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Farm-to-hospital programs and public health: Leveraging local food for organizational and behavioral change

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Abstract

Farm-to-hospital (FTH) programs have emerged over the last decade as an approach for hospitals to leverage their buying power and growing influence in the food system to support healthier eating habits, as well as stimulate local economic development and community wealth building, often within a broader set of policy, systems, and environmental (PSE) interventions. While FTH programs have increased in prominence over the last decade, several challenges prevent widespread adoption. These include distributor contracts that limit outside purchases, logistical challenges receiving products from local vendors, and a lack of buy-in from key decision-makers. These challenges frequently reflect foodservice operations organized to maximize revenue, which lends itself to an approach that sources cheap and unhealthy food products. In this paper, we present findings from a case study of two hospitals part of the University of Wisconsin Health system in their efforts to develop a farm-to-hospital program from 2008 to 2017. Specifically, we study the organizational strategies used by the We Are Health Committee (WAHC) and its informal predecessors to create the conditions to facilitate and encourage local food procurement. We

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find that stakeholders reorganized their foodservice operations around the value of supporting public health, leveraging their clinics' mission as a public health institution. This resulted in the creation of new organizational structures and roles, including merging their nutritional and foodservice departments, creating the infrastructure for institution-wide change. Local food procurement was perceived as a means to develop nutritional interventions targeting the availability of healthier food items without creating the perception of paternalism among visitors. Finally, as stakeholders observed the local economic impact of their purchasing decisions, the values of their foodservice evolved to explicitly include supporting local economic development, resulting in an evolution of their relationship with their broadline distributor to facilitate increased local food purchases.

Keywords
Farm-to-Institution, Local Food, Nutrition, Community Wealth Building, Sustainable Food Systems, Behavioral Nutrition

Introduction

Over the last two decades, the role that hospitals play in their local communities has evolved significantly. Traditionally considered solely as providers of medical services, hospitals have increasingly embraced their impact on their communities' public, economic, and environmental health. Hospitals spent over US$750 billion in 2011, much of which by publicly-owned or not-for-profit hospitals (Dubb & Howard, 2012). This spending power, as well as their relative permanence in place, have led many to call hospitals 'anchor institutions,' alongside universities, libraries, or museums (Norris & Howard, 2015). In the wake of the Great Recession, scholars and organizations, such as the Democracy Collaborative, have studied strategies to leverage this power to generate sustainable and equitable economic development (Norris & Howard, 2015; Oostra et al., 2018; Schildt & Rubin, 2015; Ubhayakar et al., 2017). Approaches, like the Cleveland Model and the Preston Model, have utilized anchor-centric strategies for economic development such as redirecting spending to local firms, specifically targeting those with cooperative ownership structures and 'sustainable' business practices, and ensuring the creation of high quality and stable local employment (Alperovitz et al., 2010; Dubb, 2016; O'Neill & Brown, 2016).

In recent years, growing attention has been given to how hospitals can support the development of sustainable food systems. The number of total meals served by hospitals and the share of those meals prepared for non-patients has steadily increased over the last decade (Foodservice Director Staff, 2016). These retail trends have converged with the growth of literature within behavioral economics and public health documenting the role of food environments on consumer choices and public health outcomes. This scholarship suggests that changes in the choice architecture facing consumers, such as product placement, labeling, pricing, and promotional strategies, can 'nudge' consumers towards specific products, creating the potential for institutions to encourage healthier eating habits (for a review, see Ensaff, 2021). Recent research has further suggested that hospitals could serve as a valuable site for such interventions targeting the consumption patterns of its visitors (Mazza et al., 2018; Warsaw & Morales, 2020; Winston et al., 2013).

The confluence of these public health and economic trends is reflected in the rise of farm to institution programs over the last three decades (Lakind et al., 2016). Through local food procurement, these programs leverage the mission of anchor institutions to support the local community and position foodservice as a vital component of pursuing that mission. In this paper, we present a case study of the evolution of a farm-to-hospital program as part of a series of Policy, Systems, and Environmental (PSE) interventions at two clinics within the University of Wisconsin (UW) Health system: University Hospital (UH) and its affiliated pediatric hospital, American Family Children's Hospital (AFCH, UH-AFCH) between 2008–2017. Specifically, we discuss how organizational values, structures, and roles shifted to accommodate a foodservice operation centered on public health and local food procurement and marketing to produce organizational and community support for these changes. Further, we discuss how organizational decision-makers' understanding of their role

in the local food system evolved as they increased their local food procurement and the impact of this evolution on their interactions with the food system.

Literature Review

Over the last two decades, PSE interventions have emerged as a common framework used by public health professionals to promote preventative healthcare by mitigating common risk factors, including tobacco usage, physical inactivity, and nutritional deficiencies (Kegler et al., 2015). Here, policy refers to rules set by governments or organizations, such as a school purchasing policy that mandates increased local spending. System change refers to the infrastructure of a given organization, such as creating a farm to institution program. Environmental change refers to the physical environment, such as creating signage to encourage specific eating behaviors. PSE strategies take a socio-ecological approach to behavior modification, recognizing that individual behaviors are significantly influenced by societal and environmental forces (Kegler et al., 2015). PSE strategies design interventions at multiple levels, making desired public health choices easy and economically beneficial for the targeted population. The rise in PSE strategies in community health settings has been fostered by a surge in funding from organizations such as the Centers for Disease Control and Prevention (Bunnell et al., 2012).

Institutions, such as schools, are considered a useful site for PSE interventions because their infrastructure facilitates the design and integration of interventions at multiple levels while allowing for input from the targeted population (Lepe et al., 2019). FTI programs have become an increasingly common intervention targeting nutritional deficiencies due to their documented ability to synergize public health, economic, and environmental goals within the food system. Farm to school programs (FTS) were the first national FTI movement in the late 1990s, developing in response to concerns about school nutrition and public health outcomes in children (Feenstra & Ohmart, 2012). Since then, FTS programs have remained prominent and extensively studied across multiple disciplines (Prescott et al., 2020). Programs vary by institution but typically feature one or more of the following components: education (e.g., changes to nutritional curriculum and experiential learning in school gardens), procurement (purchasing and promoting local food in school cafeterias), and community support (e.g., integrating FTS into school wellness policy) (UNC Center for Health Promotion and Disease Prevention, 2016).

