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Abstract

The National School Lunch Program (NSLP) is the Nation's second-largest food and nutrition assistance program, providing billions of meals to tens of millions of children and adolescents each year. USDA, Economic Research Service (ERS) periodically reports on NSLP policies and program operations, often after major changes to the program's rules and guidelines. The last such report was published in 2008. Since then, the program has undergone major changes precipitated by the passage of the Healthy, Hunger-Free Kids Act of 2010 and the effects of the Coronavirus (COVID-19) pandemic. Changing economic conditions may have also affected program spending and participation. This report provides an overview of the NSLP, documents major program changes since 2008, and examines historical trends and participant characteristics. It also summarizes research on the financial status of school food authorities, program participation, the nutritional quality of school lunches, and the impact of the program on the diets of children and adolescents. It concludes by discussing issues facing the program and research and data needs.

Keywords: National School Lunch Program, Seamless Summer Option, After-School Snack Service, Farm to School, USDA Foods in Schools

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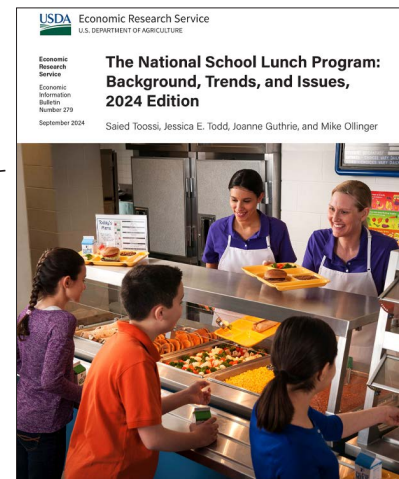


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What Is the Issue?

The National School Lunch Program (NSLP) is the Nation's second-largest food and nutrition assistance program. The program operates in about 100,000 schools and provides billions of meals to tens of millions of children and adolescents each year (hereafter “children” or “students” as applicable for brevity). USDA, Economic Research Service (ERS) periodically reports on NSLP policies and operations following major changes to the program. The last such report was published in 2008. Since then, the program underwent major changes precipitated by the Healthy, Hunger-Free Kids Act of 2010 (HHFKA) and the Coronavirus (COVID-19) pandemic. Changing economic conditions may have also affected program participation and spending. This report provides an overview of the NSLP, documents major changes to the program since 2008, and examines historical trends and participant characteristics. It also summarizes relevant research on the financial status of school food authorities (SFAs) responsible for implementing the program at the local level, program participation, the nutritional quality of school lunches, and the impact of the program on children’s diets.



What Did the Study Find?

Notable policy changes since 2008:

- The HHFKA required USDA to update the program’s nutrition standards, encouraged the use of local foods in the preparation of school meals, and added another provision to allow schools and school districts with high shares of low-income students to serve meals at no cost to all students (universal free meals or UFM), among other changes. Per the HHFKA, a USDA rule updated nutrition standards again in 2024.
- In response to the COVID-19 pandemic, USDA waived certain program requirements (e.g., when and where lunches could be served and consumed), allowed all schools to adopt UFM, and increased funding for the program. Most of these changes expired in June 2022.

ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

Trends in participation, lunches served, and Federal expenditures:

- From Federal fiscal years (FY) 1969 through 2022, the NSLP served 236 billion lunches. The number of lunches served peaked in 2010 at about 5.3 billion, declining each year afterward to 4.9 billion in FY 2019. Further declines occurred during the COVID-19 pandemic, but the number of lunches increased to prepandemic levels in FY 2022.
- The share of students participating in the program declined from 64.3 percent of all students enrolled in public schools in FY 2010 to 58.3 percent in FY 2019, when 29.6 million children participated in the program per day, on average.
- Students receive free, reduced-price, or full-price lunches depending on their household's income and size. All students receive free meals in schools that have adopted UFM. The share of lunches served for free or at a reduced price rose from 15.1 percent in FY 1969 to 60.1 percent in FY 2008 and to 74.1 percent in FY 2019. USDA waivers facilitated the free provision of nearly all lunches during the COVID-19 pandemic.
- In constant 2022 dollars, Federal spending on the NSLP increased from \$1.3 billion (\$64.56 per participating student) in FY 1969 to \$10.8 billion (\$346.95 per participating student) in FY 2008 and to \$14.4 billion (\$487.45 per participating student) in FY 2019. During this time, there was an increase in the number of schools and students participating in the program, changes to Federal funding for the program, and an increase in the share of lunches served free or at a reduced price.
- The COVID-19 pandemic disrupted the NSLP's operations. Program spending declined in FY 2020–21 as schools utilized a USDA waiver to serve meals through the Summer Food Service Program instead. Spending surpassed prepandemic levels in FY 2022, amounting to \$21.4 billion (\$712.62 per participating student). This increase was attributable to schools once again serving lunches through the NSLP, a greater share of lunches being served for free, and higher Federal funding for each free lunch served.

Financial status of SFAs:

- In a survey of SFAs in the 2016–17 school year, 71 percent reported balanced budgets or a surplus. In another survey, 82 percent reported the same for the 2021–22 school year, when COVID-19 pandemic waivers and other changes were in place. However, only 62 percent reported balanced budgets or a surplus in the first part of the 2022–2023 school year, after the waivers had expired and during a period of high inflation.

Relationship between the NSLP and children's well-being:

- Research suggests that the HHFKA led to improvements in the nutritional quality of NSLP lunches without reducing program participation or students' consumption of school meals. Research also suggests that participation in the program helps improve students' dietary intake.

How Was the Study Conducted?

USDA, ERS researchers examined NSLP's rules and regulations, studied program trends using data from USDA, Food and Nutrition Service and other sources, and reviewed numerous NSLP-related research publications.

Abbreviations

APEC = Access, Participation, Eligibility, and Certification Study

CEP = Community Eligibility Provision

ERS = Economic Research Service

FY = Fiscal year

FDPIR = Food Distribution Program on Indian Reservations

FFVP = Fresh Fruit and Vegetable Program

FNS = Food and Nutrition Service

FPL = Federal poverty level

HACCP = Hazard Analysis and Critical Control Point

HHFKA = Healthy, Hunger-Free Kids Act

NSLP = National School Lunch Program

P-EBT = Pandemic Electronic Benefit Transfer

SBP = School Breakfast Program

SFA = School Food Authority

SFSP = Summer Food Service Program

SNAP = Supplemental Nutrition Assistance Program

SNMCS = School Nutrition and Meal Cost Study

SSO = Seamless Summer Option

TANF = Temporary Assistance for Needy Families

USDA = United States Department of Agriculture

USDA Foods = USDA Foods in Schools

WIC = Special Supplemental Nutrition Program for Women, Infants, and Children

Introduction

The National School Lunch Program (NSLP) is the second largest food and nutrition assistance program in the United States after the Supplemental Nutrition Assistance Program (SNAP). It is the largest of the child nutrition programs, and the largest of two school meal programs—the other is the School Breakfast Program (SBP). The NSLP offers subsidized lunches to school children and adolescents (hereafter “children” or “students” as applicable for brevity) in about 100,000 public and private, not-for-profit schools (about 73 percent of all such schools), as well as residential childcare institutions.¹ In Federal fiscal year (FY) 2019 (October 2018 through September 2019), before the Coronavirus (COVID-19) pandemic, the program served about 29.6 million children each school day, on average, and a total of 4.9 billion lunches at an inflation adjusted (to 2022 dollars) cost of \$14.4 billion (about \$2.96 per lunch or \$487.45 per participating student).² While schools are not required to participate in the program, nearly all public schools, and a large share of private not-for-profit-schools, do so.³

The NSLP was established under the National School Lunch Act of 1946 to help “safeguard the health and well-being of the Nation’s children” and “encourage the domestic consumption of nutritious agricultural commodities and other foods” as a measure of “national security.” When the program was signed into law, undernutrition due to poverty was a major concern, and the priority was to ensure that children consumed an adequate amount of food. As rates of undernutrition among children began to decline, understanding of children’s nutritional needs improved, and rates of obesity began to rise, priorities shifted to ensuring that children consume a nutritionally balanced diet. The program continues to support the U.S. agriculture sector by requiring that agricultural commodities used in the preparation of school lunches be produced domestically.

Trends in the program’s participation and expenditures have also changed over time, reflecting legislative and regulatory changes as well as broader social and economic trends.⁴ Congress makes changes to the NSLP by passing legislation that amends the National School Lunch Act, or other legislation, as necessary. Since 2010, major changes to the program were precipitated by the Healthy, Hunger-Free Kids Act of 2010 (HHFKA) and the COVID-19 pandemic.

USDA, Economic Research Service (ERS) periodically reports on NSLP policies and program operations, often following major changes to the program’s rules and guidelines or in anticipation of future developments. The last such report was published in 2008 (Ralston et al., 2008). This report provides an overview of the NSLP, documents major changes to the program since 2008, and examines historical trends in program participation and expenditures. It also summarizes research on the financial status of school food authorities (SFAs) responsible for implementing the program at the local level, participant characteristics, the nutritional quality of school lunches, and the impact of the program on children’s diets, which is important for understanding whether the program contributes to children’s health and well-being. It concludes by discussing notable longstanding and emergent issues facing the program—such as the nutritional quality of lunches, the adequacy of Federal reimbursements for lunches served through the program, and expanded access to free school meals—as well as research and data needs.

¹ In the 2019–20 school year, there were 128,961 public and private schools (National Center for Education Statistics (NCES), N.D.a). In FY 2020, roughly corresponding to the 2019–20 school year, 94,558 public and private schools participated in the NSLP (USDA, FNS, 2021c).

² USDA, Economic Research Service using data from the USDA, Food and Nutrition Service webpage “Child Nutrition Data Tables” as of March 2023 and the Personal Consumption Expenditures price index from U.S. Department of Commerce, Bureau of Economic Analysis. Program spending includes Federal cash payments for lunches and snacks served through the NSLP and excludes commodities, bonus commodities, cash-in-lieu of commodities, and administrative costs.

³ In the 2017–18 school year, about 18.8 percent of all private schools participated in the NSLP (NCES, N.D.b).

⁴ For a detailed history of the program from 1946 to 2008, see Ralston et al. (2008).

Overview of the NSLP

The NSLP is one of several child nutrition programs. Others include the SBP, Child and Adult Care Food Program, Summer Food Service Program, Special Milk Program, Fresh Fruit and Vegetable Program, and Summer Electronic Benefits Transfer for Children.⁵ The NSLP is administered at the Federal, State, and local levels (figure 1). At the Federal level, the USDA, Food and Nutrition Service (FNS) reimburses States for lunches served in participating schools, coordinates NSLP policy, provides technical assistance, and oversees the work of the State agencies.⁶ The State agencies, in turn, administer the program through agreements with local SFAs. State agencies are responsible for managing fiscal elements of the program, monitoring SFA performance and adherence to NSLP rules, and providing SFAs with technical assistance. State agencies (and local governments) may also supplement Federal reimbursements with additional funding.⁷

The jurisdiction of SFAs usually corresponds to school district boundaries but can be confined to single schools or groups of school districts. SFAs are responsible for providing lunches to students in accordance with program rules. Participation in the NSLP also requires SFAs to engage in some activities, such as establishing wellness policies, and gives them the option to partake in others, such as offering after-school snacks. All public and private SFAs may participate in the NSLP provided they operate their lunch programs on a nonprofit basis. Those electing to participate in the NSLP must adhere to a set of rules regulating how lunches can be served and their nutritional content, among other rules, to receive reimbursements from the Federal Government for each lunch served.

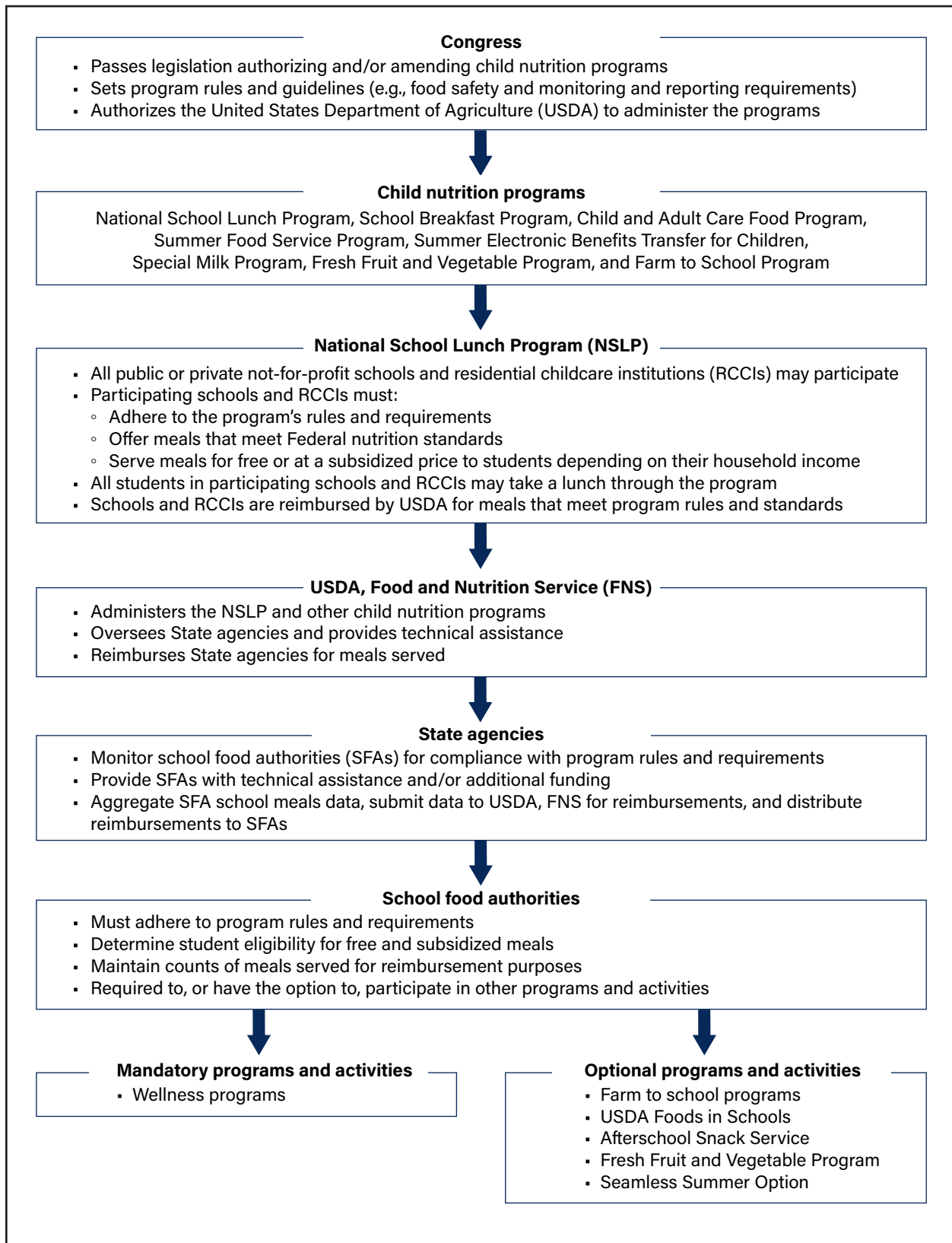
⁵ For information on these other programs see Toossi et al. (2021); Jones et al. (2022), and Toossi and Jones (2023). The Special Milk Program provides milk to children in schools, childcare institutions, and eligible camps that do not participate in other Federal child nutrition programs. The Fresh Fruit and Vegetable program provides fresh fruits and vegetables to children in elementary schools participating in the NSLP. Summer Electronic Benefits Transfer for Children provides eligible families with school-aged children \$120 per child to buy groceries during the summer months. Another program, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), also serves infants and children up to age 5 (Hodges et al., 2024).

⁶ One way USDA, FNS provides technical assistance is through its Team Nutrition program. The program provides training for school food service staff and resources to support healthier school environments, such as recipes for NSLP meals.

