STRATEGIES TO INCREASE CONSUMPTION OF SCHOOL MEALS & REDUCE WASTE.

Massachusetts reinforced its commitment to children and families by making School Meals for All permanent. This builds on evidence that school meals are nutritious, linked to stronger educational outcomes, and reduce rates of food insecurity, poverty, and health disparities.[1] Therefore, it is crucial to implement strategies which increase student consumption of school meals, which has the added benefits of minimizing waste and maximizing quality.[2]

Food waste is inevitable in large-scale meal settings like schools. Waste reduction efforts often divert or manage post-consumer waste (e.g. composting) but there is growing recognition of pre-consumer approaches (e.g. operations). Pre-consumer approaches are important in schools because the priority should always be feeding students, without sacrificing nutrition and quality of the meals and without adding stigma to the experience.

School Meals for All gives school food authorities (SFAs) more financial stability and an opportunity to invest in their programs. For example, resources previously used for debt collection can now be used for professional development or local ingredients – which make meals more appealing and boosts consumption. Still, the State serves a crucial role in incentivizing and promoting this opportunity for school meal investments.

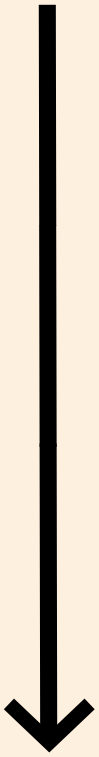
PROJECT BREAD

THIS BRIEF ELEVATES EVIDENCE-BASED STRATEGIES TO INCREASE SCHOOL MEAL CONSUMPTION WHICH WOULD ALSO REDUCE WASTE.

STRATEGIES TO REDUCE WASTE & BOOST SCHOOL MEAL CONSUMPTION	
Structural Changes	• School Meals for All • Meal Duration • Meal Schedule
Operations	• Staffing and Professional Development • Scratch Cooking • Procurement
Food Planning. Preperation, & Presentation	• Food Types & Choices • Presentation • Student Engagement
Diversion	• Save or Repurpose Unwanted Food • Monitoring Waste • Composting

LEVEL OF IMPACT ON REDUCING HUNGER

Pre-consumer efforts



Post-consumer efforts

STRUCTURAL CHANGES

In addition to School Meals for All, there are other structural changes that would improve school meal consumption.

Meal Duration

Students need adequate time to sit and eat (seat time). When students have at least 20-30 minutes for lunch - consumption increases, nutritional intake improves, and waste is reduced.[3] Offering at least 20 minutes of seat time is supported by the CDC and the School Nutrition Association (SNA).[4 5] Six states have policies which set a minimum time for meal duration and another 17 state administrators provided guidance to encourage adequate seat time.[6]

Scheduling Meals

The timing of when students access and eat school meals impacts consumption.

Breakfast served after the bell through grab-and-go or class delivery methods are convenient for students (and reduces the stigma of eating school breakfast). Higher breakfast consumption improves students' academic performance and reduces behavioral problems.[7 8]

Lunch periods that start at 12pm or later produce less waste - as students may find it to be a more appropriate time to eat. [9]

Lunch after recess is associated with increased consumption, as students may be less rushed and they may expend more energy before lunch.[10] [11] [12] After Montana implemented recess-before-lunch they noticed improved consumption and cafeteria and classroom behavior.[13]

OPERATIONS

Systems-level strategies improve consumption across the student population. Yet, common barriers include staff capacity and program resources. The State and school districts can support SFAs through guidance and grants to implement operational strategies. In doing so, operations will be more stable and creative, which can enhance program quality and student consumption.