Previous research has indicated that FTS programs can increase the consumption of fresh produce while decreasing the consumption of soda and processed food items, increase willingness to try new food products, and improve nutritional literacy (Moss et al., 2013). Economically, scholars have argued that FTS programs may provide a stable source of revenue to producers, particularly small farms, allowing them to diversify their streams of revenue, and stimulate local economies through job creation and increased local spending by producers and their employees (Christensen et al., 2019; Feenstra et al., 2011). Environmentally, FTS programs may reduce waste in the supply chain and give institutions stronger influence over the growing practices of their vendors (Izumi et al., 2010; Rutz et al., 2018; Yoder et al., 2015).

To date, farm-to-hospital (FTH) programs have received less attention within the literature. However, previous scholarship has indicated that nutrition-based interventions to product availability and pricing in hospital vending machines and cafeterias may affect consumer behavior (Pechey et al., 2019; Warsaw & Morales, 2020). Further, a small but growing body of literature suggests that local food procurement by hospitals can stimulate economic activity (Becot et al., 2016) and that hospital decision-makers are increasingly interested in procurement strategies that minimize their environmental impact (Carino et al., 2020). These examples illustrate the potential for FTH programs to integrate nutritional, economic, and environmental goals under a broader umbrella of procurement-based interventions.

Despite the potential benefits of FTH programs, several barriers have slowed their widespread adoption across U.S. hospital systems. As in the case of FTS programs, FTH programs are often limited by the perception or existence of higher costs associated with procuring local food

amidst pressures to reduce costs, contracts with broadline distributors which favor or exclusively use industrial supply chains, and a lack of support from administrators who do not see foodservice as a part of the hospital's core mission but solely a means for revenue generation (Boys & Fraser, 2019; Klein, 2015; Perline et al., 2015; Sachs & Feenstra, 2008).

Addressing these roadblocks thus requires a vision for organizational food policy to facilitate local food procurement and simultaneously develop new organizational structures to accommodate that vision. As such, there is a continued need for scholarship studying hospital food procurement to identify organizational strategies which facilitate nutritional interventions that address public health goals and support the development of sustainable food systems. It is this need that our case study addresses. We analyze the development of a farm-to-hospital program at UH-AFCH between 2008-2017, including the organizational strategies used to reorganize its foodservice around public health and the role of local food procurement in facilitating and expanding the scope of its evolving operations. We address the following research questions:

1. How did UH-AFCH's organizational roles and values evolve to facilitate the development and implementation of its PSE interventions?
2. What was the perceived role of local food procurement in the success of UH-AFCH's PSE interventions?
3. How did local food procurement influence how UH-AFCH staff viewed the role of UH-AFCH in the community and local economy?

Case Study: University of Wisconsin Hospital

To address these questions, we utilize a descriptive case study approach (Baxter & Jack, 2008) to investigate the development of UH-AFCH's PSE interventions from 2008 to 2017. As Yin (2009) described, a descriptive case study approach is appropriate as the intervention of local food procurement studied here cannot be clearly separated from the context it occurred in; the real-life context is relevant for consideration in our findings.

UH is a 505-bed hospital facility located in Madison, Wisconsin. AFCH is a 111-bed pediatric facility that opened in 2007, replacing the previous children's hospital housed within UH. Both hospitals operate under a shared organizational structure; for instance, foodservice employees report to a single department head, who oversees food preparation for UH and AFCH. However, within several individual departments, some employees specifically oversee operations at AFCH; as such, we refer to them both separately and jointly as appropriate in this paper. In 2008, AFCH joined a cohort of 23 pediatric hospitals to participate in a national pilot program funded by the Mattel Corporation called Focus on a Fitter Future. The aim of the pilot was to develop strategies to reduce childhood obesity by modeling healthy eating habits in pediatric care settings. AFCH overhauled its cafeteria space to replace processed, high-fat foods with freshly prepared food products, emphasizing local produce as part of that program.

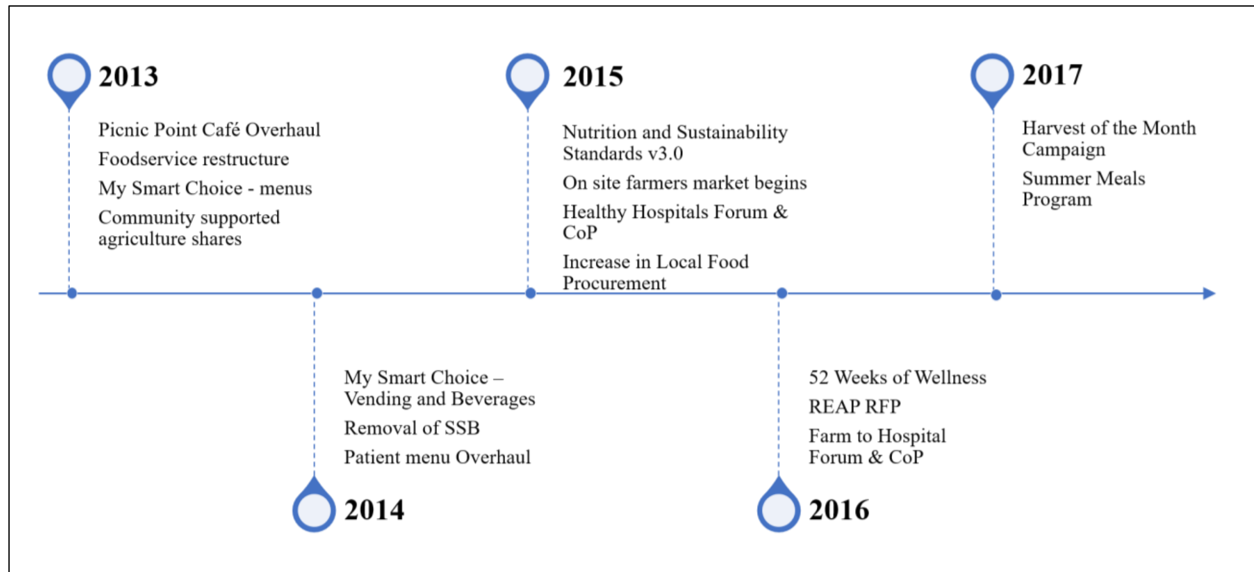
During this pilot, AFCH also tested the Centers for Disease Control and Prevention's Healthy Hospital Food Environment Assessment (HFEA) Tool, a scan of hospital food environments to determine the availability and affordability of healthy food options. After the conclusion of the pilot program, clinical nutritionists conducted the HFEA across the rest of UH-AFCH's foodservice operations. The assessment found that six of the seven retail spaces assessed met less than 20% of the HFEA criteria, with the exception being the recently renovated AFCH cafeteria. In response, stakeholders across the hospital created an interdisciplinary working group named the We Are Health Committee (WAHC), consisting of senior leadership, administrators, and employees across departments involved in public health and wellness, and non-affiliated members of the community. The committee's objectives were to develop and advocate for interventions in the food environment to bring retail, vending, and catering operations into at least 60% compliance with the HFEA guidelines, referred to as the '60/40' criteria. A summary of these interventions is provided in Table 1, and a timeline of their implementation is provided in Figure 1.

