

Stakeholder Perspectives on Implementing Menu Labeling in a Cafeteria Setting

Lana Vanderlee, BSc; Michelle M. Vine, PhD; Nancy E. Fenton, RD, PhD; David Hammond, PhD

Objectives: Mandatory and voluntary menu-labeling policies are increasingly common to support informed food choices among consumers. This study sought to examine stakeholder perspectives of developing, implementing, and maintaining a voluntary menu-labeling program in a hospital cafeteria setting. **Methods:** Semi-structured qualitative interviews were conducted with 9 key cafeteria stakeholders. Data were coded by 2 independent researchers. Themes were generated deductively around 4 key themes: (1) motivation for the program; (2) program and menu development; (3) program implementation process; and, (4) “lessons learned,” and inductively as they emerged from interview transcripts. These themes were mapped onto Damschroder’s Consolidated Framework for Implementation Research. **Results:** Mo-

tivations for the program were both internal and external to enable consumers to make educated food choices. Barriers to implementation included financial resources, digital menu board maintenance, and availability of healthy options from providers. Supports included availability of nutritional analysis software and nutritional information, and controlled food preparation. Ownership, program adaptation, a supportive collegial environment, a program champion and a culture valuing healthy eating were conducive to successful implementation. **Conclusions:** Both internal and external factors can support the voluntary implementation of menu-labeling programs.

Key words: menu labeling; nutrition policy; food services; policy implementation
Am J Health Behav. 2016;40(3):371-380
DOI: <http://dx.doi.org/10.5993/AJHB.40.3.9>

Providing nutrition information at the point-of-sale, sometimes referred to as “menu labeling,” provides consumers with information about the nutritional content of food items when they are eating away from home in restaurants and fast food settings. Menu labeling has been implemented in several jurisdictions in the United States (US), and soon, will be regulated nationwide for all chain restaurants with more than 20 outlets in the US. This regulation requires that calorie information be displayed next to the price of all regular menu items in the same size and font color, alongside a statement describing the suggested daily calorie intake, and having additional nutrition information available on request.¹ Australia also has implemented mandatory menu labeling in the state of New South Wales.² To date, no Ca-

nadian jurisdictions have implemented mandatory regulations for the provision of nutrition information in restaurants; however, there have been several menu-labeling efforts at the provincial level. A voluntary program, *Informed Dining*, was originally implemented in the province of British Columbia, and is now being promoted nationally in chain restaurants by Restaurants Canada.³ Additionally, the Government of Ontario, Canada’s largest province, has passed a bill that will require calorie amounts to be displayed on menus in chain restaurants in January 2017.⁴

In the absence of government regulation, the provision of nutrition information in restaurant settings is highly variable. Many food outlets across Canada currently provide a limited amount of nutrition information; however, it is typically provided on an “as-requested” basis or for a select number of food items.⁵ An evaluation of 10 restaurants representing the top 5 fast-food chain restaurants in Canada found that 14% of restaurants posted calorie information and 26% posted other nutrient information on menu boards, and brochures were the most commonly provided source of nutrition

Lana Vanderlee, doctoral candidate, Michelle M. Vine, Adjunct Assistant Professor, Nancy E. Fenton, Adjunct Assistant Professor, David Hammond, Associate Professor, University of Waterloo School of Public Health and Health Systems, Waterloo, ON.
Correspondence Dr Hammond; dhammond@uwaterloo.ca

information.⁶ To our knowledge, no restaurants have implemented a comprehensive menu-labeling program including all menu items in Canada.

Little research has examined the development and implementation process for menu labeling programs. One US study from King County, Washington qualitatively examined the processes of developing and implementing a policy for menu labeling. The authors found that strong advocacy coalitions, an open political landscape, an environment of 'policy learning' for collaboration, and inclusion of expert-based information enabled the development of a successful menu-labeling policy initiative.⁷ An evaluation of voluntary efforts to implement a restaurant menu-labeling program in a US county found that barriers to participation in the program included using non-standardized recipes, costs of nutritional analysis, a perceived financial risk due to negative perceptions of menu labeling, and little perceived demand for additional nutrition information on menus.⁸ In Canada, surveys with independent restaurant operators showed that these stakeholders expressed little interest in providing nutrition information to customers. Restaurant operators indicated that modifying menus would prove expensive and time consuming.⁹ The same study conducted in-depth interviews with 9 stakeholders from chain restaurants. Results indicated that operators perceived barriers to nutrition information disclosure program implementation, including a limited ability to customize food, the necessity of redesigning menu boards, and proprietary concerns regarding the format of the nutrition information presented on menus.⁹

In 2010, members of the Nutrition and Food Services department at a large hospital in Ontario developed one of the first menu-labeling programs in Canada, in conjunction with a working group to develop a 'Hospital Check' nutrition program to provide criteria for 'healthier' hospital cafeteria food. The Nutrition and Food Services Department at this hospital is supported by both clinical and administrative staff who operate the public cafeteria that services staff, general public, and the clinical in-patient and out-patient food services.

