Food Spending on Student Outcomes

We hope to link differences in school revenue and spending on food procurement to differences in student academic and physical outcomes. There have been studies conducted that use 24-hour recall surveys to determine student diets as well as studies that focus on the types of food that is consumed in schools. There are also USDA studies that look into the food procurement process and the nutritional content of food served in the National School Lunch Program.

However, a lot of the evidence in previous studies is survey-based. Furthermore, these studies begin when the food is served to students. Our methodology begins earlier in the process at the stage where schools receive funding. We trace this funding to the contracts schools create and the foods they procure which eventually gets served to the students.

To clearly state our purpose, we want to identify a causal link between changes in school district spending on food procurement and student academic and physical outcomes. We have two questions we want to answer:

1) Does increasing spending on school food procurement programs significantly affect student physical and academic performance?
2) Are there ways that the current process can be modified to ensure healthier and cheaper foods are procured?

These questions align with three of the CDE Research Priorities.

1) Equity: We found a discontinuity in the reimbursement rates for the School Breakfast Program that is based on free or reduced-priced lunches served in the previous year. Since there is income-based eligibility in public schools, we hope to identify possible differences in outcomes across demographics and positive solutions for those differences.
2) School Finance: School food spending is interconnected with school finance because it represents a non-trivial amount of spending. If School Food Authorities operate at a loss, funds are taken from the school's budget for other items which affect the students' education.
3) Impact of COVID-19 Pandemic: Our research will focus on food procurement in schools before, during, and after the COVID-19 Pandemic. We will be able to determine how school revenue, spending, consumption, and procurement changed as a result of the COVID-19 pandemic.

The research will also help to inform the CDE of how the revenue of schools impacts the food students eat. This would allow the CDE to better understand which schools require more funding for procurement and could pave the way for equitable payments to underserved schools. By connecting school revenue to the foods schools purchase, we can determine the degree to which changes in spending on relatively healthier foods correlate student academic performance.

We are requesting data for students in the grade levels of K-12 in the school year 2018-2019 to school year 2023-2024 for the following items:

1) The number of lunches, breakfasts, and snacks served to students divided into the different eligibility categories of i) free ii) reduced-priced, or iii) paid meal prices. Ideally we would like this data organized by school (or district if that is not possible). We believe this is available through CNIPS.
2) The dollar value of the USDA commodity entitlement received by schools and the food each school (or district) procures with their entitlement.
3) School food program revenue and expenditure by school (or district).
4) The Vendor Paid List for every district that is obtained during the CDE's Procurement Review of districts every three years. In the Vendor Paid Lists we are looking for the date, vendor name, and dollar amount spent with the vendor.
5) Student health outcomes via the Physical Fitness Test for the grade levels the data are regularly collected.
6) Student academic outcomes via CALPADS.
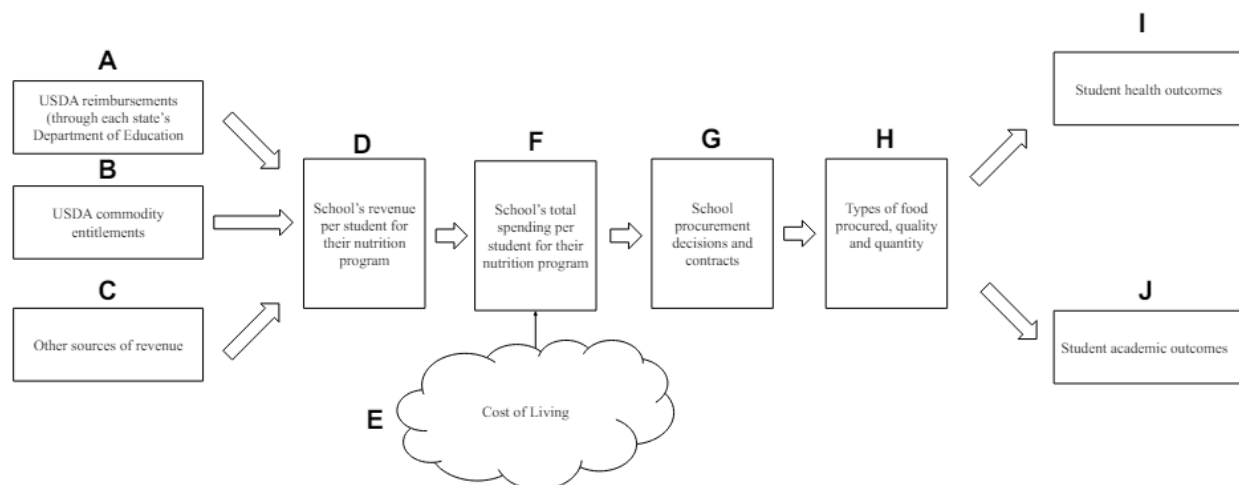
See below for a diagram of the plan of data analysis.

Figure 1: Plan of Data Analysis

Our plan to link the requested data with the data we currently have is as follows:

1) Gather school nutrition program revenue. We hope to do this by gathering individual school and district data on their i) USDA per-meal-served reimbursements ii) USDA commodities entitlements, and iii) other sources of revenue such as the sale of competitive foods. We also hope to compare this data with reported school nutrition program revenue. These two values will give us a better understanding of the actual amount schools can use to procure food for their students
2) Determine how school nutrition program revenue per student correlates with the food procured. Using reported and calculated school revenue data, we will compare these values with the reported and calculated school food spending. Once we have food expenditure per student, we will analyze which vendors schools partner with and the amount the schools spend with those vendors. Using our locally collected data from Southern California school districts, we will compare the spending on each vendor with the actual food procured and classify healthier procurements.

3) Link the foods procured to student outcomes. Using the Physical Fitness Test and CALPADS, we will try to find connections between the food served and the outcomes of the students. Once we have a connection (if any) we hope to analyze the overall process to determine if there are ways we can improve the procurement process.

We are not only looking at total revenue and spending per student for every school; we are looking at how that revenue and spending changes over time. By doing this for every school in California , we can control for individual school characteristics as well as see how differences in spending in similar areas affect the foods purchased in the procurement process.

We also were unable to find a study that tracks the process from school food revenue to student health outcomes. By providing a comprehensive overview of the procurement process we can better identify inefficiencies and other scenarios where improvements can be made.

The research will be published and disseminated _____?

The principal investigator is Professor Martin Hackmann of UCLA.
Insert Qualifications

The key research staffer is Darion Phan, an undergraduate at UCLA.
Insert Qualifications

The project is being funded by_____?

Thank you for your time. If there is any additional information we can provide in this Research/Evaluation Concept Paper please let us know.