



Universal School Meals: 2022 Financial Impact Estimate

Prepared by Tim Morgan, Child Nutrition & Program Data Manager at Hunger Free Vermont, for the House Education Committee
3/30/2022

Introduction

Due to the instability and complications around meal programs since the outset of the COVID-19 pandemic, we continue to rely on the most recently available School Breakfast and National School Lunch Program participation data provided by the Vermont Agency of Education, from October 2019, as the basis for our calculations. This remains a strong and detailed data set that offers a clear and accurate glimpse into how universal school meal programs already operate and are likely to operate for additional schools under statewide universal school meals. There are far too many uncontrollable environmental factors influencing data during the pandemic to make it useful for this exercise.

Financial Impact Estimate

The total financial impact of Universal School Meals to the State is reliant on several factors. Meal participation is the single greatest variable in determining the financial impact of Universal School Meal programs because the state would be covering the difference between paid and free federal reimbursements in “paid”-category meals. There are additional direct costs, such as the state coverage of the small charge for reduced-price meals, and some programmatic savings (unpaid meal charges and economies of scale, for example) as well. Any additional investments schools/districts choose to make in their meal programs would be borne through the regular school budget, as they are currently. A summary of our estimation of this financial impact follows, along with a more detailed explanation of our methodology.

In this report, we present a range of likely outcomes that reflect participation gains documented in peer-reviewed research and the participation gains and total participation rates seen in Vermont schools operating universal meal programs in 2019 and over the preceding six years.

Each of the scenarios represented in Table 1 (on the next page) demonstrates the State cost of covering all meals up to the federal free reimbursement rate for Vermont public schools at different estimated rates of student participation (daily meals served as a percentage of enrollment).

Table 1: estimated state costs for Universal Meals in four participation scenarios.

Scenario:	Estimated Costs:	Additional Meals:
(1) USDA Study Participation¹: 9.4% increase in Breakfast, 5.2% increase in Lunch participation	\$12.2 million	150,000 (+1%)
(2) Vermont School Participation increases: 63.1% increase in Breakfast, 15.5% in Lunch	\$15.4 million	2.5 million (+22%)
(3) All students participating at the same rate as free & reduced-price students: 40.6% Participation in Breakfast, 68.2% Participation in Lunch	\$21.9 million	4.6 million (+40%)
(4) Total Participation in Vermont USM Schools, unadjusted: 60% Participation in Breakfast, 75% Participation in Lunch, unadjusted 'paid' participation	\$25.9 million	7.3 million (+64%)
(5) Full Participation: 90% Participation in Breakfast and Lunch	\$33.3 million	11.6 million (+101%)

The USDA began piloting the community Eligibility Provision (CEP) in a small number of states in 2011. Estimate (1) in Table 1 (above) represents the statistically-significant participation increases observed in the USDA's evaluation report of the program, the largest peer-reviewed study that has examined participation in universal meal programs. This study is consistent with other peer-reviewed research on the subject (see literature review).² However, there are a number of reasons why we believe the USDA study under-estimates the student participation increases we are likely to see in Vermont schools under statewide universal school meals.³ Estimates from the Joint Fiscal Office have ranged as high as \$40 million, which assumes 90% participation (effectively every student eating, less absent students). We believe this assumption significantly over-estimates the student participation increases that we are likely to see in Vermont schools under statewide universal school meals. Given the wealth of evidence at our disposal, these extreme maximum and minimum

¹Logan, et al. (*This USDA study represents consistent findings among peer reviewed research and is shown in the matrix for reference. However, we are not including the estimate derived from participation changes observed in this study in our range of likely outcomes. We believe that these observed participation increases are too low for a number of reasons which are explained in the methodology section. The full participation estimate similarly excluded from our range but provided here for reference.*)

² See especially: Cohen, et al, who surveyed 47 research studies that examined the effects of Universal School Meals. See also: Andreyeva and Sun; Hecht, et al; Leos-Urbel, et al; Pokorney, et al; Tan, et al; and Turner, et al.

³ Our primary reasons for disregarding this figure are: 1) schools that have been evaluated in peer-reviewed research are schools that have, generally, very high rates of free & reduced-price eligibility and high participation prior to implementing CEP (and therefore have limited room for participation growth), and 2) Vermont schools on the whole average participation rates in excess of national averages.

theoretically possible outcomes fall far outside the range of likely outcomes.⁴ These represent the minimum and maximum liability, but they do not represent outcomes that are even remotely likely.

