

## **Summary of USDA Research**

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The FNS Research Corner provides a continuing series of summaries of recently completed and current research conducted by the U.S. Department of Agriculture's Food and Nutrition Service (FNS) in the area of child nutrition. For further information, contact the Office of Policy Support (OPS) at (703) 305-2117. Links to published studies and reports as well as descriptions of ongoing studies conducted by OPS are available from the FNS Internet web site at <http://www.fns.usda.gov/ops/research-and-analysis>.

### **RECENTLY COMPLETED RESEARCH**

#### **Evaluation of Direct Certification with Medicaid (DC-M)**

The Healthy, Hunger-Free Kids Act of 2010 (HHFKA; P.L. 111-296) required the USDA Food and Nutrition Service to conduct a demonstration that adds Medicaid to the list of programs used to directly certify students for free school meals. Although students receiving Medicaid are not categorically eligible for free meals, the DC-M demonstration authorizes selected States and districts to use income information from Medicaid files to directly certify those students found to be eligible for free meals.

The study conducted an Access Evaluation to assess the potential impacts of DC-M on students' access to free school meals by conducting retrospective simulations of DC-M in SY 2011/12, the year before the demonstration began. The Year 1 Report presents the preliminary impacts of DC-M on participation and cost for the first year of the demonstrations, SY 2012/13. A report of findings from Year 2 of the DC-M demonstration is forthcoming and will provide a comprehensive picture of implementation.

#### **Direct Certification in the National School Lunch Program – State Progress in Implementation, School Year 2013/14**

This report responds to a legislative requirement of Public Law 110-296 to assess the effectiveness of State and local efforts to conduct direct certification of children for free school meals. Under direct certification, children are determined eligible for free meals without the need for household applications by using data from other means-tested programs. The 2004 Child Nutrition and WIC Reauthorization Act required local educational agencies (LEAs) to establish a system of direct certification of children from households that receive Supplemental Nutrition Assistance Program (SNAP) benefits. For SY 2013/14 and beyond, States that fail to achieve a direct certification rate of at least 95% are required to develop and implement continuous improvement plans (CIPs). This report presents information on the outcomes of direct certification for SY 2013/14.

In SY 2013/14, 93 percent of LEAs that participate in the NSLP directly certified some SNAP participants. These LEAs enroll 99% of all students in schools that participate in the NSLP. This is an increase from SY 2004/05, when 56% of LEAs, enrolling 77% of all

students in NSLP schools, directly certified some SNAP-participant students. The number of school-age SNAP participants directly certified for free school meals was 12.4 million for SY 2013/2014, an increase of 1% from SY 2012/13. Analysis in this report estimates that 87% of children in SNAP households were directly certified for free school meals, calculated with a new methodology using improved data sources. Had the methodology from previous reports be used in SY 2013/14, the national direct certification rate would have been 95%, which is 6% higher than the rate in the previous year's report. Twelve States achieved direct certification rates at or above the performance target of 95% established in HHFKA.

Motivated in part by the performance benchmarks set forth in HHFKA, interviewed States have recently increased match frequency, enhanced matching algorithms to include probabilistic matching, and begun performing matches with additional program data sources such as foster care data.

### **Regional Office Review of Applications (RORA) for School Meals 2014**

This is the tenth in a series of annual reports that examines administrative error incurred during the local educational agencies' (LEAs) approval process of applications for free and reduced-price school meals. It does not examine the accuracy of household reporting of information on the applications or errors made in counting and claiming. Key results include:

- For SY 2013/14, LEA correctly certified about 97% of students submitting applications for meal benefits, comparable to certification error rates found in previous school years (2004-2013).
- Of those students incorrectly certified, slightly more than three-quarters (77%) were certified for more benefits than were justified based on the documentation available while just under a quarter (23%) of the students certified in error were certified for a lesser benefit level than was justified.
- Among categorically eligible applications, the prevalence of certification error during processing was lower than the overall error rate, at just 0.9%.
- Income-based applications are more prone to administrative errors than categorically eligible applications, with many of these errors associated with the determination of a household's gross income.

FNS has continued to be proactive in efforts to improve program integrity without compromising access to low-income families. Technical assistance and training materials have been provided to State and local partners to reduce administrative errors and improve program integrity.