⁷ For an example of local funding for school meal programs, see USDA, FNS (2023f).

Figure 1

Overview of the National School Lunch Program and its administration



Note: The jurisdiction of school food authorities usually corresponds to school district boundaries but can be confined to single schools or groups of school districts.

Source: USDA, Economic Research Service.

Healthy, Hunger-Free Kids Act of 2010

The Healthy, Hunger-Free Kids Act (HHFKA) was signed into law on December 13, 2010, and amended the National School Lunch Act to make several changes to the National School Lunch Program (NSLP). Notably, the legislation (P.L. 111-296) included these provisions:

- **Updated nutrition standards.** The act authorized USDA to update nutrition standards for lunches served through the NSLP to reflect the goals established in the Dietary Guidelines for Americans, 2010, as well as future editions of the guidelines. Additional funding was provided to help schools meet these new standards. The act also set new standards for all competitive foods sold in schools (e.g., foods sold during the school day in vending machines, school stores, or in the cafeteria alongside, but outside of, the school meal programs). Standards for competitive foods included:
 - Requirements for whole grains and products that list a fruit, vegetable, dairy food, or protein food as their first ingredient.
 - Limits for calories, sodium, fats, and total sugars.
 - Standards for fruit juices, milk, and other beverages (USDA, FNS, 2022a).

These changes also led to improvements in the nutritional quality of foods provided to schools for use in the NSLP through the USDA Foods in Schools program.

- **Required USDA to establish a farm to school program and revised standards for wellness policies.** The act required USDA to establish a farm to school program to support and encourage activities that promote awareness of local foods and their use in the preparation of school meals. It also updated standards for school wellness policies promoting the health and well-being of students.
- **Expanded the use of direct certification and access to free meals.** The act encouraged State agencies to use Medicaid to directly certify students for free and reduced-price meals (now used in many States) and set benchmarks to improve the direct certification process overall. The legislation also created the “Community Eligibility Provision,” which allows eligible schools, groups of schools, or school districts to serve meals free of charge to all students.
- **Regulated the use of Federal reimbursements for school meals.** The act included the “Paid Lunch Equity Provision,” which prohibits school food authorities (SFAs) from using Federal reimbursements for free and reduced-price meals to subsidize the prices charged to students who must pay the full price for school meals. The act also prohibited SFAs from using Federal reimbursements to subsidize the cost of competitive foods.
- **Standardized the frequency of nutrition audits.** The act required that SFAs be audited every 3 years, or other period as prescribed by USDA,¹ to ensure compliance with the new nutritional standards, as well as to be more transparent about the nutritional quality of their meals.
- **Improved food safety.** The act applied existing hazard analysis to any facility, or part of a facility, in which food is stored, prepared, or served for the purposes of the NSLP.

¹ USDA issued a rule in 2023 allowing SFAs to be audited every 5 years effective July 1, 2024. State agencies conducting audits on a longer than 3-year cycle are required to identify high risk SFAs for additional oversight (USDA, FNS, 2023a).

Eligibility, Certification, and Verification

SFAs choosing to participate in the NSLP must serve lunches in congregate settings (e.g., cafeterias) when school is in session, including summer school, between the hours of 10 a.m. and 2 p.m. SFAs in the contiguous United States must also purchase domestically (inclusive of U.S. territories) produced agricul-

tural commodities and food products for their school meal programs. All unprocessed foods used must be produced domestically (with limited exceptions),⁸ and all processed foods used must be processed domestically using U.S. agricultural commodities that are composed of at least 51 percent domestically grown foods by weight or volume (USDA, FNS, 2019).

Lunches are available to all students. Students may receive free lunches or subsidized reduced or full-price lunches depending on their household's income and size or their school. SFAs cannot charge students who are certified for a free lunch and cannot charge those certified for a reduced-price lunch more than 40 cents. SFAs can determine how much to charge students for full-price lunches within certain guidelines. In the 2017–18 school year, SFAs charged \$2.63 for a full-price meal, on average (Beyler et al., 2022). SFAs receive reimbursements from USDA, FNS for each lunch, with the amount depending on whether the student receives a free, reduced-price, or full-price lunch. Typically, students are eligible for:

- Free meals if they come from households with income at or below 130 percent of the Federal poverty line (FPL).⁹
- Reduced-price meals if they come from households with income greater than 130 and up to 185 percent of the FPL.
- Full-price meals if they come from households with income greater than 185 percent of the FPL.

In an increasing number of schools, all students receive meals at no cost to them regardless of their household income (a policy often referred to as universal free meals) through several provisions of the National School Lunch Act, including a newer provision established by the HHFKA.

In schools without universal free meals, student eligibility for free and reduced-price meals can be determined through an application process or through “direct certification.” Through the application process, a parent or guardian self-reports their household income, size, and participation in SNAP, Temporary Assistance for Needy Families (TANF), and/or Food Distribution Program on Indian Reservations (FDPIR). If a student's household income relative to household size satisfies the eligibility requirement for free or reduced-price meals, they are certified to receive these meals. Alternatively, students are categorically eligible for free meals if their household participates in SNAP, TANF, or FDPIR, or if they are in foster care, homeless, a migrant, a runaway, or enrolled in Head Start. Applications for free and reduced-price meals may be submitted at any time during the school year. SFAs are required to verify 3 percent of certified applications each year and may do so on a case-by-case basis if there is cause to question a self-report (USDA, FNS, 2012b). Through direct certification, students are certified to receive free meals using administrative records of their household's participation in SNAP, TANF, FDPIR, or, in some States, Medicaid.¹⁰ Foster, homeless, migrant, or runaway children, or those participating in Head Start, can also be directly certified for free school meals.¹¹ Once certified through a paper application or direct certification, students may maintain their free or reduced-price meal status regardless of changes in their household's income or program participation for the duration of the school year (USDA, FNS, 2017a).

⁸ Limited exceptions are allowed when the use of domestic foods is not practical, such as when necessary products are not produced or manufactured domestically in sufficient quantities or when competitive bids reveal the costs of a domestically produced product to be significantly higher than the nondomestic substitute. In the 2017–18 school year, about a quarter of SFAs used an exception to the Buy American Provision (Beyler et al., 2022).

⁹ Federal poverty lines are issued each year by the Department of Health and Human Services and are used for administrative purposes to determine financial eligibility for certain Federal programs. They consider both a household's income and size (i.e., the number of household members). For example, the 2023 poverty threshold for a household of two living in the contiguous United States was set at \$19,720, while that for a household of four was set at \$30,000. These thresholds are higher for households living in Alaska and Hawaii to account for the higher cost of living in those States (see table A1 in the appendix A).

¹⁰ Students can also be directly certified for reduced-price meals using administrative records of their household's participation in Medicaid. Direct certification using Medicaid was used in 43 States as of the 2024–25 school year (USDA, FNS, 2024a).

¹¹ Direct certification involves State agencies or school district staff matching student enrollment records with administrative records of participants in the select means-tested programs (Hulsey et al., 2022).

Universal Free Meals

Four provisions in school meals legislation allow schools, groups of schools, or school districts to offer meals at no cost to all their students through the National School Lunch Program (NSLP) regardless of household income (a policy often referred to as universal free meals). Three of these provisions predated the Healthy, Hunger-Free Kids Act of 2010 (HHFKA). These are Provisions 1, 2, and 3 (USDA FNS, 2014).

Under Provision 1, schools in which at least 80 percent of students are eligible for free or reduced-price meals can certify students for free meals once every 2 consecutive years instead of annually. Schools must continue to collect meal applications from households with children not certified for free meals and track the number of free, reduced-price, and full-price meals served daily for Federal reimbursement purposes.

Under Provisions 2 and 3, a school makes eligibility determinations and records the number of free, reduced-price, and full-price meals served under typical guidelines in the first year of (Provision 2), or the year before (Provision 3), a 4-year period, known as the base year. The school then makes no eligibility determinations for the next 3 or 4 years. Under Provision 2, schools count only the total number of meals served in each of the next 3 years, and monthly Federal reimbursements are determined by applying the percentages of free, reduced-price, and full-price meals served during the corresponding month of the base year to the total count of meals served in the month for which a claim is being made. Under Provision 3, schools are not required to count the number of meals served in each of the next 4 years. Instead, schools receive Federal reimbursements based on the amount received in the base year, adjusted for changes in enrollment and inflation. Schools choosing to exercise these provisions must pay the difference between Federal reimbursement and the cost of providing all meals at no charge. The savings from not having to collect and process meal applications and, under Provision 3, additional savings from not having to track meals—alone or together with other sources of funding—may be used to help cover the cost of providing free meals to all students (USDA, FNS, 2014).

An additional provision, the Community Eligibility Provision (CEP), was established by the HHFKA.¹ Under this provision, a school, group of schools, or school district may serve free meals to all students if their identified student percentage (ISP) is at least 25 percent (40 percent prior to October 26, 2023).² The ISP is the share of students who are directly certified for free meals through participation in the Supplemental Nutrition Assistance Program, Temporary Assistance for Needy Families, Food Distribution Program on Indian Reservations, or, in some States, Medicaid; or are categorically eligible through participation in Head Start; or because they are runaways, homeless, migrants, or in foster care. The ISP is multiplied by 1.6 to determine what share of meals served are reimbursed at the free rate for eligible schools, groups of schools, or school districts that exercise CEP. The remainder of meals served are reimbursed at the rate for full-price meals. For example, if the ISP is 60 percent, 96 percent ($0.6 \times 1.6 = 0.96$) of all meals served through CEP would be reimbursed at the free-meal rate, while the remaining 4 percent would be reimbursed at the full-price meal rate. Higher Federal reimbursements for each meal served and cost savings from not having to collect and process meal applications help offset the cost of providing free meals to all students (Billings & Carter, 2020).

In addition to these provisions, schools may offer free meals to all their students using supplemental funding provided by State governments. As of August 2023, California, Colorado, Maine, Massachusetts, Minnesota, Michigan, New Mexico, and Vermont had adopted statewide universal free meals on a permanent basis.³ Other States have taken a more limited approach. For example, Washington passed a law requiring school districts eligible for serving free meals to all students through CEP to do so (School Nutrition Association, 2023b).

¹ For a more detailed overview of CEP, see Billings and Carter (2020).

² USDA, FNS issued a new rule on September 26, 2023, lowering the threshold to 25 percent beginning October 26, 2023 (USDA, FNS, 2023b).

³ These State policies are sometimes referred to as “Healthy School Meals for All” initiatives.

Nutrition Standards

To be reimbursed by USDA, FNS, SFAs participating in the NSLP must offer lunches that meet Federal nutrition standards for the program. The last major update to these standards occurred in response to the HHFKA, which required USDA, FNS to issue new standards based on recommendations in the *Dietary Guidelines for Americans, 2010*, as well as future editions of the guidelines.¹² These standards, effective beginning July 2012, established:

- Weekly and daily requirements for minimum servings of meat (or meat alternatives), fruits, vegetables (including legumes and dark green and red/orange vegetables), whole grains, and milk,
- Minimum and maximum calorie limits (by grade level), and
- Restrictions on the saturated fat, trans fat, and sodium content of foods, as well as on flavored milk.

Additionally, in accordance with the *Dietary Guidelines for Americans, 2010*, the nutrition standards limited offerings of milk to low-fat (1 percent fat) unflavored milk and fat-free flavored or unflavored milk (for details, see table 1) (USDA, FNS, 2012a).

A phased approach was taken for the adoption of the whole grains and sodium standards to give SFAs time to adapt to the new standards (USDA, FNS, 2012a). Fifty percent of grains offered were required to be whole-grain rich effective July 2012 (target 1), and 100 percent of grains offered were required to be whole-grain rich effective July 2014 (target 2). Restrictions on sodium first came into effect in July 2014 (target 1), with further restrictions set to take effect in July of 2017 (target 2) and 2022 (target 3). To reduce the amount of food wasted by students, the HHFKA also strengthened a provision in school meals legislation known as “offer versus serve.” This provision enables schools to allow students to select only some of the required lunch components (meat/meat alternative, fruits, vegetables, grains, and milk) rather than serving them components they would not eat. Prior to the HHFKA, schools could choose to exercise this option. The HHFKA required that high schools adopt the provision. It also added the requirement that one of the meal components selected by students in schools exercising the provision be a fruit or vegetable (USDA, FNS, 2020).

Nutrition standards for school lunches have been modified on several occasions since 2012. SFAs not able to meet the requirement that 100 percent of grains offered be whole-grain rich beginning July 2014 were able to apply for a waiver. In 2018, USDA issued a rule that instead required 50 percent of grains offered to be whole-grain rich and postponed more stringent limits on sodium that were set to come into effect in July 2017 and 2022. The 2018 rule also relaxed restrictions on flavored milk, allowing schools to serve low-fat flavored milk (USDA, FNS, 2018b). The 2018 rule was rescinded in 2020, however, by a court ruling.¹³ Shortly thereafter, in response to supply chain disruptions caused by the onset of the COVID-19 pandemic in 2020, USDA, FNS issued a waiver allowing SFAs to serve meals that did not meet Federal nutrition standards without risk of penalties to facilitate the continued provision of meals to children. This waiver was extended through June 2022.

In February 2022, USDA issued a rule establishing transitional nutrition standards for NSLP lunches effective July 2022. This new rule offered SFAs continued flexibility as they recovered from the COVID-19 pandemic. The transitional standards (table 1) relaxed restrictions on low-fat flavored milk, required 80 percent of grains offered to be whole-grain rich rather than 100 percent as required by the 2012 standards, and postponed more stringent restrictions on the sodium content of meals served (USDA, FNS, 2022g). Per the HHFKA, USDA issued a rule in April 2024 updating the nutrition standards for consistency with the

¹² For nutrition standards that were in place before the Healthy, Hunger-Free Kids Act of 2010, see Ralston et al. (2008).

¹³ In April 2020, the U.S. District Court for the District of Maryland vacated the rule (Case 8:19-cv-01004-GJH), concluding that it violated the Administrative Procedure Act because the 2018 rule differed significantly from the 2017 interim rule, on which the final standards were set to be based.

goals of the *Dietary Guidelines for Americans, 2020–25* (table 1). The updated standards reestablished limits on sodium, effective July 2027, and established new limits on added sugars in school meals. Specifically, the standards limited the amount of added sugars in flavored milk, breakfast cereals, and yogurt, effective July 2025, and required that added sugars constitute no more than 10 percent of calories from school lunches served each week, effective July 2027 (USDA, FNS, 2024b).

Table 1
Nutrition standards for lunches served through the National School Lunch Program, since 2012

	Grades K-5	Grades 6-8	Grades 9-12
Food components	Minimum servings per week (minimum serving per day in parentheses)		
Fruits (cups) ^a	2½ (½)	2½ (½)	5 (1)
Vegetables (cups) ^a	3¾ (¾)	3¾ (¾)	5 (1)
Dark green	½	½	½
Red/orange	¾	¾	1¼
Beans, peas, and lentils	½	½	½
Starchy	½	½	½
Other ^b	½	½	¾
Additional vegetables to reach total ^c	1	1	1½
Grains (oz eq)			
Target 1: 50% ≤ whole-grain rich ^d (in effect from July 2012 through June 2022)	8-9 (1)	8-10 (1)	10-12 (2)
Target 2: 100% whole-grain rich (in effect from July 2014 through June 2018) ^e	8-9 (1)	8-10 (1)	10-12 (2)
Interim target: 80% ≤ whole-grain rich (in effect from July 2022)	8-9 (1)	8-10 (1)	10-12 (2)
Meats/meat alternates (oz eq)	8-10 (1)	9-10 (1)	10-12 (2)
Fluid milk (cups) ^f	5 (1)	5 (1)	5 (1)
Other specifications: Daily amount based on the average for a 5-day week			
Min-max calories (kcal) ^g	550-650	600-700	750-850
Saturated fat (% of total calories)	<10	<10	<10
Sodium (mg)			
Target 1 (in effect from July 2014 through June 2023)	≤ 1,230	≤ 1,360	≤ 1,420
Target 2 (set to begin July 2017 but postponed indefinitely)	≤ 935	≤ 1,035	≤ 1,080
Target 3 (set to begin July 2022 but postponed indefinitely)	≤ 640	≤ 710	≤ 740
Interim target (in effect from July 2023 through June 2027)	≤ 1,110	≤ 1,225	≤ 1,280
Target 4 (set to begin July 2027)	≤ 935	≤ 1,035	≤ 1,080
Added sugars (% of total calories) (set to begin July 2027) ^h	<10	<10	<10
Trans fat ⁱ	Nutrition label or manufacturer specifications must indicate zero grams of trans fat per serving.		