Estimates (2), (3), and (4) in Table 1, highlighted in green, represent the projected range of likely participation and financial impact outcomes under statewide universal school meals, based on the experiences of Vermont schools. Estimate (2) represents the participation growth in Vermont schools after operating universal meals for four year relative to participation rates prior to implementing a universal meal provision. Estimate (3) assumes that paid-category students would participate at the same rate as free and reduced-price eligible students in their school already do. Estimate (4) uses the total participation rates for all students in Vermont schools serving Universal Meals in 2019-20, rounded up to the nearest 5% for caution.⁵ In estimates (2), (3), and (4), we project participation increases resulting in **2.5-7.5 million additional meals served to kids** at school each year.

All of these estimates use free and reduced price enrollment demographics for the 2019-20 school year. We do not control for changes to the percentage of free and reduced-price eligible students. JFO's estimate assumes a decline in the rate of free and reduced price designations, but this is based on a very small decline in the free and reduced rate during the pandemic, which has directly affected schools' ability to collect meal applications in many ways beyond just children receiving meals for free. There is no evidence to suggest that this trend will continue, and there is even some suggesting it could turn around. 3SquaresVT participation is starting to increase more significantly, and plans to implement a new and easier to use Universal Income Declaration Form will help schools identify families to reach out to with personalized support to assist them in applying for programs for which they may be eligible, or to fill out a school meal application when necessary.

Beyond direct reimbursement for meals, there are some additional financial variables that will shift under statewide universal school meals.

- **Current Universal Meal Spending.** \$2.9 million in current meal program spending at schools that have already implemented USM would move from the regular school budgeting process to categorical aid funding. This would not change the total investment from the Ed Fund.
- **Unpaid meal charges would be eliminated.** We estimate that unpaid student meal debt currently costs Vermont schools roughly \$1 million per year, though that could be higher. These costs would be eliminated with universal meals.
- **Federal funding:** In 2019 the NSLP and SBP brought \$24 million in federal funding to Vermont schools.⁶ In our three estimate scenarios, additional funding would be brought into Vermont:

⁴ We have illustrated this in Table 1 by shading rows (1) and (5) in yellow, while the estimates that make up our range are shaded in green.

⁵ The unrounded rates are 56.6% and 70.25% respectively for breakfast and lunch; they are rounded to 60% and 75%.

⁶ Approx. \$24 million in Federal funding came into Vermont in the last pre-pandemic fiscal year for school breakfast and lunch (reimbursement for free, reduced-price, and paid meals and cash value of USDA commodities). An additional \$7 million in federal funding supported SFSP and CACFP, total Federal outlay for Child Nutrition Programs in Vermont was \$31 million. This number has been substantially higher during the pandemic. Source: <https://www.fns.usda.gov/pd/child-nutrition-tables>

- Estimate (2) would draw down an additional \$2.8 million in federal funds (\$26.8m total)
- Estimate (3) would draw down an additional \$3.0 million in federal funds (\$27.0m total)
- Estimate (4) would draw down an additional \$5.0 million in federal funds (\$29.0m total)
- **Costs of producing school meals & economies of scale.** Federal reimbursement is usually not adequate to cover the cost of producing a meal, and many school nutrition programs augment their meal costs with other revenue in the nutrition program account (like a la carte sales, adult meals, or catering) or through their district's budget. Schools may still need to engage in some of these practices under statewide universal school meals. At the same time, the new Local Food Purchasing Incentive enacted in 2021, along with improved economies of scale, may significantly close this cost of meal gap. Studies have shown substantial per-plate savings for child nutrition programs by increasing participation, particularly for school breakfast. This is strongest in schools with large gaps between lunch and breakfast participation.⁷ One study found that CEP schools spend, on average, \$0.58 less on producing a breakfast and \$0.67 less per lunch.⁸

Estimate Methodology

In order to estimate the cost of universal school meals, we had to determine the following factors:

- Population of students directly impacted by the legislation (those not already participating in universal meal programs)
- Participation rates in all schools for all claiming groups in the 2019-20 school year
- Estimated participation in universal meals programs
- Difference between federal reimbursement for free and paid meals⁹
- Average price charged to each student for breakfast and lunch in Vermont

Out of a total of 297 schools, 85 Vermont public schools offer at least one meal free to all students (breakfast) and 65 of these schools offer both breakfast and lunch free of charge. In the remaining schools, students who do not qualify for free meals are charged for their meals.¹⁰ These schools would be directly impacted by the mandate to serve universal school meals. 56,000 students are enrolled in schools that do not offer universal breakfast, and 64,000 are enrolled in schools that do not offer universal lunch.

