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Reinventing School Lunch

School breakfast and lunch are an integral part of student well-being, ensuring that all students have the energy to engage in optimal learning experiences. School meals can foster students’ mental and physical development, laying a foundation for their future academic achievements. For instance, a 2023 study in the Journal of the Academy of Nutrition and Dietetics found out that “children-care-provided meals… are related to food security, early childhood health, and reduced hospital admissions from an emergency department” (Ettinger de Cuba). In addition to health benefits, a study in 2021 conducted by Brookings Institution analyzed the correlation between school meals and academic performance and found out that “when a school contracts with a healthy lunch company, students at the school score better on end-of-year academic tests. Not only that, the test score increases are about 40 percent larger for students who qualify for reduced-price or free school lunches” (Anderson). However, the benefits of school meals are realized only if the meals contain fresh and minimally processed foods. To truly support students’ learning development, it is necessary to change the United States Department of Agriculture (USDA)’s school nutrition standards to increase students’ access to nutritious meals.

To better understand the context, it is crucial to examine the current regulation of school food. In the US, the federal government regulates school nutrition through the USDA. Through rigorous research and public health considerations, the USDA provides programs such as the National School Lunch Program (NSLP) and the School Breakfast Program (SBP) to provide “nutritionally balanced, low-cost or free lunches to children each school day” (USDA Food and Nutrition Service). State education agencies facilitate the implementation process at the state level by providing measures and assistance through initiatives such as Team Nutrition and the USDA Food Safety and Inspection Service (FSIS). The USDA FSIS receives around $9.6 million annually, and they use funding to provide necessary trainings and assistance for nutritionists and foodservice staff to facilitate the program implementation (USDA food and Nutrition Service). Once programs are fully implemented, the schools create meal plans and distribute them during the school year.

Most of the school meals provided by Washington School Districts contain sufficient nutrients. However, most of the meals provided lack in variation, and most of them are ultra-processed foods that are microwaved. The popularity of processed food is increasing as demonstrated by a recent USDA study where they found out that "when it comes to packing lunches, preparing after-school snacks, or quick dinners between after-school activities, processed foods are a popular option" (USDA). In addition, the USDA Deputy Under Secretary for Food Sandra Eskin said, "I appreciate the convenience of frozen foods" (Eskin). However, considering that the USDA's primary goal is to "support good health," convenience should not be prioritized over students’ well-being. The pursuit of convenience is undermining the nutritional quality of school meals, and the USDA’s minimum standards for servings of nutritious ingredients are questionable since “they’ve designated pizza as vegetable and hash browns as a fruit” (Levels). Thus, the USDA’s school nutrition guidelines should be restructured in a way that minimizes the distribution of ultra-processed foods and increases the distribution of fresh and lightly processed foods to students.

By definition, processed foods are “any raw agricultural commodities that have been washed, cleaned, milled, cut, chopped, heated, pasteurized, blanched, cooked, canned, frozen, dried, dehydrated, mixed or packaged — anything done to them that alters their natural state” (Mayo Clinic Health System). In fact, Keith Ayoob, an associate professor emeritus of pediatrics at the Albert Einstein College of Medicine in New York, says that “processing isn’t all bad. You can have processed food that’s a whole food” (US News Health). In reality, majority of the commercial products are processed and some still provide nutritional benefits. However, ultra-processed foods such as frozen fried chickens and hamburgers are problematic for students because “around 75% of calories in school lunches come from ultra-processed foods that increase the risk of health concerns” (Metro News).

Provision of ultra-processed foods—especially those frozen—should be regulated by the USDA because such foods remove micronutrients. According to the USDA, freezing itself does not make foods less nutritious; it is the heating process that causes problems. According to a study conducted at the University of Illinois Urbana-Champaign, "many prepared foods that are either blanched or precooked to some degree cause some water-soluble nutrients like Vitamin C and D to break down" (Illinois Extension). Moreover, a PubMed study published in 2023 found out that there is a link between “ high ultra-processed food consumption with deterioration of diets and micronutrients” and corroborated “the importance of public health actions that promote a reduction in the consumption of ultra-processed foods” (Marron-Ponce). Oftentimes, frozen foods lose around 25% of their nutrition during the heating process. Even without the heating process, most of the precooked frozen products are filled with saturated fat and sodium, making them unhealthy choices for children's meals.

Not only do ultra-processed foods lack nutrition, but they also produce detrimental chemicals. According to reports from Cancer Council, ultra-processed foods “have been linked with increased cancer risk because of the intense cooking process… they cause the production of a chemical called acrylamide" (Cancer Council). Production of this chemical is dangerous because acrylamide has been classified as "potentially carcinogenic to humans" (International Agency for Research on Cancer). In addition, some schools have integrated Lunchables and ready-to-eat meal kits to their lunch programs, raising questions regarding the school meal quality. Consumer Reports has investigated over dozens of store-bought version of Lunchables found lead, cadmium, or both in all (Kavilanz). According to World Health Organization, similar to acrylamide, lead and cadmium both have been “linked to kidney and bone disease and cancer” (WHO). Hence, consuming these products from an early age will cause the children to accumulate harmful chemicals and increase their risk of developing health problems, making it imperative for the USDA to examine the distribution of ultra-processed foods in schools.

In addition to the production of harmful chemicals, ultra-processed foods undermine children's brain development. Various research has identified temporal association between children's dietary patterns and cognitive performance, and one research published by PubMed found that "a higher adherence to the snacks, processed foods… was negatively associated with total brain and cerebral white matter volumes at age 10 years" (Mou). Excessive amounts of white matters negatively impact children's brain health. With the presence of this white matters, children may develop metabolic syndrome that leads to “cognitive decline and increased impulsivity” (Levels). With increased impulsivity, students will develop behavioral problems that will present barriers to their academic performance and physical and emotional well-being. Given that K-12 children are at a crucial stage of rapid brain development and highly responsive to dietary intake, the extent to which children are exposed to such products in school settings should be deliberately monitored.