The menu-labeling program was implemented in one cafeteria in January, 2011. The program provided digital menu boards with prominent displays of nutrition information for most menu items, featuring information related to calories, sodium, total fat, and saturated fat (Figure 1). The menu boards were installed while extensive cafeteria renovations were underway. The same program was later implemented in a second cafeteria in 2012.

The current study explored the process of developing, implementing, and maintaining the hospital menu-labeling program from the perspective of those who designed and implemented the program, using a qualitative research method. The study was conducted as part of a larger research program examining the impact of menu labeling on consumer food choices.¹⁰ The research objec-

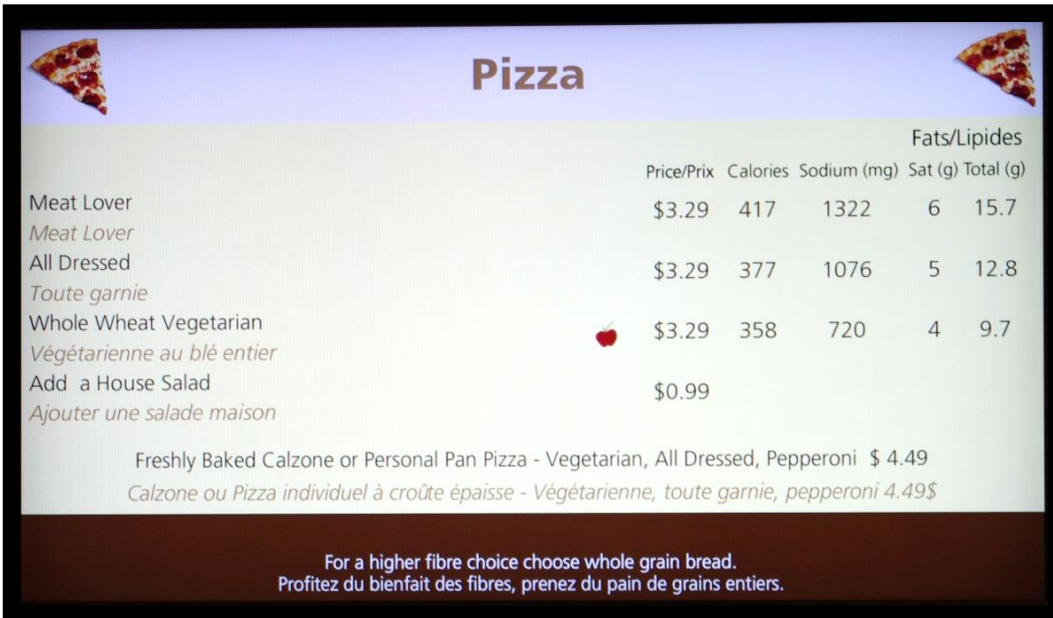
tive of the study was to identify and explore local level factors associated with program implementation success from the perspective of diverse stakeholders (eg, hospital staff, executives, and cafeteria suppliers). The study explores the implementation process through the lens of Damschroder's Consolidated Framework for Implementation Research (CFIR), which brings together constructs from an array of implementation theories to understand the complexity of implementing policies and programs.¹¹ The CFIR represents 5 dimensions that relate to effectiveness of program implementation, including intervention characteristics, the context within which the intervention is implemented (inner and outer setting), characteristics of the people involved in the intervention, and the implementation process. The framework helps to identify implementation theory characteristics that should be evaluated during process evaluation and that facilitate successful implementation and maintenance of a program.¹¹ In this study, the framework was not used for the actual design and implementation of the program, but rather, was mapped onto the data to identify characteristics that made this menu-labeling intervention amenable to successful implementation in a voluntary setting.

METHODS

This exploratory study employed a qualitative research design, including in-depth semi-structured interviews to investigate the experiences of key stakeholders with the menu-labeling implementation process. A range of stakeholders was recruited purposefully to represent a diversity of perspectives. Selection criteria included individuals who were currently or previously involved in facilitating, coordinating, or ongoing general interaction with the menu-labeling program. Using a snowball sampling technique, potential participants were identified through existing research relationships with the hospital and the Nutrition and Food Services Department. Telephone (N = 4) and in-person interviews (N = 5) were approximately 1 to 1.5 hours in length, and scheduled at the convenience of the interviewee. Interviews were conducted by a trained doctoral student using a semi-structured interview guide and participants were offered a \$50 gift certificate as appreciation for their participation. All interviews were recorded using a digital voice recorder and transcribed verbatim by an outside firm. The transcripts were reviewed by both the original interviewer and each participant to ensure reliability and consistency.