### **Nutrient and Food Group Analysis of USDA Foods in Five of Its Food and Nutrition Programs – 2014**

The study updated a 2009 analysis of the nutrient and food group content of the USDA Foods offered and delivered through Federal nutrition assistance programs. It examined the Child and Adult Care Feeding Program (CACFP), the Commodity Supplemental Food Program (CSFP), the Food Distribution Program on Indian Reservations (FDPIR), and The Emergency Food Assistance Program (TEFAP) in fiscal year (FY) 2014 and the National School Lunch Program

(NSLP) in SY 2013-2014. The study also estimated the Healthy Eating Index (HEI) scores under the HEI-2010 and the HEI-2005 scoring systems for each program's benefits.

Key findings include:

- Schools and institutions participating in NSLP and CACFP select USDA Foods to fill their needs for specific products and tend to draw from all of the food groups offered by USDA.
- USDA Foods *delivered* through NSLP achieved an HEI-2010 score of 81.2 and USDA Foods *delivered* through CACFP scored 76.6 on a 100 point scale.
- HEI-2010 scores for foods *offered* and *delivered* through both programs are higher than average HEI-2010 scores for *dietary intakes* of children (55) and adults (59) for the years 2011-2012.

### **Child and Adult Care Food Program (CACFP): Assessment of Sponsor Tiering Determinations**

The Improper Payments Elimination and Recovery Act (IPERA) of 2010 (Public Law 111-204) requires all Federal agencies to calculate the amount of erroneous payments in Federal programs and to periodically conduct detailed assessments of vulnerable program components. Tiering errors result in improper payments because misclassified family daycare homes do not receive the appropriate level of reimbursement for the meals and snacks provided to the children. The assessment also estimates the dollar amount of improper payments attributable to these tiering errors.

This 2014 assessment of the family daycare homes (FDCHs) component of CACFP provides a national estimate of the share of the roughly 122,000 participating FDCHs that are approved for an incorrect level of per meal reimbursement, or reimbursement "tier" for their circumstances. FDCHs can earn Tier I (higher) or Tier II (lower) reimbursements depending on the location and circumstances of the child care provider or the participating children.

Key findings from the 2014 study include:

- Approximately 98% of family daycare homes nationally were correctly classified.
- By tiering level, 1.4% of Tier I FDCHs and 2.8% of Tier II FDCHs were estimated to be tiered incorrectly for an overall average tiering error rate of 1.6%. This is a decrease from the rate of 2.7% in 2013 but is consistent with rates observed over the last nine years.
- An estimated 1.6% of all FDCH meal claims were reimbursed at an improper rate, which represents 8.5 million meals.
- The cost of improper payments due to tiering errors was 0.84% of estimated \$775.1 million in FDCH reimbursements for 2014. An estimated \$6.5 million of improper payments, mostly attributable to Tier 1 FDCH (overpayments), were made in 2014.

## **RESEARCH IN PROGRESS**

The following section provides a brief description of some ongoing FNS research and the current status of these studies:

### **Special Nutrition Program Operations Study**

The Special Nutrition Program Operations Study is a multi-year study designed to provide FNS with key information about the operational policies and practices of School Food Authorities (SFAs) and State Child Nutrition Agencies that can be used to address policy needs, develop informed regulations and guidance, and provide needed technical assistance. Survey data is collected from a nationally representative sample of over 1,400 SFA directors in public school districts operating the National School Lunch Program and a census of State Child Nutrition Directors.

Results of the second and third year of the study, based on data collected during SY 2012/13 and SY 2013/14, respectively, are forthcoming. Topics addressed include implementation of the new school meal standards, competitive food standards, professional staffing standards, school lunch and breakfast meal pricing and accounting, standards for school wellness policies, and Smarter Lunchrooms strategies. Information from this study will provide measures for observing the improvements resulting from the implementation of provisions found in the Healthy, Hunger-Free Kids Act of 2010.

### **Child Nutrition Operations Study II (CN-OPS II)**

The objective of the Child Nutrition Program Operations Study II (CN-OPS II) is to collect timely data on policy, administrative, and operational issues within the CN programs. The study will collect data via online survey in SY 2015-16 and SY 2016-17 with an optional 2 years of data collection. FNS will identify the most relevant policy needs for each of the four years of data collection. The contractor will develop survey instruments to address these policy needs. Each year, the survey instruments will include some repeated questions as well as modules of survey items for specific policy needs relevant to that year. The study will obtain data for each school year individually and will examine trends over the 4 years. The final reports for Year 1 and Year 2 are scheduled for release over the next several years.