^a One-quarter cup of dried fruit counts as ½ cup of fruit; 1 cup of leafy greens counts as ½ cup of vegetables. No more than half of the fruit or vegetable offerings may be in the form of juice. All juice must be 100 percent full-strength.

^b Additional amounts from the dark green, red/orange, and beans, peas, and lentils vegetable subgroups.

^c Any vegetable subgroup may be offered to meet the total weekly vegetable requirement.

^d Whole grain-rich is the term designated by USDA, FNS to indicate that the grain content of a product is between 50 and 100 percent whole grain with any remaining grains enriched.

^e Some schools reported difficulty meeting this requirement. USDA offered flexibilities that returned the requirement to Target 1 for these schools beginning in the 2017–18 school year. The target was postponed indefinitely beginning with the 2018–19 school year (Lin et al., 2023).

^f All fluid milk must be fat-free (skim) or low-fat (1 percent fat or less). Milk may be flavored or unflavored, provided that unflavored milk is offered at each meal service. Effectively July 2025, flavored milk may have no more than 10 grams of added sugars per 8 fluid ounces.

^g Discretionary sources of calories may be added to the meal pattern if within the dietary specifications.

^h Effective July 2025, breakfast cereals may have no more than 6 grams of added sugars per dry ounce and yogurt may have no more than 10 grams of added sugars per 6 ounces.

ⁱ USDA removed the dietary specification for trans-fat based on the Food and Drug Administration's actions to eliminate synthetic trans-fat from the U.S. food supply effective July 2024.

Source: USDA, Economic Research Service based on data from the USDA, Food and Nutrition Service web pages “Nutrition Standards for School Meals” and “Updates to the School Nutrition Standards.”

Food Safety

The Child Nutrition and WIC Reauthorization Act of 2004 (P.L. 108–265) amended the National School Lunch Act by requiring SFAs participating in the NSLP to implement a Hazard Analysis and Critical Control Point (HACCP) approach to food safety for the preparation and service of meals. The HHFKA strengthened this requirement by extending the HACCP approach to any facility or part of a facility in which food is stored, prepared, or served for the purposes of the NSLP (USDA, FNS, 2022c). The HACCP approach helps reduce the risk of foodborne hazards by focusing on each step of the food preparation process. Schools participating in the NSLP are required to obtain two food safety inspections per school year, post their inspection reports in a visible location, and make these reports available to the public. State agencies must report the number of inspections obtained by their schools in each school year to USDA, FNS by November 15 of the following school year (USDA, FNS, 2016).

Data made available by USDA, FNS on inspections for the 2014–15 school year showed that 82 percent of schools reported at least two inspections, 12 percent reported one inspection, 5 percent reported no inspections, and 0.5 percent reported no information on inspections. Reasons cited by State agencies for why schools may not meet the inspection requirements include insufficient funds or staff at local public health agencies and local public health agencies prioritizing inspections according to risk, with schools being considered low risk (USDA, FNS, 2016).

Federal Reimbursements

SFAs participating in the NSLP receive Federal reimbursements for lunches that meet the program's requirements. Schools count the number of reimbursable free, reduced-price, and full-price lunches they serve each school day and report these figures to their SFA. SFAs aggregate these counts across all schools in their jurisdiction and report the numbers to their State agency. State agencies then aggregate the data and report them to USDA, FNS for Federal reimbursement purposes. The amount SFAs receive per lunch depends on the type of lunches served (i.e., free, reduced-price, or full price); the share of all lunches that were served free or at a reduced price; whether lunches meet Federal nutrition standards; whether the SFA's school or district has adopted universal free meals; and the State or territory in which they are located (table 2). Free and reduced-price lunches are reimbursed at higher rates than full-price lunches. To account for geographical differences in the cost of producing school meals, SFAs in Alaska, Hawaii, Guam, Puerto Rico, and the Virgin Islands receive higher reimbursement rates across all types of lunches relative to SFAs in the contiguous United

States. An additional 2 cents per lunch is paid if 60 percent or more of lunches served are free or reduced-price and an additional 8 cents per lunch if they are certified as meeting the NSLP’s nutrition standards (known as the “performance based” reimbursement).

Reimbursement rates are adjusted in July of each year to account for inflation using the Food Away from Home series of the Consumer Price Index for all Urban Consumers (USDA, FNS, 2021a). In July 2022, Federal reimbursement rates were increased in addition to the inflation adjustment for the 2022–2023 school year to help SFAs cope with rising food prices and supply chain disruptions stemming from the COVID-19 pandemic. SFAs also receive additional assistance through the USDA Foods in Schools program (USDA Foods) or cash-in-lieu of USDA Foods (see box, “USDA Foods in Schools”).

Table 2

Federal reimbursement rates for lunches served through the National School Lunch Program, July 2023–June 2024

		Percent of lunches served for free or at a reduced price			
		Less than 60 percent		At least 60 percent	
		Meet nutrition standards		Meet nutrition standards	
	Type of meal	No	Yes	No	Yes
Contiguous United States	Full price	\$0.40	\$0.48	\$0.42	\$0.50
	Reduced price	\$3.85	\$3.93	\$3.87	\$3.95
	Free	\$4.25	\$4.33	\$4.27	\$4.35
Alaska	Full price	\$0.66	\$0.74	\$0.68	\$0.76
	Reduced price	\$6.50	\$6.58	\$6.52	\$6.60
	Free	\$6.90	\$6.98	\$6.92	\$7.00
Hawaii, Guam, Puerto Rico, and Virgin Islands	Full price	\$0.53	\$0.61	\$0.55	\$0.63
	Reduced price	\$5.14	\$5.22	\$5.16	\$5.24
	Free	\$5.54	\$5.62	\$5.56	\$5.64

Source: USDA, Economic Research Service based on data from the USDA, Food and Nutrition Service webpage “Rates of Reimbursement.”

Monitoring Requirements and Responsibilities

USDA, FNS monitors the implementation of the NSLP through information reported by State agencies, its own reviews of State agencies, and State agency reviews of SFAs. State agencies are required to monitor the implementation of the NSLP by SFAs for compliance with the program’s rules and to compile and review meal count data collected by SFAs for submission to USDA, FNS. SFAs are required to review meal counting and claiming systems for each school under their jurisdiction by February 1 of each year, and State agencies are required to review meal counting and claiming systems in each school in their jurisdiction at least once every 5 years (more often if an SFA is identified as high risk by the State agency). State agencies are required to submit 19 reports to USDA, FNS throughout each fiscal year (Garasky et al., 2019).¹⁴

¹⁴ A selection of these reports is presented in table A.2 in appendix A. For a more detailed list of reports, see Garasky et al. (2019).

USDA, FNS also monitors the implementation of school meal programs through nationally representative surveys of State agencies and SFAs. One example is the Access, Participation, Eligibility, and Certification (APEC) study series, which USDA, FNS uses to identify and examine sources of improper Federal reimbursements and to provide the necessary technical assistance to resolve them. Improper reimbursements include underpayments (when SFAs receive fewer reimbursements than they should have) and overpayments (when they receive more reimbursements than they should have). APEC measures improper payments due to errors in the certification of students for free or reduced-price meals (i.e., certification errors) and the aggregation of meal counts (i.e., aggregation errors).¹⁵ These errors may result in a monetary loss or gain for SFAs. APEC also measures a third type of error: meal claiming error. This error occurs when meals are misclassified as meeting Federal nutrition standards and are incorrectly counted for reimbursement purposes. These errors are considered “standard of service failures,” however, and do not result in a monetary loss for SFAs. Instead, SFAs are expected to improve their compliance with the nutrition standards.

The most recent APEC study, APEC-III, used data on a representative sample of SFAs collected in the 2017–18 school year and found that gross improper payments (overpayments plus underpayments) were 8.02 percent (\$1.09 billion) of total Federal reimbursements. This was below the threshold of 10 percent necessary to comply with the Improper Payments Elimination and Recovery Act of 2012 and Payment Integrity Information Act of 2019.¹⁶ Gross improper payments due to certification and aggregation errors amounted to 6.52 and 1.5 percent of total reimbursements, respectively. Net improper payments (overpayments less underpayments) were 4.9 percent (\$667 million) of total reimbursements. The study also found that most certification errors occurred in schools that had not adopted universal free meals and in those that relied on applications rather than direct certification to establish free and reduced-price meal eligibility and that most schools (87 percent) had no aggregation errors. Gross meal claiming error amounted to 7.6 percent of total reimbursements (Milfort et al., 2021).

Associated Programs

Participation in the NSLP requires SFAs or their school districts to perform some activities while giving them the option to partake in others (figure 1). Required activities include the adoption and implementation of district wellness policies. Wellness policies must, at minimum, include goals for nutrition education, physical activity, and other school-based activities to promote student wellness (USDA, FNS, 2022f).¹⁷ SFAs may also choose to participate in farm to school programs, the After-School Snack Service, the Fresh Fruit and Vegetable Program (FFVP), the USDA Foods in Schools program (USDA Foods), and/or the NSLP’s Seamless Summer Option (SSO).

SFAs with farm to school programs can receive additional funding from USDA, as well as training and technical support, for activities that seek to promote awareness of local foods and/or their use in school meal programs. These activities might include local food procurement efforts; hands-on learning activities such as school gardening, farm visits, and culinary classes; or the integration of food-related education into the classroom curriculum (Bobronnikov et al., 2021). Schools operating an enrichment or educational after-school program may participate in the After-School Snack Service. Through this program, they can serve snacks that meet Federal nutrition standards to students for free, at a reduced price, or full price depending on each student’s eligibility (USDA, FNS, 2013a). Elementary schools in the 50 States, Washington, DC, Guam, Puerto Rico, or the Virgin Islands can also apply to their State agency to participate in the FFVP, which provides additional USDA, FNS funding to make free fresh fruits and vegetables available to students to

¹⁵ Certification errors may be the result of administrative or reporting errors. Administrative errors occur when, for example, a SFA staff member makes an error in determining a student’s free or reduced-price meal eligibility. Reporting errors occur when, for example, a parent or guardian incorrectly completes an application for free and reduced-price meals. Aggregation errors can occur at any stage of the meal counting and aggregation processes.

¹⁶ Being out of compliance subjects the NSLP to additional scrutiny and reporting requirements as described in the Payment Integrity Information Act of 2019, 31 U.S. Code § 3353.

¹⁷ School wellness policies are described in greater detail in appendix B.

encourage the acceptance and consumption of fresh produce (USDA, FNS, 2017b).¹⁸ USDA Foods provides additional support to SFAs by making domestically grown and produced foods available for use in school meal programs (see box, “USDA Foods in Schools”). Finally, the SSO allows SFAs—and other organizations (e.g., community centers, churches, and other public sites where children gather) sponsored by SFAs—in low-income areas to offer free meals to children when school is not in session, such as during the summer or unanticipated school closures between October and April (see box, “Seamless Summer Option”) (USDA, FNS, 2013b).

USDA Foods in Schools

In addition to reimbursing schools for each lunch served through the National School Lunch Program (NSLP), the USDA also provides school food authorities (SFAs) with entitlement funds that can be used to purchase foods through the USDA Foods in Schools program (USDA Foods).¹ This program was created in 1936 when USDA began purchasing surplus agricultural commodities for distribution to local school lunch programs (Ralston, 2008). Through USDA Foods, USDA buys domestically produced agricultural commodities and food from suppliers that distribute food to schools. Schools may then use entitlement funds to purchase these foods from USDA for use in their meal programs. Since the late 1990s, SFAs can also use their entitlement funds to purchase fruits and vegetables through the USDA/Department of Defense Fresh Fruit and Vegetable Program (USDA, FNS, 2022h).²

Under the National School Lunch Act, SFAs receive entitlement funds equal to the number of lunches they served in the previous year multiplied by a per-lunch dollar amount. This dollar amount is either equivalent to an amount set by USDA in July of each year or an amount ensuring that total USDA Foods assistance amounts to at least 12 percent of total Federal reimbursement for NSLP lunches, whichever is greater. In July 2023, the per lunch dollar amount set by USDA was 29.5 cents per lunch (USDA, FNS, 2023c). However, the effective per lunch rate that SFAs received based on the 12-percent rate was 36.25 cents per lunch (Texas Department of Agriculture, 2023). Overall, USDA Foods contributes a small share of all SFA funding. In the 2014–15 school year, USDA Foods comprised about 6 percent of total SFA revenues, on average (Logan et al., 2019).³

¹ USDA also provides “bonus commodities” through this program in the event of agricultural surpluses. In these cases, USDA purchases surplus commodities and distributes them to State agencies for distribution to schools. These commodities do not count against a State agency’s regular entitlement funds.

² The USDA/Department of Defense Fresh Fruit and Vegetable Program is a distinct program not to be confused with a separate program called the Fresh Fruit and Vegetable Program.

³ For a more indepth overview of the USDA Foods in Schools program, see Ollinger and Guthrie (2022).

¹⁸ Farm to school programs, the After-School Snack Service, and the Fresh Fruit and Vegetable Program are described in greater detail in appendix B.

Seamless Summer Option

The National School Lunch Program's (NSLP) Seamless Summer Option (SSO) allows school food authorities (SFAs) participating in the NSLP—and other organizations (e.g., community centers, churches, and other public sites where children gather) sponsored by SFAs—to offer free meals to children when school is not in session, such as during the summer or unanticipated school closures between October and April. Schools operating on a continuous year calendar may serve meals through SSO when school is out of session for 10 days or more. Schools and sponsored organizations may serve meals through the SSO in areas or sites where at least 50 percent of children qualify for free or reduced-price school meals. These meals must meet the same Federal nutrition standards that apply to meals served through the NSLP and School Breakfast Program (SBP) and receive the same Federal reimbursement rates that apply to free meals served through the NSLP and SBP (USDA, FNS, 2013b). However, the Federal reimbursement rates for SSO meals were temporarily raised above the NSLP and SBP rates from July 2021 through June 2022 to help support SFAs amid rising food prices and supply chain disruptions during the Coronavirus (COVID-19) pandemic.

Balancing School Food Authority Costs and Revenues

SFAs are responsible for:

- Planning meals that meet USDA standards
- Procuring the foods for meals
- Training and supervising staff to prepare and serve meals
- Obtaining and maintaining equipment for preparing meals
- Determining students' eligibility for free or reduced-price meals
- Ensuring program integrity
- Maintaining program data for reporting and reimbursement claims

Many SFAs also perform other activities, such as providing breakfasts through the SBP and/or afterschool suppers through the Child and Adult Care Food Program. They may also provide foods not covered by USDA programs, such as competitive foods (foods sold during the school day in vending machines, school stores, or in the cafeteria alongside school meals).