Beginning in 2015, UH-AFCH started to increase its procurement of local food as part of its long-term strategy to improve the nutritional environment of its foodservice operations. During the 2014-2015 fiscal year, the clinic spent approximately 6% of its food budget on local products and increased that spending to 21% in 2016-2017, or US$1.9M of its US$8.1M budget. These purchasing decisions were merged into nutritional interventions through promotional strategies simultaneously highlighting both healthy eating habits and the benefits of eating locally, such as the 2017 Harvest of the Month campaign. This campaign featured one Wisconsin-grown produce item in the clinic's cafeteria in various promotional events, including recipes, informational messaging providing tips for at-home preparation, and demos and meet-and-greet with local farmers.

Table 1. List of PSE Interventions at UWHC from 2008–2017

PSE Category	Intervention Name	Description
Policy	My Smart Choice	Tiered rating system for food products (green, yellow, red) based on nutritive quality; 60% of food served must meet the green or yellow criteria
	Nutrition and Sustainability Standards v 3.0	Updated purchasing guidelines for food products which mandated 20% of food purchases must meet either 'sustainable' or 'locally sourced' criteria
System	Foodservice restructuring	Culinary Service and Clinical Nutrition Departments combined into Clinical and Culinary Services
	We Are Health Committee	Interdisciplinary committee formed to design and implement nutrition-related interventions
	Healthy Hospitals Forum	Multi-day forum of 11 Wisconsin Hospitals to discuss best practices for hospital nutrition
	Healthy Hospitals Community of Practice	Commitment by Healthy Hospital Forum participants to implement at least one nutritional intervention in their clinics within a year
	Farm to Hospital Forum	Forum of 13 Wisconsin hospitals to discuss best practices for local food procurement
	Farm to Hospital Community of Practice	Commitment by Farm to Hospital Forum participants to increase local food procurement in a year
	On-Site Farmers Market	Farmers market run outside of UH campus. Products sold at market occasionally used in retail spaces
	Summer Meals Program	Free meals offered to families on free and reduced lunch during the summer
	REAP RFP	Request for partnership with local vendors
	Increased Local Food Procurement	UH-AFCH begins to increase their local food procurement
	Community Supported Agriculture	UH-AFCH organizes a CSA share program with pickup at their clinic
Environment	Picnic Point Overhaul	Deep fryers and unhealthy food options removed from AFCH cafeteria. Replaced with fresh produce, some sourced locally. Renamed Farmers Market Cafe
	My Smart Choice	Tiered rating system for food products (green, yellow, red) based on nutritive quality. 60% of food served must meet the green or yellow criteria
	Removal of Sugar Sweetened Beverages	Beverages containing added sweeteners are removed from beverage cases across the clinic
	52 Weeks of Wellness	One nutrition-based intervention (pricing, product placement, product availability) made a week
	Harvest of the Month Campaign	Each month, one Wisconsin-grown produce item is featured throughout UH-AFCH retail spaces via recipes, meet and greets, etc.

Figure 1. Timeline of Major PSE Interventions



By December 2017, an updated assessment of retail and catering operations found 100% compliance with the 60/40 objective. This assessment was complemented by additional internal indicators of improved public health outcomes, such as increased purchases of fresh produce and water by consumers in retail spaces (Warsaw & Morales, 2020). For these collective efforts, UH-AFCH was one of 11 hospitals recognized nationally by Practice Greenhealth as a 'Healthy Food Circle' honoree in 2017.

Applied Research Methods

Semi-Structured Interviews

We conducted semi-structured interviews with key decision-makers using snowball sampling (Polkinghorne, 2005). Initially, UH-AFCH foodservice and nutritional leadership were targeted, ultimately extending to other actors directly involved in creating or executing these policies. Eleven interviews were conducted with eight individuals, including food preparation staff, clinical nutritionists, department leads, and vendors. Interviews were conducted between June-July 2017. For each interview, one of three interview protocols were used; one for vendors, one for hospital staff involved in foodservice decisions during the Focus on a Fitter Future Pilot, and one for staff who joined after the end of that program. Interviews covered the participants' motivations for implementing various nutritional interventions, changes in organizational roles and structures in support of those interventions, the rationale and value of local food procurement in pursuing their nutritional goals, their experience with the process of purchasing food locally, and the perceived efficacy of local food procurement within the interventions. We use pseudonyms in place of proper names to protect confidentiality, listed in Table 2.

Analysis

The interviews were transcribed manually by one member of the project team, then checked for accuracy by a second team member. After completing and transcribing the interviews, an initial codebook was developed by one team member using four of the 11 interviews, drawing from the relevant literature and secondary data obtained by the project team. Secondary data included promotional materials related to various interventions, meeting minutes for the WAHC, internal communications detailing new policies, reports written by UH-AFCH team members, and relevant news stories written during the study period. In addition, brief memos were written to further detail each theme. Upon completing the initial codebook, three additional team members analyzed an interview to en-

Table 2. Pseudonyms for Research Participants

Moniker	Identifier	Description
CN1	Clinical Nutrition employee 1	Culinary and Clinical Nutrition Services (formerly clinical nutrition) employee
CN2	Clinical Nutrition employee 2	Culinary and Clinical Nutrition Services (formerly clinical nutrition) employee
CN3	Clinical Nutrition employee 3	Culinary and Clinical Nutrition Services (formerly clinical nutrition) employee
CS1	Culinary Services employee 1	Culinary and Clinical Nutrition Services (formerly culinary services) employee
CS2	Culinary Services employee 2	Culinary and Clinical Nutrition Services (formerly culinary services) employee
CS3	Culinary Services employee 3	Culinary and Clinical Nutrition Services (formerly culinary services) employee
VN	Vendor	A Dane County producer selling to UH-AFCH
EX	Executive	A member of the executive board at UH-AFCH

sure intercoder reliability and discuss the codes' validity. A final codebook was developed after these discussions, and the remaining data were coded.