Invest in Staff

Across all workplaces, employees are more likely to stay in their role and engaged if their organization invests in them.[14] The correlation between job satisfaction and reduced turnover is well established; having engaged school nutrition staff is instrumental to cost efficiency and program quality.[15] Staff stability also allows students to build relationships with staff, which may help with their perception of school meals.[16] Further, school nutrition staff are an essential part of the educational system, given how important school meals are for students' development and education. Thus, school districts should implement practices that support school nutrition staff's job satisfaction, such as:

Training & Professional Development

While annual training is required, more professional development may better support staff. Training could focus on using new equipment, recipes, and preparation methods, and/or student engagement activities. Some districts have partnered with local community colleges and technical schools to help their staff strengthen their culinary skills.[17] Research and observations from Project Bread staff support that trainings have a positive impact on the school meal environment and students' consumption of school meals.[18]

Compensation and Benefits

School nutrition staff are essential to school and student success, yet their low compensation and part-time structure creates challenges for employee recruitment and retention. The part-time schedules for school nutrition staff often means they are ineligible for benefits such as health insurance and retirement plans, layering cost burdens for the individuals and their families.

In-House Operations & Scratch Cooking

In-house preparation (scratch cooking) uses less processed, fresher ingredients, enabling schools to use food items more efficiently, thereby reducing waste. Scratch cooking allows more control over the palatability of the meals, making them more appealing to students. Researchers found that scratch cooking and chef-initiatives led to increases in nutritional value and consumption.[19] [20] But, transitioning to scratch cooking requires the right equipment, staff capacity, and culinary training, and therefore requires careful planning. Schools have found success by scaling these practices, such as cooking in-house a few days a week or other "speed scratch" techniques like using some pre-prepared ingredients like diced carrots that maintain the spirit of scratch cooking.[21]

Procurement

When school meal programs frequently have leftover or unusable foods, they should review their menu planning and procurement practices. There is a range of operational practices before waste diversion tactics. Menu planning is an opportunity to incorporate feedback – what is working on the menu and what is not. Software and tracking strategies can also help staff manage their food inventory. Schools and staff may need more support through training or software grants to implement effective systems for tracking their inventory. Districts and the State can ensure that schools have the proper equipment to keep food stored at appropriate temperatures to prevent spoilage.

PROVIDING EXPERT SUPPORT

For 20+ years, Project Bread has worked with MA child nutrition programs to maximize their impact on feeding kids nutritious meals. We advise school nutrition programs on their operations and offers professional development so that school nutrition staff are emboldened and equipped to prepare high-quality school meals. Informed by staff feedback, trainings are relevant, timely, and responsive to their needs.

Training topics include: preparation methods, menu development, and running student engagement and feedback activities such as taste tests.

2022-23 IMPACT

150

school districts had direct support from Project Bread

937

school nutrition staff participated in professional development trainings with Project Bread

FOOD PLANNING, PREPARATION AND PRESENTATION

Planning for how students' preferences and perceptions shape their behavior must also be at the forefront of school meal operations, but stronger encouragement from the State on best practices is necessary.

Food Types & Choices

When students are familiar with the food presented to them and have some agency in selecting their foods, it increases the likelihood of consumption. While schools cannot stray from required meal patterns, schools can offer choices within meal components (meats/alternatives, grains, fruits, vegetables, and milk) which has been shown to boost consumption.[22] This is not only about the number of choices, but choice types and how they are offered. Examples of best practices include:

Offer vs. Serve (OVS) gives students flexibility within meal components.[23] Students may select foods they prefer and decline food they don't intend to eat. Studies show that increasing fruit and vegetable options is associated with increased consumption.[24] OVS is only required at the high school level.

Customization gives students the ability to tailor school meals to fit their needs and preferences. Such approaches include salad bars and other "build your-own" or spice/flavor-stations. For example, schools with bowl stations, which allow students to choose their toppings over a bed of rice or greens.

Culturally Connected Food

Culture is expressed through food and influences what students are familiar with, which is a driver of consumption. School nutrition staff should incorporate not just familiar foods, but also flavors and presentations – aligning menus so that their student population feels connected to it.[25] This can combine with engagement activities, such as surveys and taste tests to introduce new foods, recipes, and traditions while also seeking student feedback.[26]

Competitive Foods

Many schools offer unsubsidized food items which compete with reimbursable meals. Competitive food policies are often made at the local, school wellness policy level. SFAs should consider whether their budgets require competitive food sales. Research on districts which limit access to competitive foods were found to be cost-neutral and led to increases in school meal participation.[27]

Meal Presentation

When school meals and their components are served in an accessible, attractive way it can lead to increased consumption. School nutrition staff can present meals to appeal to students by:

Pre-slicing fruits and vegetables can increase consumption.[28] For example, peeling oranges may be difficult or messy and eating whole apples is time consuming, whereas slicing makes them accessible.