Figure 2 provides a summary of SFA costs and revenues. The total cost of producing and serving a school lunch can be grouped into four categories. These include food procurement costs, labor costs, other direct costs (e.g., nonfood supplies), and indirect costs (e.g., services provided by an SFA's school district that may or may not be charged to the SFA). In the 2014–15 school year, labor costs accounted for most of the total cost, 54.0 percent. Food costs were 29.3 percent of the total, other direct costs 7.8 percent, and indirect costs 8.9 percent (Logan et al., 2019). SFAs generate revenues from a variety of sources to help cover these costs. These include support from Federal sources, such as Federal reimbursements for meals served and USDA Foods in Schools; student payments for reduced- and full-price school meals; the sale of competitive foods; State and local funds; and other sources (e.g., proceeds from the sale of equipment or interest on deposits). In the 2014–15 school year, Federal reimbursements comprised 56.7 percent of SFA revenues while student

payments made up 20.0 percent. The sale of competitive foods was 10.9 percent of revenues, USDA Foods in Schools 5.9 percent, and State and local funds 5.9 percent. Other miscellaneous sources of revenues comprised less than 1 percent of total revenues (Logan et al., 2019).

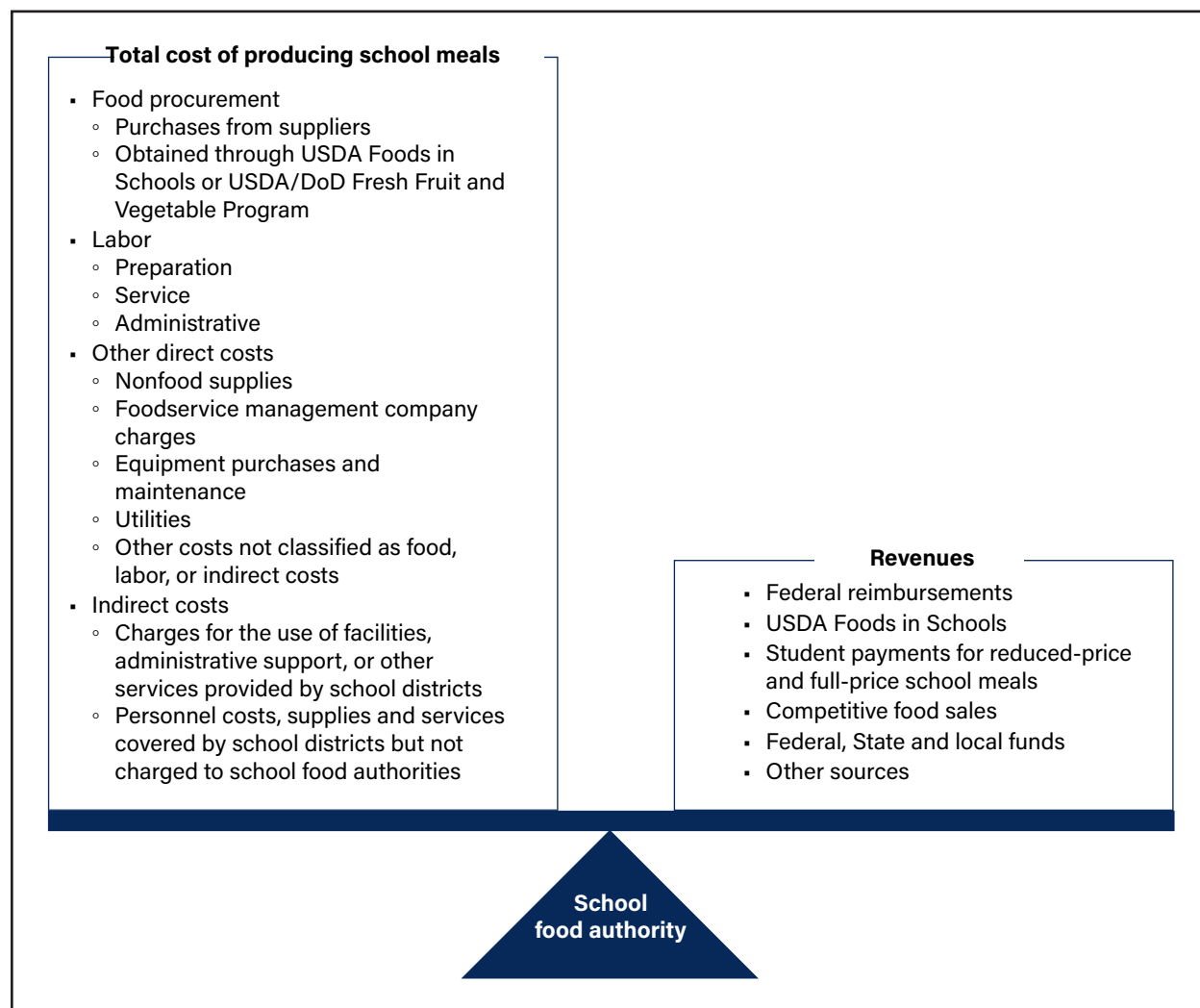
Generally, SFAs aim to balance costs and revenues, or “break even,” though their ability to do so can vary.¹⁹ In the 2016–17 school year, 46 percent of SFAs broke even, 25 percent experienced a surplus, and 29 percent ran a deficit. Larger SFAs serving a greater number of meals were more likely to break even or experience a surplus than smaller SFAs serving fewer meals, which were more likely to run a deficit (Beyler et al., 2022). The share of SFAs reporting breaking even or a surplus changed during the COVID-19 pandemic and its aftermath. By the end of the 2021–22 school year, amid greater levels of Federal support in response to the COVID-19 pandemic, 82 percent reported breaking even or experiencing a surplus. In the first quarter of the 2022–2023 school year, after most pandemic-related Federal support had ended, 62 percent reported the same. As in pre-pandemic years, small SFAs were less likely to report breaking even or experiencing a surplus as compared to larger SFAs (USDA, FNS, 2023e).

In addition to size, differences in the costs of producing and serving a school lunch across geographies may also factor into whether SFAs are able to break even. For example, a USDA, ERS study using data from the 2009–10 school year found that SFAs in the Northern Plains and Mountain regions had higher average food costs for most major food categories (fruits and vegetables, staples, milk and dairy, meat and poultry, and fully processed foods), while those in the Southeast region had lower average food costs across all categories (Ollinger et al., 2018). SFAs’ ability to break even had improved in the years prior to the COVID-19 pandemic, however. In the 2013–14 school year, revenues amounted to 94.8 percent of expenditures across SFAs, on average, and the median difference between expenditures and revenues across SFAs was \$25,432. By the 2016–17 school year, revenues covered 98.7 percent of expenditures across SFAs on average, and the median difference between expenditures and revenues had dropped to \$6,095 (Beyler et al., 2022).

¹⁹ SFAs operate as nonprofits and are not allowed to carry over more than 3 months’ worth of revenues.

Figure 2

The costs of producing school meals and sources of revenue for school food authorities



DoD = Department of Defense.

Note: While USDA provides school food authorities with funding to purchase commodities through USDA Foods in Schools and the USDA/DoD Fresh Fruit and Vegetable program, school food authorities incur the transportation and storage costs for those commodities.

Source: USDA, Economic Research Service.

Controlling Costs

SFAs may engage in several strategies to control costs. For example, a group of SFAs may band together to form a purchasing cooperative in which they jointly solicit bids from suppliers for food and other resources to obtain better prices. In the 2014–15 school year, 51 percent of SFAs reported participating in a purchasing cooperative. SFAs that were larger, lower poverty, and in suburban or rural areas participated in purchasing cooperatives at a higher rate than other SFAs (Forrestal et al., 2019). SFAs may also make greater use of Federal programs to obtain food, such as USDA Foods in Schools or the USDA/Department of Defense Fresh Fruit and Vegetable Program. In the 2014–15 school year, 41 percent of SFAs purchased fruits and vegetables through the latter program (Forrestal et al., 2019).

Another approach to controlling costs is to increase student participation in school lunch and, thereby, increase the number of meals served to obtain savings through economies of scale. SFAs may strive to increase the number of NSLP lunches they serve by offering meals that are more appealing to students,

reducing prices for full-price lunches, or serving lunches for free to all students. Serving free meals to all students may also produce savings by reducing the administrative costs associated with certifying students for free and reduced-price lunches and tracking the number of meals served by type for reimbursement purposes. SFAs may also take advantage of complementarities across other school meal programs, such as the SBP or Afterschool Snack Service.

Studies conducted by USDA, ERS found that participating in purchasing cooperatives, acquiring foods through other Federal programs, serving a greater number of meals, and purchasing foods in greater volumes can lower per meal costs (Ollinger & Guthrie, 2015; Ollinger et al., 2018). Other research found that offering free meals to all students can help lower the cost of producing lunches. One study using nationally representative data from the 2014–15 school year found that providing free meals to all students was associated with lower costs among schools with 500 or more students. There was no association among smaller schools. The authors hypothesized that smaller schools may not have served enough students to achieve substantial benefits from economies of scale or reduced administrative costs (Long et al., 2021). Another study using data on school districts in New York State from 2010 through 2017 found that serving meals for free to all students lowered expenditures per meal (Rothbart et al., 2023).

Raising Revenues

Another way to balance the budget is to raise revenues. One way that SFAs may do so is to serve free meals to all students through the Community Eligibility Provision (CEP) of the HRFKA, which allows eligible schools, groups of schools, or school districts to offer free meals to all students if their share of students directly certified for free meals, or “identified student percentage,” is at least 25 percent (40 percent prior to October 26, 2023). Schools that offer free meals to all students through this provision may receive higher overall Federal reimbursements for meals served depending on their identified student percentage and share of students participating in school lunch, which may help to raise their revenues. The study using data on school districts in New York State from 2010 through 2017 also found that those adopting universal free school meals through the CEP experienced, on average, increases in revenues from Federal reimbursements that more than offset what they would otherwise have generated from charging students for reduced- and full-price meals (Rothbart et al., 2023). However, rural school districts were an exception to the general result. Among these school districts, higher Federal reimbursements did not fully compensate for the loss of student payments and increases in expenditures (e.g., food costs) from serving more meals. Rural school districts had lower proportions of free and reduced-price students and higher participation rates among students receiving free, reduced-price, and full-price meals than other schools. Since SFAs may generate higher revenues from Federal reimbursements under the CEP the greater their share of low-income students, the level of Federal reimbursement received by rural schools may have been lower and the loss of revenue from full-price student payments may have been higher than in nonrural schools (Rothbart et al., 2023).

School districts may also increase revenues by raising prices charged to students receiving full-price meals. In addition to the CEP, the HRFKA also included the Paid Lunch Equity Provision, which may have helped to raise SFA revenues.²⁰ This provision requires SFAs to ensure that full-price meals are not cross-subsidized by Federal reimbursements allocated for free and reduced-price meals, which may happen if prices for full-price meals are set too low. In the 2017–18 school year, 33 percent of SFAs had already set their prices for full-price meals to cover their cost, while half increased prices to comply with the provision. The remainder either subsidized the cost of full-price meals with non-Federal funds or requested a waiver from the provision (Beyler et al., 2022).

²⁰ Whether raising prices for students receiving full-price meals increases revenues depends on the price elasticity of demand for school meals among those students. If an increase in price decreases participation in the NSLP among higher income students by a significant amount, it may lead to an overall decrease in revenues.

One other approach to raising revenues is to sell competitive foods. These foods may include a la carte offerings available in the school cafeteria during meal hours and snacks sold in vending machines or school stores. In the 2014–15 school year, 86.8 percent of schools offered a la carte options during lunch, 29.7 percent sold competitive foods through vending machines, and 23.5 percent sold competitive foods in other ways (Forrestal et al., 2019). The HHFKA also prohibited the cross-subsidization of competitive foods using Federal reimbursements.

Alternatively, or in combination with the above, SFAs may work to boost participation in their school meal programs to generate higher revenues, particularly among students not eligible for free and reduced-price meals, who are less likely to participate in school meal programs than their lower income counterparts (Fox et al., 2019). Some SFAs have tried to increase participation by serving meals that are more appealing to students (e.g., providing greater variety or serving more culturally appropriate foods), making changes to the school environment (e.g., renovating cafeterias and reducing cafeteria crowding), and/or amending school food policies (e.g., the amount time allotted for the lunch period or off-campus policies allowing students to leave school for lunch) (Hecht et al., 2023).

Unpaid Meal Charges

School food authorities (SFAs) are responsible for collecting payments for reduced-price and full-price meals. However, some students not eligible or certified to receive free school meals may receive meals without paying for them. When students receive a meal but are unable to pay for it, they incur a debt (known as an unpaid meal charge). This may happen because students' households are unable to pay for school meals, or because students forget to bring money to school, or, in schools with online payment accounts, their households maintained insufficient funds in their accounts.

Students' inability to pay for school meals can pose a challenge to SFAs, which must balance the need to provide students with nutritious meals while maintaining the financial viability of their school meal programs. Per the Healthy, Hunger-Free Kids Act, SFAs are required to develop a policy for handling unpaid meal charges but have discretion to determine what that policy should be. State agencies can also develop unpaid meal charge policies to be implemented by all SFAs in their State. These policies may include, for example, providing students with a lower cost alternative to the main offerings, such as a sandwich (typically a peanut butter and jelly sandwich or a cheese sandwich) and milk. Serving alternative meals, however, may risk stigmatizing those receiving them.¹ In the 2010–11 school year, 58 percent of SFAs had incurred unpaid meal charges and about 93 percent of these SFAs provided students with a meal on credit or an alternative meal (May et al., 2014). The percentage of SFAs that incurred unpaid meal charges has declined over time, however, falling from 58 percent in the 2010–11 school year to 53 percent in the 2014–15 school year and 47 percent in the 2016–17 school year (Beyler et al., 2022).

These debts may be hard for SFAs to collect, though nearly all take some actions to recover these costs. In the 2016–17 school year, the median total amount owed to SFAs from unpaid meal charges was about \$1,500. This amount was highest (\$25,557) in the largest SFAs (serving more than 25,000 students) and lowest (\$591) in the smallest SFAs (serving less than 1,000 students). Similarly, unpaid meal charges were the highest in urban SFAs (\$5,010) and the lowest in rural SFAs (\$997). In the 2016–17 school year, 71 percent of SFAs recovered some or all money owed from unpaid meal charges. To recover these costs, SFAs reported sending bills to parents, providing repayment plans to parents, providing students with alternative meals until debts were paid, and using administrative actions, such as retroactively approving eligible students for free or reduced-price meals. Among SFAs that lost revenues from unpaid meal charges even after attempts to recover costs, the net revenue lost amounted to less than 1 percent of total expenditures (Beyler et al., 2022).

¹ As of July 2023, California, Iowa, Massachusetts, Minnesota, New Mexico, New York, North Dakota, Oregon, and Pennsylvania have passed laws prohibiting schools from shaming and/or treating differently a student who has unpaid school meal fees (Food Research & Action Center, 2023).

Changes to NSLP During the COVID-19 Pandemic

The onset of the COVID-19 pandemic in March 2020 disrupted the operations of schools and their meal programs, including the NSLP. At the same time, rising unemployment due to business closures led to a rise in the share of households that reported sometimes or often not having enough to eat (Restrepo et al., 2021). To facilitate the continued provision of meals to children, promote social distancing during the COVID-19 pandemic, and help SFAs cope with rising food prices and supply chain disruptions stemming from the pandemic and its aftermath, the Federal Government passed several pieces of legislation in 2020, 2021, and 2022. These allowed USDA to waive certain program requirements and create and maintain a new, temporary program (Toossi et al., 2021; Jones et al., 2022; Toossi & Jones, 2023; Jones & Toossi, 2024). The USDA also authorized \$3.7 billion in supply chain assistance funding to help SFAs purchase domestically produced food products for school years 2021–2022, 2022–2023, and 2023–2024 (USDA, FNS, 2023d).²¹

USDA Waivers and Other Changes

The Families First Coronavirus Response Act (P.L. 116-127) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136), passed in March 2020, allowed USDA to issue waivers that afforded SFAs greater flexibility in administering their school meal programs.²² These flexibilities included allowing SFAs to serve meals in noncongregate settings (e.g., picked up and consumed offsite); that did not conform to Federal nutrition standards; and outside of mandated meal hours. USDA also waived or revised various reporting, monitoring, and administrative requirements. USDA also allowed SFAs to extend existing food service management contracts that would not have otherwise been eligible for an extension (Toossi et al., 2021).