Results

2008–2014: Redefining Hospital Food Service, Restructuring Organizational Systems

In describing the hospital's approach to foodservice before 2008, interviewees frequently referred to an 'old school' mentality of viewing food retail solely as a mechanism for revenue generation. This mentality had two primary impacts on UH-AFCH's procurement strategy. First, the clinics relied nearly universally on their broadline distributor (BD) for food purchases to minimize costs, with marginal concern given to the geographical origins of food products. Administrators did not track local food purchases during this time, though it was generally understood to be low by hospital staff.

Second, their need to drive sales and revenue created an incentive to procure food and beverage items that would appeal to the tastes of potential visitors. Given the well-documented correlation between hospital visits and stress (Hultman et al., 2012; Mitchell, 2003), and between stress and eating habits (Kandiah et al., 2006; Tryon et al., 2013), this resulted in an abundance of comfort foods and sugary beverages available to visitors and patients.

> It was viewed as a revenue center, so it was like, what generates profits? People like fried foods so that's what we are going to provide them and there was a lot of thought that the comfort food, that's really our role was just to provide comfort food and just get people through the crisis at hand. . . . It was really just about being a comfort situation. . . . There was no health associated with it. [CN1]

This gap between the foodservice operations and the hospital's public health mission was partly due to the organizational separation of clinical nutrition and culinary services into different departments. The two departments reported to different leads: Clinical Nutrition, whose role was to provide dietary guidance to patients, reported to Nursing and Patient Care Services, while Culinary Services, including retail, vending, catering, and patient meals, reported to Facilities. These 'silos' had different organizing principles: patient well-being for Nursing and Patient Care Services and revenue generation for Facilities. However, the decision-making power was held solely by Culinary Services; Clinical Nutrition had no formal responsibilities or organizational connection to food preparation within the clinics. This resulted in purchasing decisions made without the perspectives of staff working directly with patients in medical care, leading to frustrations among the clinical nutritionists. They felt that their patients were not given an adequate chance to acclimate to the dietary recommendations prescribed while in the clinic.

This dynamic began to shift with the release of the American Association of Pediatrics report, Expert Committee Recommendations Regarding the Prevention, Assessment and Treatment of

Child and Adolescent Overweight and Obesity, in October 2007 (Barlow, 2007), which pushed AFCH to participate in the Focus on a Fitter Future pilot. AFCH had an existing program of outreach and advocacy related to childhood nutrition, but the report drew attention to its retail food practices. Stakeholders across the clinics believed that the primary food retail space in AFCH, then called Picnic Point Café, did not adequately demonstrate the nutritional behaviors they wanted families to practice at home. This perception is summarized by EX:

> We wanted to reflect and model that great nutrition behavior and when the children's hospital was built 10 years ago. . . . The planners thought, "let's have a very whimsical kind of cafe and let's serve food that kids like to eat." . . . We served pizza, and there was a hotdog wheel, roasted hotdogs, and we sold soda and all kinds of, you know, we weren't modeling great nutrition behavior.

The pilot project provided pediatric and nutritional health specialists an opportunity to get directly involved in the clinic's foodservice operations, where they had not been before. Picnic Point Café received both an aesthetic and product overhaul, and the space reopened in 2013 as the Farmers Market Café. The name change was intended to reflect the change in atmosphere and the products sold in the new storefront, which now emphasized fresh produce, including locally sourced produce. EX continues:

> The children's hospital leadership found some like-minded people in culinary services and the clinical nutrition department and we were going to be a pilot within UW Health to pilot healthier food choices and so we kind of went on that journey. . . . We started by getting rid of all of the high fat, the high cholesterol, the high sugar content food. . . . We really embraced this local is better and more sustainable . . . more nutritious and healthier and locally produced, and so we became the first pilot experiment to source more food locally. So, we had the clinical nutritionist [and] the dieticians involved with us, we had people in foodservice working with us, and we were able to totally transform the menu and also the supply of food.

Participation in this pilot created cross-departmental relationships that would enable broader changes across the clinic. This desire for change was accelerated into action with the promotion of a new director of clinical nutrition in 2012. The new director, who had previously worked in oncology patient care, saw an intimate connection between the food being consumed by patients and their general well-being. CN1 described the importance of this perspective when considering the divide between culinary services and clinical nutrition:

> You get sickle cell patients who have these pain crises, and they would come in through the ED, and we would allow them to order whatever they wanted, so they were ordering 12 packs of soda up to their room. . . . And it was just like wait a minute, what are we doing, you're coming in with a pain crisis, why are we—we don't allow people to go smoke. . . . We used to, but we really put our foot down about that, so why—would we allow a drug addict to continue to use drugs if they come in? But a lot of people don't put food in that category because everybody has access to food, so it felt like that was just not a priority. … So my primary goal was to change this thought process, that food is what nourishes people, it is the essence of clinical nutrition, it is how people get stronger, it is how their muscles regenerate.

Despite the growing consensus about the limitation of a revenue-centric foodservice operation, the fact that food preparation and nutrition were in different parts of the organization, with different goals and motivations, was more than a simple logistical hurdle. Rather, they manifested into different and even conflicting behavior, expectations, and practices, creating tension within the organization which further entrenched the status quo. Even within Culinary Services, divisions between the sub-units responsible for various aspects of food

procurement and preparation impacted its ability to perform its responsibilities:

