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School Food Programming across Canada during the COVID 19 Pandemic: Program Reach and Modalities

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ABSTRACT

In 2020, after the COVID-19 pandemic resulted in widespread school closures and a consequent pause in school food programs (SFP), stakeholder groups soon found alternate methods for delivering meals and snacks to students. This paper examines the breadth of school food programming in Canada during the pandemic. SFPs collectively offered meals (breakfast was most frequent), food boxes, and gift cards and average weekly distributions were over 10,000 meals. In most cases, the programs provided enough food/coupons to feed multiple or all household members. Almost half the programs received funding from provincial/territorial governments and around two-thirds received charitable contributions.

KEYWORDS

School food programs; implementation; models; children; students; COVID-19

Introduction

Before the COVID-19 pandemic, school-based food and nutrition programs were the world's most widespread social safety net program, feeding nearly one in every two school children.¹ These programs aim to improve food security, dietary quality,² and academic performance^{3,4}; and in economically developed countries such as Canada, may help protect against overweight.² Once COVID-19 began to spread, many countries closed schools (at its height affecting 188 countries and about 91% students globally),³ which prevented school-based food programs from operating normally.

Prior to the pandemic, in 2018–19, a minimum of 21% Canadian children participated in school food programs (SFPs) funded by provinces and territories⁵ even though Canada is the only G7 country without a national SFP.⁶ In March 2020, most Canadian schools closed. Provinces and territories, schools, community organizations, food suppliers, volunteers, and others responded by providing students with access to food through alternative programs. The federal government established an Emergency Food Security Fund that provided additional support. Between April 2020 and October 2021,

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the government allocated \$300 million to five national food organizations to improve food access for people with food insecurity, a portion of it supported the operation of SFPs.⁷

Initial research indicates that existing school meal programs played an important role in reaching children and families in need due to COVID-19. While overall research on SFPs operating in Canada during COVID-19 is limited, some information about other nations' responses to the pandemic is available. The United States (U.S.), for example, instituted several waivers for their school meal programs, allowing the delivery of multiple meals to offsite locations such as students' homes and community centers, and relaxing nutrition requirements for meals.⁸ To facilitate student access, the United States Department of Agriculture (USDA) created an interactive map indicating where students could find meals in 15 states.⁹

In much of the United Kingdom, lunch parcels that met school food standards were delivered by schools to students' homes.^{10,11} Spain instituted bursaries for dinners for students in vulnerable situations who previously were eligible for school meals.¹² Worldwide, 68 countries received support from the World Food Programme and governments, which provided take home rations, vouchers, or cash transfers to students.¹³

In Canada, the COVID-19 pandemic posed significant challenges to peoples' lives and livelihoods. Financial instability stemming from extensive job losses put a significant proportion of Canadians in a vulnerable situation. Gadermann et al found that COVID-19 and related lockdown measures worsened the mental health (stress and anxiety levels, suicidal thoughts) of families with children.¹⁴ A Statistics Canada study conducted in May 2020 found higher levels of food insecurity among households with children (19%) compared to households without children (12%) during the initial months of COVID-19.¹⁵ A report on the effects of COVID-19 on children identified increasing levels of food insecurity and poverty as top threats to the health and well-being of children.¹⁶

Prior to the pandemic, research on Canadian SFPs was limited.⁵ Ruetz and McKenna's examination of SFPs funded by the provinces and territories indicated that food security and health were the primary program mandates and that programs reached a minimum of 21% of Canadian students. Provinces and territories often only provided a portion of total funding, which required SFPs to also rely on non-governmental funds, including charities and the private sector.⁵

Even less information was available about food provision to students in Canada during the pandemic. A report from Nunavut found that demand for school breakfasts increased sharply.¹⁷ Research from Ontario noted that school closures resulted in a loss of program volunteers and other resources.¹⁸ Nevertheless, drawing on existing relationships, Ontario continued to feed students, moving from a program that was available to all students

in designated schools toward a greater focus on emergency feeding for vulnerable students and their families and a greater reliance on the private sector.¹⁸ It is unclear if changes to programs were tracked during the pandemic. The findings of this research provide a clearer picture of food provision to students during this period – how programs functioned and who participated – and can assist with future preparedness planning and inform the development of a National School Food Program, as first promised in the 2019 Government of Canada budget.¹⁹

Materials & Methods

To address the information gap on Canada's SFP response to COVID-19, we designed a survey to capture program information during school closures from March through June 2020. The survey consisted of primarily closed-ended questions querying key program components, such as eligibility criteria, program delivery models, participants, food sources, costs (all data in Canadian dollars), and foods offered in the seven days preceding the survey. The survey, which was voluntary, was aimed at schools/organizations/community groups providing food to students who would normally have access to SFPs, through either existing programs or new initiatives. The survey was intended to take approximately 10–15 minutes to complete as we were aware that potential participants could be volunteers and face time constraints. A draft survey was reviewed by leaders within the Coalition for Healthy School Food (CHSF) for completeness and clarity before distribution.

