



Original Research Article

Food providers' experiences with a central procurement school snack program

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Abstract

Universal, government-funded school food programs (SFPs) offer many benefits not only to the children they serve, but also to the communities that support them. To date, Canada does not have a national SFP. Thus, if one is to be considered, evaluations of current SFPs in a Canadian context are necessary. This study explored food providers' experiences with the Centrally Procured School Food Program (CPSFP) in Southwestern Ontario, Canada. Twenty interviews were conducted with individuals involved in the production, procurement, and delivery of food to schools. Successes included improved economies of scale, increased profile and awareness of local food

systems, and enhanced reach into schools. Challenges included inconsistent delivery times and unexpected food volumes that placed additional burdens on program implementation. Recommendations for program sustainability included enhanced engagement of partners, sustained funding to build capacity (including paid personnel), and more learning opportunities for students. Food providers gave insights on how the CPSFP can be improved and sustained into the future, as well as its potential to provide new opportunities for all stakeholders and have a positive impact on the local food system.

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Résumé

Les programmes universels d'alimentation scolaire (PAS) financés par le gouvernement offrent de nombreux avantages non seulement aux enfants qu'ils servent, mais aussi aux communautés qui les soutiennent. À ce jour, le Canada ne compte aucun PAS national. Ainsi, si l'on veut en créer un, il faut procéder à l'évaluation des PAS existants dans un contexte canadien. La présente étude s'est donc penchée sur les expériences des fournisseurs de nourriture avec le Programme d'alimentation scolaire centralisée (*Centrally Procured School Food Program/CPSFP*) du sud-ouest de l'Ontario, au Canada. Ainsi, vingt entrevues ont été menées auprès de personnes impliquées dans la production, l'approvisionnement et la livraison de nourriture aux écoles. Parmi les réussites du programme, on compte une amélioration des économies d'échelle, une visibilité accrue des systèmes alimentaires locaux, une

sensibilisation plus grande à ces derniers et, enfin, une plus grande portée dans les écoles. Par ailleurs, des délais de livraison irréguliers et des volumes de nourriture imprévus ont imposé des fardeaux supplémentaires à la mise en œuvre du programme. Nous avons formulé les recommandations suivantes pour assurer la durabilité du programme : un engagement accru des partenaires, un financement soutenu pour renforcer les capacités (incluant du personnel rémunéré) et davantage de possibilités d'apprentissage pour les élèves. En définitive, les fournisseurs de produits alimentaires nous ont donné un aperçu de la façon dont le CPSFP peut être amélioré et maintenu à long terme. Ils nous ont aussi éclairés sur son potentiel à offrir de nouvelles opportunités à toutes les parties prenantes et à avoir un impact positif sur le système alimentaire local.

Keywords: School children; snack program; fruit and vegetables; food procurement; food providers

Introduction

Universal school food programs (SFPs) are widely implemented in Western countries and have demonstrated numerous positive impacts not only on the children they serve (Hector et al., 2017; Ismail et al., 2021a, 2021b; Olsho et al., 2015; Ovrum & Bere, 2014; Te Velde et al., 2008; Tussing-Humphreys et al., 2012), but also on their communities, by supporting local economies and food systems, and fostering volunteerism (Croom et al., 2003; Upstream-Oregon, 2011). Programs such as the Fresh Fruit and Vegetable Program in the USA (Coyle et al., 2009; Olsho et al., 2015) and the European School Fruit Scheme in Norway (Bere et al., 2006), Italy (Roccaldo et al., 2017), and Britain (Horne

et al., 2004; White, 2006; Yeo & Edwards, 2006) have all reported improvements in children's dietary intake (with a focus on fruits and vegetables). Furthermore, they also share a common aspect in that they are part of a national, government-funded program that involves the universal provision of foods (i.e., the program is offered and accessible to all school-aged children) through a centralized food procurement system (Bateman, et al., 2014; Jamelske & Bica, 2014; Potter et al., 2011; Roccaldo et al., 2017).