The interview guide was based loosely around 4 key themes: (1) motivation for the program; (2) program and menu development; (3) program implementation process; and (4) "lessons learned," including supports and barriers. Interviews were conducted after the program had been implemented for approximately 2 years, and thus, interview scripts prompted participants to think back to the time period before and during implementation to

Figure 1
Image of the Digital Menu Boards Posted in the Hospital Cafeteria



	Price/Prix	Calories	Sodium (mg)	Fats/Lipides	
				Sat (g)	Total (g)
Meat Lover <i>Meat Lover</i>	\$3.29	417	1322	6	15.7
All Dressed <i>Toute garnie</i>	\$3.29	377	1076	5	12.8
Whole Wheat Vegetarian <i>Végétarienne au blé entier</i>	\$3.29	358	720	4	9.7
Add a House Salad <i>Ajouter une salade maison</i>	\$0.99				

Freshly Baked Calzone or Personal Pan Pizza - Vegetarian, All Dressed, Pepperoni \$ 4.49
 Calzone ou Pizza individuel à croûte épaisse - Végétarienne, toute garnie, pepperoni 4.49\$

For a higher fibre choice choose whole grain bread.
 Profitez du bienfait des fibres, prenez du pain de grains entiers.

explore their perspectives during that time. Data were analyzed using thematic analysis,¹² undertaken by the original interviewer and an additional doctoral student researcher. Thematic analysis involved the creation and application of codes to the data, resulting in a theme-code set, developed by the interviewer, based on review and preliminary interpretation of 3 randomly selected transcripts. In this study, coding of the interview transcripts involved reading and open-coding discrete units of text to support individual codes found in the theme code set.¹² An inter-rater reliability exercise was undertaken between both independent coders to ensure that the theme code set was both reliable and systematically refined, with each independently coding the same interview transcript. Consistent with the coding dependability assessment procedure of Miles and Huberman, an inter-rater reliability score was calculated according to the following calculation: the number of agreements divided by the total of all agreements, disagreements, code-no-codes (where text is coded on only one of 2 transcripts) and second-level disagreements (where the same text is coded with the same topic and main categories, but with different sub-theme codes).¹² After reaching 56% agreement, a revised theme code set was developed through discussion of meaning and interpretation of codes.¹³ A second round of coding resulted in 66% agreement, which is considered a sufficient score for a qualitative exploratory study.¹² As per Barbour,¹³

from an epistemological perspective, the authors placed a high degree of value in the content of disagreements and resulting insights that lead to coding refinement and alternative interpretations, versus the actual reliability score itself. Such an approach lends itself to thoroughness of data interrogation, and improved transparency of the systematic process.¹³

Following coding on paper, data were entered into NVivo software (8.0, QSR, 2010) for thematic analysis, within which passages of text were chosen to support individual codes included in the theme code set (as described above). Key themes were generated by the constant comparison method – deductively from the research objectives, and inductively as they emerged from interview transcripts. These themes were then mapped onto the CFIR to identify characteristics of this menu labeling initiative that supported the successful implementation of this voluntary menu-labeling policy.¹¹

RESULTS

Nine respondents participated in in-depth semi-structured interviews (2 men; 7 women) in November/December 2012. Participants represented a range of key stakeholders, including 2 senior-level administrators (R1, R2), one cafeteria chef (R3), one cafeteria service staff member (R4), one representative from a food supply company (R5), one expert task group member, (R6) and 3 members of

Table 1
Commonly Occurring Sub-themes for Each of the Themes Identified in the Interview Transcripts

Topic	Sub-theme	# References	# Transcripts (%)
Motivation for implementation	Providing nutrition information to support healthy choices	24	7 (78%)
	Integration with cafeteria renovation	19	8 (89%)
	Providing food choice (both healthy & unhealthy)	15	6 (67%)
Menu development process	Hospital Check criteria	18	5 (56%)
	Procuring nutrition information from food suppliers	10	3 (33%)
	Partnerships with food suppliers & manufacturers	6	2 (22%)
Implementation process	Program components and advertising	12	5 (56%)
	Recipe development	12	4 (44%)
	Staff training	9	5 (56%)
Implementation barriers	Revenue-driven nature of cafeteria	11	6 (67%)
	Maintaining updated digital menu boards	5	4 (44%)
	Healthy options unavailable from supplier	4	3 (33%)
Implementation supports	CBORD computer software	7	3 (33%)
	Communication & marketing	7	3 (33%)
	Internal & external colleague support	5	3 (33%)
	Access to information is key	4	3 (33%)
	Controlled food preparation	4	2 (22%)

the Nutrition and Foodservices team (R7, R8, R9). Results are broken down based on key transcript themes, including motivation, the process for development of menus, the implementation process, and barriers and supports. Table 1 shows the most commonly occurring themes for each of the themes identified from the transcripts.

Motivation for Implementation

Original impetus for the program stemmed from the Nutrition and Food Services Department, and in particular, one stakeholder (R1) who was the champion for the program and who facilitated program development. The program had general support from hospital's senior administration.