The web-based survey, in English and French, and considered ethics-exempt upon review by the University of Saskatchewan Behavioral Ethics Board, was open for data collection from June 1 until September 30th, 2020. Program evaluation studies are usually ethics exempted.²⁰ As our study evaluated the program modalities of organizations providing school food during COVID-19, and as no participants could be identified using our study findings, it was exempted from taking ethics approval. Lack of contact information for individual SFPs in Canada precluded random sampling. As a result, a bilingual invitation to participate in the survey was distributed through four main avenues: (1) community-based organizations that operated SFPs prior to school closures who were members of the CHSF (the largest school food network in Canada with 170 members)¹⁸, (2) the five national food organizations that received federal funding through the Emergency Food Security Fund, (3) a list-serve of approximately 40 Canadian school food academic researchers, and (4) all publicly available contacts at school divisions in every province and territory. During June and July, we sent follow-up e-mails reminding the groups about the survey and inviting participation.

Table 1. Survey participants offering school meal during COVID 19 across Canada.

Regions	Provinces/Territories	% (n)
Atlantic Region	Nova Scotia & PEI	1 (2)
	New Brunswick	8 (11)
	Newfoundland & Labrador	1 (2)
Total participants in the Atlantic Region		11 (15)
Central Canada	Ontario	27 (37)
	Quebec	2 (3)
Total participants in the Central Canada		29 (40)
Prairie Region	Alberta	18 (25)
	Saskatchewan	9 (12)
	Manitoba	9 (12)
Total participants in the Prairies		36 (49)
West Coast	British Columbia	20 (27)
Total participants in the West Coast		20 (27)
North	Northwest Territories	2 (3)
Total participants in the North		2 (3)
National		1 (2)
Total organizations that operate nationally		1 (2)
Total survey participants		100 (136)

The data were analyzed using descriptive statistics, such as means and confidence intervals, and results are presented by province, territory and/or region.

Results

There were a total of 136 survey responses and as shown in [Table 1](#), just over a quarter (27%) were from Ontario (Canada's most populous province), 20% from British Columbia, and 18% from Alberta; there were no responses from two of the three Territories. Two organizations offered programs in multiple Provinces (termed 'national' in all the tables/figures).

Program Coverage

Most schools (83%) continued their programs during school closures using alternative methods for food pick-up or delivery, while 17% of programs began as a response to school closures. While school-based programs target students only, 37% of the pandemic initiatives allowed students and their families to participate and 29% permitted students only to participate (figure not shown). Approximately one-third (32%) of the programs allowed any student from within a school to participate (school eligibility to offer a program is sometimes determined using government criteria), which is typical of pre-pandemic SFPs (nested universal access). Other programs (41%) used referrals to determine participation, such as referrals from teachers or community organizations, to ensure students of known need were aware of the program (targeted program access) (Figure not shown).

Table 2. Program types and number of meals served in the seven days preceding the survey.

Type of meals served	Type of program offered	Average number of meals served	Minimum numbers of meals served/per program	Maximum number of meals served/per program
Breakfast	13%	4,836	5	69,685
Lunch	26%	1,855	5	25,000
Snacks	26%	3,495	10	60,456
Food boxes	69%	1,099	3	62,221
Gift cards	38%	1,982	2	60,000
Other	22%	777	15	4,400

Organizations and schools opted for a variety of program modalities and most offered multiple types of programs. Table 2¹ shows the wide variation in the size of the programs – from programs that offered 10 or fewer offerings per week to those that provided for thousands of children/their families – the latter was an initiative with a high outreach that operated in multiple provinces. Around 52% of programs offered lunch and snacks while 13% of programs offered breakfast, however, in terms of average number of meals served, breakfast was served most frequently. The average weekly distributions were over 10,000 meals or snacks during the full week of operation preceding their response to the survey: approximately 4,836 breakfasts, 1,855 lunches and 3,495 snacks. Food boxes were a popular option, with 69% of participants providing them; programs served an average of approximately 1,099 food boxes during the week before the survey. Food boxes contained readymade meals such as canned soup or a variety of foods to make multiple meals. Around 22% participants adopted other models such as establishing accounts at local grocery stores, providing food hampers containing 5 to 8 days’ worth of food for every member of a household, and arranging a supper delivery on a specific day of the week.

