

Virginia School Cafeteria Manager Perceptions of Initiatives to Improve the School Nutrition Environment

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INTRODUCTION:

Schools are important settings to promote healthy dietary choices for students and overall well-being (Pineda et al., 2021; Story et al., 2008; Welker et al., 2016). Initiatives like preparing foods from scratch, offering additional fruits and vegetables, and adhering to nutrition standards improve the health promotion potential of school nutrition environments and school meal quality (Gearan et al., 2019; Micha et al., 2018; Palmer et al., 2024; Pineda et al., 2021; Schober et al., 2016). Implementation of such initiatives is complex and requires buy-in and sufficient capacity from school nutrition professionals to be successful (Langner et al., 2024).

The [blinded for review] Department of Education, Office of School and Community Nutrition Programs ([blinded acronym]) received a fiscal year 2022 Team Nutrition Training Grant to support school nutrition professionals (i.e., school nutrition directors and cafeteria managers) with training to implement four primary initiatives: 1) scratch and speed-scratch cooking; 2) local food procurement and service; 3) student-inspired meals; and 4) understanding and adherence to the *Child Nutrition Programs: Transitional Standards for Milk, Whole Grains, and Sodium* ([Transitional Nutrition Standards] Child Nutrition Programs: Transitional Standards for Milk, Whole Grains, and Sodium - Final Rule, 2022). The Team Nutrition Training Grant promoted flexibility of training programs to meet state-specific needs, and thus a needs assessment among the priority audience of cafeteria managers was conducted to inform the development of a training program for [state]. Scratch cooking, local food procurement and service, student-inspired meals, and understanding of and adherence to the Transitional Nutrition Standards, were initiatives of focus to improve the school nutrition environment during the period of this needs assessment (Child Nutrition Programs: Transitional Standards for Milk, Whole Grains, and Sodium - Final Rule, 2022; Spruance & Vo, 2023; Vincent et al., 2020; Zuercher et al., 2025).

The needs assessment used established definitions for the initiatives of focus. Scratch cooking is the preparation of recipes with foods that are raw or minimally processed (Vincent et al., 2020). Speed-scratch cooking is a related technique in which ready-made products, such as dehydrated gravy, are blended with fresh ingredients to create a meal (USDA, 2022). Local food procurement lacks a standardized definition, but the



public purchase of local or regionally produced foods is a federal priority in the National Strategy for Hunger, Nutrition, and Health (The White House, 2022). Student-inspired meals are recipes that cater to the various cultural and nutritional needs of students and are perceived as a needed improvement to school meal programs by school nutrition professionals (Lamson & Miller, 2024; Langner et al., 2024). The Transitional Nutrition Standards were in effect for the 2022-2023 and 2023-2024 school years and were the precursor to the final rule, *Child Nutrition Programs: Meal Patterns Consistent with the 2020-2025 Dietary Guidelines for Americans* ([Final Rule]; Food and Nutrition Service, 2024). The Transitional Nutrition Standards and Final Rule include guidelines on milk, sodium, and whole grains, and added sugars (Final Rule only) to more closely align school meals with the *2020-2025 Dietary Guidelines for Americans* (Transitional Nutrition Standards (2022); Final Rule (2024)).

Effective implementation of nutrition programs requires preparedness and readiness by the individuals responsible for day-to-day program activities (Weiner et al., 2008); in schools, these individuals include cafeteria managers and school nutrition directors (Asada et al., 2017; Rajbhandari-Thapa et al., 2017). Participation in training programs has been shown to increase self-efficacy and confidence in implementing school nutrition environment initiatives among managers (Bean et al., 2018, 2019; Rajbhandari-Thapa et al., 2017; Stokes & Spruance, 2020). While these training opportunities often focus on knowledge and skills, (Quinn et al., 2018; Rajbhandari-Thapa et al., 2017; Stephens et al., 2016) development of leadership capacity is an equally important professional skill for cafeteria managers (Coble & Clodfelter, 2003; Sullivan et al., 2002). Cafeteria managers are important intermediaries between director level professionals, students, and cafeteria staff, and building their confidence in leadership and decision-making may be key to implementing changes in the school nutrition environment (Machado et al., 2022).