### **School Nutrition and Meal Cost Study (SNMCS)**

The School Nutrition and Meal Cost Study (SNMCS) will explore both the nutrition and cost domains of school meals in an integrated study design. It will collect a broad range of data from a nationally representative sample of about 500 School Food Authorities (SFAs), 1,200 schools, 2,400 students and parents, and a large sample of school meals (over 5,000 lunches and 3,000 breakfasts) during SY 2014/15. The data collection includes the administration of several different types of instruments and modes, including self-administered web-based SFA director and school principal surveys, a food service manager survey, an electronic menu survey, competitive foods checklists, cafeteria environment observation, plate waste observation, Automated Multiple Pass Method 24-hour dietary recalls, measurement of student's height and weight, student/parent surveys, meal cost interviews, and collection of administrative cost data.

These data will provide needed information about how Federally-sponsored school meal programs are operating after implementation of the new nutrition standards and other changes in regulations. Comparisons of results of this study with previous School Nutrition and Dietary Assessment (SNDA) and School Lunch and Breakfast Cost (SLBC) studies will provide information that can be used to assess the effects of the new nutrition standards on foodservice operations, the nutrient content of school meals as offered and served, meal costs and revenues, and student participation and dietary intake. The integrative structure of the SNMCS will support analysis of the relationships among substantive areas such as nutritional quality of meals, meal costs, student participation, and plate waste. The study will produce five separate reports in 2017 summarizing study findings (SFA/school characteristics and food service operations; nutrition quality of meals; meal costs; student participation, dietary intake, and other outcomes; and plate waste) and a stand-alone summary of findings.

### **Study on Nutrition and Wellness Quality of Child Care Settings (SNAQCS)**

The Healthy Hunger-Free Kids Act of 2010 directs USDA to conduct a study of child care providers to assess the nutritional quality of foods provided in child care settings, opportunities for physical activity, and facilitators and barriers to providing healthy foods and physical activity and participation in CACFP. This study will also examine the costs of preparing meals for CACFP providers. The final report is expected in late 2017.

### **The Access, Participation, Eligibility and Certification (APEC) series**

The Improper Payments Elimination and Recovery Act (IPERA) requires Federal agencies to report annually on the extent of erroneous payments in their programs, including *overpayments* (payments that were made improperly or exceeded the proper level) and *underpayments* (payments that were denied improperly or were lower than the proper level). This series is conducted at approximately five-year intervals to provide a baseline of calculated error in the School Meals programs.

The objective of the third study in this series is to calculate updated, nationally-representative estimates of annual erroneous payments in the school meals programs by replicating the "APEC methodology," (which was implemented in APEC-I and APEC-II) using data collected in SY 2017-18. The estimates will measure error in the certification, meal claiming and aggregation processes. In addition, the study includes: (1) robust, statistically reliable national estimates of the annual amount of erroneous payments in NSLP and SBP among sub-groups, such as student, school, and SFA type; (2) a sub-study on the differences in error rates among SFAs using different program integrity implementation strategies; (3) qualitative analyses examining the reasons for erroneous payments; and (4) model-based State-level point estimates for the 48 continental States and the District of Columbia. The report on APEC-III findings will be published in the fall of 2020.

### **CACFP Meal Claims Feasibility Study**

The objective of this feasibility study is to design and test a data collection method that enables FNS to estimate erroneous payments due to meals claimed improperly by family day care home providers participating in the CACFP. Specifically, the study focuses on accurately estimating meals that are claimed but not served.

Previous efforts to develop a reliable method for validating meal reimbursement vs. meals served to children at FDCHs produced unreliable results. However, the 2010 CACFP Meal Claims Study held more promise, when parents' report of child attendance was matched with observed meals served at the center. Consequently, an approach that included attendance-time-derived meals with parent report of child drop off and pick up times combined with data on meals served, presented the most meaningful option for identifying a method for estimating meals claimed errors in these settings.

This study will include the development of two automated reporting systems, one for parents to report attendance; the second, for providers to report meals served. Parents will provide daily report of child attendance, by either texting or entering the information into the Child Attendance Reporting System (CARS). Providers will report meals served information daily by entering the times, type and child data into the Meals Served Reporting System (MSRS). Pilot testing and exit interviews were conducted in the summer of 2015, to inform tools finalization for the feasibility study.