Student Participation

Student participation has the greatest impact on the overall cost of the legislation, and this year we have worked to define a range of likely changes to the participation rates in newly

⁷Ollinger, et al.

⁸ Long, et al.

⁹ Reimbursement rates are set annually by USDA. Current rates can be found here: <https://frac.org/wp-content/uploads/fedrates-1.pdf>

¹⁰ During the pandemic, meals have been free to all children and reimbursed by the USDA at the higher reimbursement rate of the Summer Food Service Program. This is a result of program waivers permitted by Congress and is not permanent. The waivers are set to expire on June 30, 2022.

universal schools. In order to determine the likely range of outcomes, we have used three distinct methods for estimating participation.

1. Averaging the percent increase in participation in schools that have implemented Universal School Meals. This method is widely used in academic research that has examined participation in universal meal programs.
2. Equalizing paid participation to the participation rate of free and reduced-price eligible students in non-universal schools.
3. Averaging the total participation in USM schools in the “current” (2019) data set.

Academic research has nearly universally found very small increases (often in the 5-10% range) in participation when schools switch to universal meals in evaluative studies, however the schools that have implemented USM programs nationwide are mostly schools that have all or nearly all meals reimbursed at the free rate through CEP, this has not been the case in Vermont.¹¹ The participation increases that we have observed in Vermont USM schools have far exceeded the results in national surveys.¹²

To find the average percent increase in participation in Vermont schools after adopting USM, we examined every school that has operated USM for four years.¹³ We found an increase in the number of students eating meals of 63.1% for breakfast and 15.5% for lunch. The participation increase in breakfast grew each year (up to year four of operating a universal program), while the participation increase in lunch was far more stable over time, with some minimal fluctuation.¹⁴ This reflects the relatively lower pre-USM participation rates in breakfast, as well as the additional steps that many schools have taken to make breakfast more accessible for students (like starting Breakfast in the Classroom (BIC)) in addition to operating the universal program.¹⁵ This participation estimate serves as the low end of our likely range because percentage increases could be higher in schools with lower starting participation percentages (the average participation rates in these schools prior to implementing USM were 38.5% for breakfast and 65.6% for lunch, compared to 18.9% and 46.4% in currently non-universal schools).

To estimate paid student participation another way, we also examined the participation rates in 2019 among each claiming group in non-universal meals schools. In these schools, 40.6% of free and reduced-price students ate breakfast and 68.2% ate lunch; paid-category students ate at rates of 9.3% and 36.1% for breakfast and lunch respectively. We then estimated costs if all students were as equally as likely to eat as those who were already receiving the meal for free. This method for estimating participation has the benefit of

¹¹ *In Vermont, schools with much lower direct certification rates have implemented and continued to operate CEP, and some schools and districts ineligible for CEP have operated Provision 2 as well.*

¹² From 35.1% and 14.6% increases in breakfast and lunch participation respectively in year 1 of operating a provision to 63.1% and 15.5% increases by year 4 (by far the highest rate in breakfast, though lunch peaked at a 17.7% increase in year 2) in 54 schools. Far fewer schools have operated for five or six years, and the participation increases declined in those smaller sample sets.

¹³ *Some schools have operated with a universal meals provision for five or six years, but this sample size is considerably smaller, so we compared the fourth year for all schools that have served USM for at least that long.*

¹⁴ Breakfast participation increase range: 35.1%-63.1%, lunch participation increase range: 13.8%-17.7% (low-high over years 1-5 of universal meal programs).

¹⁵ For example, Academy School in Brattleboro started serving breakfast in the classroom in year 4 of operating a universal program in 2019, which is directly responsible for a near 5% jump that year in the overall breakfast participation rate among all universal schools.

controlling for other differences between individual school meal programs that are not impacted by USM.

To set a high end to our estimate range we examined the current participation rates for breakfast and lunch in universal meals schools. At these schools, 56.6% of all students eat breakfast and 70.3% of students eat lunch. For the purpose of setting a top-of-the-range estimate (and to conservatively account for any uncertainty), we rounded up to the nearest five percent: 60% and 75% for breakfast and lunch respectively. Using the total participation in meals at universal schools is very likely to overstate the participation increases (leading to too-high of an estimate) because the schools that already operate USM programs (largely CEP) have the largest concentrations of students from low-income households, who are more likely to eat school meals, even when they are free to all students.¹⁶ That, in turn, will skew the sample to higher participation rates than would likely be expected of other schools. This is demonstrated in Figure 1 in the “Relevant Data” section.¹⁷

In Table 1, we also listed an estimate with nearly full participation (90% of students eating breakfast and lunch).¹⁸ This demonstrates the physical bounds possibility for participation increases, but it is strictly an outlier value that has no predictive value for future participation averages. Though these scenarios could be predictive for individual schools with similar characteristics, they are in no way predictive for the overall trend. This estimate is provided for reference but represents something akin to a 99th-percentile outcome for any single school.