The provision of nutrition information to patients, staff members, and visitors was a key motivation for implementing menu labeling in the cafeteria. The nutrition information program provided patients, visitors, and staff the opportunity to make informed nutrition-related decisions. The hospital cafeteria was seen as an important setting within which public health communications could have a positive impact on food choice. A member of the Nutrition and Food Services team acknowledged:

"Like everything else, it is education. I think the more that we can educate, the better it is, and people can then make their choices based on knowledge." (R8)

One participant stated that the nutrition information program was

"...reflective of the trends, the societal trends as well, and so it was a reaffirmation that we really needed to take a step back as we looked at our renovation opportunity to make sure that we were putting the right concepts, but also that we had an opportunity to then share some of the education and nutrition labeling as well." (R1)

The implementation of the menu-labeling program was integrated into previously planned cafeteria renovations. This was a strategic decision based, in part, on limited resources:

"We were fortunate that we were able to roll it in at the time of the whole corporate renovation project." (R1)

As a result, cost-savings were incurred:

"They ended up putting the wiring in, running the wiring and that was done in the evenings and LCD screens [at] the same time. So there was no loss of revenue or inconvenience." (R8)

The timing of the renovations and digital menu board implementation meant that this hospital cafeteria could begin to take a leadership role in

the emerging area of nutrition labeling and health promotion, a point mentioned by several participants.

In part, this motivation was guided by a need for the cafeteria to align its services with health-promoting efforts taking place in other community-based settings (ie, schools, recreation centers).

“We started to have discussions about whether we should be looking at our hospital environments as part of our work to build on the work we have been doing in schools.” (R6)

As one respondent expressed, providing both menu-labeling information and a range of choices were complementary.

“Getting back to our vision and mission statement, as well as not just that but our employee engagement survey, is making sure that we are providing not only for our patients, but for our employees, healthy options, healthy choices, and information to make informed decisions about what they are eating.” (R2)

Several respondents discussed the decision to provide a balanced cafeteria menu, where both healthy and unhealthy food options are sold. Nutrition labeling and providing information about the program via pamphlets and posters allowed participants to make an informed food choice. In this way, the program,

“...supports the healthy options, the healthy choices... being informed so that at least when you have a choice, you are informed about what you are making that choice on.” (R2)

This view was shared by a number of respondents:

“They have identified good choices, but they still have French fries on the menu, and if people want French fries, there is nothing wrong with that.” (R5)

Menu Development Process

Along with the renovations in the cafeteria and the implementation of menu labeling, there was a conscious decision to revamp some of the menu offerings in the hospital cafeteria. This was due in part to motivations to provide additional healthier options, and in part, to the external influence of media and other sources.

“We had had a lot of discussions corporately looking at what strategy did we want to follow relative to healthier choices and the offering of healthier choices for our staff and the public.” (R1)

Hospital Check criteria and the health symbol were developed to align the hospital food environ-

ment with other nutrition-promoting strategies taking place in community-based settings, including *Hospital Check* criteria (ie, Policy Program Memorandum 150,¹⁴ Heart & Stroke Foundation Health Check [reference available upon request], Eat Smart![®] Recreation Program Nutrition Standards for Vending Machines,¹⁵ and Sodium Targets for Food Products.¹⁶

“We looked at Heart and Stroke [Foundation of Canada] information... and we didn’t want to reinvent the wheel, but similarly we wanted something that was going to kind of be our own brand, which is how we came up with the Hospital Check program.” (R1)

The program also was building on other approaches for healthy eating options that were already implemented.

“We are also Eat Smart certified, so we have taken that into consideration when we produce our menus. We always try to integrate protein and starch and our vegetables into our menu planning.” (R9)

Developing and maintaining partnerships with food suppliers and manufacturers was key to the successful implementation of menu boards that resulted in strong relationships between food suppliers and the cafeteria administration. Having nutrition information easily accessible from food service providers, identifying healthier food options, providing menu options that meet the *Hospital Check* criteria, and having a strong line of communication with food service providers assisted in easing the transition to providing nutrition information on menus. For example:

(Interviewer): *“...and how would you say you or your company was affected by the menu-labeling program that was put in place at the cafeteria?”*

(Respondent): *“That is a good question. You know what it definitely strengthened our relationship. It was a huge undertaking. It was a lot of man hours on my part, but it really strengthened my relationship with key players at the time.” (R5)*

Program Implementation Process

Implementing the nutrition information program also involved program advertising, recipe development, and staff training initiatives. The *Hospital Check* apple icon was an important component of the program, providing branding and ease of recognition of foods that fall within hospital-specific guidelines. In this way:

“We wanted an icon that was recognizable so we worked with our graphic team and came up

with our Hospital Check program, which is the icon of the apple with the check mark on top, which we then tied to what we deemed to be healthier choices that met our standards criteria.” (R1)

In addition, paper-based advertisements accompanied digital menu board labeling at the entrance to the cafeteria. For example, the cafeteria had customized pamphlets that discussed the nutrition standards and the concept of menu labeling along with the icon to provide consumers with guidelines to facilitate their adoption.