Yet, despite the consensus that training and professional development for school nutrition professionals is necessary to facilitate implementation of practices to improve nutrition environments (Langner et al., 2024; Merlo et al., 2023; Tabak & Moreland-Russell, 2015; Thomson et al., 2012), the perspectives of frontline professionals on their training needs are underrepresented in the literature (Palmer et al., 2024; Stephens & Byker Shanks, 2015). Assessing the training needs of cafeteria managers from the manager perspective supports the development of training programs to address critical barriers to change. The purpose of this needs assessment was to explore the perceptions of school cafeteria managers in [state] on their training needs to increase scratch and speed-scratch cooking, local food procurement and service, student-inspired meal service, and understanding and adherence to the Transitional Nutrition Standards. A secondary purpose was to identify manager's preferences for training format and delivery.

METHODOLOGY:

This needs assessment was deemed to be an evaluation and not human subjects research by the [blinded] Institutional Review Board in February 2023 (#22-1095).

Instrumentation

All authors collaborated to develop the focus group discussion script, with input from expert school nutrition training providers. The script included a brief introduction, ten primary questions with 2–3 probes per question, and short transition statements between topics. Table 1 contains a sample of the questions focused on the primary initiatives and perceptions of previous trainings. Each script concluded with an invitation for participants to share additional information, suggestions, or thoughts about training programs and their development. A professional translator prepared the script in Spanish.

Table 1. Selected Focus Group Discussion Topics and Questions.

Topic	Question	Probes
Usefulness of Previous Trainings and Preferred Changes	What has stopped you from making changes suggested in previous training?	What would have helped you make the suggested changes? What frustrates you the most about making changes that were suggested during previous trainings?
Scratch and Speed-Scratch Cooking	What barriers or challenges prevent you from preparing and serving more scratch made meals?	What resources do you need in order to prepare additional scratch made meals? What training would increase your confidence and ability in preparing scratch prepared meals?
Local Food Procurement and Service	What barriers or challenges prevent you from preparing more local foods?	What resources do you need to prepare and serve additional local foods? How could a training change your ability to prepare and serve additional local foods? What would you like a training program to include?

*Groups 4 and 5 were read a brief definition of the Transitional Nutrition Standards after asking managers to describe their current ability and comfort level in meeting the standards.

(Table 1 continues)

Table 1 (continued). Selected Focus Group Discussion Topics and Questions.

Topic	Question	Probes
Student-Inspired Meals	Do you offer foods that represent most of the cultures in your school division? If so, what are some examples?	How could a training change your ability to offer foods that are relevant to the cultural needs of your students? What would you like the training program to include?
Transitional Nutrition Standards	Please describe your current ability and comfort level in meeting the Transitional Nutrition Standards.*	How would you like to improve your knowledge and ability to meet the standards? What should a training program on the Transitional Nutrition Standards incorporate?

*Groups 4 and 5 were read a brief definition of the Transitional Nutrition Standards after asking managers to describe their current ability and comfort level in meeting the standards.

Recruitment and Data Collection

Cafeteria managers in [state] were invited to participate in the focus group discussions via an email invitation from the [blinded agency]. Managers were invited from all school divisions in [state], regardless of their division's participation in the Team Nutrition Training program, to recruit individuals from a range of urban and rural divisions. Managers registered for the focus group discussion through a Qualtrics survey.

Two hundred and two English-speaking cafeteria managers and two Spanish-speaking cafeteria managers registered to participate. Spanish was a commonly spoken language among cafeteria managers in [state] and participation in Spanish was thus offered to expand opportunity for participation by inclusivity for potential participants. Given literature that recommends five focus groups for data saturation and to identify differences among demographic groups (Guest et al., 2017; M. Hennink & Kaiser, 2022; M. M. Hennink et al., 2019; Krueger, 1994), the evaluation team recruited for five focus group discussions. Forty-eight English-speaking cafeteria managers who represented a range of characteristics of divisions (e.g., rurality, level of need) were selected to participate in four focus group discussions by [blinded agency]. The forty-eight managers were selected based on scheduling congruency and representation of a range of divisions. Both Spanish-speaking registrants were invited to form a fifth focus group.

Each focus group discussion was held via Zoom (Zoom Video Communications, San Jose, CA). Only one Spanish-speaking manager was successfully recruited, so a semi-structured interview was held with the attendee in place of a focus group discussion. A native Spanish-speaker conducted the semi-structured interview with the Spanish-speaking manager. The script for the Spanish-speaking participants included one additional question, to ask participants about the acceptability of using English printed materials during trainings facilitated in Spanish. A trained moderator, assisted by two notetakers, facilitated each English focus group discussion.