Provision 2, the federal program nearly all additional schools in Vermont would operate to serve universal meals, reports meal claims by category in an original base year that sets participation rates in future years of the program at the school. Though all meals are served free to all students, ‘paid’-category student participation is counted & set in the base year and consistently lags behind free and reduced-price categories. Though we are certain that this difference in participation between paid and free/reduced would exist in nearly every school, we did not control for lower paid student participation because of insufficient data, which would lower the financial impact of the bill.

Using these estimated participation rates and the students enrolled in each claiming category in non-universal schools, we were able to estimate the number of meals that would be served over a 175-day school year and the number of those that would be claimed as paid. School meal programs would be reimbursed for the difference between the Federal “free” reimbursement rate and “paid” reimbursement rate by the state education fund, costing \$15.3-25.8 million annually.¹⁹ Additionally, the state already covers the small family contribution to reduced price meals through the General Fund (\$300,000-\$400,000), and the

¹⁶ Moore, et al. & Leos-Urbel, et al.

¹⁷ We also calculated the correlation coefficients between free and reduced price eligibility determinations and participation in breakfast and lunch in universal meals schools. For school breakfast: $p = +0.43$, and for lunch: $p = +0.63$. Correlation is measured on a scale of -1 (perfect negative correlation) to +1 (perfect positive correlation). This represents a fairly strong positive correlation.

¹⁸ This represents 90% of enrollment, but attendance must be factored in— with 90-95% attendance about standard, 90% participation represents nearly every single student eating every day.

¹⁹ This amounts to \$1.64 per breakfast and \$3.31 per lunch.

additional reduced price meals served, derived the same way, would cost the State roughly \$80,000-\$100,000 annually.

Relevant Data & Charts

2019 claims data participation rates in **traditional service model (non-USM) schools**:

- Breakfast:
 - 18.9% of students eat breakfast
 - 9.3% of paid students eat breakfast
 - 40.6% of free and reduced price students (eat for free in VT) eat breakfast
- Lunch:
 - 46.4% of students eat lunch
 - 36.1% of paid students eat lunch
 - 68.2% of free and reduced price students (eat for free in VT) eat lunch

2019 claims data participation rates in **USM schools**:

- Breakfast:
 - 56.6% of students eat breakfast
 - 49.7% of students eat breakfast in Provision 2 and non-pricing models
 - 35.4% of paid students eat breakfast in Provision 2 and non-pricing
- Lunch:
 - 70.3% of students eat lunch
 - 58.3% of students eat breakfast in Provision 2 and non-pricing models
 - 49.4% of paid students eat breakfast in Provision 2 and non-pricing

Meal Participation Increases at 60% and 75% participation rates for Breakfast and Lunch

- Breakfast:
 - 4.169 million to 8.249 million served, 4.08 million additional breakfasts
 - 98% increase in total breakfasts served
 - Paid students: 2.31 million additional breakfasts (362% increase in breakfasts served)
- Lunch:
 - 7.233 million to 10,448 million served, 3.216 million additional lunches
 - 45% increase in total lunches served
 - Paid students: 2.12 million additional lunches (77% increase in lunches served)
- Total:
 - Increase of 7.3 million meals served
 - 64% increase in total meals served

Charts and Figures:

Figure 1 shows the total student participation rate in universal meal programs in 2019 (each marker representing a school), plotted against the percentage of students identified as free or reduced price. This includes both schools operating CEP and Provision 2. Free and reduced-price enrollment is determined during the base year for Provision 2 and approximated by a formula for CEP schools. Linear trendlines are also shown for both breakfast and lunch.