Using display cases, salad bars and other strategies offer a way for schools to offer food items in a more engaging, student-friendly way, such as fruit smoothies and veggies with dips like hummus.[29] Such strategies also allow for more variety in terms of choices and customization.

Student Engagement

When students are connected, informed, and empowered in the school meal environment, their consumption increases.[30] Buy-in from all stakeholders is important, thus engagement can extend to parents and

caregivers, additional school staff, and other community members.[31]

Taste Tests increase interactions and familiarity with school nutrition staff and new foods. Repeated experiences among peers can also help children's willingness to accept new foods.[32]

Collecting Feedback through surveys, suggestion boxes, and after taste tests or engagement events can incorporate students' critical perspectives and help inform school nutrition staff on ways to enhance food offerings. When students have a voice in school meals, they are more likely to participate.[33]

Nutrition Education such as through school gardens or field trips may increase students' familiarity, understanding, and connectedness to their food options. Research highlights that such activities can influence students' attitudes and increase consumption of fruits and veggies.[34] [35]

DIVERSION

Practices to divert food waste from landfills should be supplementary to other ongoing efforts highlighted above. By prioritizing pre-consumer approaches there should be less post-consumer waste to divert. Even when all other best practices above may be implemented, waste is inevitable. Students may still have unwanted or unfinished items at the end of the meal period, and below are some strategies to consider:

Share Stations

Some schools operate share tables where students may leave unopened packaged food at stations to be consumed by other students if they would like additional servings.[36] Similar to OVS, this may allow students to spare what they do not intend to eat.

Saving Food for Later Consumption

The USDA has clarified that students are permitted to save the items which do not need cooling or heating for their own consumption later. SFAs could also repurpose what students do not take to be used in future meals or for donations.

Composting

Composting may be an impactful way to divert food waste but doing it properly requires an investment in staff time and school meal resources. For example, it may require more materials such as bins, custodial support, student education and monitoring, and hauling services. We believe that such investments are best made after other best practices shared in this brief.

CONCLUSION

As a permanent policy, School Meals for All presents an opportunity for the State and School Food Authorities (SFAs) to invest in school meal programming to boost its impact.

Now is the time to invest in school meal programs to secure the value they provide to students and our communities.

Before changes are made to school meal programs, stakeholders must consider the impact it will have on the school nutrition staff who are already putting in immense efforts to provide students with healthy meals. Thus, it is important to incorporate school nutrition staff into decision-making. Further, the suggested activities in this brief may add work for these staff, connecting to the need to support staff with adequate pay and training. While, many of the recommendations in this brief may be well-known by SFAs, in order to initiate or implement them successfully SFAs may require greater policy support, encouragement, and funding or other incentives from the State.

As the USDA has said, "the best way to tackle food waste is to make sure students consume what they take."[37] The cornerstone of school meals is providing students nutritious meals to help them learn and thrive - both in and outside of school. To maximize these benefits, strategies can be implemented to increase consumption of school meals, while also reducing waste and bolstering program quality.

STRATEGIES TO BOOST CONSUMPTION & STATE ACTIONS TO ENCOURAGE THEM

SFAs can give students adequate time to eat, and strategically schedule meals.

The State can pass mandates or fund incentives to reward these practices.

SFAs can use systems-level strategies to improve operations, including staff training, professional development & fair compensation.

The State can release standards and guidance, or fund grants to encourage the implementation.

SFAs can utilize best practices to plan for students' preferences and perceptions, by focusing on menu choices, food presentation and student engagement.

The State can release guidance and fund grants to encourage such practices.

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