Among the administrative requirements waived were rules that limited when and where SFAs could serve meals through the SSO and the Summer Food Service Program (SFSP)—another similar summer meal program.²³ These waivers allowed SFAs to serve meals free of charge to all students, regardless of their household income, year-round, and in all areas through the SSO or SFSP. A notable difference between the SSO and SFSP is that, in a typical year, SFSP meals are reimbursed at a higher rate than SSO meals, which are reimbursed at the same rate as meals served through the NSLP and SBP. In April 2021, USDA issued another waiver that allowed SFAs to be reimbursed for SSO meals at the higher SFSP rates beginning in July 2021 (Jones et al., 2022; Toossi & Jones, 2023).

After several extensions throughout 2020, 2021, and 2022, most of these waivers expired at the end of June 2022. In February 2022, USDA introduced transitional nutrition standards pertaining to flavored milk, whole grains, and sodium limits for the 2022–2023 school year to provide SFAs time to return to their prepandemic operations (USDA, FNS, 2022g). The Keep Kids Fed Act (P.L. 117–158), passed in June 2022, extended the waivers allowing SSO and SFSP to operate in all areas regardless of area income through September 2022 and other noncost waivers through the 2022–2023 school year. To accommodate rising food prices (see box, “Impact of Supply Chain Disruptions, Inflation, and Staffing Shortages on School Food Authorities”), the Keep Kids Fed Act also raised reimbursement rates for the school meal programs and the Child and Adult Care Food Program for the 2022–2023 school year. Specifically, the act increased Federal reimbursements for NSLP lunches by an additional 40 cents (Toossi & Jones, 2023; Jones & Toossi, 2024).

²¹ For timelines of these changes, see Toossi et al. (2021), Jones et al. (2022), Toossi & Jones (2023), and Jones & Toossi (2024).

²² For a list of all waivers issued and accompanying documentation, see the USDA, FNS webpage “Child Nutrition COVID-19 Waivers.”

²³ The SFSP, a distinct program, also provides free meals to children when school is not in session (e.g., summer months) or during unanticipated school closures between October and April, and it does so in areas or sites where at least 50 percent of children qualify for free or reduced-price school meals. However, there are differences between the SSO and the SFSP. Schools operating on a continuous-year calendar may serve meals through SFSP when school is out of session for 15 days or more. Furthermore, local government agencies, private nonprofit organizations, faith-based organizations, and universities may serve as sponsors in addition to SFAs. The two programs are also subject to different nutrition standards, meal service time requirements, monitoring requirements, and Federal reimbursement rates.

Impact of Supply Chain Disruptions, Inflation, and Staffing Shortages on School Food Authorities

The Coronavirus (COVID-19) pandemic resulted in supply chain disruptions, inflation, and staffing shortages that affected many sectors of the economy, including school meal programs. In response to these issues, USDA issued a series of waivers allowing school food authorities to serve meals that did not meet Federal nutrition standards without risk of penalties and that were free to all students, regardless of their income, through the National School Lunch Program and School Breakfast Program's Seamless Summer Option (SSO), among other changes. Most of these waivers expired in June 2022. From July 2021 through June 2022, USDA also began reimbursing meals served through the SSO at higher rates. Additional assistance was provided through the Keep Kids Fed Act, signed into law in June 2022, which raised reimbursement rates for school meals. USDA also provided billions of dollars in supply chain assistance funds to help support the purchase of domestically produced food for school meal programs throughout the COVID-19 pandemic and its aftermath (Jones et al., 2022; Toossi & Jones, 2023; Jones & Toossi, 2024).

In a survey conducted from November through December 2021 by USDA, Food and Nutrition Service (FNS), 92 percent of school food authorities (SFAs) reported experiencing challenges in obtaining the food products and/or other resources necessary to prepare and serve meals they typically would before the pandemic. According to the same survey, 67 percent of SFAs reported that rising food costs were a challenge, and 73 percent reported experiencing staffing challenges (e.g., increased workload and stress) and staffing shortages. To manage these challenges, 89 percent of SFAs reported using the SSO to serve meals; 57 percent reported serving meals that did not meet Federal nutrition standards; and 17 percent reported increasing their use of USDA Foods in Schools (USDA, FNS, 2022f). These challenges continued into the 2022–2023 school year. In another survey conducted from November 2022 through January 2023, 97 percent of SFAs reported experiencing supply chain disruptions, high costs, and/or staffing shortages. About 87 percent reported accepting supply chain assistance funding (USDA, FNS, 2023e).

Pandemic Electronic Benefit Transfer

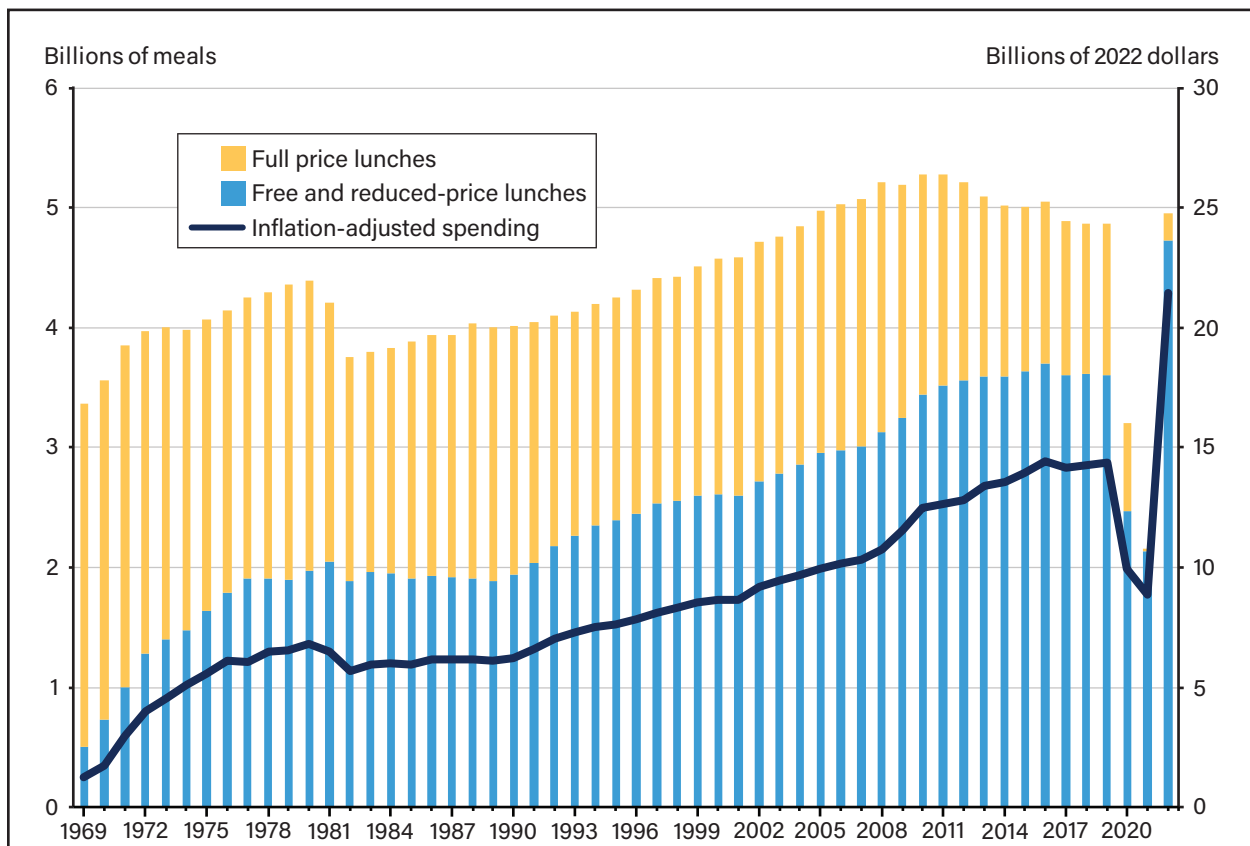
The Families First Coronavirus Response Act authorized USDA to create the temporary Pandemic Electronic Benefit Transfer program (P-EBT) to reimburse qualifying households for the value of school meals foregone due to COVID-19 pandemic-related disruptions to inperson learning at schools. Subsequent legislation expanded the program to cover more children, increase the amount of the benefits issued through the program, and allow for benefits to be issued during the summer months when most schools are closed. States and territories that wanted to participate in P-EBT were required to submit separate plans to USDA, FNS for approval documenting how eligible children would be identified and how benefits would be distributed for each school year or summer they wanted to issue benefits. Depending on the State or territory, benefits were issued either in a lump sum or in multiple payments. The program expired at the end of Summer 2023 (Toossi et al., 2021; Jones et al., 2022; Toossi & Jones, 2023; Jones & Toossi, 2024).²⁴

²⁴ The Consolidated Appropriations Act, 2023 (P.L. 117-328), signed into law in December 2022, established a new, permanent child nutrition program, the Summer Electronic Benefits Transfer for Children (Summer EBT) program. Summer EBT provides children eligible for free and reduced-price school meals \$40 per month in the summer months when most schools are not in session. The program began operating in the summer of 2024.

Trends in NSLP Participation, Lunches Served, and Federal Expenditures

From FY 1969 through FY 2022, the NSLP served about 236 billion lunches to children nationwide. The number of lunches served through the program peaked in FY 2010 with about 5.3 billion lunches. Beginning in FY 2011 and through FY 2019, the year before the COVID-19 pandemic, the number of lunches served declined by an average of 0.9 percent each year, falling to about 4.9 billion in FY 2019 (figure 3). Participation rates also fell during this period. In 2010, 64.3 percent of students enrolled in public schools participated in the NSLP. The share steadily declined each year thereafter and was 58.3 percent in FY 2019 (figure 4).²⁵

Figure 3
Trends in lunches served through, and spending on, the National School Lunch Program, fiscal years 1969–2022



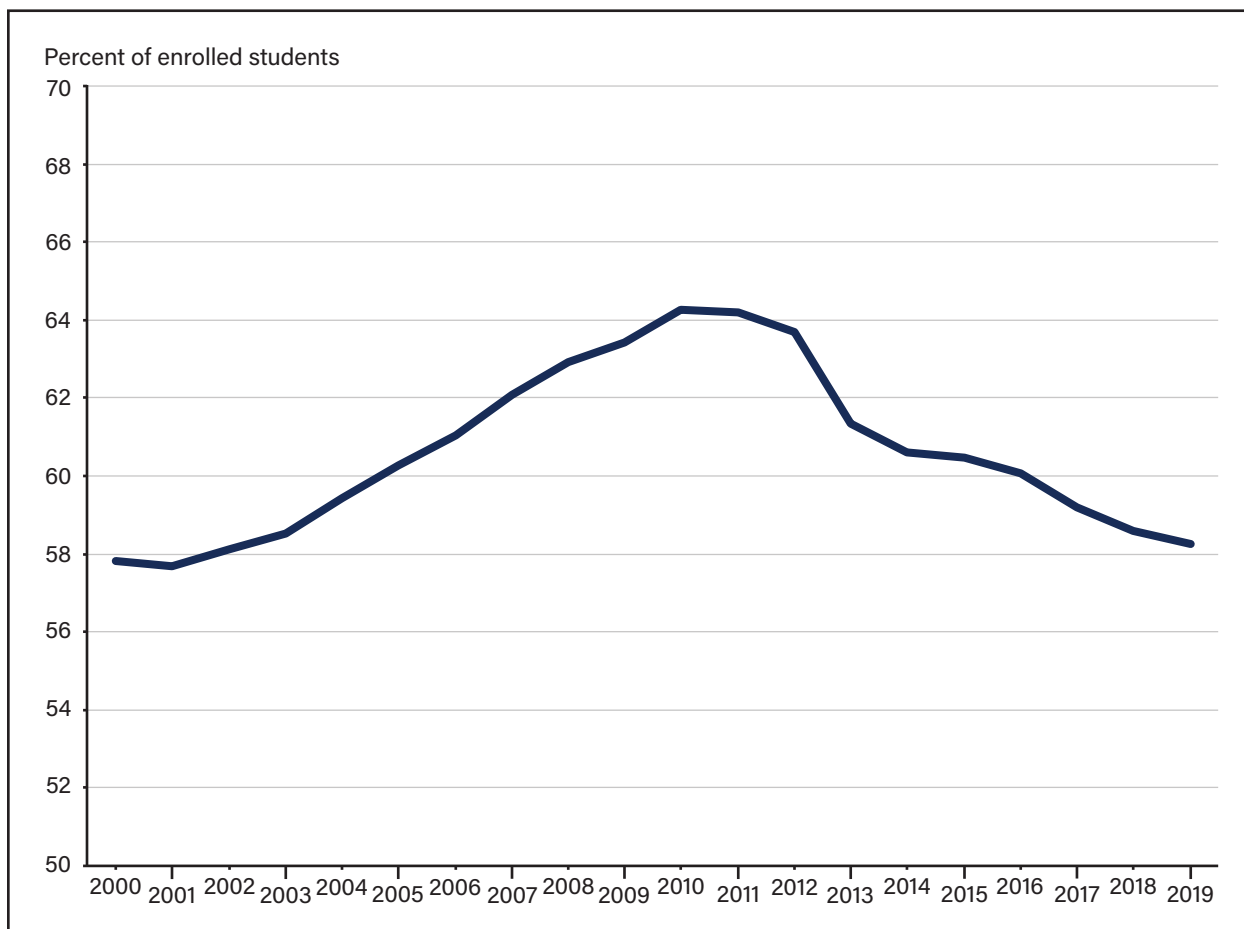
Note: Spending is noted in billions of 2022 dollars and is adjusted using the Personal Consumption Expenditures price index. Spending includes Federal cash payments for lunches and snacks served through the National School Lunch Program (NSLP) and excludes commodities, bonus commodities, cash-in-lieu of commodities, and administrative costs. The decline in the number of lunches served through the NSLP and spending on the program in fiscal years 2020 and 2021 reflects a shift among schools to serving lunches through the Summer Food Service Program in those years.

Source: USDA, Economic Research Service using data from the USDA, Food and Nutrition Service webpage “Child Nutrition Data Tables” as of March 2023 and the Personal Consumption Expenditures price index from U.S. Department of Commerce, Bureau of Economic Analysis.

²⁵ Trends in participation rates over this period may have been affected by changes in economic conditions (e.g., the Great Recession of 2007–09 and its aftermath or changes to the distribution of income among households with school age children); the perceived value of school meals relative to alternatives; and/or demographic trends, among others.

Figure 4

Student participation rate in the National School Lunch Program, fiscal years 2000-19



Note: Figure presents the share of students who participated in the National School Lunch Program of all students enrolled in a public school, by year.

Source: USDA, Economic Research Service using participation data from the USDA, Food and Nutrition Service webpage “Child Nutrition Data Tables” as of March 2023 and data on public school enrollment from U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics webpage, “Table 203.50. Enrollment and percentage distribution of enrollment in public elementary and secondary schools, by race/ethnicity and region: Selected years, fall 1995 through fall 2030.”

However, adjusted for inflation to 2022 dollars,²⁶ Federal spending on the NSLP continued to grow from FY 2011 through FY 2019 and reached \$14.4 billion (\$12.9 billion in nominal dollars) in FY 2019.²⁷ This is attributable to the growing share of free and reduced-price lunches, which receive greater Federal reimbursements than full price lunches, served through the program over time. In FY 1969, about 15.1 percent of lunches were served for free or at a reduced price. By FY 2019, 74.1 percent of lunches were served free or at a reduced price (figure 3).²⁸

²⁶ Adjusted to 2022 dollars using the Personal Consumption Expenditures price index, U.S. Department of Commerce, Bureau of Economic Analysis.