The introduction of the nutrition information program required staff training and development for food service providers to ensure consistency with *Hospital Check* nutrition guidelines. From the perspective of a food service provider who works in the cafeteria, despite a lack of in-person staff training:

“There were information sessions, just to let us know where we were at and how it was going, and then when it came time to move, they let us know...” (R4)

Additionally, one participant echoed:

[There were] “some in-services [for staff members] prior to opening in January over the holiday period, so we had that training session and during that time we took the opportunity to inform them of what was going to be on the LCD screens because they were very much involved in our recipe development when we had to change menus or introduce new items.” (R9)

Hands-on staff training was an integral component of the newly renovated cafeteria launch, learning how to use new equipment and prepare new food items, as well as for reinforcing the importance of precise portion sizes to meet the nutrition information displayed on the screens. In this way,

“We tried to reinforce the whole aspect of the fact that it has always been critical that the portion sizes be accurate, but now we have this new dimension so it is critical that the recipes are followed to the tee.” (R1)

Another respondent acknowledged the tools put in place to facilitate portion control:

“They have their charts ... and so they will know what type of utensils to use. Overall I would say it is pretty good, but it is an ongoing work in progress with portion control.” (R9)

Communication among team members was vital to ensure recipes and portion control were maintained, as one cafeteria chef described:

“After we have tried it [the recipe] then we will give the information to [R7], and she will break it all down to 100 gm serving size. [If] the nutritional are off the scales she will basically tell us, ‘No we can’t. There is too much of this too much of that’, and at that point we will have to rethink or alter it or see if we have to, you know, decide against it.” (R3)

Regular weekly meetings discussing cafeteria activities, as well as specially scheduled meetings, helped to facilitate dialogue related to menu labeling between those serving food in the cafeterias and the clinical nutrition team:

“We do have weekly meetings with our staff and if we are on a project, like when we were developing our recipes and working on our new cafeteria, we had to have groups sessions with them to inform them and educate them.” (R9)

Implementation Barriers

There were several emerging themes representing implementation barriers that were commonly associated with product and time costs, as well as availability of ‘healthier’ items for sale. Given that hospital cafeterias are revenue generating by nature, introduction of the *Hospital Check* program and a wider range of healthy food options, and advertising nutrition information for menu items, meant that they risked losing food sales. Respondents recognized that there were sometimes challenges of high food costs for healthy items, in addition to competition with other hospital food outlets, and fiscal constraints,

“It is difficult because we have a lot of competition here, because in one way they would like to make money in the cafeteria, and the fact that we are sticking with this really rigid framework of nutritional guidelines, we can’t offer a lot of food that people really want.” (R3)

“They [cafeteria] are limited to no budget increases coming to hospitals from the Ministry of Health, and most cafeterias, as we have learned throughout our consultation process, are not even breaking even. They are actually in deficit, so the idea of changing the offerings because we also know that sometimes it is those less healthier foods that are the ones that are actually the higher sellers, and bringing in more profit.” (R6)

Initial implementation of the program was labor intensive, with a heavy burden associated with pre-implementation and implementation on Nutrition and Foodservices team members. For example:

“It was a tremendous amount of work for [R7] to upload the information and to get the LCD screens going and what not, and the ongoing upkeep of them.” (R8)

Time restrictions led staff members to feel a sense of burden associated with menu board implementation,

"I think the challenges were time, because it is very time consuming to do all this, to gather the information. So it is just a matter of, 'okay what do I need'? And gather it, and then put it in and make sure that it looks good. If it doesn't look good, go back and say, 'This really is not right; you better check this out', because you have to double-check everything." (R7)

In addition to procuring dietetic information, the maintenance of digital menu boards required regular software and menu updates:

"Fundamentally, it is having the dietetic expertise, the time and capacity to do the assessments and ensure the ongoing integrity and then the mechanism by which you can deliver that information in a timely way." (R6)

Another respondent echoed this sentiment by revealing:

"It could be a supplier change. It could be a manufacturer change, and so that whole aspect of making sure that, even though we have a waiver on there, where we are trying to ensure the integrity of the data, there is always a risk [that information will not be accurate]." (R1)

Menu updates became logistically complicated during holidays, and at times when menu offerings were limited. A member of the Nutrition and Foodservices team suggested:

"The other thing we have to be very conscious of if there is a long weekend because a lot of places, ourselves included, don't have all the stations on holidays. Because it is a full menu Monday to Friday, and partial on Saturday and Sunday, those items have to come off. So there is a lot of daily communication and challenges." (R7)

The availability of healthy foods from suppliers and manufacturers was also a notable barrier to program implementation. A senior-level administrator spoke to this issue:

"We are a convenience based food system for the most part, meaning that we don't do a whole lot of scratch cooking because of our kitchen design. So we were also limited by the offerings available in the open market, and the commercial market from our manufacturers." (R1)