Centralized food procurement means that one organization is responsible for all food purchasing decisions for its customers (Purchasing and Procurement

Center, 2021). In the case of SFPs, the customers are typically individual schools or school boards. This centralized food procurement is often a more efficient process, as it eliminates the need for individual customers (e.g., school personnel or volunteers) to purchase their own food and/or related supplies. It also has many benefits, including increased purchasing power, improved consistency of products, and more efficient administrative processes (e.g., invoicing and inventory management) (Purchasing and Procurement Center, 2021).

Despite the known benefits of these universal, government-funded SFPs, Canada currently does not have such a program. Provinces that do implement SFPs rarely use a centralized food procurement and delivery system (Colley et al, 2019; Ruetz & McKenna, 2021). Rather, and as is the case in Ontario, organizations and/or schools use a variety of approaches based on individual capacities (Ruetz & McKenna, 2021). This traditionally means relying on staff and caregivers to volunteer their time to plan, procure, purchase, prepare, and serve food items (Ontario Student Nutrition Program [OSNP], 2018). This poses many challenges and potential risks, primarily concerning food procurement practices, and leads to many inconsistencies in SFP implementation. For example, food safety issues may arise as volunteers independently procure and transport perishable foods to schools in private vehicles. Furthermore, by purchasing foods on a piecemeal basis (e.g., from multiple independent grocers), the purchasing power of programs is reduced. This can often

result in i) foods being offered that do not adhere to nutritional guidelines; ii) limited reach and universality of programs (e.g., number of communities or students participating); and iii) a lack of program impact because the quantity of food offerings is too low to alter students' dietary intake (Valaitis et al., 2014). Therefore, if a national program is to be considered, these challenges will need to be addressed, and central procurement models relevant to a Canadian context explored.

In 2017, the Ontario Student Nutrition Program (OSNP), in partnership with the Ontario Ministry of Child and Youth Services (MCYS) and thirty elementary schools in three Southwestern Ontario communities, implemented a novel Centrally Procured School Food Program (CPSFP). The primary goals of this centralized food procurement and delivery model were to address the challenges and potential risks in existing Ontario programs around food procurement and delivery, while continuing to improve their mandate to provide elementary school-aged children with universal access and exposure to healthy foods.

The purpose of the present study was to explore the experiences and perspectives of food providers—CPSFP partners directly involved in the planning, production, centralized procurement, and delivery of food to schools using a pragmatic and exploratory approach in the hopes that insights provided may help to provide new information to guide a national SFP.

Methods

Overview of the CPSFP Model

The CPSFP was a ten-week pilot snack program that included the central procurement of foods (with an emphasis on fruits and vegetables, 20 percent of which was to come from local sources) for thirty elementary schools. A four-week pre-set menu was developed by OSNP personnel, including Registered Dietitians, with the intention of providing one serving of fruit or vegetables and at least one additional food item per child per day. The program was offered three to five days a week in schools (which was also a condition for participation).

The CPSFP included the following partners: a group purchasing organization (primarily involved in publicly funded health care), a food wholesaler/distributor, and local food producers (e.g., produce farmers), collectively referred to hereafter as External Partners (EPs). The CPSFP also included OSNP personnel (referred to hereafter as OSNP). These included a Regional Coordinator (RC), a Food Logistic Coordinator (FLC), and Site Coordinators (SC). The RC was responsible for general oversight of the CPSFP. This involved providing leadership and support to the FLC and SCs, liaising with funders, building partnerships between school boards and public health units, and collaborating with program leads across lead agencies to share information about effective practices. The FLC was responsible for securing contracts with external organizations (i.e., group purchaser, wholesaler/distributor, and producers) and liaising with SCs to manage any issues that arose during the program (e.g., substitutions for unavailable items, correcting errors in deliveries, and/or addressing food quality issues). SCs also played an active role in ensuring accurate food orders (e.g., quantity and quality of foods) were received at schools.

They were also responsible for assessing program adherence, building capacity in schools, sharing knowledge and effective practices with program volunteers, supporting fundraising activities, and building partnerships with other local, regional, and provincial SCs across the province (OSNP, 2018).

On a biweekly basis, and on behalf of schools, the FLC placed food orders with external organizations based on the pre-set menu, the number of students, and food servings required per school. The group purchasing organization was then responsible for securing contracts for non-produce food items (based on the food order). Local food producers (farmers) provided produce directly to the wholesaler/distributor. The wholesaler/distributor was responsible for securing both non-produce food items and produce from all participating partners and for delivery of food items to schools. At times, however, they also independently secured additional food items for the program through their independent partners. Deliveries occurred weekly, and each school was responsible for receiving the deliveries and storing the food items.