²⁷ Program spending includes Federal cash payments for lunches and snacks served through the NSLP and excludes commodities, bonus commodities, cash-in-lieu of commodities, and administrative costs.

²⁸ Among other factors, such as economic conditions or demographic trends, the increase in the share of free and reduced-price lunches may be related to the growing adoption of universal free meals or direct certification. In FY 2009, about 52 percent of children who participated in the NSLP received free lunches, while about 10 percent received reduced-price lunches. By FY 2019, about 68 percent of students received free lunches, and 6 percent received reduced-price lunches (Guthrie, 2020).

Trends in the NSLP were affected by the onset of the COVID-19 pandemic. The number of lunches served declined from about 4.9 billion in FY 2019 to 3.2 billion in FY 2020, a decrease of 34 percent (figure 3). The number of lunches served declined again in FY 2021 before rising to prepandemic levels in FY 2022. Federal spending reflected these changes, falling about 31 percent from an inflation-adjusted (to 2022 dollars) \$14.4 billion in FY 2019 to about \$10.0 billion in FY 2020 and falling further in FY 2021 (figure 3). Spending in FY 2022, however, was greater than in prepandemic years, rising to \$21.4 billion.²⁹ This increase in spending reflects changes to the program in response to the COVID-19 pandemic. The changes included a USDA waiver that allowed schools to serve meals at no charge to all students through the SSO, an increase in the reimbursement rate for SSO lunches (from July 2021 through June 2022), and an increase in NSLP reimbursements (beginning July 2022).

Although the number of NSLP lunches served fell in FY 2020 and FY 2021, the total number of meals served to students did not decrease as much because of increases in meals served through the SFSP in those years. As USDA lifted restrictions on when and where sites serving free meals through the SSO and SFSP could operate, the number of such sites expanded quickly. A USDA, ERS study found that at least 2,987 of these sites were operating in March 2020 (when the Federal Government declared a public health emergency due to the COVID-19 pandemic) and that by May 2020, there were 31,347 sites. For comparison, only 6,254 sites operated in May 2019, before the COVID-19 pandemic (Toossi, 2021). Another USDA, ERS study using data from Texas found that USDA waivers also expanded access to these sites. In Texas, an estimated 213,158 additional children and adolescents had access to these sites in July 2020 after the waivers, compared to July 2019 before the waivers (Toossi, 2023c).

As a result, the number of meals (breakfasts, lunches, and suppers) served through the SFSP increased from about 150 million in prepandemic years to 1.3 billion in FY 2020 and to 3.1 billion in FY 2021. As schools transitioned to serving meals through the SSO instead of SFSP beginning in July 2021 (when the higher reimbursement rates for SSO meals came into effect), the number of meals served through the SFSP declined. In FY 2022, the program served 151 million meals, about the same as in prepandemic years. The effect of the COVID-19 pandemic on the NSLP was also mitigated by the P-EBT program. From FY 2020 through FY 2023, more than \$70 billion in P-EBT benefits were issued (Toossi, 2024a).

Characteristics of NSLP Participants

The School Nutrition Meal Cost Study (SNMCS) sponsored by USDA, FNS provides the most recent, nationally representative assessment of NSLP participants using data collected from a sample of students in the 2014–15 school year. According to data collected for the SNMCS, NSLP participants were more likely than nonparticipants to be younger, male, Hispanic, non-Hispanic Black, and have obesity (table 3). Additionally, NSLP participants were more likely to be from households with incomes at or below 185 percent of the FPL, participating in cash assistance programs (e.g., Temporary Assistance for Needy

²⁹ Program spending includes Federal cash payments for lunches and snacks served through the NSLP and excludes commodities, bonus commodities, cash-in-lieu of commodities, and administrative costs.

Families), and experiencing food insecurity (defined as not being able to afford enough food for a healthy, active lifestyle),³⁰ and to have parents who had lower educational attainment (Fox et al., 2019).

Table 3

Characteristics of students overall and by National School Lunch Program participation, school year 2014–15

Grade level	Characteristics of		
	All students	NSLP participants	NSLP nonparticipants
1	8.4%	11.1%	4.8%
2	9.1%	11.4%	6.2%
3	9.5%	12.4%	5.9%
4	8.1%	10.1%	5.5%
5	7.5%	8.7%	5.9%
6	7.5%	6.6%	8.6%
7	7.6%	8.6%	6.5%
8	7.3%	6.3%	8.6%
9	9.9%	8.4%	11.8%
10	8.5%	6.0%	11.7%
11	9.6%	6.1%	14.1%
12	7.0%	4.3%	10.5%
Gender			
Male	50.5%	53.2%	47.1%
Female	49.5%	46.8%	52.9%
Race/Ethnicity			
Hispanic	24.2%	30.3%	16.4%
White, non-Hispanic	48.9%	42.0%	57.8%
Black, non-Hispanic	12.4%	15.7%	8.2%
Other	8.1%	7.1%	9.3%
Missing	6.4%	4.8%	8.4%
Weight status			
Underweight	2.2%	1.0%	3.8%
Healthy weight	58.7%	56.0%	62.2%
Overweight	15.1%	14.6%	15.8%
Obese	18.1%	21.8%	13.4%
Missing	5.8%	6.5%	4.8%

³⁰ Establishing the effect of the NSLP on students' well-being is difficult since students decide whether to take a school lunch. Since some students are more likely to participate in the program than others, those who choose to participate likely differ from those who choose not to in numerous ways. Simply comparing participants and nonparticipants might, therefore, reflect differences in well-being across the two groups attributable to factors other than the NSLP. This is what researchers refer to as "selection bias." For example, students from lower income households are more likely to participate in the NSLP and to experience food insecurity relative to students from higher income households (Coleman-Jensen et al., 2022). Comparing food insecurity rates across participants and nonparticipants without accounting for differences in household income and other observable and unobservable characteristics across the two groups might suggest that NSLP participation is associated with greater food insecurity. However, research accounting for selection bias has found the opposite. A USDA, ERS report summarizing five USDA-supported studies that accounted for selection bias concluded that the NSLP reduces food insecurity (Ralston et al., 2017b). Further, two studies found evidence that school meals, and the NSLP specifically, help to support children's food security toward the end of their household's SNAP benefit month, when many households have limited resources with which to purchase groceries (Kuhn, 2018; Laurito & Schwartz, 2018). Another study found that households with school-aged children in States that adopted policies to provide free school meals to all students regardless of their household income statewide were less likely to report that the children in their household sometimes or often did not have enough to eat compared to those in States without these policies (Toossi, 2024b).

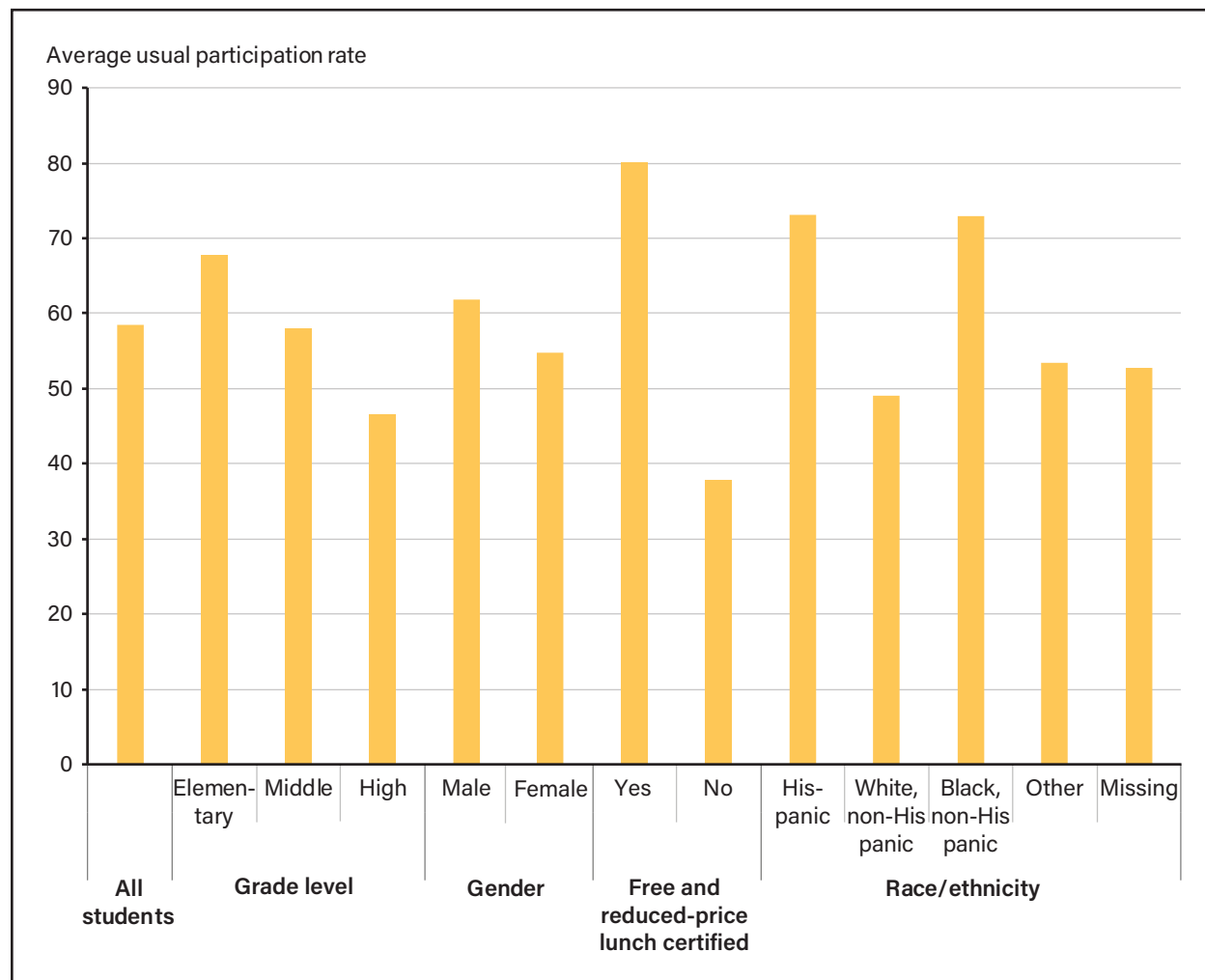
NSLP = National School Lunch Program.

Note: Table presents the composition of all students, students who participated in the NSLP, and students who did not by grade level, gender, race and ethnicity, and weight status for the 2014–15 school year.

Source: USDA, Economic Research Service based on Fox et al. (2019). *School Nutrition and Meal Cost Study, Final Report Volume 4: Student Participation, Satisfaction, Plate Waste, and Dietary Intakes*. U.S. Department of Agriculture, Food and Nutrition Service.

The study also found that 58.4 percent of students usually participated in the NSLP 3 days or more per week and that participation rates varied across students from different backgrounds. Elementary school students had a higher usual participation rate than their middle and high school counterparts, as did male students relative to female students, students certified to receive free and reduced-price lunches relative to those not, and Hispanic and non-Hispanic, non-White students, relative to non-Hispanic White students (figure 5) (Fox et al., 2019). Another study using the SNMCS data also found that children from food insecure and marginally food secure households were more likely to participate in the NSLP as compared to students from food secure households. Among children from food insecure and marginally food secure households, 79 and 71 percent participated, respectively, relative to 49 percent of children from food secure households (Forrestal et al., 2021).

Figure 5
Usual student participation rates in the National School Lunch Program, school year 2014–15



Note: The figure presents the share of students who reported usually participating in the National School Lunch Program 3 days or more per school week in the 2014–15 school year.

Source: USDA, Economic Research Service based on Fox et al., (2019). *School Nutrition and Meal Cost Study, Final Report Volume 4: Student Participation, Satisfaction, Plate Waste, and Dietary Intakes*. U.S. Department of Agriculture, Food and Nutrition Service.

The SNMCS asked students why they did or did not participate in the NSLP, allowing them to offer multiple reasons. Among students who ate a NSLP lunch on a typical school day, 34.9 percent reported they did so because they were hungry, and 25.4 percent reported doing so because they liked the food. Smaller shares reported eating a school lunch because it was easy or convenient; their parents wanted them to do so or they had no other choice, or they had no time to pack a lunch. Among students who usually never³¹ ate a NSLP lunch, 51.9 percent reported that they did not do so because they brought a lunch from home, and 39.6 percent indicated that they did not participate because they did not like school lunches. Smaller shares reported other reasons, such as school lunches not being nutritious enough (8.6 percent), monetary reasons (7.4 percent), off-campus policies (3.2 percent), and small portion sizes (3 percent) (Fox et al., 2019).

Determinants of Program Participation

The SNMCS also analyzed factors that were associated with participation in the NSLP. The study examined the quality of NSLP lunches, school food service operations, school nutrition policies, and student and school characteristics as potential determinants. The study's overall findings among all schools (elementary, middle, and high schools together) are summarized by category.³²

- **Meal nutritional quality:** Healthier school lunches and compliance with the NSLP's daily requirement for meats and meat alternatives were associated with greater participation. Offering red or orange vegetables on more than half of daily lunch menus was also associated with higher participation. In contrast, compliance with the NSLP's target 1 sodium limits (weekly average of no more than 1,230 mg for grades K–5, no more than 1,360 mg for grades 6–8, and no more than 1,420 mg for grades 9–12 per lunch) was associated with lower participation.
- **School food service operations:** Use of one or more of the Healthier U.S. School Challenge Smarter Lunchroom Techniques was associated with higher participation as compared to schools that used none of these techniques. The techniques promote healthy food choices and include strategies such as soliciting students' input on vegetable offerings and displaying vegetables prominently among side dish offerings. Offering brand-name or chain restaurant foods in reimbursable lunches was associated with lower participation.
- **School nutrition policies:** The presence of nutrition standards for lunches that exceeded the NSLP's standards was associated with higher participation, whereas the presence of standards for competitive foods was associated with lower participation.
- **Student characteristics:** Students who were certified for free or reduced-price lunches and male and Hispanic students were more likely to participate than those who were not certified for free or reduced-price lunches, female, and non-Hispanic White students.
- **School characteristics:** Schools in which at least 40 percent of students were certified to receive free or reduced-price meals had a higher participation rate than schools with fewer students certified for these meals. Schools in suburban and rural locations also had higher participation compared to those in urban areas.

While the SNMCS was nationally representative, it is important to note that schools differ across a variety of dimensions, including the types of lunches they serve; the healthfulness, preparation, and appearance of lunches served; their school food service operations and environments (e.g., cafeteria capacity); the composi-

³¹ Students who "usually never" ate school lunches were those who reported that they did not participate in school lunch on the survey day and then reported, in a subsequent question, that they usually never take a school lunch (Fox et al., 2019).

³² This section summarizes only the statistically significant relationships identified in the sample of all schools. For a full description of the analysis and findings, see Fox et al. (2019).

tion of their student populations; and their infrastructure. These differences can mean that determinants of NSLP participation and the characteristics of the students who do participate can vary across schools. For example, in the SNMCS, the negative association between more stringent nutrition standards for competitive foods and participation was driven by high schools and was not observed in elementary or middle schools. A systematic review of 34 studies examining different strategies for increasing participation in school meal programs across different contexts (e.g., years, geographic areas, and grade levels) found that restrictions of competitive foods were associated with increases in school meal participation and that stronger nutrition standards were not associated with lower participation (Hecht et al., 2023). The same review found limited evidence among existing studies on the effectiveness of other approaches, such as taste tests, modified menu options, changes to the length of meal periods, changes to the cafeteria environment, and wellness policies (Hecht et al., 2023).