Data Analysis

Authors identified and recorded overall themes, key takeaways for each question, and illustrative quotations during a debriefing session following each focus group discussion. The notetaker for the semi-structured interview (author X), who is a proficient Spanish speaker, prepared a summary and identified key takeaways from the interview data. Following guidance from McNall & Foster-Fishman, (2007), focus group and interview data were not transcribed; rather, the detailed debriefing reports and audio files were used for data analysis. Two authors (X and Y) independently completed content coding of the focus group and semi-structured interview data in Microsoft Word for interest among managers, barriers, and training considerations for each *a priori* topic of 1) scratch and speed-scratch cooking, 2) local food procurement and service, 3) student-inspired meal and 4) the Transitional Nutrition Standards. The authors met in person to review the alignment between coding and resolved discrepancies through discussion until consensus was reached. Author X and author Y also collaborated to determine key takeaways for usefulness of previous trainings and drafted an initial report of these findings to share with authors from the (blinded agency). These key takeaways are presented in the results section because of their utility for the school nutrition professional community.

RESULTS AND DISCUSSION:

Participants' experience in their current positions as school cafeteria managers ranged from less than one year to several decades. Some managers worked together in a division or otherwise knew each other, and managers from elementary, middle, and high schools across [blinded state] participated, representing divisions of different sizes and rurality. Table 2 contains summarized results for interest among managers, barriers, and topic-specific training considerations for the four primary initiatives. The subsection 'usefulness of previous trainings and preferred changes' includes considerations for training design that were highlighted by cafeteria managers. Overall, the results provide considerations for cafeteria manager training design and content, with specific considerations for scratch cooking, local food procurement, student-inspired meals, and adherence to the Transitional Nutrition Standards.

Table 2. Consistent Interest, Barriers, and Training Considerations with Illustrative Quotations by Primary Initiative

Topic	Interest	Barriers	Training Considerations and Suggestions	Illustrative Quotation
Scratch and Speed-Scratch Cooking	<ul style="list-style-type: none"> Opportunity to introduce students to healthy, wholesome food Recognition that students like the scratch foods High interest for more scratch meals 	<ul style="list-style-type: none"> Staff time, skills, burnout Measurement conversion Recipes incomplete or written with inaccessible terms (e.g. 0.06 cups) Equipment needs, including an inability to tailor recipes to individual kitchens Limited ordering options 	<ul style="list-style-type: none"> Request that trainers understand and are familiar with what it is like to work in a kitchen Preference for hands-on training Include cafeteria staff Portion size conversions Equipment substitutions Reading and understanding recipes Tips for batch cooking, such as maintaining freshness 	<p><i>"We are always working short here...we don't have enough staff"</i></p> <p><i>"I have kids who don't eat pasta at home, but eat pasta here because they love our marinara"</i></p> <p><i>"I don't know how I could scratch cook with my equipment: two burner stove, two steamers, two ovens...maybe because I've never done it before...maybe it's something I need to learn."</i></p>

(Table 2 continues)

Table 2 (continued). *Consistent Interest, Barriers, and Training Considerations with Illustrative Quotations by Primary Initiative*

Topic	Interest	Barriers	Training Considerations and Suggestions	Illustrative Quotation
Local Food Procurement and Service	<ul style="list-style-type: none"> General interest, especially in the potential to support local farmers and small businesses Those already using local foods valued it 	<ul style="list-style-type: none"> Director support Supply chain issues, including limited options from distributors Staff time (based on perception that local foods are whole, raw fruits and vegetables) Perception that local foods are more expensive 	<ul style="list-style-type: none"> Recipes to use local foods Receiving, storing and cleaning local foods Cooking skills (based on perception that local foods are whole, raw fruits and vegetables) Definitions of local foods Procurement strategies 	<p><i>"When you are dealing with local, the storage, the cleaning, everything is a little different than when you are getting canned foods."</i></p> <p><i>"It's nice to support local rather than some place we don't know"</i></p>

(Table 2 continues)



Table 2 (continued). *Consistent Interest, Barriers, and Training Considerations with Illustrative Quotations by Primary Initiative*