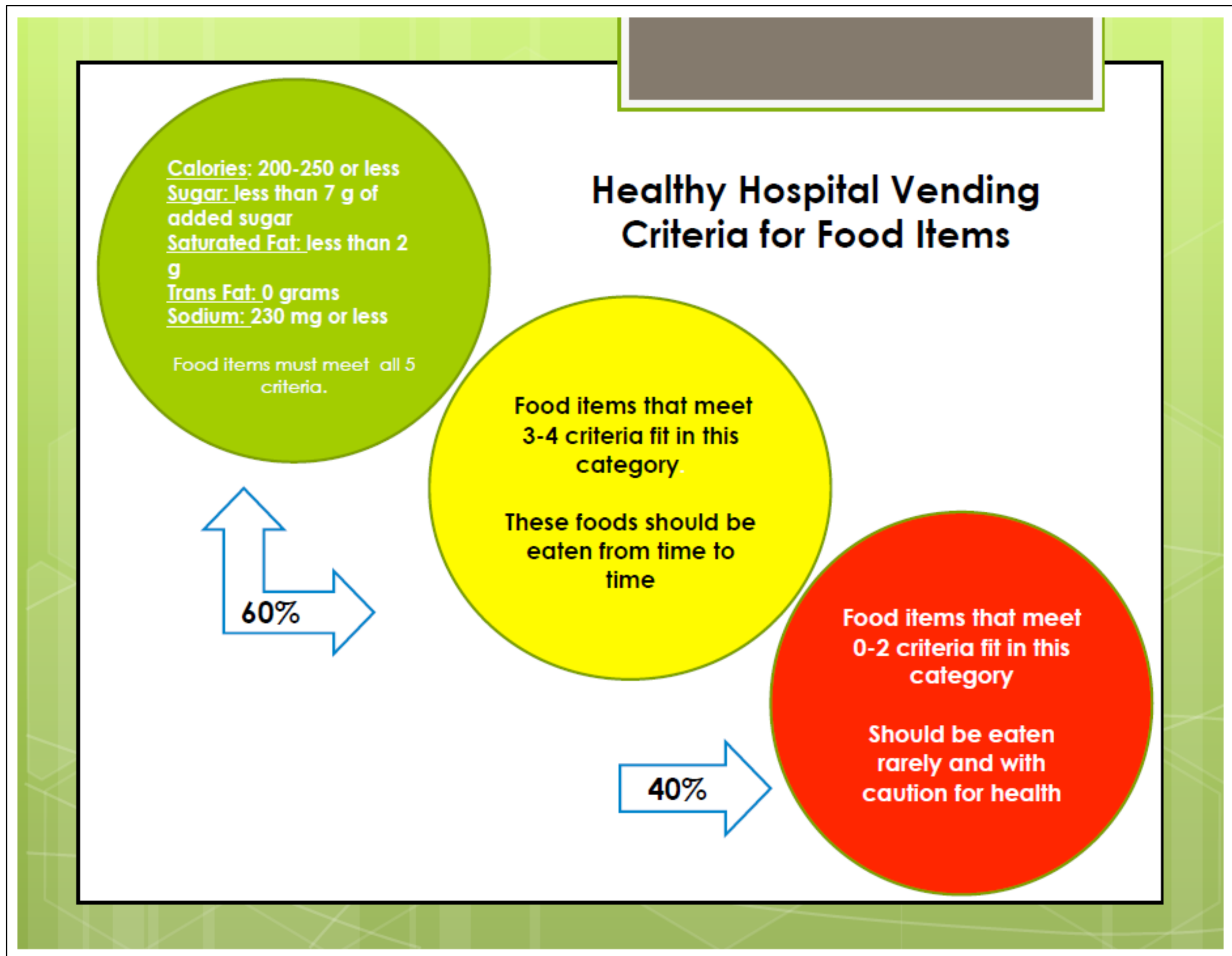
> What was happening is retail, the manager there they purchased what they wanted, and patient meal services did what they wanted, and then the chef kind of oversaw some of those elements, but not always, so there wasn't good involvement or good communication across each venue. Retail operated very separately from patient meal services. They didn't cross-train, they were like two different entities, they didn't have lunch together. Didn't play nice together. [CN1]

To address this tension, the clinical nutrition director proposed merging the two departments into a new department, Culinary and Clinical Nutrition Services (CCNS), having seen the benefit of cross-departmental collaboration and knowledge sharing during the Focus on a Fitter Future pilot. This merger, the director argued, would allow the new team to build a common language and framework for approaching health and nutrition within the clinic, presenting a united front and empowering employees to drive organizational change. The HFEA assessment of the remaining retail spaces in 2013 was used to initiate this integration and subsequent changes in practices. The results of the study, indicating a poor nutritional environment across retail spaces, except for the newly reopened Farmers Market Café, were then shared with medical professionals across the hospital to increase the pressure for change within the organization. This effort culminated in creating the WAHC, a permanent committee that includes members from the CCNS, the Patient and Family Advisory Committee, the Wellness Committee, and senior executives. The interdisciplinary composition of the committee, as well as the inclusion of senior leadership, served three functions: first, to extend a new shared vision of foodservice and public health across all primary care organizations connected to UH-AFCH; second, including senior leadership provided the committee with the latitude to implement small-scale interventions (such as the My Smart Choice campaign, discussed below), and; third, it gave relevant administrators direct access to information and relationships necessary for larger initiatives.

An example illustrating the value of this approach was the effort to remove sugar-sweetened beverages (SSB) from vending and retail spaces, the first major goal of the WAHC. Committee members anticipated this intervention would face resistance from customers and administrators due to ingrained preferences for SSB and the likely loss of revenue. The WAHC leveraged its experience and decision-making authority in a two-pronged approach in response to these anticipated roadblocks. First, the committee utilized the expertise of its nutritionist and other medical professionals to identify small-scale but high-impact interventions to build momentum for this change. Second, the authority of executives on the committee was utilized to implement these minor changes quickly. The 'My Smart Choice' policy was one such early intervention. This intervention developed a three-tier color-coded (green, yellow, red) system, and mandated that 60% of the products sold across patient meals, beverages, and vending machines met either the green or yellow criteria. The criteria for vending machines are illustrated in Figure 2. The policy was revenue neutral, making the policy a success in the view of the WAHC. The perceived success of this and other small-scale interventions built the momentum necessary to take on the larger policy of removing SSBs, which was done in 2014. Here, again, the combination of expertise and authority was perceived as vital to implementing the policy, as CS1 describes:

> I think because we're a committee that's recognized an administrative level, if we are looking at removing sugar-sweetened beverages, we have [a] physician champion. So, it wasn't just clinical and culinary nutritionists removing beverages, but the organization is removing sugar-sweetened beverages. And I think that just drives that it's not about revenue, it's not about the product, it's about wellness for our community inside the hospital and outside. And it's about practicing what we preach. So, I think as a committee, it's important to have that come from an organizational standpoint.