Overview of the study

Theoretical perspective

This study examined the CPSFP using a pragmatic and exploratory approach (Goldkuhl, 2017; McInnes et al., 2017; Nowell, 2015), and focused on the realities and experiences of CPSFP participants involved in the production, procurement, and delivery of food to schools (Aarestrup et al., 2014; Bouck et al., 2011). The perspectives of school-level personnel—who provided the food to the students—have been reported elsewhere (Ismail et al., 2021a). A pragmatic approach was chosen

because in adopting a pragmatic philosophy, knowledge is understood as being constructed based on the reality of the world we experience and live in and encompasses not only the reality of the past but also what is possible to create for the future (Nowell, 2015). Therefore, the overall goal was to understand participants' context-specific experiences with the CPSFP that might lead not only to the improvement and enhanced sustainability of the CPSFP (Goldkuhl, 2017; Nowell, 2015), but also to add new knowledge for researchers, program stakeholders, policy makers, and the public about current and future Canadian SFP practices and the impacts these programs may have on broader community stakeholders.

Participant Recruitment

Near the end of Phase I (May/June 2017) of CPSFP implementation, researchers contacted the FLC via email to obtain a list of CPSFP partners, as potential participants. Of these potential participants, those with an email address were sent the study's Letter of Information and asked to contact research personnel if they were interested in participating. An interview time was then arranged. While no a priori commitment was made regarding the recruitment of previously interviewed participants, following Phase II (November/December 2017) and III (May/June 2018), previous participants were contacted again via email to determine their interest in completing a follow-up interview to discuss any additional insights they might have on the program. Additional potential participants were identified by snowball sampling (e.g., new food producers; OSNP staff) and contacted as described above. Any potential participant who was contacted and expressed interest in the study was interviewed. Verbal informed consent was obtained from all participants. This study was approved by Western University's Non-Medical Human Research Ethics

Board (#108549) and the research and evaluation offices of the Thames Valley District School Board and the London District Catholic School Board.

Data Collection

Interviews were conducted over the phone following each phase of implementation. To maximize reliability and consistency, the same researcher facilitated all interviews. Two semi-structured interview guides were developed with different participant roles in mind—EPs or OSNP. Following Phase I, revisions were made to specifically target individual participants according to their role and to capture any longitudinal changes over the course of program implementation. The interview guide for EPs is presented in Table 1. To ensure accuracy, all interviews were audio recorded, transcribed verbatim by trained undergraduate student research assistants, and verified by the researcher who conducted the interviews. Although a high level of congruency was achieved on some aspects of the data, due to the limited number of participants in certain roles and the diversity of participant roles, overall data saturation was not achieved.

Data Analysis

Data were analyzed using inductive content analysis described by Braun and Clarke (2006). To increase reliability, transcripts were independently coded by three researchers, one who conducted the interviews and two others who have experience with qualitative research methods and analysis. The research team then met to discuss their findings. Any issues that arose during this initial analysis were resolved through discussion and consensus until a common theme template was developed.

To enhance the trustworthiness of the data, a few strategies were used. Member checking was conducted during all interviews in “real-time” to verify that

researchers were accurately interpreting participants' perspectives. After the first few interviews, debriefing discussions among the researchers helped to confirm the reliability of the data being collected. An audit trail was also kept as documentation of decisions made

Results

Of the twelve participants invited for interviews, all agreed to participate in the study (100 percent response rate). In total, twenty interviews (range: thirty to forty-five minutes) were conducted over the three phases of program implementation. The number of interviews conducted during each phase were as follows: Phase I (five interviews: one EP, four OSNP), Phase II (seven interviews: one EP, six OSNP), and Phase III (eight interviews: four EP, four OSNP). Two participants were interviewed over all three phases (two OSNP), four were interviewed over two phases (one EP, three OSNP), and six were interviewed once (four EP, two OSNP). While the intent of this study was to get a longitudinal understanding over all phases of the CPSFP, not all participants could be interviewed in all phases due to unforeseen circumstances, such as scheduling issues, time constraints, loss of interest, or a change in position.