This sentiment was shared by another respondent:

"We are limited to what is available to us, so

when we are looking at needing 500 chicken breasts for one meal, we go with the low sodium one that is out there, but also try to have some kind of taste to it, and it is very limiting." (R8)

Implementation Supports

Participants identified a number of supports that helped the implementation and maintenance of the program. From a nutrition services perspective, nutrition software (CBORD) helped to facilitate a seamless process, with previously collated nutrition information for many cafeteria items. The CBORD computer software was an integral component of nutrition information program, acting as a repository for nutrition information for products sold in the hospital cafeteria, and was already available in the hospital cafeteria. The participants also viewed the menu-labeling program as an opportunity their nutrition and food skills:

"It created an avenue for me to use some of my skills..." (R9)

Communication and marketing also helped to support program implementation, and are envisaged as a way to ensure the use of the program among cafeteria patrons. Nutrition education strategies were deemed to be key ways in which hospital patients, visitors and staff could make evidence-based decisions about food purchasing and consumption, while also acknowledging potential challenges for consumer use.

"I think the more that we can educate, the better it is, and people can make their decisions based on knowledge, so I think that that part of it is really good as a reminder. I think part of the challenge with anything, you put a sign up, and people see it for the first couple of weeks and then after that they start ignoring it." (R8)

Communication between team members about changes associated with nutrition information program implementation proved to be beneficial, and encouraged an efficient transition.

"Once you get your menu in place and you set your guidelines, really just get total communication. To me communication is the biggest thing in the world because if you don't know, you are scared and worried." (R7)

Internal and external colleague support provided much needed reassurance and guidance during program implementation. A senior-level administrator agreed that:

"Just to have the support of colleagues was really helpful because a lot of times if we run up to a wall in terms of a stifled initiative or a question that came up, we had a lot of colleagues, a lot of support and a good network available to

run things off.” (R1)

External colleague support was equally valued, for example:

“[Dietetic] interns ... were really working with us side by side, and helping. They helped me prepare a lot of those recipes because I was still doing my regular shift a lot of the time... Everybody was pretty accommodating as far as management goes. They were trying to keep it pretty low key, and we were having these big taste panels and everyone was trying food. It was sort of light hearted and fun.” (R3)

Additional supports mentioned by participants include the ongoing and straightforward availability of nutrition information provided by the food supply companies. One participant reiterated the ease with which nutrition information could be procured from the food supplier representative:

“Our distributor, has a really good [web] site. Their web site now has a link to a lot of nutritionals or else I would be emailing the person, the inside person going, here is my list for this week, and they would get them as fast as they could for me.” (R7)

The food supplier representative also remarked about a demand for nutrition information without a lot of additional work:

“Most customers are demanding it, and we are providing it, so that is kind of just a day to day routine for me.” (R5)

Finally, having pre-portioned servings for some food items (eg, chicken breasts) also increased the consistency of portions served to increase the accuracy of the nutrition information on the menu boards. This action addressed one of the menu-labeling barriers.

DISCUSSION

In-depth interviews with key stakeholders provided a variety of perspectives on how a nutrition information program was inspired, developed, implemented, and maintained in a hospital setting. Using the domains from CFIR, a number of characteristics were implicitly and explicitly identified as key in successful implementation and maintenance of the program.

Characteristics of the Intervention

This voluntary menu-labeling program implemented in the hospital cafeteria was highly adapted to the individual context. A majority of menu-labeling policy implemented to date label calories only; however, in this context the hospital was able to label nutrients identified as important indicators of nutrition for its customers. The program

created a unique set of nutrition standards and a recognizable *Hospital Check* icon that was internally developed, providing the hospital with a sense of ownership of the program. The program was adaptable, and implementation in one cafeteria prior to it happening in a second cafeteria provided an opportunity for trial and error.

As with many other health promotion initiatives, the cost of nutrition labeling was perceived to be an important factor shaping implementation. The concept of the cafeteria being revenue driven in nature and related fiscal constraints was a common theme, in addition to providing food items that are in demand by consumers, but also available at a low price-point. As digital menu boards were implemented concurrently with general renovations, overall costs and revenue loss were deemed to be lower. Although there were significant start-up costs related to personnel hours for nutritional assessment and data input, program maintenance was minimal and mostly absorbed by staff members within their daily workload. There was modest training needed to ensure staff members were familiar with the program and aware of the significance of accurate portion control.

Inner and Outer Setting

The setting within which the intervention was implemented was amenable to implementing a health-promoting intervention such as menu labeling. These interviews highlight the value in having a hospital culture that prioritizes and supports health education, particularly with respect to supporting informed food choice. There was a strong sense of support for the implementation of menu labeling, in particular from leaders within Nutrition and Foodservices, and the interview transcripts suggest that key players were open to the program. The hospital setting within which the intervention took place provided some technical resources that were drawn upon to facilitate program implementation. Having access to CBORD computer software, and expertise of the Nutrition and Foodservices team contributed to making the implementation of this program more cost-effective. For example, access to the CBORD nutritional system and internal dietetic expertise helped enable the procurement and display of nutritional information.