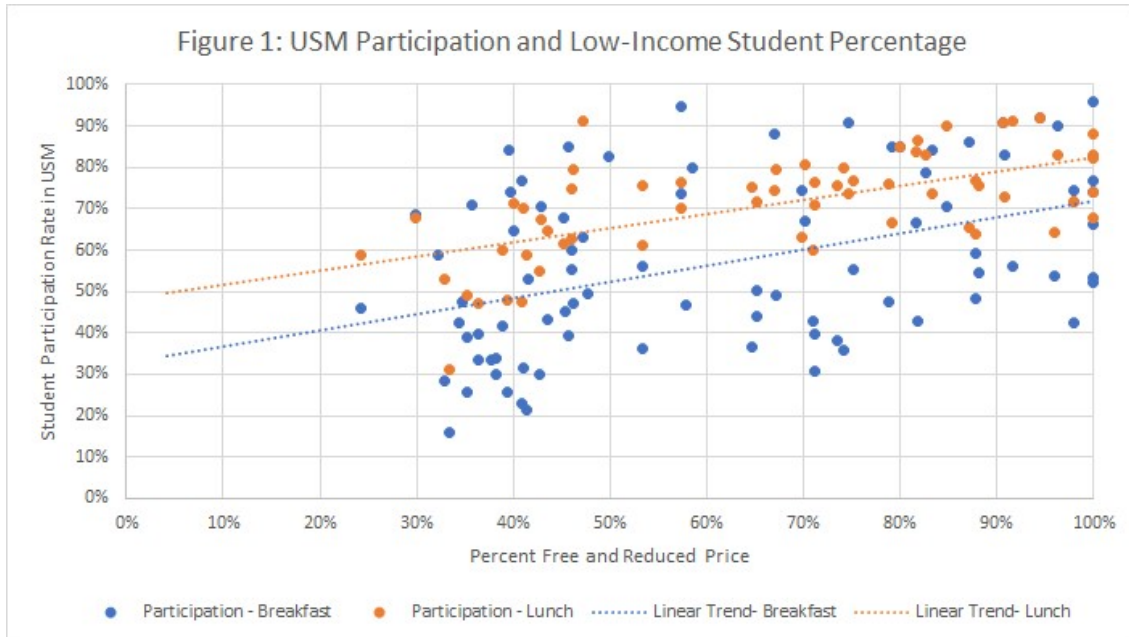
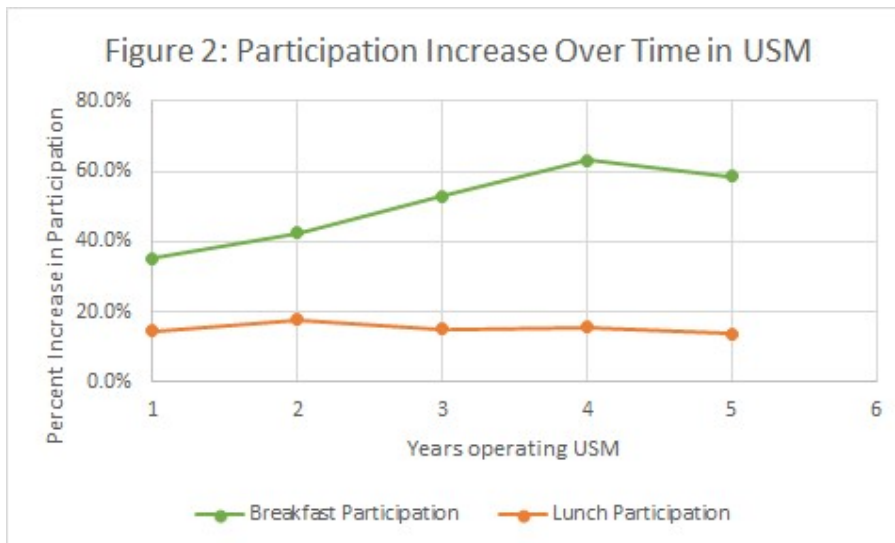


Figure 2 shows the percentage increase in total participation in breakfast and lunch at universal meals schools over the years of adoption relative to the last year preceding universal provision adoption.



Universal School Meals benefit all Vermont school children. Universal School Meals means an investment of \$15.4-25.9 million to give 80,000 children equal access to an essential tool for success in school. That's as little as \$192.50 /student/year, \$1.10 /student/school day.

	Total annual costs	Cost per student	<i>Cost/student/school day</i>
Participation increase model	\$ 15.4 million	\$ 192.50	\$ 1.10
Paid-adjusted model	\$ 21.3 million	\$ 266.25	\$ 1.52
Non-adjusted model	\$ 25.9 million	\$ 323.75	\$ 1.85

The eligibility threshold for reduced-price meals is 185% of the federal poverty line, only \$32,227 for a single parent with one child. Joint Fiscal Office's [Vermont Basic Needs Budget 2021](#) estimates that a single parent/one child household in urban Vermont requires \$67,759 to meet basic needs, more than twice the income-level that qualifies for USM, and nearly 400% of the federal poverty line. As family size increases, this gap only grows.