Data collection will begin in March 2017. Data will be collected from parents and providers in order to test the two technology-based systems. Parents will be required to provide child attendance information twice/daily (i.e., at pick-up and drop-off) through a mobile application; and providers will provide information daily on number and types of meals served through a mobile application or computers. Results will be analyzed and used to determine the feasibility of the proposed systems in estimating erroneous payments. The final report is expected in March 2018.

### **Child and Adult Care Food Program (CACFP) Characteristics Study**

FNS is currently conducting a national study on the Characteristics of CACFP Sponsors and Providers. The study, which is focused on the child care component of the program, collected data in 2015 and will publish a descriptive report in late 2016. The study will provide policy-makers, advocates, and the general public with up-to-date information since the last major study in 1997 about: sponsor types, training and technical assistance, monitoring, program operations and management, provider types, provider operating hours, types of meals and snacks served, participant characteristics, and funding sources.

### **CACFP Tiering Series**

The Improper Payments Information Act of 2002 (IPIA) (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 assessment of the family daycare homes (FDCHs) component of CACFP provides a national estimate of the share of the roughly 125,000 participating FDCHs that are approved for an incorrect level of per meal reimbursement, or reimbursement "tier" for their circumstances. FDCHs can earn Tier I (higher) or Tier II (lower) reimbursements depending on the location and circumstances of the child care provider or the participating children. Tiering errors result in improper payments because misclassified family daycare homes do not receive the appropriate level of reimbursement for the meals and snacks provided to the children. The assessment also estimates the dollar amount of improper payments attributable to these tiering errors.

### **CACFP Erroneous Payments in Child Care Centers (EPICCS)**

Building upon the methods developed for schools in the Access, Participation, Eligibility, and Certification (APEC) studies, this study has three important goals: (1) provide FNS with a reliable measure to estimate erroneous payments in the child care center component of the CACFP, (2) develop reliable estimation models that FNS can use to update erroneous payment estimates annually, and (3) prepare a white paper on methodologies to compute State-level estimates of erroneous payments. The study includes a final report and white paper that will be released in summer 2019.

### **Characteristics of Summer Food Service Participants and Programs**

The Summer Food Service Program (SFSP) serves only a small percentage of the children who receive free and reduced price meals through the National School Lunch Program during the school year. This national study aims to provide detailed information on SFSP operations and administration at the state agency, sponsor, and site levels, as well as characteristics and experiences of the providers and a small sample of participants and eligible nonparticipants. The data were collected in Summer 2015. The findings and analyses of this study are intended to replicate and expand upon the last national study of the SFSP published in 2003 by the Economic Research Service. Since the 2003 study, significant policy changes have been implemented that could affect participation in the program by children, sponsors, and sites, so this study will also provide a picture of changes in participation since the implementation of recent policy developments affecting the SFSP and Seamless Summer Option (SSO). The final report is expected in 2016.

### **Putting Behavioral Economics to Work in School Cafeterias**

These funds support a multi-year, integrated research program, launched in Fiscal Year 2010 in collaboration with the Economic Research Service, to develop, test, and promote applications of behavioral economic theory in the school nutrition environment. The goal is to identify, develop, and document evidence-based strategies, tools, and techniques that schools can use to shape their environments to support and encourage healthful food choices and behaviors. A key partner in this effort is the Cornell University Behavioral Economics in Nutrition (BEN) Center and their efforts to increase the use of Smarter Lunchrooms techniques in the Nation's schools.

### **Rural Child Poverty Nutrition Center**

The purpose of this grant is to establish the Rural Child Poverty Nutrition Center (RCPNC) at the University of Kentucky. The objective of the Center is to reduce child food insecurity by improving program coordination among USDA-FNS Child Nutrition and other nutrition assistance programs. RCPNC has formed strategic partnerships to ensure successful program implementation, relying on guidance in terms of content area expertise, technology, training, and outreach. The University of Kentucky will manage sub-grantees who have proposed creative strategies to increase participation in these programs among families with children in persistently poor rural counties in 15 states. Sub-grantees' programs will be evaluated using qualitative and quantitative methodologies, and evaluation findings and implementation strategies will be widely disseminated. The final report of project activities will be submitted to FNS in June, 2019.