Topic	Interest	Barriers	Training Considerations and Suggestions	Illustrative Quotation
Student-Inspired Foods	<ul style="list-style-type: none"> General interest but lack of clarity on how to advance initiative 	<ul style="list-style-type: none"> Uncertainty about how to gather information on student-inspired recipes Confusion about what constitutes a student-inspired food (e.g. walking tacos or teriyaki chicken were given as examples) Lack of perceived diversity within school divisions by some participants 	<ul style="list-style-type: none"> Food and recipe examples Highlight comfort, kid friendly, or holiday celebration foods from different cultures Strategies for learning about a range of recipes Include nutrition information for new foods and recipes 	<p><i>"I would like to know what their culture eats, what is their cheeseburger or pizza?...What is their item they have to have where they are?"</i></p> <p><i>"We have a pre-made menu. It is a 4 week cycle, I don't feel we offer a lot of different choices"</i></p> <p><i>"Maybe it's time to step outside of the box and try that...food from Hungary or Mexico, and maybe they [the children] will really like it"</i></p> <p><i>"[County] has a lot of Hispanic children, we do not offer anything special for them"</i></p>
Transitional Nutrition Standards	<ul style="list-style-type: none"> High interest and recognition that understanding would improve capacity to perform well in the role of cafeteria manager 	<ul style="list-style-type: none"> The terminology of "Transitional Nutrition Standards" was unfamiliar Concern that changes would be unpalatable to students 	<ul style="list-style-type: none"> Few details discussed, however, training programs that assess terminology used by intended audience may increase understanding of topic 	<p><i>"Maybe we are just calling it something different and that's why I am confused."</i></p> <p><i>"There needs to be a class. I am completely baffled that I don't know this."</i></p>

Content-Specific Considerations for Scratch Cooking, Local Foods, Student-Inspired Meals, and the Transitional Nutrition Standards

Many of the considerations for local foods and scratch cooking were similar, with managers focused on the perception that local foods would be received in raw, whole form. Successful school foodservice training allows for modifications within varying physical infrastructures (Stephens & Byker Shanks, 2015). Kitchen infrastructure was stated as a barrier to scratch cooking and local foodservice, aligning with previous findings that infrastructure is often a primary concern among school nutrition professionals tasked with scratch cooking or increasing meal participation (Zuercher et al., 2022, 2025). Managers suggested that training programs be flexible and include suggestions for how to modify recipes and cooking techniques to various equipment setups, reflecting previous findings on training preferences (Stephens & Byker Shanks, 2015). School nutrition professionals have previously reported that they use workarounds to adhere to new policies (Poole et al., 2024) and developing training that recognizes varying infrastructure could improve buy-in towards initiatives. Investments in infrastructure or practice modifications within current kitchen equipment may provide structural support to advance scratch cooking and local foodservice, thus creating a more health-promoting school food environment (Schober et al., 2016; Zuercher et al., 2025).

Managers were interested in increasing scratch cooking, stating that the students enjoyed scratch-prepared meals: "...the students love it. They ask for it." Stated barriers included staff time and infrastructure, the same common limitations identified in other public-school systems (Vincent et al., 2020; Zuercher et al., 2025). Procurement of ingredients for scratch-prepared meals must align with the kitchen capacities (Ahmed et al., 2022), and a mutual understanding of these needs could be generated through co-attended training for directors and managers. Procurement of school food is often more complicated for scratch ingredients (Stanley et al., 2012), and managers expressed a desire to understand these complications. While cafeteria manager training cannot address all of the organizational and systemic changes required to transition to scratch cooking, it could incorporate some practices to advance the capabilities of facilities, human resources, and marketing (B. Collins, 2012; Schober et al., 2016). Some managers were aware of the many social and cultural characteristics of students within their divisions but were unsure of specific foods or recipes that celebrated and reflected a range of student demographics. Participants stated their desire to learn about student-inspired foods to better serve their students. Other managers focused on the availability of personalized food options, such as a sandwich bar, but did not understand student-inspired meals or discuss the range of social and cultural characteristics of the students in their divisions. One participant recognized the potential of serving student-inspired foods and integrating the food into other school lessons like history and language. Cultural inclusion in school nutrition has been identified as a key component for effective nutrition education to promote healthy dietary choices among students (Greaves-Peters & Koch, 2024), and understanding stakeholder perspectives on best practices is an important research direction.