Data analysis revealed three main themes: 1) perceived opportunities with participation; 2) successes and challenges to the CPSFP; and 3) recommendations for program sustainability. Representative quotes are identified by participant and Phase (e.g., EP3_Ph III refers to External Partner, participant three, Phase III). Due to the limited number of participants in certain participant categories, some data are presented simply as OSNP or EP, to maintain anonymity.

during the analytical processes. Finally, credibility was enhanced by using a team approach to data analysis, through investigator triangulation (Merriam, 2009; Patton, 1990).

Perceived Opportunities with Participation

When asked about the CPSFP, all study participants reported that program participation came with anticipated opportunities. One such opportunity was that central procurement allowed nutritious foods to be procured at the best value, in greater volumes, and with a focus on local foods. One of the OSNP personnel summarized the multifaceted potential of this model, "Under central procurement, we are hoping to leverage better pricing with economies to scale, to add better quality standards around the nutritional value of food served, and [we] wanted to focus on looking at opportunities to purchase more local food" (OSNP7_Ph II).

In addition, most participants highlighted opportunities for the program to build valuable partnerships and to enhance connections with the community. This was especially important for food producers who wanted to grow and diversify their business in an increasingly competitive global market. One of the EPs explained it this way, "For our local food to be sustainable, we need to build valuable connections in our community. I think the program is an important step in that direction. A lot of produce is globally traded so it's hard for us to compete on a global scale, but I think there is value in local food, and I think this program is great start for us to kind of work on that" (EP4_Ph III).

Finally, all participants expressed that the CPSFP presented an opportunity to support the universal provision (i.e., all students participate regardless of need) and access to safe and healthy foods to children in school. Most participants, including both EP and OSNP, also believed that programs like the CPSFP supported children in making healthy dietary choices that may carry forward into adulthood, and potentially increase awareness about the local food system that may, in turn, translate into future customers. One OSNP personnel stated that “The overall goal would be to ensure that students have access to healthy food at school in a non-judgemental, universal non-stigmatizing way” (OSNP4_Ph I), while an EP explained that “We’re dealing with the younger generation and encouraging them to make better eating choices. Those younger folks grow up into adults and will continue those choices hopefully for them and their family” (EP3_Ph III).

Successes and Challenges to the CPSFP

All participants viewed the program as successful in some way, with most stating that the CPSFP addressed some of the planning, procurement, and delivery concerns of the current traditional model. While most agreed that the CPSFP contributed more successes than challenges, some challenges were revealed, but tended to improve over the three phases of program implementation. The planning and development of the pre-set menu was generally deemed successful by all participants, but for different reasons (according to their role). With respect to food procurement, most participants stated that the pre-set menu aided in forecasting volumes, which helped with economies of scale, and allowed increased opportunities to incorporate more local foods. One OSNP described this benefit as, “We can forecast those numbers because it is a preset menu. So, it’s easier to source from those Ontario producers” (OSNP6_PhII). From a group

purchasing and wholesaler/distributor perspective, the purchasing power was improved for all their existing customers, as the addition of the CPSFP food items resulted in higher and committed volumes. Also mentioned by these participants was that the diversity of available food items for all customers increased due to the CPSFP’s pre-set menu requests. As stated by one EP, “It has added volume to our pile [all customers], which helps with pricing for everyone, and this student nutrition volume boosts that pile. There is a lot of similarities between health care food items and students’ nutrition food items, so there has been some real benefit to everyone” (EP2_Ph II). From a food producer perspective, the pre-set menu and subsequent increased volume led to greater efficiencies to prepare orders, for example getting one order ready for multiple schools instead of one order per school. One EP expressed that “Sometimes its difficult to deal with schools individually, but with this program we were able to reach a bunch of schools, so the volume was big, and it was easy for us to do” (EP4_Ph III).