Changes to the NSLP Associated With the Healthy, Hunger-Free Kids Act of 2010 (HHFKA)

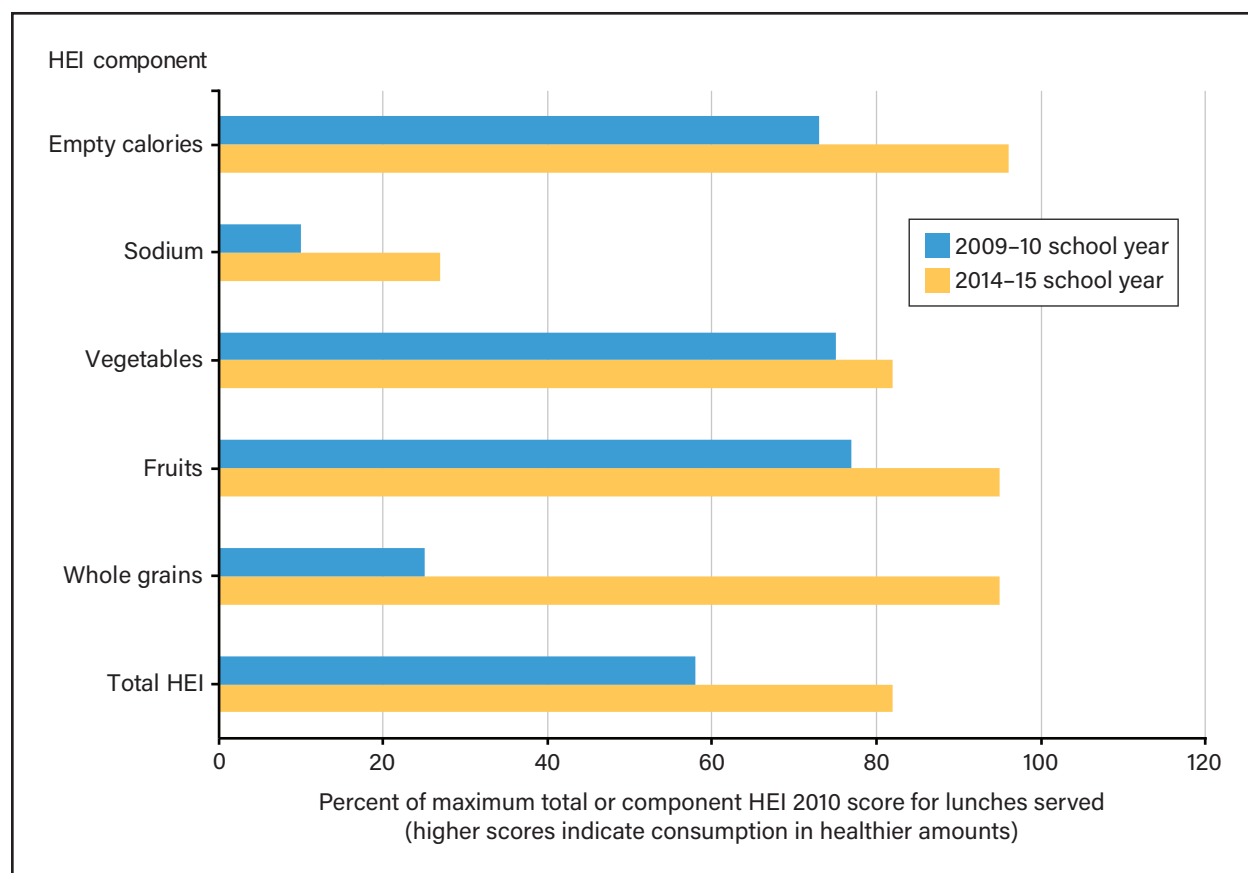
Following the HHFKA, USDA made several changes to the NSLP. Researchers have explored the link between these changes and changes in the nutritional quality of the lunches served through the program, plate waste, and the share of SFAs that adopt universal free meals.

Effect of HHFKA on the Nutritional Quality of Lunches and Plate Waste

Aiming to improve the diet quality of students, the USDA set minimum requirements for servings of highly nutritious vegetables (e.g., dark green and orange vegetables) and whole grains. It also set a minimum and maximum for the average calories and total sodium per meal (Ralston & Newman, 2015). The SNMCS also examined the nutritional quality of school meals using data collected in the 2014–15 school year and found that most SFAs were able to produce and serve meals that met these standards. Moreover, between the 2009–10 and 2014–15 school years, the overall 2010 Healthy Eating Index (HEI) score increased. The HEI is a measure used to assess how well a set of foods aligns with the *Dietary Guidelines for Americans, 2010*, with higher scores indicating greater healthfulness. Scores for specific components of the HEI also increased, such as for whole grains, fruits, and vegetables (whose greater consumption is an aim of the NSLP), as well as for sodium and empty calories (whose reduction is an aim of the program) (figure 6) (Gearren et al., 2019). SFAs made use of USDA Foods to help achieve the nutritional improvements in meals. Between 2011 and 2017, the share of USDA Foods entitlement funds that were used to purchase fruits and vegetables (through USDA Foods or the USDA/Department of Defense Fresh Fruit and Vegetable Program) increased from 23 percent to 36 percent, while the share of grain purchases that were whole grains increased from 44 to 65 percent over the same period (Ollinger & Guthrie, 2022).

Figure 6

2010 Healthy Eating Index scores for National School Lunch Program lunches served, total and select components, 2009–10 and 2014–15 school years



HEI = Healthy Eating Index.

Note: All differences between school years 2009–10 and 2014–15 are statistically significant (p -values < 0.05). A higher score for vegetables, fruits, and whole grains reflects greater consumption of these food groups, while a higher score for sodium and empty calories reflects lower consumption.

Source: USDA, Economic Research Service based on Gearan et al. (2019). *School Nutrition and Meal Cost Study, Final Report Volume 2: Nutritional Characteristics of School Meals*. U.S. Department of Agriculture, Food and Nutrition Service.

Policymakers and the School Nutrition Association, among others, raised concerns about whether the improvement in the nutritional quality of the meals served—particularly increases in servings of whole grains and amounts and varieties of fruits and vegetables and reductions in sodium—would reduce participation in the NSLP and increase plate waste (Kogan, 2019). However, the SNMCS found that schools with the highest quality of NSLP lunches served also tended to have the highest participation rates (Fox et al., 2019). Studies conducted by other researchers using data from California, New Jersey, and Washington State found that changes to the nutritional quality of school meals did not affect NSLP participation (Johnson et al., 2016; Vaudrin et al., 2018; Anderson et al., 2018).

Estimates for plate waste vary across students from different backgrounds, with females and younger students typically wasting more food than males and older students. The SNMCS found that plate waste was highest for vegetables (31 percent wasted) and milk (29 percent wasted) and lowest for entrees (16 percent wasted) and meat/meat alternatives (14 percent wasted) (Fox et al., 2019). These rates are not markedly different from estimates of plate waste presented in other studies published since the 1970s. These studies found rates of waste that varied by the age and gender of students and other factors (e.g., year and geography) but that generally have been greater than 30 percent (Shanks et al., 2017). Overall, the SNMCS found no relationship between the HEI scores of NSLP lunches and plate waste but found that compliance with the program’s

nutrition standards was associated with reduced plate waste (Fox et al., 2019). A USDA, ERS study using data from 2005 found that students who attended schools that served fruits and vegetables in the amounts required by the HHFKA consumed more of them than those who attended schools that did not serve them in the required amounts (Newman, 2013). Other researchers using data collected in four low-income, urban Massachusetts schools found that students consumed more fruits and vegetables after the HHFKA standards were in place because they were more likely to select a fruit and they were served a larger portion of vegetables but consumed the same proportion as when they were served less (Cohen et al., 2014).

Two USDA-supported studies using data from the National Health and Nutrition Examination Survey collected from 2009–10 to 2015–16 examined students' overall dietary quality before and after changes to the nutritional content of school meals required by the HHFKA were implemented. They found that overall diet quality improved after the updated nutrition standards came into effect (Valizadeh & Ng, 2020; Smith et al., 2021). Significantly, both students who were eligible for free and reduced-price meals and those who were not experienced improvements in their diet after changes motivated by the HHFKA were implemented (Smith et al., 2021).

The NSLP, specifically, has also been linked to improvements in students' overall diet quality. The SNMCS compared the quality of food NSLP participants and similar nonparticipants consumed at lunch and over a 24-hour period. The study found that NSLP participants consumed lunches that were lower in calories, total fat, saturated fat, and sodium than lunches consumed by similar nonparticipants. NSLP participants were also more likely to consume milk, vegetables, whole-grain-rich bread products, and fruits or 100 percent fruit juices and less likely to consume desserts, snacks, and beverages other than milk or 100 percent juice. While most of these differences did not persist over a 24-hour period, NSLP participants had higher daily intakes of whole grains and a healthier daily diet overall (Fox et al., 2019). Another study using data collected for the SNMCS explored the quality of lunches consumed by NSLP participants and similar nonparticipants by income and race and found that lower income, higher income, non-Hispanic White, and non-Hispanic Black students who participated in the program consumed healthier lunches than their counterparts who did not (Gearan et al., 2020).

Data from other sources corroborate findings from the SNMCS. A USDA, FNS study using National Health and Nutrition Examination Survey data collected from 2011–2012 through 2015–2016 found that NSLP participants eligible for free and reduced-price meals had healthier diets than similar nonparticipants. The study also found that a higher percentage of NSLP participants eligible for free and reduced-price meals consumed vegetables, fruits and 100 percent fruit juice, milk and milk products, and mixed dishes over a 24-hour period compared to similar nonparticipants. Diet quality was about the same across NSLP participants and nonparticipants who were not eligible for free or reduced-price meals. However, participants consumed more mixed dishes, milk and milk products, and fewer salty snacks, than nonparticipants over a 24-hour period (Gleason et al., 2022).

Adoption of Universal Free Meals

Higher student participation in the NSLP may help SFAs meet their budgetary constraints. Greater participation means more benefits delivered, as well as the possibility of economies of scale. The Community Eligibility Provision (CEP) allows eligible schools, groups of schools, or school districts to offer free meals to all students. Between school years 2014–15, the first year CEP was available to all schools, and 2018–19, the share of NSLP-participating schools that adopted CEP rose from 15 to 30 percent (Billings & Carter, 2020). This can be attributed to both an increase in the number of school districts and schools eligible to adopt

CEP as direct certification improved and expanded³³ as well as the participation rate among eligible schools. The number of students enrolled in a CEP school rose from 6.7 million in 2014 to 16.2 million in 2021 (Murdoch et al., 2022; Perez & FitzSimons, 2022). A USDA, FNS study found that when eligible districts adopted CEP, participation in NSLP increased by 4.4 percentage points (6.8 percent), on average, relative to similarly eligible schools that did not adopt CEP (Murdoch et al., 2022). Numerous studies by other researchers have also found that providing free meals to all students increased overall participation in school meal programs (Cohen et al., 2021; Toossi, 2024c).

The CEP participation rate varies across States and according to school and district characteristics (Billings & Carter, 2020; Rogus et al., 2018; Perez & FitzSimons, 2022). Because the share of meals reimbursed at the free-meal rate increases as the identified student percentage (ISP) increases, the greater the ISP, the more likely schools and districts are to participate, up to the break-even ISP of 60 to 65 percent. At that ISP, the cost of providing school meals for free to all students is offset by Federal reimbursements.³⁴ However, schools with ISPs above 65 to 70 percent are slightly less likely to participate than those at the break-even ISP. This may be because these schools receive other funding based on the composition of their individual student eligibility certifications, such as education funding through Title 1A (Billings & Carter, 2020; Rogus et al., 2018).³⁵

Longstanding and Emergent Issues Facing the NSLP

The NSLP has undergone many changes to its rules and implementation since it was established in 1946. The USDA has the authority to pursue certain changes to the NSLP under existing legislation, such as changes to the program's nutrition standards. Other changes to the program are typically made through new legislation.

One recurring issue is nutrition standards for NSLP lunches. The HHSFKA not only required USDA to update nutrition standards for NSLP lunches to reflect recommendations established in the *Dietary Guidelines for Americans, 2010*, but it also required USDA to update these standards to be consistent with the goals of the most recent guidelines. The latest iteration of these guidelines, the *Dietary Guidelines for Americans, 2020–25*, recommended limiting added sugars to less than 10 percent of calories per day. However, 70 to 80 percent of children aged 5 to 18 exceeded the recommended limit (USDA and U.S. Department of Health and Human Services, 2020). Further, a 2022 USDA, FNS report to Congress found that 69 percent of schools prepared lunches with 10 percent or more of calories from added sugars. The main source of added sugars was flavored fat-free milk, which contributed 47 percent of the added sugars in lunches. The report also found that 4 of the 10 most offered competitive food items during school lunches contained more added sugars than recommended in the *Dietary Guidelines for Americans*. These were canned fruit, crispy rice cereal bars or treats, low-fat cookies, and low- or reduced-fat ice cream, frozen yogurt, or sherbet (USDA, FNS,

³³ The key to becoming eligible for CEP prior to October 26, 2023, was to have an identified student percentage (ISP) of 40 percent or greater. The minimum ISP was changed to 25 percent or greater effective October 26, 2023. Direct certification (required as of the 2008–09 school year by the 2004 Child Nutrition and WIC Reauthorization Act) continues to be developed and improved upon as schools and States explore their options for linking students to program administrative records and as more States adopt Medicaid direct certification (Billings & Carter, 2020). USDA, FNS (2018a) found that the number of States that met the requirement to directly certify at least 95 percent of school-aged children in SNAP households more than doubled (from 12 to 28) between the 2013–14 and 2016–17 school years and increased further to 40 States in the 2018–19 school year (Ranalli et al., 2021). Direct certification through Medicaid (still a demonstration project and not used in all States) has been found to increase the percentage of students directly certified for free and reduced-price meals (Hulsey et al., 2022).

³⁴ Schools serving free meals to all students are reimbursed for each meal at 1.6 times the free meal rate. Absent other cost savings, schools stand to break even when their ISP is 62.5 percent.

³⁵ Title 1A provides additional funding to schools depending on their share of low-income students. Many schools rely on their share of free and reduced-price certified students, as determined through paper applications, as a proxy for their share of low-income students, and so they may choose not to participate in CEP. In response, the U.S. Department of Education has developed alternatives to using free and reduced-price meal certification data, such as allowing schools to use their ISP, household income surveys, and other measures of poverty (Billings & Carter, 2020).

2022b). To bring NSLP nutrition standards in line with the most recent edition of the *Dietary Guidelines for Americans*, USDA, FNS issued updated standards in April 2024 that gradually impose further limits on sodium and that introduced restrictions on added sugars (USDA, FNS, 2024b).

Another issue is the rising costs of procuring food products and other supplies and of recruiting and retaining the staff necessary to operate school meal programs. Necessary cafeteria and/or kitchen renovations and the purchase and installation of new equipment may impose additional costs. In a November 2022 survey conducted by the School Nutrition Association, 99.8 percent of school meal program directors cited increasing costs as the top challenge they faced, and about the same share expressed concern that Federal reimbursement rates were inadequate to cover the cost of producing school meals. While the Keep Kids Fed Act of 2022 increased Federal reimbursement rates for the 2022–2023 school year, most survey respondents indicated that the higher reimbursement rates failed to cover their costs (School Nutrition Association, 2023a).

Another issue is access to free school meals for all students regardless of their household’s income. The number of schools adopting universal free meals increased significantly since passage of the HFFKA (Billings & Carter, 2020). Assumed benefits of the policy include increased student participation in school meal programs, decreased financial burden on families, elimination of unpaid meal charges, reduced administrative burden, and increased revenue (Murdoch et al., 2022). The policy gained further prominence with the expiration of a COVID-19 pandemic waiver that allowed schools to provide free meals to all students in the 2020–21 and 2021–22 school years. Beginning in the 2022–2023 school year, schools were once again required to charge some students for school meals. A USDA, ERS study using Household Pulse Survey data from December 2022, after the COVID-19 waiver had expired, found that nearly a third of households with school-age children who paid for school meals reported that doing so made it difficult to pay for their other expenses (Toossi, 2023a). A followup USDA, ERS study using the same data through the first week of May 2023 found that this share remained about the same throughout the second half of the 2022–2023 school year (Toossi, 2023b).