Literature Review

Andreyeva T, Sun X. Universal School Meals in the US: What Can We Learn from the Community Eligibility Provision? *Nutrients*. 2021 Jul 30;13(8):2634. doi: 10.3390/nu13082634. PMID: 34444793; PMCID: PMC8398513.

- [This study examined](#) data from the Early Childhood Longitudinal Study to observe outcomes related to CEP adoption on the 2010-11 kindergarten class over time. The study found that CEP increased the probability of a student eating lunch 9.3% and improved daily school attendance.

Bartfeld, Judith S et al. "Universal Access to Free School Meals through the Community Eligibility Provision Is Associated with Better Attendance for Low-Income Elementary School Students in Wisconsin." *Journal of the Academy of Nutrition and Dietetics* vol. 120,2 (2020): 210-218. doi:10.1016/j.jand.2019.07.022

- [This study examined](#) the correlation between CEP and school attendance in Wisconsin elementary schools. "Implementing the CEP had no association with attendance in the initial year. The second year of CEP was associated with a 3.5 percentage point reduction in the percentage of students with low attendance [attending 95% or fewer available days]. An association between CEP and attendance was only found for economically disadvantaged students."

Cohen, J., Hecht, A. A., McLoughlin, G. M., Turner, L., & Schwartz, M. B. (2021). Universal School Meals and Associations with Student Participation, Attendance, Academic Performance, Diet Quality, Food Security, and Body Mass Index: A Systematic Review. *Nutrients*, 13(3), 911. <https://doi.org/10.3390/nu13030911>

- This study, released in March 2021, surveyed and compared results of 47 studies that looked at the effects of Universal School Meals. "Nearly all studies examining universal free school meals found positive associations with school meal participation. Most studies examining universal free school meals that included free lunch found positive associations with diet quality, food security, and academic performance; however, the findings of studies examining only universal free breakfast were mixed. Research findings were similarly mixed when examining attendance as an outcome. Concerns about adverse outcomes on student BMI were not supported by the literature; in fact, several studies detected a potentially protective effect of universal free school meals on BMI. Research examining the impact of universal free meals on school finances was limited, but suggest that lower-income school districts in the U.S. may have positive financial outcomes from participation in universal free school meal provisions. Additionally, providing free meals to students may be associated with improved household incomes, particularly among lower-income families with children." [Link](#).

Effects of Food Assistance and Nutrition Programs on Nutrition and Health: Volume 3, Literature Review. Edited by Mary Kay Fox and William Hamilton, Abt Associates Inc., and Biing-Hwan Lin, Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Food Assistance and Nutrition Research Report No. 19-3.

- This USDA report provides a comprehensive review and synthesis of published research on the impact of USDA's domestic food and nutrition assistance programs on participants' nutrition and health outcomes. Findings are complicated, mixed, and

heavily caveated; more exploration needed.

<https://www.ers.usda.gov/publications/pub-details/?pubid=46574>

Gross, Susan Michelle, Tam Lynne Kelley, Marycatherine Augustyn, Michael J Wilson, Karen Bassarab & Anne Palmer (2019) Household Food Security Status of Families with Children Attending Schools that Participate in the Community Eligibility Provision (CEP) and Those with Children Attending Schools that are CEP-Eligible, but Not Participating, *Journal of Hunger & Environmental Nutrition*, DOI: 10.1080/19320248.2019.1679318

- This study examined the relationship between household food security status and school adoption of CEP. The study found that the odds of being in a food insecure household were twice as likely for students attending CEP-eligible, but not participating schools than for students attending CEP schools.

Hecht, Amelie A et al. "Impact of The Community Eligibility Provision of the Healthy, Hunger-Free Kids Act on Student Nutrition, Behavior, and Academic Outcomes: 2011-2019." *American journal of public health* vol. 110,9 (2020): 1405-1410. doi:10.2105/AJPH.2020.305743

- This study examines the [impacts of CEP on meal participation, child health, performance, and behavior](#). The study aggregates the methods and results from other studies to examine broad conclusions. This article examined 10 studies that evaluated participation changes as a result of adopting Universal School Meals all of which found statistically significant increases in meal participation, ranging from 3.5 to 37.8 percentage points for breakfast and 3.5 to 11.8 percentage points for lunch. This article also examined the results from three studies which looked at the relationship of USM and child and family food security, all of which found positive relationships between the two.