In the outer setting, the ‘cosmopolitanism’ of the organization (ie, having the support of external organizations, including a working group) was identified as important. Negative media attention regarding the healthiness of hospital food also provided external pressure, thus motivating the hospital to provide and expand existing opportunities for healthy eating. Overall, results do not indicate substantial challenges associated with obtaining nutrition information for food items by either the cafeteria or food suppliers; rather, it was viewed as a standard practice.

All research participants, including a representative from a food supplier, reacted positively to

the intervention, and supported the initiative as a way to facilitate informed food choices. The presence of a strong champion for the program early in the implementation process was mentioned many times as a key to success. Furthermore, data illustrate that stakeholders felt that consumers should be given a choice between 'healthy' or 'less healthy' food items. Several participants suggested that consumers want menu labeling more generally, and thus, the intervention is in line with market priorities. Some participants also saw the implementation as a way to expand the use of their skills in food and nutrition.

Implementation Process

The transition process was eased by strong lines of communication between the clinical nutrition team and cafeteria staff, a program champion, and an individual tasked with technical maintenance of the program. Thought leaders engaged stakeholders at all levels throughout the process, which resulted in these players feeling involved throughout menu development and nutrition information program implementation processes.

Policy Application in Other Settings

The implications for the implementation of voluntary nutrition-labeling policies in other contexts, as well as mandatory menu-labeling programs, such as those in the US, are threefold. *First*, few cafeteria food items sold in the current study were made from scratch; thus, most nutrition information was procured from food vendors and required little independent nutritional analysis. Similarly, most menu items in national chain restaurants are pre-made and standardized across restaurants, with little variation; thus, little nutritional assessment would be required at the restaurant level. Small, independent restaurants may require more resources to identify the nutritional composition of menu items; however, to date, mandatory menu-labeling policies have only included large chain restaurants. Institutions such as hospitals may draw upon internal nutrition expertise and nutrition analysis software to support required nutritional assessment. Other jurisdictions, such as the *Informed Dining* program in British Columbia, have supported restaurants by providing resources and partnering with local dietetic experts to assist with nutritional assessment of food items.¹⁷ *Second*, the cafeteria in the current study had a 2 or 3 week rotating menu cycle, offering different food items each day. Cafeterias with rotating menu cycles require a more dynamic digital menu board system with higher maintenance than static programs, such as those in place in most chain restaurants. *Finally*, many stakeholders discussed menu reformulation as a key element of the menu-labeling program. Given recent media coverage surrounding the quality of food available in hospital and worksite cafeterias, other publicly-funded institutions may feel similar pressures to reformulate or provide healthier nutrition environments.

Venues outside of hospitals may be less inclined to reformulate menu items; the extent to which chain restaurants have reformulated menus in response to mandatory policies remains unclear, but research suggests that some restaurants do indeed reformulate as a result of menu-labeling policy.¹⁸⁻²¹

This study does have several limitations, including exploration of this topic solely from the perspective of stakeholders involved in the implementation process of the nutrition information program, which did not consider consumer perspectives. The study also had a small sample size; however, the sample does include almost all individuals who were directly or indirectly involved in the implementation process at this facility. Future qualitative research should examine stakeholder perspectives of implementation before and after menu labeling is implemented, with a focus on long-term perspectives using a longer post-labeling period. Future research also may consider stakeholder perspectives prior to and after implementation of a mandatory menu-labeling policy. Doing so may improve understanding of the impact of implementing the policy in other food service settings, and the difference between implementing policies developed in-house versus those mandated by outside bodies, as well as consumer perspectives on implementation of menu-labeling interventions.

Conclusions

Implementing menu labeling in the absence of mandatory regulations represents an important commitment from food service providers, as well as a potential risk. This research suggests that the implementation climate, including public pressure to provide healthy eating environments, and an environment of collegial and administrative support were conducive to program implementation. Additional technical supports such as expertise and software also eased the implementation and maintenance of this program. Externally, improving the cost and availability of healthy food choices from suppliers may help to facilitate these efforts. Given that organizations and municipalities face increasing pressure to implement nutrition information disclosure programs,⁹ this research may inform future menu-labeling initiatives in hospital cafeterias and other voluntary menu-labeling programs in Canada and elsewhere.

Human Subjects Statement

This study was reviewed and received ethics clearance through the University of Waterloo Research Ethics Committee and the Ottawa Health Science Network Research Ethics Board.

Conflict of Interest Statement

All authors of this article declare they have no conflicts of interest.