The expiration of the COVID-19 pandemic waiver led some States to adopt their own statewide universal free meal policies. As of August 2023, eight States had authorized funding to subsidize the continued provision of free school meals to all students permanently, and others are considering doing the same (School Nutrition Associate, 2023b). One study using Household Pulse Survey data for December 2021 through November 2022 found that households with school-aged children in States that adopted statewide universal free meal policies were more likely to report that their children participated in school meal programs and less likely to report that their children sometimes or often did not have enough to eat, compared to those in States without these policies (Toossi, 2024c). Other States took a more limited approach, passing laws or authorizing additional funding to encourage school districts eligible to serve free meals to all students through CEP to do so (School Nutrition Associate, 2023b).

At the Federal level, USDA, FNS issued a new rule on September 26, 2023, lowering the ISP threshold for CEP from 40 percent to 25 percent beginning October 26, 2023 (USDA, FNS, 2023b). The lower threshold made more schools and school districts eligible to offer free meals to all students through CEP. Changing the multiplier used to determine Federal reimbursements to schools using CEP, the list of means-tested programs used to certify students for free or reduced-price meals, and/or the number of States using Medicaid to directly certify students for free or reduced-price meals could also impact CEP eligibility and/or uptake.

A related issue is the income thresholds for free and reduced-price meal eligibility. These thresholds were last adjusted in the 1980s, when the threshold for free meals was raised from 125 to 130 percent of the FPL, and the threshold for reduced-price meals was reduced from 195 to 185 percent of the FPL (Ralston et al., 2008). Since 2022, several States have adjusted these thresholds. For example, New Jersey authorized additional funding to subsidize the provision of free meals to students from households with incomes up to 200 percent

of the FPL for the 2022–2023 school year,³⁶ while Louisiana did so for students from households with incomes up to 185 percent of the Federal poverty level for the 2023–24 school year.³⁷

Research and Data Needs

While the body of research on the NSLP is large and growing, most studies rely on data collected before the COVID-19 pandemic. Given social and economic changes over the last decade, more recent data are needed to understand current trends in, and determinants of, NSLP participation, expenditures, and plate waste, as well as the NSLP's impact on children's well-being. This information can help policymakers, program administrators, and other stakeholders better assess the program's performance and SFAs' financial status and identify new challenges and approaches to address them. Further research can also explore how changes to the program's rules—such as new limits on added sugars and changes that would enable more schools to serve free meals to all students—may affect SFAs and children and their families. For example, investigating the effect of statewide adoptions of universal free meals on children's well-being and SFA finances may provide insights on the effect of a larger scale, national policy improving access to free school meals. Future research could also expand our understanding of the broader effects of the NSLP, including how the program helps to support children's well-being within the overall food and nutrition assistance landscape and how it relates to the agricultural, food manufacturing, and food retail sectors.

One challenge to this research agenda is a lack of comprehensive data. Most studies examining the NSLP rely on national survey data, primary data collected from a handful of schools, or administrative data provided by schools or school districts. While each of these have strengths, they also have limitations. For example, a limitation of survey data is that the information collected is based on respondent reports that may not be accurate for a variety of reasons. These may include, for example, a respondent's inability to recall certain details (e.g., the number of days their children participated in the NSLP in the last 7 days) or unwillingness to respond truthfully to a question, if at all (e.g., whether their children receive free school meals). Another limitation of survey data is that often only a limited set of information is collected to minimize the burden on respondents. For example, a survey may collect information on whether the children in a household participated in the NSLP in the past month or year and whether the household experienced food insecurity over the same period, but not on children's food consumption, dietary intake, health outcomes, or academic performance.

Some researchers rely on primary data collection when the information they need is not included in available survey datasets. For example, researchers studying plate waste may get permission from schools to observe and collect data on what and how much their students consume during school meal periods. However, primary data collection on a large scale is often cost-prohibitive, so researchers can only collect information from a few schools. This may mean that results will be unique to a specific context and not generalizable to all schools or the broader school-aged population. Alternatively, researchers may use administrative datasets obtained directly from schools or school districts. These datasets may include more reliable, comprehensive data on, for example, student participation in school meal programs (e.g., day, time, and free or reduced-price meal certification) and academic outcomes (e.g., attendance or test scores). However, administrative datasets often lack other information that may be of interest but not necessarily relevant to a school or school district's operations and, therefore, are not collected (e.g., students' food insecurity). Relying on administrative data from schools or school districts may also restrict the ability to generalize a study's findings.

³⁶ Working-Class Families' Anti-Hunger Act (A2368/S1677).

³⁷ Act 305-HB282.

Studying the NSLP is further complicated by the different ways in which schools and school districts implement the NSLP at the local level. While the Federal Government sets certain parameters for the program, SFAs and their school districts have wide discretion in how they implement the program. This includes how NSLP lunches are prepared, the kinds of lunches SFAs choose to offer, the cafeteria setting in which lunches are served, the time of day lunches are served, the time allotted for eating lunch, the presence of competitive foods, and off-campus policies allowing students to leave the school premises for lunch, among numerous other factors. Other factors are outside the control of SFAs, such as the number of food retailers and restaurants within the vicinity of a school. No single, nationally representative database documents all of these factors.

Efforts to collect more detailed, comprehensive information and to develop publicly available datasets linking survey, administrative, and other data across school districts and SFAs could help to advance NSLP research and produce new insights. This may be done by linking existing datasets and/or providing additional funding to school districts for compiling and publishing more detailed information on their school meal programs and relevant policies, as well as their students (e.g., academic performance). Existing legislation requires schools to directly certify students for free and reduced-price meals through their participation in select means-tested programs, exemplifying the possibilities of data linkages across existing datasets.

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Appendix A

Table A.1
2023 Federal poverty guidelines by household size

Household size	Poverty guideline	130 percent of guideline	185 percent of guideline
Contiguous United States			
1	\$14,580	\$18,954	\$26,973
2	\$19,720	\$25,636	\$36,482
3	\$24,860	\$32,318	\$45,991
4	\$30,000	\$39,000	\$55,500
5	\$35,140	\$45,682	\$65,009
6	\$40,280	\$52,364	\$74,518
7	\$45,420	\$59,046	\$84,027
8	\$50,560	\$65,728	\$93,536
9 or more	add \$5,140 per person		
Alaska			
1	\$18,210	\$23,673	\$33,689
2	\$24,640	\$32,032	\$45,584
3	\$31,070	\$40,391	\$57,480
4	\$37,500	\$48,750	\$69,375
5	\$43,930	\$57,109	\$81,271
6	\$50,360	\$65,468	\$93,166
7	\$56,790	\$73,827	\$105,062
8	\$63,220	\$82,186	\$116,957
9 or more	Add \$6,430 per person		
Hawaii			
1	\$16,770	\$21,801	\$31,025
2	\$22,680	\$29,484	\$41,958
3	\$28,590	\$37,167	\$52,892
4	\$34,500	\$44,850	\$63,825
5	\$40,410	\$52,533	\$74,759
6	\$46,320	\$60,216	\$85,692
7	\$52,230	\$67,899	\$96,626
8	\$58,140	\$75,582	\$107,559
9 or more	Add \$5,910 per person		

Note: Households earning less than the poverty guideline for their household size are considered to be in poverty.

Source: USDA, Economic Research Service based on data from Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation webpage "Poverty Guidelines."

Table A.2

Select reports to USDA, FNS, fiscal year 2019

Report	Description	Frequency of reporting
Report of School Program Operations	Covers monthly operation of NSLP; includes number of meals served, the number of schools and RCCIs participating, and the number of children approved for free and reduced-price meals	Monthly; annually
School Food Authority (SFA) Verification Collection Report	Verification and certification by application, categorical certification, and direct certification data for each SFA participating in the NSLP; also includes data on numbers of schools using special provisions	Annually
Second Review of Applications	Collects results of second review of applications of selected SFAs	Annually
Financial Status Report: Child Nutrition	Financial data for programs, functions, and activities for which a State agency (SA) receives Federal program funds	Quarterly; final report 30 days after end of 4th quarter
School Food Authority Paid Lunch Price Report	Report of the most frequently charged paid lunch price by grade categories in each SFA	Annually
State Agency (NSLP/SNAP) Direct Certification Rate Data Element Report	Report of data elements for annual calculation of Direct Certification Rate	Annually
Community Eligibility Provision (CEP) Annual Notification and Publication Requirement	State agencies provide link to public website with list of local education agencies and schools eligible or near eligible for, or currently participating in, CEP	Annually
Quarterly SFA Certification Report	Identifies SFAs certified to receive performance-based reimbursement	Quarterly
School Food Safety Inspection	Report of total safety inspection for SFAs in each SA	Annually

NSLP = National School Lunch Program. RCCI = Residential Child Care Institutions. SNAP = Supplemental Nutrition Assistance Program.

Note: Table presents a selection of the 19 reports that State agencies were required to submit to USDA, Food and Nutrition Service in fiscal year 2019.

Source: USDA, Economic Research Service based on Garasky et al. (2019). *Child nutrition reporting burden analysis study*. 2M Research, Contract No. AG-3198-D-17-009. U.S. Department of Agriculture, Food and Nutrition Service.

Appendix B

Wellness Policies

The Child Nutrition and WIC Reauthorization Act of 2004 (P.L. 108-265) required school food authorities (SFAs) participating in the National School Lunch Program (NSLP) to adopt and implement a wellness policy. Wellness policies must, at minimum, include goals for nutrition education, physical activity, and other school-based activities to promote student wellness. SFAs have discretion in developing their wellness policies, but they must do so transparently and include local stakeholders in the process. SFAs are also required to establish a plan for measuring the implementation of their wellness plans and delegate one or more persons for the responsibility of ensuring school compliance. The Healthy, Hunger-Free Kids Act (HHFKA) strengthened the wellness policies by requiring that SFAs include goals for nutrition promotion, expand public participation in the development of wellness policies to include more stakeholders, and update the public about the content and implementation of wellness policies (USDA, Food and Nutrition Service (FNS), 2022e). As of July 2017, SFAs are required to assess compliance with their wellness policies once every 3 years and to make these assessments available to the public (USDA, FNS, 2021b).³⁸

Farm to School Program

The HHFKA required USDA to create a farm to school program to help improve access to local foods by making available additional grant funding to SFAs and other organizations, as well as training and technical support. Farm to school programs include a wide range of activities that seek to improve the health of students and might include the following: local food procurement efforts; hands-on learning activities such as school gardening, farm visits, and culinary classes; or integration of food-related education into the classroom curriculum (Bobronnikov et al., 2021).

To examine and describe the facets of farm to school efforts nationwide, USDA, FNS asks all SFAs that participate in the NSLP to respond to a periodic survey, the “Farm to School Census.” The 2019 Farm to School Census report used data collected from a survey fielded in the 2017–18 school year. About two-thirds of SFAs responded to the survey. Among respondents, 66 percent reported participating in one or more farm to school activities. Among these SFAs, 88 percent reported serving local foods as part of school meals or snacks. Smaller shares reported partaking in other activities (e.g., field trips to farms or cooking demonstrations). While most SFAs partaking in farm to school activities reported procuring local foods, there is no universal definition of what constitutes “local.” When asked how they defined “local foods,” 30 percent of SFAs reported having no set definition and 23 percent defined it as food produced within their State (Bobronnikov et al., 2021).

USDA, Economic Research Service (ERS) researchers used data collected during the 2011–2012 school year as part of the first Farm to School Census to examine SFA characteristics associated with serving local foods in school meals. SFAs in the Northeast were more likely to serve local foods daily than those in the Southwest. SFAs located in cities (urban areas with populations of 100,000 or more) were also more likely to do so than those in rural areas, as were those serving school districts with at least 5,000 students as compared to those with fewer. Other important characteristics related to serving local foods included the density of farmers per 10,000 residents in the county, the county’s average per capita income, the share of college-educated adults in the State, and the State’s legislative policies supporting farm to school programs (Ralston et al., 2017a).

³⁸ For a more in-depth overview of wellness policies, see USDA, FNS supported studies Piekarz-Porter et al. (2017) and Asada et al. (2019).

Afterschool Snack Service

Schools participating in the NSLP that sponsor or operate an after-school program that provides regularly scheduled educational or enrichment activities may also participate in the Afterschool Snack Service. Schools choosing to participate in the program must serve snacks that meet Federal nutrition standards to students for free, at a reduced price, or full price, depending on each student's eligibility. Snacks are served at no charge (and reimbursed as free snacks; table B.1) to all students if at least 50 percent of enrolled students at a school or in the attendance area of a school are eligible for free or reduced-price meals (USDA, FNS, 2013a).

Since fiscal year (FY) 2009, over 90 percent of snacks were served in schools eligible to serve free snacks to all students (USDA, ERS, 2022). USDA, ERS researchers using data collected in 2010 found that schools with a higher share of students receiving free or reduced-price lunches were more likely than other schools to offer the program, as were those in high poverty districts and urban areas. Elementary schools were more likely to offer the program than middle schools, whereas high schools were less likely to offer it (Guthrie & Cho, 2015).

To meet Federal nutrition standards, snacks served must include full servings of two of any of the following food components: fluid milk; meat or meat alternative; vegetable or fruit, or full-strength vegetable or fruit juice (juice must not be served when fluid milk is served as the only other component); whole-grain or enriched bread (or an equivalent serving of a bread product) or a serving of cooked whole-grain or enriched pasta or noodle products (USDA, FNS, 2013a). A USDA rule issued in April 2024 updated these nutrition standards to limit milk offerings to fat-free or low-fat milk, require that no more than half of the weekly fruit and vegetable offerings are provided in the form of juice, and require that at least 80 percent of the weekly grains offered be whole-grain rich, among others (USDA, FNS, 2024b). The number of snacks served through the After-School Snack Service peaked in FY 2012 at 230 million and has declined each year since. In FY 2019, the year before the Coronavirus (COVID-19) pandemic, 194 million snacks were served through the program (USDA, ERS, 2022).

Table B.1

Federal reimbursement rates for Afterschool Snack Service by type and location, July 2023

Geographic location	Snack type		
	Free	Reduced price	Full price
Contiguous United States	\$1.17	\$0.58	\$0.10
Alaska	\$1.89	\$0.94	\$0.17
Hawaii, Guam, Puerto Rico, and Virgin Islands	\$1.52	\$0.76	\$0.13

Source: USDA, Food and Nutrition Service web page "Rates of Reimbursement."

Fresh Fruit and Vegetable Program

The goal of the Fresh Fruit and Vegetable Program (FFVP) is to increase the acceptance and consumption of fresh produce, including new and different varieties, among young children. To do this, the FFVP makes available free fresh fruits and vegetables outside of standard meal service times to students in eligible elementary schools. To be eligible for the program, elementary schools must operate the NSLP and be located within the 50 States, Washington, DC, Guam, Puerto Rico, or the Virgin Islands. Eligible elementary schools must apply to their State agency to participate in the FFVP. Schools with the highest percentage of students certified for free and reduced-price meals are prioritized (USDA, FNS, 2017b).

Schools selected to participate in the program are required to publicize the availability of fresh fruits and vegetables and serve them outside of other school meal program service times (e.g., not during breakfast or lunch times). Otherwise, schools have discretion on how to implement the program. They may choose the type of produce to serve, how they purchase the produce (e.g., local farmers, grocery stores, or brokers), the number of days per week they serve the produce, and the time of day the produce is served. Participating schools receive \$50 to \$75 per student per school year to cover the costs of the program. The amount schools receive depends on the amount allocated to their State and total student enrollment in the State's participating schools (USDA, FNS, 2017b). In FY 2023, the total funding available for the program amounted to \$238 million (USDA, FNS, 2022d).