In contrast to the successes of the pre-set menu, participants discussed some challenges it posed on food procurement due to food volume and types of foods requested. Those directly involved with food procurement and distribution noted that, at times, insufficient lead time or lack of past information to secure and forecast food volumes led to some inconsistencies in food quality (e.g., underripe produce and spoilage), inaccurate food volumes (e.g., less than one serving per student), and/or the need for last-minute food item substitutions. Some seasonality issues were mentioned by a few participants which led to the inability to secure certain menu items and contributed to food substitutions. For OSNP personnel, these inconsistencies were similarly noted as they caused some confusion and frustration for school-level program volunteers. All participants commented, however, that

these issues tended to improve over time, “We have some challenges because the kinds of products are sometimes different from what is in stock with our distributors, so there has been a bit of miscommunication around how much time is required. How much lead time we need to react but I think we’ve ironed those out” (EP2_PhIII).

At the school-level, OSNP personnel noted that, while the pre-set menu met their goals of increasing access to a variety of nutritious foods to children, the food volumes and types may have unintentionally placed additional burdens on school staff and volunteers with respect to food handling, preparation, and adoption. Most OSNP personnel mentioned that the amount of food initially received by schools was overwhelming, as it tended to be more than their typical purchasing volume. For example, one OSNP stated, “I think that some of the schools were a little bit overwhelmed with how much food comes because when they shop, they’re not used to getting that much” (OSNP5_Ph III).

A few participants commented that this excess volume led to food waste, primarily due to limited volunteer/staff time to prepare items, but also due to infrastructure limitations. OSNP personnel mentioned that some schools lacked the appropriate storage facilities (e.g., refrigerators, freezers), preparation space, and utensils to prepare and serve certain food items, and that funding was inadequate to acquire the resources needed to fully implement the menu as planned. Regarding this challenge, one OSNP expressed that “I know some of the schools have an issue just with sheer storage of where to put it all” (OSNP1_Ph III).

All participants stated that the CPSFP’s procurement and delivery practices alleviated concerns over food safety and supported the maintenance of cold chains. For example, one EP commented, “It preserves the food chain...I’d hate to have someone get sick because they had the yogurt in the trunk. It makes me

feel good that the food that gets to students have maintained their cold chains from produced to consumed and I know that these kids are getting safe, good food at a good price” (EP2_PhII).

With respect to delivery, most food distributors and producers noted how well organized and seamless the delivery processes were to implement. One minor challenge mentioned by all participants was an inconsistent delivery times to schools. While food distributors aimed for consistent delivery times and personnel, it was challenging to work around bus schedules (e.g., school bus drop-off times). One OSNP detailed these challenges as, “I try and keep the same face going to the schools just so the schools get used to the same delivery person. Unfortunately, everyone wants their order to be delivered by nine, but that’s just not possible. We are also trying to work around bus schedules because we are trying not to tie up any more space in bus lanes and parking lots” (OSNP 6_Ph II). These inconsistent delivery times also posed challenges to school volunteer capacities to receive and store items.

Recommendations for Sustainability of the CPSFP

All participants noted the continuous improvement of the CPSFP across all phases of implementation. Many lessons were learned, with participants noting several aspects that would aid in the sustainable implementation of the program, particularly with respect to the planning and procurement practices. From a planning perspective, all participants expressed the need for continued use of a pre-set menu to drive purchasing power and economies of scale; however, other aspects were identified that could help with procurement and implementation. Most participants noted the importance of collecting input from key stakeholders (e.g., procurement groups, distributors,

individual schools) prior to program implementation to aid in the planning of the menu. From a procurement perspective, some participants commented that this may alleviate issues around certain foods not being available for purchase and may help to balance the weekly menu to ensure it includes both high and low preparation food items (e.g., whole pineapples vs. apples), as well as dry goods and perishable items. For example, one EP stated that “I think we just keep lugging forward trying to improve delivery and products that don’t need a lot of prep. Everybody is looking for different products right because they don’t just want fruits and vegetables” (EP1_PhI). Participants noted that this may help eliminate last-minute substitutions, potential food quality issues, and limited school-level resource capacities.

While OSNP participants shared this need to decrease the school’s burden regarding resource capacities, a few participants mentioned that, by allowing individual schools to provide input into the menu, it would ensure that their students’ food preferences and appropriate volumes (e.g., smaller servings for younger children) were taken into consideration. As suggested by one OSNP personnel, “The quantity of food we’re providing, just how better to efficiently meet the needs of what the school would use versus just delivering what we expect them to use (OSNP 4_Ph II). This, in turn, may also help reduce waste and build some flexibility into the menu to allow more creative and appealing food options for students (e.g., celery and hummus vs. celery and melba toast). This flexibility was expressed by another OSNP personnel in the following way, “They would like to have more choice. There are certain products that they just feel that their students don’t like and therefore they would like to not have those products” (OSNP7_Ph II).