Few details were discussed on the Transitional Nutrition Standards. Managers were interested in learning more about the standards and requested training to understand the background and implications of the policy. The desire to learn more about the Transitional Nutrition Standards was consistent across all focus groups and the semi-structured interview. There was some concern that sodium standards would decrease the palatability of

the foods offered, and affect the students' perception of the quality of school meals: "*If you take any more out, what is going to be left for them to taste? That is going to be less kids wanting to eat.*" During previous updates to the school nutrition standards, successful strategies to improve adherence have included implementation support like training, equipment purchases, and director involvement (Asada et al., 2017; Poole et al., 2024). Results of this needs assessment align with known strategies to improve implementation of school nutrition standards. An additional consideration for training programs is to tailor materials with terminology familiar to school nutrition professionals. Participating managers may have been knowledgeable about the Transitional Nutrition Standards, but were using different terminology: "*What are the standards? I know we are restricted in sodium and sugar.*" Groups 1 and 2 discussed sodium restrictions: "*I know they are cutting the salt.*" In focus groups 4 and 5, moderators referred to the Transitional Nutrition Standards as the current USDA school meal regulations and provided a brief definition. Following this prompting, managers discussed how changes to flavored milk and sodium requirements would be received by students. While groups 4 and 5 discussed flavored milk requirements that were not mentioned in groups 1 and 2, there were no major differences in the depth of information provided by managers across groups that were provided a definition of the Transitional Nutrition Standards and groups that were not provided a definition. Cultural tailoring of training materials, including terminology, may increase the sense of empowerment and ownership by school cafeteria staff (Hildebrand et al., 2018; Stephens & Byker Shanks, 2015).

Usefulness of Previous Trainings and Preferred Changes

Cafeteria managers discussed in general terms their perceptions of previous training programs and preferred changes to training structures. Two themes were identified within this category: 1) setting and modality and 2) co-learning and inclusive decision-making.

Setting and Modality

In-person training was desired to facilitate group and peer learning, a finding reported in other school cafeteria training assessments (Flure et al., 2020; Stephens & Byker Shanks, 2015). Managers referenced their positive attitudes about the school nutrition professional community and shared that they use social networks and Facebook to learn from other schools. Managers indicated they called each other with questions or for support, especially during the on-boarding process. Several mentioned they did not have adequate support as they were learning the position, and those that did have support found it in more senior colleagues, with one participant stating: "*Everything I learned, I learned from [senior manager].*" Professional networks have been reported as essential support systems for school nutrition directors (Cornish et al., 2015), and the results of the present evaluation suggest a similar importance for cafeteria managers.

In-person training might also be important given the digital literacy of the participating managers. Some managers were unable to fully participate in the focus group discussions and were limited to providing input via the chat function or via a shared Zoom link with another manager. One participant stated that: "*I'm surprised that I was even able to join the meeting, I'm not computer savvy, most of the time when I do trainings, I'm at work and my boss helps me.*" If online trainings are necessitated due to logistics, a written instruction

sheet or common troubleshooting tips could be provided prior to the online meeting so that training participants can practice connecting to the online platform (Archibald et al., 2019).

Managers were committed to student well-being but referenced the personal difficulties of their positions: *"This is a hard job, physically, mentally, this is a hard job. There is a lot of stress."* To reduce burnout among school nutrition professionals, it was suggested to combine training topics when possible and include ideas for how managers can support their staff so they can attract and retain people. One participant highlighted this idea, saying: *"We can read everything in the world on food and meal preparation, but what about our staff and their well-being? There's no training on that. They are burned out."* Inadequate staffing and high turnover have been documented as barriers to increasing scratch cooking, local food procurement, and other initiatives meant to improve the school nutrition environment (Asada et al., 2020; Zuercher et al., 2022). Staff burnout as described by the cafeteria managers may contribute to high turnover, therefore, an increased focus on staff well-being may improve staff retention and influence successful implementation of school nutrition environment initiatives.

Co-Learning and Inclusive Decision-Making

Cafeteria staff have reported elsewhere that support for nutrition programs is needed from school nutrition leadership to promote program success and student well-being (Slawson et al., 2013). Managers were interested in increasing the primary initiatives but felt excluded from or unable to make decisions to advance these goals. The managers' perceptions of exclusion are reflected in reports that frontline staff are often not included in policy development and implementation discussions, despite interest in such initiatives as Farm to School (Nothum et al., 2019). Specifically, managers stated they were constrained by purchasing systems and menus planned by their supervisors: *"I don't have an option, I just follow the menu."* Menus and recipes were often stated as inadequately designed for the realities of specific kitchens, with one manager sharing: *"Sometimes [the recipes] say 0.06 cups, like what is that?"*