### **Assessment of Changes in Local Wellness Policies and Competitive Foods Practices**

This grant provides funding to the University of Illinois-Chicago and its partners to monitor and evaluate local school wellness policies of local educational agencies (LEAs) participating in the National School Lunch Program. The study will also assess the impact of State laws and district policies on the school environment, school practices, and student outcomes. Qualitative methods will examine HHFKA policy implementation and facilitators/barriers to compliance. Results will be disseminated in a variety of reports, briefs, presentations, and manuscripts in 2016 through 2018.

### **Successful Approaches to Reduce Sodium in School Meals**

FNS is currently conducting a study on the market availability of foods served in school meals that meet the current and future sodium requirements. The study will also identify best practices in schools that are successfully meeting sodium targets that could be used to provide technical assistance to School Food Authorities developing lower sodium menus. The final report is expected in 2018.

### **Review of Child Nutrition Data Systems**

A wide range of information is required to implement and manage school food service programs, and such information is typically collected by SFAs using Management Information Systems (MIS) of varying levels of sophistication. While a wide array of data are collected by SFAs to enhance local administration, SEAs request and aggregate a subset of this data and ultimately report a microcosm of it to the Food and Nutrition Service (FNS) as state data. Current state and Federal data collection requirements for the NSLP/SBP were developed during manual paper-based reporting and early computer eras that were characterized by concerns to minimize paperwork and reporting burden. The purpose of this project is to review and document SFAs' and State NSLP/SBP Management Information Systems. Specifically, the project will present a baseline "as is" assessment of SFA and SEA MIS based on data collected using three key data collection methods, 1) background information of the types of data systems used by SFAs and SEAs from vendors, 2) preliminary information collected from discussions with FNS, FNS Regional Offices, select states, and select SFAs, 3) a census of all state agencies responsible for administering NSLP/SBP

### **Cost Dynamics of USDA Foods in Schools**

The study will examine the variety of factors that determine the cost and value of USDA Foods to local school and school district food programs. FNS seeks specifically to 1) identify procurement, transportation, storage, and delivery models used by States (except Kansas) and Washington DC to distribute USDA Foods to schools; 2) identify 4 to 10 procurement and distribution models that represent the State systems used; and 3) develop cost estimates for a group of USDA Foods, processed products made from USDA Foods, and comparable commercial products. The data collected to address these objectives will include existing records from USDA; a web survey of 50 State Distributing Agencies (SDAs covering the District of Columbia plus the States, excluding Kansas which receives cash in lieu of commodities); in-depth interviews with 8 to 20 SDAs; and a survey of 80 to 200 School Food Authorities (SFAs) using web and telephone modes.

## **Direct Certification in the National School Lunch Program – State Progress in Implementation, School Year 2014/15**

This report responds to a legislative requirement of Public Law 110-296 to assess the effectiveness of State and local efforts to conduct direct certification of children for free school meals. Under direct certification, children are determined eligible for free meals without the need for household applications by using data from other means-tested programs. The 2004 Child Nutrition and WIC Reauthorization Act required local educational agencies (LEAs) to establish a system of direct certification of children from households that receive Supplemental Nutrition Assistance Program (SNAP) benefits. For SY 2014/15 and beyond, States that fail to achieve a direct certification rate of at least 95 percent are required to develop and implement continuous improvement plans (CIPs). This report presents information on the outcomes of direct certification for SY 2014/15.

## **Community Eligibility Provision Characteristics Study**

With the expansion of the Community Eligibility Provision (CEP) nationwide beginning in SY 2014-15, this study will collect updated information on the characteristics of participating and non-participating CEP schools and districts in SY 2016-17. The study will examine operational issues and perceived incentives and barriers for adopting CEP as well as the impacts on NSLP and SBP participation and per meal revenues. It also seeks to gain a better understanding of the operational issues that State Agencies encounter administering this provision.

## **Using Data Matching in the School Meals Eligibility and Verification Process**

A recent Government Accountability Office report recommended that USDA explore electronically matching household application information to other data sources – such as State income databases or public assistance databases – to verify the accuracy and improve the certification process. This project will update and expand previous work in this area to determine if data systems and datasets can be linked to application information in a manner that supports timely and accessible certifications or can be used as the basis for verification for cause or other error-reduction strategies.