

**Healthy Food and Beverage Sales  
In Recreation Facilities and Local Government Buildings**

# **Comparison Communities Report**

*An evaluation comparison between those that participated in the grant initiative  
and those that did not.*

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**Prepared for  
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**Investigators:** Patti-Jean Naylor, PhD, Suzanne Vander Wekken, BA  
**Research Assistants:** Kim Bryan, Emily George, Susanne Sørensen, David Trill

School of Exercise Science, Physical and Health Education  
Institute of Applied Physical Activity and Health Research

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# Introduction

The BC Healthy Living Alliance's *Healthy Food and Beverage Sales in Recreation Facilities and Local Government Buildings* initiative (HFBS) aims to encourage the sale of healthy food and beverage options in community recreation facilities and local government buildings through on-site vending machines, concessions, cafeterias and snack bars.

The HFBS initiative was entrusted to the British Columbia Recreation and Parks Association (BCRPA) and the Union of British Columbia Municipalities to lead. The project aimed to: a) build organizational and community capacity for action b) provide support to local government buildings and recreational facilities to encourage the voluntary adoption of the healthy food and beverages guidelines for public buildings and c) encourage the provision or promotion of healthy options in all other areas of recreation operations (e.g. programs and events).

To date, 49 communities and approximately 150 recreation facilities have participated in the HFBS initiative across four grant phases 2008-2010.

In partnership with community staff and stakeholders, the University of Victoria Institute for Applied Physical Activity and Health Research conducted the evaluation of each of four HFBS grant phases. During the evaluation of Phase II and III BCRPA provided additional funding to recruit a group of facilities that were not participating in the initiative to act as a comparison group. The purpose of the comparison group was to strengthen confidence that changes that were seen in Phase II and III were attributable to the HFBS initiative. This report presents the results of the comparison trial.

There are hundreds of recreation facilities in British Columbia including pools, fitness centres, ice arenas and outdoor fields. These facilities are diverse, ranging from large multiplexes in urban centres to the ice arena in a small town, and serve a wide range of populations and user groups.

Despite being a hub for physical activity, sport, and wellness, a majority of food and beverages for sale in these facilities are ironically junk foods.

The Healthy Food and Beverage Sales initiative aims to make this reality, history.

# The Purpose

The purpose of this evaluation was to determine the impact of the HFBS initiative on food environments in recreation facilities that participated compared to facilities that did not. Specifically we examined the impact of HFBS on the food environment as measured by a) an overall facilities assessment questionnaire (that addressed capacity: planning, environment and communication and education), b) an audit of a random selection of vending machines, c) self-reported food policy development. A secondary objective was to continue to explore barriers and facilitators to action with facilities that had not yet participated in HFBS or a planned change process.

## Evaluation Design

We used a quasi-experimental pre/post evaluation design with two groups: HFBS grant communities (intervention) and comparison facilities. As this was a 'real world' intervention underway in BC rather than a 'research study' this design was deemed to be both feasible and appropriate.

## Sample and Recruitment

Each recreation facility (n=21) involved in the HFBS initiative during the Phase II or Phase III grant phase (February 2009 – March 2010) was required to complete a pre-established evaluation, designed to capture information about the process and outcomes of the work to increase healthy choices. These communities completed a baseline, implemented HFBS activities and completed a follow-up assessment approximately 6-8 months after baseline. Twenty-three communities that were not currently or previously participated in the HFBS initiative served as a comparison group. Communities that volunteered to act as comparison sites were provided with an honorarium to support staff time to complete a facility assessment questionnaire, vending audit and interview (n=17, 26% response rate). Independent vending audits were completed in six other facilities.

Communities were recruited in several ways: 1) a recruitment letter was sent out via the BCRPA email list (n=4 recruited), 2) an invitation was included as a link on the BCRPA webpage, 3) A recruitment note and response box was included on an existing BCRPA survey distributed to all its members, (n=6) 4) a notice went out in the BCRPA monthly e-communiqué 5) facilities that had not responded were contacted by phone (n=7). In addition, in order to ensure the comparison group was equivalent in size, investigators from the University of Victoria audited several additional vending machines, chosen randomly from facilities not yet involved and within 100 kilometres of an HFBS Grant facility (n=6).

# Description of the Participants

HFBS Grant and Comparison groups were similar and contained communities from each of the five BC Health Authorities and a mix of small/rural to large/urban communities. Smaller communities tended to only have one recreation facility, whereas larger urban centers had many facilities and a larger array of food provision.

## Communities by Population Size

	<b>Smaller-Rural &lt; 10,000</b>	<b>Medium-Sized ≥ 10,000 &amp; &lt; 100,000</b>	<b>Large-Urban ≥ 100,000</b>	<b>TOTAL</b>
<b>HFBS Grant</b>	6	14	1	21
<b>Comparison</b>	8	12	3	23

Data Source: Stats Canada

## Communities by BC Health Authority

	<b>Health Authority</b>	<b>n=</b>	<b>%</b>	<b>Population In Communities</b>
<b>HFBS Grant</b>	Interior	4	19	170745
	Fraser	4	19	214144
	Vancouver Coastal	2	10	623206
	Vancouver Island	7	33	239608
	Northern	4	19	23385
	<b>Total</b>		21	100
<b>Comparison</b>	Interior	6	26	52827
	Fraser	10	43	713019
	Vancouver Coastal	1	4	14949
	Vancouver Island	3	13	38404
	Northern	3	13	19808
	<b>Total</b>		23	100

## Communities by Type Classification\*

	<b>Number of Villages/Towns</b>	<b>Cities</b>	<b>District Municipalities/ Regional Districts</b>	<b>TOTAL</b>
<b>HFBS Grant</b>	1	10	10	21
<b>Comparison</b>	3	10	10	23