Huang J, Barnidge E. Low-income Children's participation in the National School Lunch Program and household food insufficiency. *Soc Sci Med*. 2016 Feb;150:8-14. doi: 10.1016/j.socscimed.2015.12.020. Epub 2015 Dec 15. PMID: 26722983.

- This study examines the [impacts of NSLP meal participation on household food insufficiency](#). This study found that food insufficiency was higher when NSLP meals were not available to children eligible for F&RP meals (in the summer). According to the study, "the result indicates the NSLP participation is associated with a reduction of food insufficiency risk by nearly 14%."

Kleinman, R E et al. "Diet, breakfast, and academic performance in children." *Annals of nutrition & metabolism* vol. 46 Suppl 1,0 1 (2002): 24-30. doi:10.1159/000066399

- This study examines the relationship of universal breakfast and student hunger in Boston, Mass by examining a set population of students before and after universal breakfast implementation. The study found that "participation in a school breakfast program enhanced daily nutrient intake and improvements in nutrient intake were associated with significant improvements in student academic performance and psychosocial functioning and decreases in hunger." The study found a direct and strong correlation between improving nutritional status and increased participation in the breakfast program. These children also showed a significantly greater decrease in the symptoms of hunger. The study also found significant correlation with improved attendance, decreased tardiness, and improved functioning.

Leos-Urbel, J., Schwartz, A. E., Weinstein, M., & Corcoran, S. (2013). Not just for poor kids: The impact of universal free school breakfast on meal participation and student outcomes. *Economics of education review*, 36, 88–107. <https://doi.org/10.1016/j.econedurev.2013.06.007>

- [This study of NYC schools](#), published in 2013, found that “the provision of universal free breakfast resulted in a modest increase in participation for all program eligibility groups.” The study found participation increases to be modest, with full pay-eligible breakfasts increasing by about 36% and lower rates among reduced-price and free-eligible breakfasts compared to a control group. “Even with the increase in school breakfast participation for reduced and full price meal students, free meal eligible students continued to participate most, accounting for 80 percent of all breakfasts served in traditional schools in 2003–04 [the first year of operating USM].”

Liu J, Micha R, Li Y, Mozaffarian D. Trends in Food Sources and Diet Quality Among US Children and Adults, 2003-2018. *JAMA Netw Open*. 2021;4(4):e215262. doi:10.1001/jamanetworkopen.2021.5262

- This new study (April 2021) examined changes in diet quality for children and adults from 2003 to 2018. The study found that diet quality was most-improved in the food children received in school. School food was the single best source of nutritional quality. According to the study, the percentage with poor diet quality decreased from 55.6% to 24.4% in schools, while the decrease was more moderate on food from grocery stores (53.2% to 45.1%) and restaurants (84.8% to 79.6%). The vast majority of nutritional gains were made following the passage of the HFFKA in 2010. “Significant improvements occurred in some population subgroups but not others. Most equitable improvements occurred for food consumed from schools, which improved after 2010 in all subgroups. For example, proportions consuming food with poor diet quality from schools decreased from 54.4% to 27.0% among non-Hispanic white children, from 54.9% to 21.1% among Hispanic children, and from 53.1% to 23.9% among non-Hispanic Black children. Before 2010, older children generally had worse diet quality of foods from school than younger kids, but this rapidly equalized (and improved) after 2010.” [Link](#).

Logan, Christopher W., Patty Connor, Eleanor L. Harvill, Joseph Harkness, Hiren Nisar, Amy Checkoway, Laura R. Peck, Azim Shivji, Edwin Bein, Marjorie Levin, and Ayesha Enver. Community Eligibility Provision Evaluation. Project Officer: John R. Endahl. Prepared by Abt Associates for the U.S. Department of Agriculture, Food and Nutrition Service, February 2014.

- This USDA evaluation study of CEP early adopting states evaluated the program in great detail, including examining potential cost savings for schools. It found time savings on application verification and administrative taste of 68 minutes per student per year, a cost savings of \$29 per student per year (p. 19). This study also compared participation changes in adopting schools with similar non-adopting schools. It found a statistically significant 5.2% increase in participation in lunch and 9.4% in breakfast in CEP adopting schools. This appears to be the most robust and representative examination of participation in CEP to date. [Link](#).