Table 3 shows the average number of meals provided by region in the week preceding the survey. Over 60,000 breakfast kits, food boxes and gift cards were served by an organization operating in multiple provinces (identified as ‘national’ in the table), which consisted primarily of vouchers for groceries

Table 3. Average number of meals provided by province/territory (week prior to survey completion).

Name of Province/Territory	Average number of meals/foods served in the previous week					
	Breakfast	Lunch	Snacks	Food boxes	Gift cards	Others
Alberta	379	696	604	258	606	318
Ontario	1613	22	8584	331	970	1074
British Columbia	160	1407	223	402	665	158
Saskatchewan	788	2198	454	186	113	60
Nova Scotia & PEI	-	5747	1400	10	73	-
Quebec	-	25,000	6758	5138	-	-
New Brunswick	53	168	100	226	30	19
Manitoba	100	265	237	100	32	443
Newfoundland & Labrador	-	-	-	378	13	-
Northwest Territories	-	-	-	63	63	-
National	69885	-	-	62221	60000	450

from specific stores. On average, each week around 25,000 lunches were distributed by the SFPs in Quebec. This figure contrasts with the 22 lunches distributed in Ontario, as most Ontario programs distributed snacks, food boxes and gift cards. Programs in Ontario distributed the largest number of snacks followed by Quebec. Organizations in all provinces and territories distributed food boxes. While programs in Nova Scotia served only 10 food boxes on average, the other provinces served an average of over 100 food boxes every week. Except for Quebec, programs in all provinces also distributed gift cards.

Our total survey responses illustrated that in one full week of operation, survey participants distributed over 70,000 breakfasts, 60,000 lunches, around 18,000 snacks, 69,000 food boxes, and around 60,000 gift cards. Furthermore, since one unit may contain multiple meals, these numbers are underestimates.

Program Costs

As with most Canadian SFPs operating pre-pandemic, all programs during COVID-19 were offered free of cost to students (and their families). [Table 4](#) shows the average cost/unit of offering the service for each type of program and [Table 5](#) shows the average cost by province/territory. The average cost to offer one breakfast was less than \$5 with the lowest average cost in Manitoba, slightly over \$1, and highest in Ontario, slightly less than \$6. Lunches and snacks cost more in Quebec than other provinces, on average ([Table 5](#)).

Table 4. Average cost to offer service (per unit).

Type of service	Average cost of service provided	Minimum cost	Maximum cost	95% Confidence Interval
Breakfast	3.40	0.5	12	1.65–5.15
Lunch	4.17	1.5	12	3.33–5.01
Snacks	4.85	0.1	20	2.61–7.10
Food boxes	58.47	1.03	500	42.17–74.22
Gift cards	72.72	3.47	500	47.32–98.12
Other	106.28	0.29	1250	–15.54–228.11

Table 5. Average cost of food served across Provinces and Territories.

Name of Province/Territory	Type of food served					
	Breakfast	Lunch	Snacks	Food boxes	Gift cards	Other
Alberta	2.10	3.38	5.85	118	87	227.50
Ontario	5.75	3.83	7.33	48	53.08	27.81
British Columbia	5.66	5.48	1.42	52	58.88	15
Saskatchewan	2.58	3.79	3.28	48	91.66	2.5
Nova Scotia & PEI	-	5	1	30	35	-
Quebec	-	6	8.30	18	-	-
New Brunswick	4	5	2.50	34	500	400
Manitoba	1.25	1.33	1.33	45	41.66	33.33
Newfoundland & Labrador	-	-	-	125	75	-
Northwest Territories	-	-	-	150	87.5	-
National	1.03	-	-	1	3.47	0.29

The cost of providing food boxes ranged from as low as \$1 to as high as \$500 but averaged \$58 (Table 4). The average cost was highest in the Territories, almost double the cost of other provinces. The variation in cost is expected given that the content and amounts of food varied by organization and/or province and reflected the price of food at that location. Although some food boxes contained one meal, most contained food for a few meals or for a few members of a household, such as offering one bag of oranges. The average value of gift cards was approximately \$72 per card, which also differed widely, with a high of \$500 in New Brunswick.

Program Management and Funding

As shown in Table 6, programs used multiple sources of foods and funding. Almost half the programs (49%) received funding from provincial/territorial governments while 16% received funding from the federal government, municipal governments, or grocery stores (Table 6). Two-thirds (68%) of the programs received charitable contributions as their largest source of funding. The funding streams that allowed the schools to sustain their operations were most often a continuation of funding received prior to the pandemic for regular operations, not new funding. Almost the same number of programs (25%) reported receiving new funding from federal or provincial government sources as did those reporting new charitable donations (26%). It is important

Table 6. Program funding and management modalities².