Managers asked for directors to understand the day-to-day life in the kitchen and to be able to work with directors to develop tailored solutions. One participant stated that *"We are the only ones that understand the difficulties of our jobs,"* a sentiment that was acknowledged with strong agreement from other managers. Managers wanted to have a greater understanding of decision-making within their school nutrition program, especially in the design of menus. There was a perception that managers' expertise was not considered in decision-making: *"If you say something, the powers that be may not listen or hear what you are saying."* One frequently suggested strategy to improve communication and collaboration between managers and directors was to conduct co-learning training programs. Co-learning programs that include managers and school nutrition directors may facilitate greater respect and understanding of daily challenges within the respective roles (Cromwell & Kolb, 2004; Martin, 2010). Co-learning can also support informal train-the-trainer programs (Schober et al., 2016), which may be effective given the importance of social networks among cafeteria managers.

CONCLUSIONS AND APPLICATION:

This needs assessment provides insight into the perspectives of cafeteria managers about training support they need to increase scratch and speed-scratch cooking, local food procurement and service, student-inspired meals, and adherence to the Transitional Nutrition Standards. Training solutions to address the barriers identified for the priority initiatives, and broader barriers to improvements to the school nutrition environment, are offered below. Individual-level solutions may mitigate some of the barriers identified by cafeteria managers in this needs assessment, however, we also recommend exploration of organizational and systems level interventions to address barriers to school nutrition environment improvements, consistent with recommendations presented elsewhere (Chung et al., 2023; Keleher et al., 2024; Zuercher et al., 2025).

Practice Applications

School divisions can explore actions to create a more collaborative relationship between cafeteria managers and school nutrition directors. Manager-suggested actions included shared training for managers and directors, or director attendance at manager training. Less formal interactions, such as directors working alongside kitchen staff for a service period, may also facilitate co-learning and increased understanding of decision-making processes (Myers, 2015). The [BLINDED AGENCY] offered two in-person culinary skills and commercial kitchen equipment training for school nutrition directors, one in October 2023 and one in April/May 2024. Given that in-person training is generally preferred by school nutrition professionals (Flure et al., 2020; Stephens & Byker Shanks, 2015) and corroborated by our findings, divisions could explore strategies for collaborative and in-person learning activities.

Workplace burnout and staff turnover were key barriers to priority initiatives. While best practices for workplaces to promote mental health include interventions at the organizational and societal level, (Goetzel et al., 2018; Wu et al., 2021) and were outside the scope of this evaluation, the results presented here are a call for school nutrition support programs to include mental health promotion strategies. Individual interventions delivered through training programs are an important first step to create a supportive environment; however, organizational strategies must be delivered in conjunction with training to prevent burnout among school nutrition professionals. Potential organizational strategies to support workforce well-being for implementation of scratch cooking and local foods are to purchase time-saving equipment, like produce sectionizers (Poole et al., 2024), or to develop menus with flexibility to accommodate seasonal local food purchases.

Policy Applications

Increased public procurement of local foods is an important strategy to strengthen local food systems and is positively perceived among school nutrition professionals (Thomson et al., 2024). Managers were overall interested in increasing local foods but stated limited self-efficacy as a barrier to implementation. Previous research has reported that frontline cafeteria staff are often excluded from local food procurement policy development and implementation (Nothum et al., 2019), but that when staff are included in these discussions, the initiatives are more likely to be successful in meeting implementation goals (Bagdonis et al., 2009). Training for frontline staff on local food use skills, such as receiving and processing, is necessary to support local food



procurement policies (Nothum et al., 2019). Flexibility within standardized recipes to substitute seasonal, local foods addresses manager needs to adjust for varying equipment and skill levels and local food distribution schedules.

Research Implications

Managers had a desire to be successful in their jobs because they viewed their positions as caretakers of student well-being. It has been reported elsewhere that foodservice professionals' attitudes have the potential to influence actions towards implementation of new initiatives (Choi & Rajagopal, 2013; J. Collins et al., 2017). Future research could explore how managers' care towards students could influence their practices, and whether framing trainings to enhance the well-being of students increases manager buy-in on school nutrition environment changes.