Long, Michael W., Keith Marple, and Tatiana Andreyeva. “Universal Free Meals Associated with Lower Meal Costs While Maintaining Nutritional Quality.” *Nutrients* 13.2 (2021): 670. Crossref. Web. . <<http://dx.doi.org/10.3390/nu13020670>>.

- This recently released study found that USM is associated with lower meal costs. The study found that schools participating in CEP spent 67 cents less per lunch, compared to schools that qualify for CEP, but for whatever reason did not opt into the

program. They also found that those same schools spent 58 cents less per breakfast. This was especially so for large or medium-size schools (500 or more enrolled students); the association was less strong for smaller schools. [Link](#).

Moore, Quinn, Lara Hulsey, and Michael Ponza. Factors Associated With School Meal Participation and the Relationship Between Different Participation Measures, Prepared by Mathematica Policy Research Inc. for United States Department of Agriculture, Economic Research Service, June 2009.

- [This USDA study examined](#) the relationship between participation in school meals programs and a variety of factors. Both student-level and school-level analyses were conducted. Among free and reduced-price eligible children, Black and Hispanic children, children experiencing food insecurity outcomes, and children living in households with working adults were most likely to eat meals relative to otherwise similar children. Smaller correlations to household income, gender, and the number of children in a household were observed.

Ollinger, Michael and Joanne Guthrie. Economies of Scale, the Lunch-Breakfast Ratio, and the Cost of USDA School Breakfasts and Lunches, ERR-196, U.S. Department of Agriculture, Economic Research Service, November 2015.

- This USDA report examines economies of scale and other aspects of school meal program costs and finances. This study found that school breakfasts generally cost more than reimbursement, while school lunches cost less, consistent with findings from previous USDA reports (see USDA's School Lunch and Breakfast Study II).
- "For both breakfasts and lunches, the average cost to schools declined as the number of meals served increased. This effect of economies of scale was much stronger for breakfasts than for lunches. For SFAs serving the largest number of breakfasts, per-breakfast costs were estimated to be 51 percent of those for SFAs serving the lowest number of breakfasts. For SFAs serving the largest number of lunches, per-lunch costs were 81 percent of those for SFAs serving the lowest number of lunches... Within an SFA, the balance between breakfasts and lunches served had a large effect on breakfast costs. In areas with the highest imbalance, such as most suburban areas, the decline in per-meal breakfast costs is substantial, with per-meal breakfast costs potentially declining by about 50 percent if the number of breakfasts served were to equal that of lunches." As the ratio of school breakfasts to lunches nears 1:1, breakfast costs were shown to decline, likely as a result of labor being efficient for lunch but underutilized for breakfast, when participation is significantly lower.
- [Link](#).

Poblacion A, Cook J, de Cuba SE et al. Can food insecurity be reduced in the United States by improving SNAP, WIC, and the Community Eligibility Provision? *World Med Health Policy*. 2017;9(4):435–455.

- This simulation study of the impact of CEP on family purchasing power and food insecurity found that CEP may have allowed 3.2% of food-insecure children and their families to move to full food security by increasing their purchasing power.

Pokorney, Paige E et al. "Impact of the Community Eligibility Provision on meal counts and participation in Pennsylvania and Maryland National School Lunch Programs." *Public health nutrition* vol. 22,17 (2019): 3281-3287. doi:10.1017/S1368980019002246

- This study examines the relationship between the adoption of CEP and school meal participation in [Maryland and Pennsylvania from 2013-2015 and 2016-2017](#). “After controlling for participation rates in the year prior to CEP implementation, [CEP] was associated with an... 8% increase in meal counts” in the NSLP.

Tan, May Lynn et al. “Community Eligibility Provision and School Meal Participation among Student Subgroups.” *The Journal of school health* vol. 90,10 (2020): 802-811. doi:10.1111/josh.12942

- This study examines CEP and relationship to school meal participation. The study found that full-price students were 20% more likely to participate in CEP breakfast and 19% more likely in CEP lunch compared to schools not participating in CEP.

Turner, Lindsey et al. “Community eligibility and other provisions for universal free meals at school: impact on student breakfast and lunch participation in California public schools.” *Translational behavioral medicine* vol. 9,5 (2019): 931-941. doi:10.1093/tbm/ibz090

- “This study examines school-level adoption of any provision for universal free meals and subsequent changes in student participation rates for [\[school breakfast and lunch\] in California from 2013-2014 to 2016-2017](#).” The study found participation rates increased an average of 3.48 percentage points for breakfast and 5.79 points for lunch the year following the adoption of a universal meal provision.