All participants involved in the procurement of food stated that they would like to see a continued investment in expanding and diversifying their partnerships. All participants stated that they wanted to see the CPSFP expand to include more schools, thereby increasing their businesses, purchasing power, and economies of scale, while reaching more children. “I would like to see more volume, more coordination among coordinators because I really think if they put their volume in one basket, they could see some incredible value for their procurement” (EP2_Ph II). Food procurers further commented that the diversification of partnerships with food producers would not only increase food item offerings (e.g., local foods), but also enhance the profile of local farmers. As stated by one OSNP personnel, “We’re learning more ways to sustain this type of program. Reaching out to more vendors, companies, and businesses. Just being able to branch out and expand our network” (OSNP3_PhII).

Finally, some OSNP personnel noted the need to expand their distributor pool to avoid any unforeseen changes in contracts (e.g., changes in fee structure) and to maximize customer service contracts. As expressed by OSNP personnel, “Working with multiple vendors so that we don’t get in that situation where we’re really dependent on one vendor” (OSNP7_Ph III).

In terms of program sustainability, one aspect of the CPSFP deemed invaluable by all participants was the presence of dedicated, paid OSNP staff. From a procurement perspective, food distributors valued the role of the FLCs to provide timely communication about volume forecasting and food item needs, including problem solving when menu items were unavailable. Food producers also appreciated this role, as it alleviated the strain placed on them to coordinate and deliver produce from their individual farms to schools. All participants commented that this position

provided an opportunity for the program growth previously mentioned. One EP summed it up as such,

What I liked most about the program is [FLC] takes care of all the logistics. We work with some schools, just more one-on-one, and sometimes it's very difficult to coordinate all the logistics. It was nice to have that taken care of. It was really simple and especially when farmers are really busy, it can't be too much work for them, otherwise they're not going to be able to participate (EP4_Ph III).

All participants recognized the importance of committed, continuous, and flexible funding for the sustainability of the CPSFP. Participants highlighted that costing of food is often variable and associated with seasonality, which can lead to changes in forecasting and availability of items. This was expressed by one EP as follows, “Funding obviously. Funding with the freedom to look for the best value is required. With donations, there's a requirement to spend it within the store that donates it and that does not allow for aggregated volumes and contracting product when you're dealing with gift cards” (EP2_Ph III). While the CPSFP did increase the food cost per student per day, it did not address the current financial restrictions imposed by government funding regarding physical resources (e.g., storage, utensils, equipment). Therefore, some participants mentioned the importance of having flexible funding to support these infrastructure needs to fully meet CPSFP goals and implementation. For

Discussion

This study highlighted the perspectives of an often-overlooked group of SFP participants, namely those non-school personnel involved in the planning, procurement, and distribution of foods in a SFP in Canada. Although some challenges were identified with

example, this flexibility was addressed by one OSNP as, “I know that every school is different, so some schools have storage, and some don't. Some have a lot more fridge and freezer space... a school has to apply for infrastructure and there's minimal funding that goes towards that... so I would hope that with this project there would be some extra funding for that” (OSNP2_Ph I).

Finally, some participants commented that if the CPSFP is to be sustainable, greater engagement and learning by students and program volunteers is needed. Participants commented that the CPSFP could benefit schools further by enhanced food literacy components. For students, some participants noted providing opportunities for involvement in the program and more integration into classroom activities. As mentioned by one EP, “It kind of enriches their learning. I know a lot of the schools have kind of gone off into other directions incorporating some of that stuff into some of their science lessons days” (EP1_Ph I). For program volunteers, access to best practice guidelines (e.g., delivery models to classrooms, ideas for leftovers, recipe guides) were suggested. To improve program implementation, more dedicated and consistent support during initial program implementation was mentioned by OSNP. “Our role is around delivering the food to the school and once it gets to the school there's a lot that can be done under that best practice framework that would really enhance the quality of outcomes” (OSNP7_Ph III).

the new central procurement model, most participants focussed their comments on the numerous benefits and strengths of the CPSFP, with opportunities to expand and ensure the program's sustainability for the future.