Funding & food distribution modalities	Programs receiving funding from this source	Confidence Intervals
Sources of funding		
Charitable contribution	68%	0.60–0.75
Provincial/Territorial government	49%	0.40–0.56
Municipal government	18%	0.12–0.25
Federal government	16%	0.10–0.23
Grocery store/ restaurant	17%	0.11–0.24
Parental contribution	4%	0.01–0.09
New funding sources (during COVID)		
Charities	26%	0.19–0.34
Municipal government	5%	0.02–0.10
Provincial/Territorial government	9%	0.05–0.15
Federal government	12%	0.07–0.19
Grocery stores/restaurants	7%	0.03–0.13
Source of food distributed		
Grocery stores	88%	0.81–0.92
Food donations	52%	0.43–0.60
Food banks	39%	0.31–0.48
Farmers	22%	0.15–0.29
Restaurants	10%	0.06–0.16
Food distribution outlets		
1 location	48%	0.40–0.56
2–4 locations	21%	0.15–0.29
5–7 locations	2%	0.01–0.07
More than 8 locations	27%	0.20–0.35
Delivered directly to households	66%	0.57–0.73

to note that the federal government provided funding to national charities, not directly to programs, so it is impossible to distinguish between federal and charitable funding.

Most programs (88%) sourced food from grocery stores, 52% received food donations, and 22% acquired food directly from farmers. Almost half the programs (48%) distributed food from a single location and 27% distributed food in more than eight locations; 66% of programs opted to deliver food to households.

Menu Information

Most participants responded to questions about their menus (125/136) and most programs provided food in amounts for more than one meal or household member. Most included perishable food items such as fresh fruit (e.g., apples, oranges, and bananas). Among the nonperishable items, granola bars, pasta, rice, and potatoes were provided most frequently. Some programs offered frozen meat, eggs and milk and canned foods such as tomatoes and beans. Breakfast mostly included eggs, oatmeal, cereals, and quick breads, while lunch included items such as bread, pizza, sandwiches, frozen home-cooked meals, stir-fries, soups, meatballs, and desserts. Snacks mostly included fruit and fruit cups and granola bars.

A substantial number of programs mentioned that menus changed based on availability of products and donations. While in some instances, availability was influenced by seasonal availability of fruits and vegetables, in other instances programs purchased cheaper items so that large quantities could be provided with a limited amount of money.

While all provinces and some territories have either required or recommended food/nutrition policies or guidelines for school food (e.g., New Brunswick) or guidelines specific to SFPs (e.g., Ontario).²¹ adhering to nutritional guidelines for menu selection was not mentioned by most programs, possibly due to many relying on donations from grocery stores or other sources. Their absence makes it difficult to assess if program foods met existing policies or the nutritional needs of recipients. For example, while participants did not mention any guidance about the types of food that could be purchased with grocery vouchers, some participants indicated that they tried to offer food adhering to the nutritional guidelines, for example, a program in Ontario specified they offered food that met Provincial Student Nutrition Program Guidelines.²²

While the foods offered followed a similar pattern in all provinces or territories, several survey participants held varying philosophies about what and how they offered the items. For example, a few programs mentioned they provided gift cards to give families greater flexibility in their purchases. One program in Saskatchewan stated “*We are currently only doing gift cards. This*

minimizes contact and maintains family dignity to be able to purchase their own food and make their own choices.” One program in Alberta included hygiene products such as toothpaste, toothbrushes and soap in the food boxes.

Discussion

Programs in almost all provinces and territories were able to bring rapid changes to program modalities to reach students, and in many cases, their families. Our nationwide scan of programs operating during the COVID-19 pandemic provides insights into the overall types of programs and associated costs, although details of costs of labor, infrastructure and equipment were not reported. One limitation of this study is that it is unclear how large a program pool was eligible to participate in this research or the extent to which survey participants were representative of other programs. Still, the study generated valuable insight into how programs functioned during this time. Three key themes emerged from the results.

First, while school students (families) continued to receive food during the pandemic, pre-pandemic provincial and territorial programs and the COVID-19 programs differed in a number of key areas, including what meal was served, how many people were served, how they were served, and who was eligible to participate (see [Table 7](#) for a comparison). Overall, the COVID-19 model reflected an approach focused on hunger alleviation to school food, while pre-COVID-19 programs included a greater focus on health.