Figure 2. Illustration of My Smart Choice Criteria for Vending Machines



2015–2016: Leveraging Local Food to Improve Nutrition

As anticipated, the removal of SSBs resulted in pushback from customers, employees, and visitors. One criticism was that these changes were paternalistic. To critics, visitors should have healthy options readily available but not be forced to make a healthy choice. This discontent was reflected in a decline in overall beverage sales at UH-AFCH immediately after the removal of SSBs, though sales recovered over time.

Given this initial pushback when the WAHC and foodservice personnel pivoted to overhauling the food products in retail spaces in 2015, a new strategy was sought for designing interventions. Local food procurement emerged as an approach to improve the nutritional quality of offerings while mitigating accusations of paternalism by centering the benefits of locally sourced food products. The foundation for this work was laid during the overhaul of the supply chain for the Farmers Market Café when they partnered with REAP Food Group, a Wisconsin-based nonprofit dedicated to assisting institutions and businesses engage in local food purchasing. REAP rebuilt the supply chain to source local food products for the Farmers Market Café. The success of this partnership created the perception that such an approach could be feasible at a larger scale. This perception was amplified by feedback from customers indicating that there was demand for more locally sourced food products within the clinics. CN1 described one memorable example of this feedback from early in their tenure at the newly formed CCNC:

> One of the first comments I got . . . was from a farmer, and he said, "I'm a farmer from Wisconsin, why does your milk come from Texas?" and I was like, I'm not sure. So, I went and pulled the milk out, and sure enough, the milk comes from Texas, and that's where it's processed. And that's the perception.

Three key interventions were implemented in 2015 to support this new approach to food procurement within the ongoing PSE strategy. First, new administrative policies were developed in 2015 to officially recognize the evolving goals of the WAHC in its foodservice strategy. This policy, entitled 'UW Health Nutrition and Sustainability Standards v 3.0,' mandated multiple new objectives related to local and sustainable food purchasing and promotion in addition to the existing 60/40 goal. The sustainability policies are summarized in Table 3. Second, two new employees, CS1 and CS2, were hired into leadership within CCNS, with the explicit mandate to lead the growth of UH-AFCH's local food spending. Third, UH-AFCH was one of 11 hospitals to participate in the Healthy Food and Beverages in Wisconsin Hospitals and Clinics Forum in 2015. The participating institutions created the Wisconsin Healthy Hospitals Community of Practice (WHHCoP). As part of the WHHCoP, a memorandum of understanding was drafted which committed the institutions to implement additional PSE interventions according to the "7 P's of Creating a Healthy Hospital Nutrition Environment": pricing, promotion, policy, product, preparation, purchasing practices, and placement (Lucile Packard Children's Hospital Stanford, n.d.).

These policies and personnel decisions converged with the development of the 52 Weeks of Wellness campaign in 2016. The campaign implemented one new PSE intervention aligned with one of the 7 Ps weekly throughout the calendar year. Interventions featuring new local food vendors or promotions were prominent within the campaign. Promotional blurbs for 21 of the 52 changes promoted during the 52 Weeks of Wellness campaign referred to local food, such as switching to Wisconsin vendors for all milk and cheese products. Notably, many of these posts did not directly tie local food procurement to health; only six of the 21 local food interventions directly mentioned nutrition in their promotional materials. On a few occasions, the interventions even featured locally produced desserts such as cookies, candies, and other baked goods that would not contribute to the 60/40 goal:

> We are now partnering with Tummy Yummies, a local business who produces handmade wheat free cookies, candies, granola, and use 100% gluten free ingredients. Tummy Yummies proudly contributes back to our community, with at least 10% of all

Table 3. Summary of Nutritional and Sustainability Purchasing Standards

UW Health Nutrition and Sustainability Standards—Food Policies	
1. Quarterly purchasing assessments to ensure that: a. 20% of purchases are sustainable and/or local b. Three supplemental promotion and education activities will occur on a regular basis 2. All prepared products will have nutritional and ingredient labels 3. At least 60% of food products sold will meet My Smart Choice guidelines	
Sustainability Standards	**Local Definition**
Products must meet at least one of the following criteria: 1. Antibiotic and hormone-free 2. Pesticide and chemical-free 3. Locally produced 4. Third-party certifications (e.g., USDA Organic) 5. Vendor business practices (e.g., worker protection, on-farm energy efficiency)	*Tier 1:* Items produced within Dane County *Tier 2*: Items grown or produced in the state of Wisconsin * 50% of ingredients used to produce a food product must meet the local definition

> profits going to local nonprofits and another 10% of going toward local scholarships (UH Culinary Services Facebook; August 22, 2016).

The use of local food in this way allowed the WAHC to frame its interventions as enhancing consumer choices, rather than taking them away, overcoming a barrier identified not only by UH-AFCH after its SSB intervention but also the other hospitals participating in the WHHCoP. This approach also appealed to the desire of consumers to support local agriculture, stimulating the demand for the food products decision-makers wanted to nudge customers towards. The interplay between appealing to local food procurement and other PSE strategies is best seen in the series of interventions targeting the salad bar in Four Lakes Café, the largest cafeteria in UH-AFCH. The first promotion of the 52 Weeks of Wellness campaign was a price reduction at the salad bar, from US$8/lb. to US$4.99/lb. Later interventions targeting the salad bar included color-coded labeling to indicate the nutritional value of various ingredients, as well as introducing new offerings at the salad bar, such as specialty salads (e.g., Southwest Salad) and locally sourced ingredients and dressings. These changes resulted in a significant increase in salad bar sales (Warsaw & Morales, 2020) and were regularly touted as one of the biggest successes of the PSE interventions, both across participant interviews and secondary data, including internal and external presentations given by WAHC members and promotional materials. This shift in consumer behavior was attributed to the change in pricing and the inclusion of locally sourced produce.

> But I think the fascinating part of it was the behavior shift from that first three months where you knew there weren't more customers coming in, but there [was] so much more volume at the salad bar. Where were those customers? Were they in the grill line before? Were they ordering a burger, and now they're getting a salad because it's less expensive and you get more food and amazing, local, beautiful produce?