One key aspect mentioned by all participants was the collective benefits experienced by their involvement in the CPSFP. Participants entered the partnership as a community engagement opportunity with the goal to enhance and/or promote their businesses, while simultaneously supporting healthy eating habits in school-aged children. From food producers' perspectives, more product was sold, and the diversification of their consumer base may provide more support in an increasingly competitive global market. From a food procurer/distributor perspective, the CPSFP was an opportunity not only to grow their business, but also to improve economies of scale, a perspective shared by OSNP personnel. These findings are in concert with previous literature indicating the collective value of school food programming beyond that experienced by the students that serve them (Aarestrup et al., 2014; Gregoire & Strohbahn, 2002; Izumi et al., 2006; Izumi et al., 2009; Izumi et al., 2010; Joshi et al., 2008; Watson et al., 2018).

Although the primary intention of the new central procurement model from an OSNP perspective was to address current challenges in traditional, ad hoc school snack programming, OSNP personnel also saw the program as a way to extend their existing public funding to increase the reach of the program and to ensure that greater quality, quantity, and variety of foods were offered to children. This benefitted the consumer base of EPs, in that synergies between different customers (including health care institutions) allowed everyone access to previously unavailable food options. Taken together, the addition of the CPSFP not only improved economies of scale for a public funded school snack program, but in this case, for publicly funded health care as well, which ultimately increased the affordability of highly perishable fruits and vegetables or speciality food items (and stretched limited tax dollars).

The primary motivations for farmers (producers) to participate in SFPs included enhancing economic incentives (e.g., diversifying their marketing strategies) (Izumi et al., 2010; Joshi et al., 2008), fostering healthy eating habits among children (Izumi et al., 2010; Joshi et al., 2008), supporting the local economy (Izumi et al., 2010; Joshi et al., 2008), and solidifying good public relations (Gregoire & Strohbahn, 2002; Izumi et al., 2006). While this was true for the current study's participants, they were also motivated by their desire to increase awareness about their produce and farms, and to make connections with their community. Although Canadians place high trust in farmers, 91 percent know little about farming or the challenges farmers face (The Canadian Center for Food Integrity, 2019). Therefore, school food/snack programs present another avenue to raise public awareness of the value of farming and agricultural practices, which is an important aspect of food literacy that is associated with healthier eating habits (Kalkan, 2019; Libman, 2007; Triador et al., 2015).

Although the CPSFP's pre-set menu was successful at improving economies of scale and alleviating burdens on snack volunteers to plan and procure foods for their schools, some unintended consequences emerged due to the volume and types of food requested. Participants noted that short lead times, seasonality, and lack of availability of certain food items led to some issues with the quantity and quality of foods delivered and may have resulted in last-minute food substitutions. OSNP personnel stated that snack volunteers were overwhelmed and, at times, struggled with preparing and storing certain menu items. All participants agreed that these issues improved over time and that moving forward, input from all stakeholders into the pre-set menu and development of best practice guidelines could help to alleviate most of these issues. Situational assessments are invaluable tools for any program

implementation as they not only allow potential challenges to be circumvented, but they also promote a sense of agency among stakeholders (Ontario Agency for Health Protection and Promotion et al., 2015). For example, previous evaluations conducted on similar initiatives have indicated that support for their programs would have been enhanced if personnel had been more involved in the planning stages (Bouck et al., 2011; Clarke et al., 2009; Jorgensen et al., 2014).

All participants stated they looked forward to the CPSFP continuing in the future, with most commenting that they wanted to see not only expansion of the program, but also greater engagement of all stakeholders. Previous studies have reported the essentialness and benefits of engaging partners to school food programs that create synergies between education, agriculture, and the community, while also contributing to the local economy (Bateman et al., 2014; Joshi et al., 2008). From an economics perspective, food distributors in Wisconsin reported that their participation in a farm-to-school program had the potential to increase interest and demand for local foods by their customers and potentially created a market advantage for themselves (Bateman et al., 2014). In Ontario, one of the targets of the Local Food Act (Bill 216, 2020), is to increase the provision of local foods in public funded organizations. Therefore, the inclusion of the CPSFP into the customer base of food procurement groups may increase local food procurement for all existing customers (including publicly funded health care) which would further the targets set by the province and support the local food economy as well (Ruetz & McKenna, 2021).

