90		✓	X	✓	✓	✓		90		✓	✓	✓	✓	✓		90		✓	✓	✓	
Lydonia Wetcalf	✓	✓	✓	✓				100		✓	X	✓	✓	✓		100		✓	✓	✓	✓	✓		100		✓	✓	✓	
Kincade Scioli	✓	✓	✓	✓	✓			100		✓	✓	✓	✓	✓		100		✓	✓	✓	✓	✓		100		✓	✓	✓	
Paige Bjorer		✓		✓	✓			100	✓		✓		✓	✓		100	✓		✓		✓	✓		100	✓		✓		
Kinsagie Burns		✓	✓					45		✓	✓	✓				45		✓		✓	✓			45		✓	✓	✓	
Blayne Kiss			✓	✓	✓						✓	✓	✓							✓	✓	✓					✓		
Skyllar Kiss		✓	✓	✓							✓	✓	✓							✓	✓	✓					✓		
Kerrie Kiss		✓	✓	✓							✓	✓	✓							✓	✓	✓					✓		
Olivia Brady		✓	✓	✓							✓	✓	✓	✓						✓	✓	✓	✓				✓		
Dustin Metcalf														✓	✓	45		✓		✓	✓	✓		45		✓	✓		
TOTALS								435								480								435					

	Food Program	Activity Fee Income	Other Income	TOTAL
Income				
Balance Forward				
Total Year to Date Income				

"Weekdays can be used either to check off a child's attendance that day, or record the number of hours the child attended. Use the "Total" columns to record total number of hours in care and/or total amount of income received.

Example 5B: Self-Reported Ledger Sheet

August - : Expenses - 100% Deductible

Date	Check #	Purchased From	Amount	Adverti sing	Mileage	Liab. Insur.	Bus. Interest	Prof. Service	Office Supp.	Supply Rent	Repair	Clean- ing Supp.	Travel	Labor	Food	Toys	Van invent	Total Sent for Day Care
8/6	1556	Wal-mart	130.85									7.97			82.63			90.60
8/12	Cash	Walmart	112.55												47.64			47.64
8/13	Cash	Price Chopper	59.75												38.61			38.61
8/15	1559	State Farm	21.75			21.75												21.75
8/15	1560	State Farm	76.34														76.34	76.34
8/27	Cash	Wal-Mart	157.08												88.48	68.60		77.52
8/19	Cash	Price Chopper	29.58												29.58			29.58
8/20	Cash	Walmart	110.14												63.40			63.40
8/23	Cash	Wal-mart	144.22													144.22		144.22
Monthly Total			965.31			21.75						7.97			350.50	152.80		576.27
Balance Carried Forward																		
Year-to-Date TOTAL																		

Example 6: Self-Declared Ledger Sheet

Provider Name _____ Provider Number: _____

Monthly Net Child Care Profit/Loss Statement

This statement may be used to document your current net day care income if your tax forms (1040 and Schedule C) from the previous year do not accurately represent your day care's current net income situation. Self-Employed means business expenses subtracted from gross receipts. Expenses include cost of goods (including groceries) purchased, supplies, heat, child care insurance, etc. Gross receipts (income) include fees from parents and income from the CACFP for meals served to day care children. A net loss is reported as zero income (0).

Income (from previous month)

Parent Fees (include payments made by county)	$ 280
Child and Adult Care Food Program Payments	$ –
Miscellaneous Income (field trip fees, etc.)	$ –

Total Income $ 280

General Expenses (from previous month

Food	$ 55
Supplies (paper towels, soap, art & craft supplies, etc.)	$ 20
Toys (for business use)	$ 50
Child Care Insurance (divide annual premium by 12 months)	$
Car Mileage (for business use)	$
Outside Labor (payments to helpers)	$
Educational Classes (for business use)	$
Advertising Costs	$ 20
Miscellaneous Office Expenses (bank fees, record keeping supplies, etc.)	$ 30
Legal/Tax Preparation Expenses/Bookkeeping Help	$

I have only been in the daycare business for less than 1 month With the 2 kids I currently have enrolled I will make $800/month The other kids are dropping

Expenses for Business Use (BU) of Your Home (monthly)
(See reverse side of page to compute business use percentage (BU%)

	$ Monthly	x	BU %	=	$ Expense
Interest on Mortgage (if buying)	$?	x	%	=	$
Rent (if renting)	$ –	x	%	=	$
Electric	$ 90	x	32 %	=	$ 28.80
Gas/Oil	$ 20	x	32 %	=	$ 6.40
Water/Sewer	$ –	x	%	=	$
Garbage	$ 30	x	32 %	=	$ 9.60
Home Repairs	$ 2000	x	32 %	=	$ 640
Property Taxes	$?	x	%	=	$
Homeowner's Insurance	$ 70	x	32 %	=	$ 22.40
Depreciation on Home	$?	x	%	=	$
Depreciation on Equip/Furnishings	$?	x	%	=	$
Other	$	x	%	=	$

Total Expenses (General Expenses plus Business Use Expenses 702.20 $ 882.20

Monthly Net Income (Total Income minus Total Expenses) $ 0