EX connected the value of local food procurement to the Wisconsin Idea, the explicit mission of the University of Wisconsin-Madison, and by association UH-AFCH, to ensure that the institution's knowledge, resources, and activities should benefit all residents of the state. Framing these PSE interventions not just to improve consumer health but as a way for the hospital to leverage its resources to help its community economically helped to sell the idea to customers:

> I think we could've [just] retooled our menu to make it healthier, but then a real hook was the grow local, buy local, eat local, which, when I think about the Wisconsin Idea and all things Wisconsin and how embedded we are with that type of thinking, it just made it more special . . . it's like "oh I could come to the farmer's market café, and I'm getting local Wisconsin produce, meats, cheeses you know whatever, milk." Yea, it made it more special, I think it could've happened without it, but it wouldn't have been as unique or special, and I think in this crowded market of messages that people get about food, it was a hook for us.

The emphasis on local food also proved beneficial in winning over foodservice staff, who were initially resistant to the changes, having seen similar efforts to improve food quality fail in the past. Food preparation staff and cashiers were empowered to serve as ambassadors for the interventions, specifically giving customers context for the locally sourced products now featured on the menu. In so doing, the staff themselves were introduced to products they might not have been exposed to before, creating new experiences which generated excitement about the initiatives and translated to their eating habits at home.

> Well, I think the biggest thing is when they try something new. Like we've been bringing in kohlrabi, and a lot of our staff had never tasted a kohlrabi. So that or they're introduced to new experiences that they haven't had before. I had a conversation with someone about kohlrabi from the new staff the other day. And

> she's like, "Yes. I just tried for the first time." She loves it now. . . . To me, that's a real bonus of having locally sourced products, is being able to try something new and figuring out how to use it or introducing it then to your family. [CS2]

These employees were also motivated by seeing consumers have a similar experience, accelerating support for the ongoing changes. CS2 continues:

> What's really been great is some of them, you can see that they're really responsive and really positive about the changes that we've been making. And then others, I think you're also going to have some staff that just comes in, and this is just a job for them. . . . But it's great to see certain staff take the time to learn about something or to try something new or to see something good and come to one of us and say, "Hey, guess what I saw the other day? A customer said she had never had baby carrots, you know, like the beautiful baby carrots with the tops on. Never had those before and never had lavender honey carrots, and she will eat them every day now when we have them." [CS2]

The perceived value of local food within the 52 Weeks of Wellness campaign, as well as other local food interventions, such as the operation of an onsite farmers market in 2015-16, was evidenced by the creation of a second community of practice (CoP) in 2016, called the Farm to Hospital Community of Practice (FTHCoP), with funding from the Wisconsin Department of Agriculture, Trade and Consumer Protection. The creation of this CoP was followed by a second Wisconsin Healthy Hospitals Forum, where farm-to-hospital was one of four tracks discussed during the meetings. The CoP and forum created the conditions for future local food procurement efforts in two ways. First, having the space to interact with like-minded institutions helped stimulate new ideas and interventions that the WAHC could pursue, including the Harvest of the Month campaign, which would be rolled out in 2017:

> I think there are pieces that we learned from our small rural hospitals about communication, staff education, making the local partnerships both from those small rural kind of community hospitals as well as some of the larger partners. So I think the communication component was part of it. … Like the harvest of the month is one idea that we garnered from (another hospital) [CN2]

Second, the accountability created by entering a CoP pushed the WAHC to advance its foodservice operation ambitions. This can be seen in UH-AFCH's pursuit of the Partner for Change award from Practice Greenhealth, which also emerged from UH-AFCH's participation in the FTHCoP. These awards are given to clinics for engaging in a wide variety of 'sustainable' food system activities, such as increasing local food purchasing or offering healthier food and beverage options to customers. UH-AFCH would be recognized for their efforts in 2017, and participants acknowledged the role of comparing themselves to other hospitals in the rapid expansion of their local food procurement, including 28% of their Q3 2016 food budget following the creation of the FTHCoP:

> So, maybe the competitive part of me, but I think it's just good to know; I mean, people from outside would be like, "Wow, you guys are leaders. Wow, you guys are doing all these amazing things." Are we? [If] there's somebody out there doing it better, I want to know. And if they are, is there a way to network with them and see like how did they accomplish this, how did they remove this roadblock? Who are they sourcing from? Who are they using? . . . So, I just think it's an amazing opportunity to see where we stand and to see like how much more we can do . . . You know, one of the things that struck me on the benchmarking report is the high—the 90th percentile for local spend[ing] was 38%. I just want to talk to those people; where are you in the country that 38% like comes to your door in the local definition?

2016–2017: Extending Influence into the Local Food System

As its share of local food purchases began to increase in 2015, so did the WAHC's vision of how its foodservice operations could positively affect the local community. This expansion came partly due to the interactions with local vendors that emerged due to this new procurement strategy. Before 2015, most sales came through BD, save for a portion of direct local sales from the Farmers Market Café. However, in 2015, UH-AFCH stakeholders began to work with REAP to identify local farms and businesses that it could purchase food products from directly, first switching to procuring eggs and milk from local farmers. Then, in 2016, a request for partnership was developed to solicit vendors within 150 miles of Madison, Wisconsin, ultimately resulting in over 60 partnerships with local businesses. As part of selecting new vendors, CS1 and CS2 conducted site visits to learn about potential vendors' products and growing practices. This not only served to verify the practices of its prospective partners but also gave the WAHC direct insight into the impact its purchases had on local businesses.

As an example of this impact, several respondents referred to VN, a coffee vendor with who UH-AFCH had recently established a purchasing relationship. VN had a small but growing business, including another contract with one of the largest employers in the region. However, before selling to UH-AFCH, VN had been unable to distribute its products through BD, the largest distributor in the area. Once VN established its relationship with UH-AFCH, leadership in the culinary staff told BD they had a steady demand for and interest in VN's product, allowing VN to meet with BD and develop a business relationship. VN explains:

> This gets me talking about BD; they were happy to work with us, only because CS1 and CS2 said ok we want these cases here—what BD needed was how much are you going to be buying 'cause…we are only gonna only bring in what you guys need, we don't have any other place to bring this. So [CS1 and CS2] say here's our velocity, here's what we've been going through every week so bring in two, three weeks' worth and then keep reordering every three weeks—BD places their order, they put it into their warehouse and then it provides, it provides a big convenience for us that now BD consolidated with their other deliveries and payments.