To ensure the CPSFP's feasibility, fidelity, and sustainability, all participants identified committed and flexible funding as a necessary aspect. Participants stated clearly that any future funding model should continue to support paid personnel that were deemed

invaluable to the CPSFP to ensure timely communication with EPs (e.g., orders, substitution of food items, delivery times) and the maintenance of the newly established central procurement and delivery practices. Furthermore, any future funding model would also need to ensure that a variety of high-quality food items—including local, seasonal, fresh produce—be more readily available. Enhanced and flexible funding to support fluctuating costs for food procurement (e.g., seasonality), infrastructure, and possibly human resource needs, were also considered necessary to ensure that economies of scale, food safety standards, and program reach are maximized. Adequate and committed funding to support food procurement and delivery practices, food costs, infrastructure, and human resource needs have been identified in previous evaluations of school food programs as a necessary component to the success and sustainability of such programs (Bouck et al., 2011; Gates et al., 2016).

While the present study was conducted prior to the publication of two recent reviews examining Canadian SFPs (Everitt et al., 2020; Ruetz & McKenna, 2021), the experiences of the CPSFP's food providers aligns well with the collective findings of both reviews. Of particular interest, the scoping review by Everitt and colleagues (2020) identified some promising practices for future SFPs in Canada, which were also identified by participants in the present study. Everitt and colleagues (2020) suggested that SFPs are well positioned to support local food systems, which was confirmed by EP involved with the CPSFP. Furthermore, the economic sustainability of the CPSFP was clearly identified by all participants as a way to ensure that the CPSFP could achieve its full potential of universality, reach, and effectiveness (Everitt et al., 2020). This, too, was identified as a key component of Everitt et al.'s (2020) proposed framework for SFPs to ensure that sufficient resources are invested to support

program implementation and evaluation. Interestingly, while most current SFPs focus on nourishing children (Everitt et al., 2020; Ruetz & McKenna, 2021), participants in the present study perceived the CPSFP as a means to move beyond simply providing healthy food to children, to supporting multiple attributes of food literacy (e.g., food preparation, awareness of eating for health). This idea of moving beyond mere nourishment was also included in Everitt et al.'s framework (2020). They propose that SFPs have the potential to address the social determinants of health, including food literacy, health equity, and cultural diversity, to name a few (Everitt et al., 2020).

There are several strengths and limitations of this study. A strength was including participants with diverse roles in the food provision aspects of the

program, which enabled a broad perspective of program implementation from procurement to distribution. Also, credibility of the data was enhanced by having multiple, independent researchers (i.e., those with no prior relationship to the program) conduct data analysis. Potential limitations include that this study was designed to evaluate the experiences of stakeholders involved in the CPSFP, and while the intent was to inform future SFP, the insights may not be entirely transferable to other school snack program models. Additionally, self-selection bias may have occurred in that participants with a vested interest in seeing the program continue (e.g., enhanced business for food providers) may have provided a more positive assessment of the program.

Conclusion

Participants offered a variety of in-depth insights into the planning, procurement, and delivery aspects of the CPSFP. Inevitably, some challenges were experienced; however, participants collectively highlighted many broad successes of the program. Although partnerships were built to support healthy eating in children, the inclusion of the CPSFP in the local community's food system had a more holistic return on investment. Food procurers and distributors identified benefits to their existing businesses, which not only increased purchasing power and economies of scale for all customers, but also increased the variety of nutritious products available. The CPSFP provided food

producers with an opportunity to diversify their businesses, while educating the community (e.g., children, parents, and schools) about their products and practices, and promoting support for local foods. OSNP personnel increased the reach of their existing nutrition programming, while maintaining food safety and nutrition standards. Taken together, the CPSFP presents a promising implementation model for SFPs that is feasible, sustainable, and mutually beneficial to multiple stakeholders within the food system. It may also help inform discussions about a national school food program for Canada.

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