Acknowledgments

The authors thank our partners from the hos-

pital. This study was funded by the Public Health Agency of Canada. Additional support was provided by a Canadian Institutes of Health Research (CIHR) New Investigator Award (Hammond), a Chair in Applied Public Health funded by the Public Health Agency of Canada (PHAC) in partnership with CIHR (Hammond), a Canadian Cancer Society Research Institute Junior Investigator Award (Hammond), a CIHR Vanier Canada Graduate Scholarship (Vanderlee), and a CIHR Training Grant in Population Intervention for Chronic Disease Prevention: A Pan-Canadian Program (Grant #: 53893) (Vanderlee).

References

1. US Department of Health and Human Services. Food labeling; nutrition labeling of standard menu items in restaurants and similar retail food establishments [docket no. FDA-2011-F-0172]. Available at: <https://s3.amazonaws.com/public-inspection.federalregister.gov/2014-27833.pdf>. Accessed March 17, 2016.
2. New South Wales Government Food Authority. Evaluation of kilojoule menu labelling. 2013:CP070-1308. Available at: https://foodauthority.nsw.gov.au/_Documents/scienceandtechnical/fastchoices_evaluation_report.pdf. Accessed March 21, 2016.
3. British Columbia Ministry of Health. Informed Dining. Available at: <https://www.healthycanadabcc.ca/home/informed-dining>. Accessed March 17, 2016.
4. Government of Ontario. Healthy Menu Choices Act, 2015; Ontario Regulation 50/16 (on-line). Available at: <https://www.ontario.ca/laws/regulation/r16050>. Accessed March 17, 2016.
5. Centre for Science in the Public Interest. News release: Most "Volunteers" in restaurant industry's nutrition information program stepped back two paces. Available at: <http://www.cspinet.org/canada/pdf/twopacesback.pdf>. Accessed March 17, 2016.
6. Hobin E, Lebenbaum M, Rosella L, Hammond D. Availability, location, and format of nutrition information in fast-food chain restaurants in Ontario, Canada. *Can J Diet Pract Res*. 2015;76(1):44-48.
7. Johnson DB, Payne EC, McNeese MA, Allen D. Menu-labeling policy in King County, Washington. *Am J Prev Med*. 2012;43(3):S130-S135.
8. Britt JW, Frandsen K, Leng K, et al. Feasibility of voluntary menu labeling among locally owned restaurants. *Health Promot Pract*. 2011;12(1):18-24.
9. Mah CL, Vanderlinden L, Mamatis D, et al. Ready for policy? Stakeholder attitudes toward menu labelling in Toronto, Canada. *Can J Public Health*. 2013;104(3):e229-e234.
10. Vanderlee L, Hammond D. Does nutrition information on menus impact food choice? Comparisons across two hospital cafeterias. *Public Health Nutr*. 2014;17(6):1393-1402.
11. Damschroder LJ, Aron DC, Keith RE, et al. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implement Sci*. 2009;4(1):50.
12. Miles MB, Huberman AM. *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks, CA: Sage Publications, Inc; 1994.
13. Barbour RS. Checklists for improving rigour in qualitative research: a case of the tail wagging the dog? *BMJ*. 2001;322:1115-1117.
14. Ontario Ministry of Education. Policy/Program Memorandum 150; school food and beverage policy. Available at: <http://www.edu.gov.on.ca/extra/eng/ppm/ppm150.pdf>. Accessed March 17, 2016.
15. Nutrition Resource Centre. Nutrition Standard for the Eat Smart!® Recreation Centre Program. Available at: http://opha.on.ca/getmedia/d44102da-e1e8-4de8-8af6-cc7141ffef74/Nutrition_Standard_for_Rec_Centres.pdf.aspx. Accessed March 17, 2016.
16. Health Canada. Guidance for the food industry on reducing sodium in processed foods - data table. Available at: <http://www.hc-sc.gc.ca/fn-an/legislation/guide-ld/2012-sodium-reduction-indust-data-table-eng.php>. Accessed March 17, 2016.
17. British Columbia Ministry of Health. Informed dining for restaurants. Available at: <https://www.healthycanadabcc.ca/home/informed-dining-restaurants>. Accessed March 17, 2016.
18. Wu HW, Sturm R. What's on the menu? A review of the energy and nutritional content of US chain restaurant menus. *Public Health Nutr*. 2013;16(01):87-96.
19. Bruemmer B, Krieger J, Saelens BE, Chan N. Energy, saturated fat, and sodium were lower in entrées at chain restaurants at 18 months compared with 6 months following the implementation of mandatory menu labeling regulation in King County, Washington. *J Acad Nutr Diet*. 2012;112(8):1169-1176.
20. Namba A, Auchincloss A, Leonberg BL, Wootan MG. Exploratory analysis of fast-food chain restaurant menus before and after implementation of local calorie-labeling policies, 2005-2011. *Prev Chronic Dis*. 2013;10:120224.
21. Bleich SN, Wolfson JA, Jarlenski MP, Block JP. Restaurants with calories displayed on menus had lower calorie counts compared to restaurants without such labels. *Health Aff*. 2015;34(11):1877-1884.