Arrangements such as these provided multiple benefits to the hospital and its local vendors. First, receiving products from a distributor was much easier logistically for UH-AFCH than arranging separate drop-off times to pick up a single product from a business. This allowed UH-AFCH to overcome a common logistical challenge for farm-to-institution programs, as many institutions lack the resources to be available for multiple drop-off times with local businesses (Sachs & Feenstra, 2008). Second, the steady revenue for vendors, such as VN, not only provided stability and a livelihood for its owner and employees, it also created opportunities to expand its operation and thus establish multiple and diversified streams of revenue. In the case of VN, its operations remained local even as its business expanded, resulting in additional local employment and spending, providing an intimate example to the foodservice staff at UH-AFCH of the 'multiplier effect' frequently discussed in documenting the economic impacts of farm to institution programs (Becot et al., 2016).

Participants described several stories like these when discussing the impact of their local food initiatives. Seeing the impact of their local purchasing decisions firsthand and the willingness of their broadline distributor to accommodate those changes had a transformational effect on the relationship UH-AFCH had with BD. Before the study period, foodservice personnel rarely challenged the purchasing decisions made by BD, as both UH-AFCH's and BD's priority was revenue maximization. However, when UH-AFCH first began to shift its approach to foodservice, specifically with its new policy on SSB's, BD responded negatively, revealing a perceived power dynamic wherein UH-AFCH was reliant on BD and the large agribusinesses supplying it to succeed financially as a unit.

> When we first wanted to remove the regular soda, we met with Coke and Pepsi and Dr.

> Pepper and 7UP, and they were like, this is going to fail. People have tried this before. Have you talked to your senior leadership because you are going to lose all this money. And they were rude. They were blatantly rude. They were hostile towards me. [CN1]

Previous research has also found that this power dynamic is reinforced by structural factors included in standard distribution contracts, such as a limit on outside food and beverage purchases made by the institution under contract (Sachs and Feenstra, 2008), leaving institutions reliant on the product offerings made available by their distributor. However, as UH-AFCH began to work with vendors and businesses individually, approaching its limit for outside purchases with the credible threat that it could continue to expand local spending if it ended the relationship with BD, this dynamic flipped. Now, UH-AFCH stakeholders recognized their relationship with BD as a two-way street, with their distributor in need of UH-AFCH's business just as UH-AFCH was reliant on BD's distribution infrastructure. As such, this gave UH-AFCH the leverage to further increase its share of locally sourced food products, even if they were not purchased directly from the vendor.

> I was involved in our contract negotiation. And the bottom line is they want our business. And I think sharing the policy with them, our sustainability policy, was critical because they understood the direction we were going in, and it wasn't a choice. We're not deciding that maybe we'll do this, maybe we won't. No, this is what we're doing. And they've—I mean, [BD]'s demonstrated to us that they want to be a partner in that local and sustainable purchasing. I mean, they partnered with Wisconsin Food Hub. They partnered with Fifth Season Cooperative. They have become distributors of some of the small family businesses. [CS1]

This leverage extended beyond the goal to purchase more local food products. UH-AFCH's insistence on changing its product mix, including SSB's, its willingness to stick with the desired changes, even after initial pushback, and its demonstrated ability to maintain long-term revenue levels again created leverage in its relationship with BD. This leverage was then used to force BD to adapt and make various products available to meet its needs. This was best seen in the evolution of non-sweetened beverages available to UH-AFCH in the wake of its new SSB policy. At the time of the SSB removal, UH-AFCH had to rely on diet beverages as one of the major replacements in its cafeterias, in addition to water and locally sourced milk. However, this changed with time, as BD sought to ensure its long-term sales with UH-AFCH.

> I would say we saw that same shift with beverages, when we removed sugar-sweetened beverages. When we first met with Coke and Pepsi, it was like, don't just scoff you're gonna lose money blah blah blah and then you come back and now the difference of what's available on the market that doesn't contain sugar is far greater than it was when we first started down that avenue. [CN1]

Discussion and Conclusion

In this study, we documented the development and implementation of a series of PSE interventions at UH-AFCH between 2008-2017 and how the organization's structure and subsequent expectations and practices were altered to facilitate these changes. We found that the desire to reorient foodservice to center public health required significant change in the organizational roles and structures at UH-AFCH, as the existing structures supported a revenue-centric mission at the expense of public health. Leveraging local food procurement as a strategy helped facilitate wider-reaching interventions by appealing to customer preferences for local food while mitigating concerns about paternalism. Further, building an internal infrastructure capable of facilitating increased local food spending expanded the vision of UH-AFCH stakeholders of the role their foodservice could play within their community. These results align with previous research suggesting that organizing approaches that emphasize shared community values and

relationships between administrators and producers are valuable approaches to restructuring institutional food purchasing (Heiss et al., 2015)

One implication of this work is the value of external entities, such as nonprofits and governmental organizations, in supporting hospitals in leveraging their foodservice to support the economic well-being and public health of their communities. The PSE interventions implemented by UH-AFCH were initiated by a national pilot organized by the Mattel Children's Foundation and expanded with support from tools provided by the CDC. Later efforts to expand local food spending were supported by organizations, such as REAP, Practice Greenhealth, and other hospitals through their participation in two CoPs. These external supports mitigated the challenge of generating internal support and momentum for significant change, which has stymied farm to hospital efforts in the past (Sachs & Feenstra, 2008).

Another possible implication of this work, and area for future study, is the importance of building organizational structures and goals in creating sustainable change. Previous work in FTI has often discussed the importance of organizational 'champions' in sparking and driving change (Bagdonis et al., 2009). However, overreliance on organizational champions can make change precarious and subject to the bandwidth and tenure of said champions. While UH-AFCH also relied on the efforts of committed individuals, a cornerstone of its approach was to build structures and procedures to ensure the long-term viability of its work, regardless of who is employed at the clinics. The creation of the CCNS and WAHC, as well as benchmarking tools from the CDC and Practice Greenhealth, were designed to ensure that the normal operation of foodservice was oriented towards public health and local economic development, rather than dependent on the efforts of a given manager to direct resources in those directions.

The primary limitation of this study is the sample size. While the sample represents the key decision-makers involved in developing the studied PSE interventions, their proximity to the changes also introduces the possibility of bias in their assessments. We attempted to address this bias by verifying our findings using secondary data sources, but these were also likely to be influenced by the perspectives of our participants; thus, we could not eliminate the possibility of bias. Including the perspectives of other employees or visitors would have provided a more robust assessment of the PSE interventions presented here. As presented, these findings are best understood as representative of the views of key decision-makers and how local food procurement and other organizational strategies affected the development of these interventions, rather than a causal description of their success.

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