While the widespread use of highly processed foods in US school meals raises various health concerns, countries such as Sweden has implemented policies and programs to provide healthier meals to their students. Sweden’s school lunch programs are more effective compared to those in the US because of Sweden’s stricter and more comprehensive federal guideline and its emphasis on fresh ingredients. Sweden recently updated its National Food Agency guideline “Bra mat I skolan” to include “six defining qualities of school meals” so that meal planners can “develop meals from a more comprehensive perspective” (Food and Agricultural Organization of the United Nations). This guideline emphasizes the importance of using organic food and the balanced meals with proper portions of vegetables, proteins, and whole grains. Municipalities such as Malmo serve 100% organic meals in all the public institutions for free. Moreover, a food academy called Skolmatsakademin in Vastra Gotaland further ensures that the school meals provided to students are healthy through communicating with Swedish school inspectorate. In addition, nationwide programs such as KRAV certification in Sweden ensure environmentally sustainable and ethically produced ingredients, making Swedish school lunch healthy and sustainable at the same time. (ICEA Certifica). In short, Sweden’s strict and holistic approach to school lunch allows Swedish students to consume nutritious and environmentally friendly foods that many in the US cannot enjoy.

Through learning from Sweden’s comprehensive and stringent standard, the US should enhance the overall quality of school meals, supporting students’ health and boosting their academic performance. In order to provide these health benefits to students, the US should update the USDA guidelines to prioritize fresh and minimally processed foods. Amending the USDA guideline is a multifaceted process that requires financial resources. Every 5 year, the USDA works with The US Departments of Health and Human Services (HHS) to revise the dietary guidelines for Americans. This process involves 4 steps: research, policy development, public engagement, and implementation. According to the HHS, the total estimated cost of revising the guideline is approximately between $3,450,000 to $7,900,000 (US Department of Health and Human Services). In detail, when the proposal to amend USDA guideline is submitted after thorough research and analysis, the USDA agencies will hold regulatory review sessions to evaluate the feasibility of the idea. After the review, the proposal's draft will be posted in the Federal Register for public inspection for a certain time. During this period, nutrition professionals, food processors and manufacturers, and stakeholders will share their opinions regarding this draft to ensure public transparency. This process is one of the most crucial step toward determining whether the proposal is passed or not, requiring intensive effort from individuals proposing. Public advocacy and partnership with credible organizations will raise the awareness of significance of this proposal, and the USDA will take public feedback into account and make a final decision on whether to amend the USDA guidelines regarding school nutrition standards or not. If the USDA decides to amend and prioritize fresh foods over processed foods, there are three stakeholders who will be affected: school nutritional experts, food distributors, and students.

At state level, the food distributors such as the Washington Office of Superintendent of Public Instruction (WOSPI) will have to communicate with schools and agricultural producers. With the changes in the USDA guidelines, the WOSPI will have to change existing menu planning and meal patterns tool kit and communicate with schools participating in the NSLP program to ensure that the foods the WOSPI provides to each school align with the new menus that respective school nutrition professionals have created. As the schools need to provide fresh foods to students, the WOSPI will have to contact different Food Service Management Companies (FSMC) to find sponsors that can supply whole foods. Once the OSPI procures foods desired by schools, the OSPI will increase their investment spending into delivery process using the funds granted from the USDA Food Distribution Program (FDA) to maximize the freshness of foods and ensure the delivery process is sustainable.

Following the changes made by the WOSPI, school nutritionists will make changes to their operational procedure and storage system. Under the guidance of USDA Food and Nutrition Service (FNS) initiatives such as Team Nutrition, school foodservice staff would create menus that contain huge portions of fresh agricultural products that are minimally processed. In Lake Washington School District, HR employment rate decreased after the pandemic. With the changes to meals, there is in an increase in need of human resources and infrastructure to improve and maintain the storage system, making it essential for the districts to revise their HR employment policies and align with RCW 28A.400.301 (Lake Washington School District). The procedure for dealing with processed food and fresh food differs from school to school, so the schools have to receive funds from outside to manage new storage system. Similar to how schools in Sweden receives funding for school lunch from the municipalities and local initiatives, the public schools could receive government grants and PTA fund to better and expand the food storage facilities.

Once the foods are distributed and properly stored in school food storage infrastructure, students would then consume school meals cooked using fresh and minimally processed foods. With improved quality and increased variety of fresh food selection, students would gain health benefits and avoid having to suffer from various health problems associated with consuming ultra-processed foods. However, as the schools transition from using mostly ultra-processed foods to fresh and minimally processed foods, some argue that the school food price may rise and make school meals unaffordable for low-income students. To prevent this problem, the WOSPI has recently implemented House Bill 1238 that states that “schools where 30% or more enrolled children are eligible for free or reduced-price meals are required to provide meals at no cost to all students” (Washington Office of Superintendent of Public Instruction). Therefore, even with the increased meal price, most or all students attending schools registered for the NSLP program will receive the benefits from the change made in the USDA guidelines.

Amending the USDA guidelines is the most important step toward enhancing the overall nutritional quality of school meals in the US. However, the true measure of success lies in the maintenance and evaluation. The USDA should invest more in fostering educational programs such as Farm to School and funding initiatives such as Team Nutrition to educate and monitor nutritional quality of school meals. In other words, changing the USDA guidelines does not guarantee that the students will be able to continuously receive healthy meals; active engagement from the federal, state, and local level is needed to make the amendment effective.

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