Second, many existing SFPs were innovative enough to adapt to the needs of the communities quickly, which most frequently meant switching from serving snacks or lunches to providing food boxes or gift cards of various sorts. At the same time, during the pandemic criteria for inclusion, and funding, types and costs of programs varied widely.

Table 7. Similarities and differences between pre COVID and COVID.

Program characteristic	Pre-COVID-19 (from Ruetz & McKenna, 2021)	COVID-19
Primary mandate	Food security/hunger/health	Food security/hunger
Program location	School	Student's home
Typical participant	Individual students	Individual students and their families
Criteria for inclusion, cost to student	Universal student access within a school (nested universality), free	Universal student access within a school (nested universality) and targeted access based on student situation, free
Meal/snack usually offered	Breakfast, once per day	Breakfast, lunches, snacks to last multiple days and enough for multiple people Food boxes, gift cards
Nutrition criteria	Formal criteria common	Formal criteria rare
Primary funders	Provinces/territories, charities	Provinces/territories, charities, federal government
Environmental considerations	Minimally acknowledged	Minimally acknowledged

Third, almost all programs provided more food than a typical SFP. In most cases, the programs either provided enough food for a few meals or meals for up to one week. As well, many programs during COVID aimed to feed multiple household members or the full household instead of only school aged children. It is noteworthy that several initiatives provided grocery gift cards enabling households to purchase the type of food they wanted. Adhering to nutritional guidelines for menu selection was not mentioned by most programs, possibly due to many relying on donations from grocery stores or other sources. This limits the chance of offering food that meets the nutritional needs of recipients. Still, some programs did try to offer food adhering to the nutritional guidelines.

The Emergency Food Security Fund to support food security for vulnerable Canadians included an initial allocation of \$5 millions of ad-hoc school food funding to the national charity, Breakfast Club of Canada.²³ This funding was noteworthy for two reasons. First, this is a rare example of the federal government funding SFPs. Historically, part of the federal government's reluctance to fund a National School Food Program has been that both Education and Health are largely the jurisdiction of provinces and territories. This funding was allocated by the Agriculture and Agri-food Canada, Canada's Ministry of Agriculture; the entity that drafted Canada's first Food Policy in 2019 in which the National School Food Program was announced. The pandemic demonstrated the federal government's ability to move beyond jurisdictional challenges and fund SFPs. Second, this funding was allocated to a federal charity, rather than the provinces and territories, which were identified as key partners in a national school food program in the 2019 budget. Riches, a Canadian food bank scholar, warns that the continuation of a charitable-led SFPs model may be akin to the country's current dilemma with food banks.²⁴ Once downloaded from the government to the charitable sector, public policy-led solutions become increasingly difficult to implement. A charitable model is contra-indicated to recommendations by Oostindjer et al (2017), which support the evolution toward programs that are health focused and comprehensive, including environmental sustainability.²⁵

Globally, SFPs have been one of the most extensive safety net programs.²⁶ At the federal level, Canada, unlike many other high-income countries, has a history of treating child poverty and undernutrition as a responsibility of individual families.²⁷ In many cases, SFPs in Canada operate using charitable donations and volunteer labor, with limited government funding. During COVID-19, most of them mobilized resources and shifted mandates to reach students and families in need¹⁸ The crucial impact school-based food and nutrition programs had in responding to community food insecurity indicates that roles of and restructuring school food programs in Canada require further attention.

Conclusion

This research examined two crucial aspects of school food programming across Canada during the COVID 19 pandemic: program outreach and implementation modalities. The results provide much needed information about actions during the pandemic. The large number of meals distributed, high number of gift cards, and inclusion of families underscore ongoing concerns about the number of Canadians living with food insecurity and ways in which they could be addressed (e.g., through increased income security). It raises questions about health needs of students and their families and how they were addressed and about the potential roles of various SFP stakeholders as Canada. The results capture an important moment in time that can assist governments, community organizations and others in future planning, including emergency preparedness.

Notes

1. Because [Table 2](#) contains percentage of each of the multiple types of programs offered, the responses do not add to 100.
2. Respondents received funding from multiple sources, and distributed food via various methods. Hence, indicators presented in [Table 6](#) do not add to 100.

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Authors Contribution

SDG. Conception and design of the manuscript, analysis, and interpretation of data, drafting, and revising manuscript

R.E. Conception and design on the study, quality control, data extraction, and revising the manuscript

M.M. Conception and design on the study, and revising the manuscript

A.R. Revising the manuscript

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Data Availability Statement

The datasets used and/or analyzed during the study are available from the corresponding author on reasonable request.

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