Some individual managers did report that they serve a portion of their meals from scratch, and future research could determine the demographics, human resources, and infrastructure present in the divisions that are serving scratch meals. A statewide survey in California reported that rural schools and schools with a higher income and percentage of white students were more likely to prepare scratch meals (Vincent et al., 2020), and [blinded state] and other states could investigate their own demographic trends. Similarly, infrastructure is a key factor in the implementation of scratch cooking (Trent et al., 2019; Vincent et al., 2020; Zuercher et al., 2025), and understanding how infrastructure varies across a range of demographically different school divisions can guide policy and practice action, such as identifying local funding opportunities for equipment purchases.

There was an overall lack of understanding of student-inspired meals. While managers expressed a desire to serve meals that the students would enjoy, many were unable to provide examples of meals that meet the social and cultural needs of their students. Researchers could explore effective strategies for identifying foods and recipes popular among a range of cultures.

Our purpose was to evaluate the needs of cafeteria managers in [blinded state]. Given that school nutrition policies, resources, and practice vary by state and division, other states need context-specific data to inform their training programs. This evaluation may serve as a guide for other needs assessments and formative evaluations.

Limitations

Due to technological barriers, not all focus group participants had equal opportunity to share during the focus group discussions. Therefore, the results may be skewed towards those manager perceptions who were able to successfully navigate the Zoom platform. Only one Spanish-speaking participant attended the focus group discussion and thus the data from the Spanish-speaking participant is limited to their perceptions, as the participant was not exposed to new ideas or changes within a focus group conversation (Krueger, 1994). Although invited managers were selected to represent divisions with a range of demographic characteristics, we did not fully explore how manager perceptions may vary by division demographics like rurality, school meal participation, or size. Self-selection bias may be present among the participant sample, given that managers



opted-in to focus group recruitment. While some bias was introduced during data collection by providing a brief definition of the Transitional Nutrition Standards to only some focus groups, there was overall little information shared by managers on this topic.

Conclusions

[Blinded State] cafeteria managers expressed interest in increasing scratch and speed-scratch cooking, local foods, and student-inspired meals. While managers lacked understanding of the Transitional Nutrition Standards, they wanted to learn more to be in compliance. Common barriers to advancing the priority initiatives included staff time and equipment limitations. Strategies to increase buy-in from managers may include greater inclusion in decision-making processes and co-learning opportunities with school nutrition directors. Managers were generally interested in the priority initiatives, but their perceived exclusion from decision-making was a barrier to change. Framing priority initiatives as a part of student support may increase buy-in, as managers shared a high level of care for the well-being of students. Training programs that address individual skills, such as modifying recipes to work with existing kitchen infrastructure, can mitigate some of the barriers to implementation of the priority initiatives. Additional interventions at the organization and systems level are likely needed to eliminate barriers to scratch cooking, local food procurement, student-inspired meals, and adherence to the Transitional Nutrition Standards. Understanding the needs of managers to implement school nutrition environment initiatives can inform training programs tailored to address priority barriers so that the school nutrition environment can be improved to promote student health and well-being.

DECLARATIONS

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ABSTRACT

PURPOSE/OBJECTIVES

School cafeteria managers are key agents of change for improving the school nutrition environment. Understanding managers' training needs and their perceived barriers are essential for successful implementation of initiatives. The purpose of this needs assessment was to explore the perceptions of [state] school cafeteria managers regarding training needs for four initiatives: scratch cooking, local food procurement and service, student-inspired meals, and adherence to the *Child Nutrition Programs: Transitional Standards for Milk, Whole Grains, and Sodium* [Transitional Nutrition Standards].

METHODS

Participants were [state] English- or Spanish-speaking school cafeteria managers. Twenty-one managers participated in four focus groups and one interview via Zoom in March 2023. Content analysis was used to determine interest, barriers, and training considerations for each initiative.

RESULTS

Managers stated that recipes for scratch cooking and local foods should be flexible to equipment and supply chain differences. While there was general interest in student-inspired foods, managers were unsure of what constitutes these foods or how to identify student inspired recipes. Few details were discussed on the Transitional Nutrition Standards and managers wanted more information to support successful adherence. Managers felt that exclusion from decision-making and staffing constraints were common barriers to implementing training suggestions. The preferred training modality was in-person and concurrent with directors.

APPLICATIONS TO CHILD NUTRITION PROFESSIONALS

Agencies may consider training programs that are in-person and include school nutrition directors to facilitate team decision-making. Training to increase managers' self-efficacy with time-saving equipment or adjusting recipes may address barriers to scratch cooking and local foodservice. Definitions and examples of student-inspired meals could be provided in training. Communicating details of the Transitional Nutrition Standards may improve manager confidence with adherence.

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