\*Based on Stats Canada's classification and Government of BC-data and government CA-data

### *Type of Facilities Audited*

	<b>Pools &amp; Aquatics</b>	<b>Ice Arena/ Curling Rink</b>	<b>Fitness Facilities</b>	<b>Community Centre</b>	<b>Outdoor Sports Facility</b>	<b>Multiplex</b>	<b>TOTAL</b>
<b>HFBS Grant</b>	6	11	0	7	3	45	71
<b>Comparison</b>	1	7	1	3	0	23	35

### *Type of Food Services Available in Facilities*

	<b>Beverage Vending Machines</b>	<b>Snack Vending Machines</b>	<b>Concession or Cafe</b>
<b>HFBS Grant</b>	131	58	21
<b>Comparison</b>	91	40	23

### *Status of Provision of Healthy Foods*

There was no statistically significant difference between HFBS Grant and comparison facilities on total facility assessment scores or vending product mix (by choose category) at baseline. There was a significant difference on the strategic planning sub-scale score ( $p < .05$ ). HFBS Grant communities indicated more developed planning processes (e.g. committees and plans in place). This most likely reflects the fact that they would have had to be engaged in these processes (e.g. forming a committee) to submit a proposal for the grant funder.

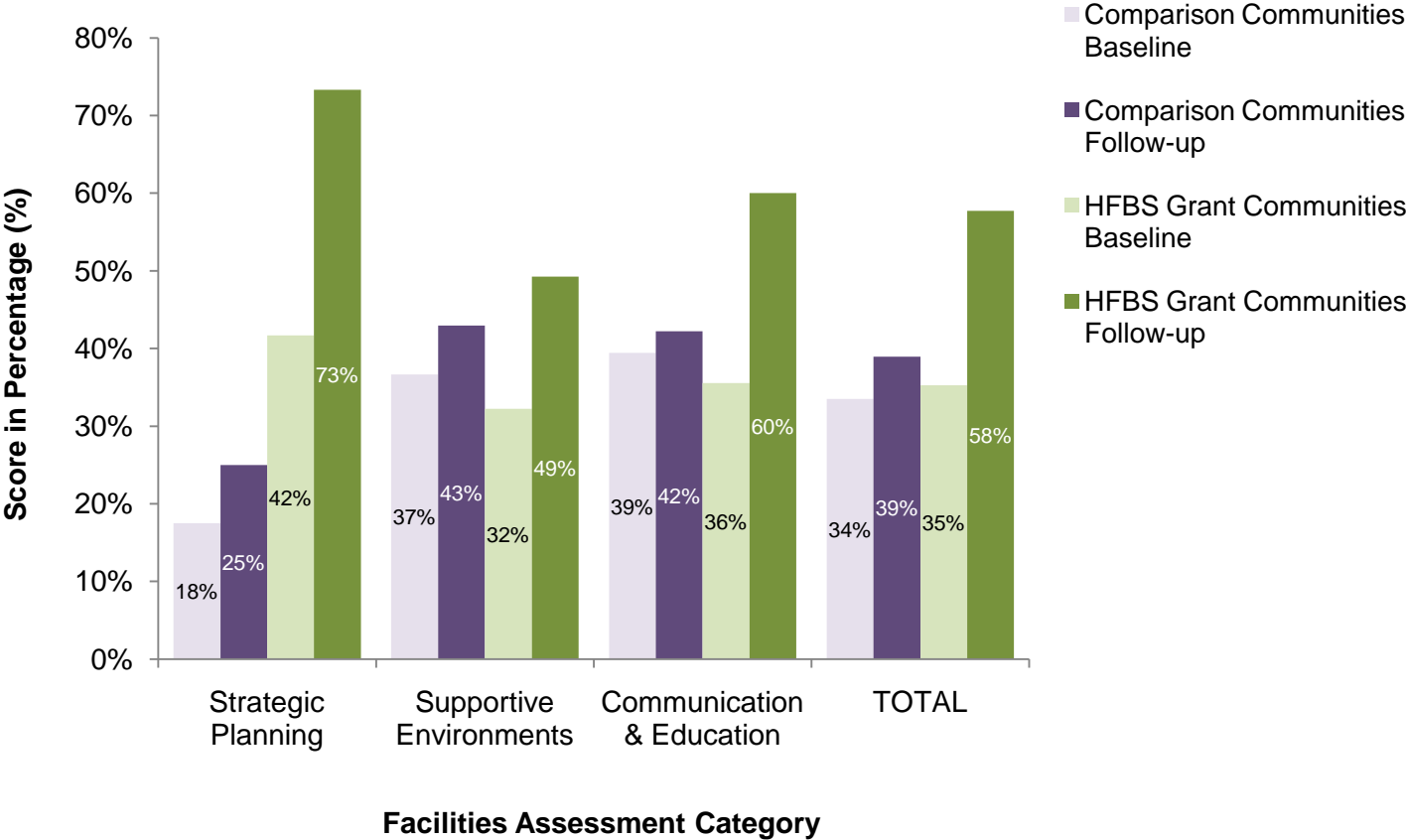
However, only 15% of comparison community interviewees indicated that there were no healthy foods or beverage options for sale in their facility. A majority said some healthy choices were being offered but that improvements in selections could be made.

# Facility Assessment Questionnaire

Beginning in February 2009, the 21 grant-funded communities completed a baseline *Facility Assessment Questionnaire (FAQ)* before they began HFBS Grant in their recreation food environments and then completed another assessment between 6 and 8 months later. During the same time period, 17 comparison communities completed the *FAQ* twice, once for a baseline and then again several months later to see if any changes had occurred.

The *FAQ* looked at the overall organizational and facility environments and presents 19 statements, broken into 3 categories. A staff member from the facility rates each statement with development score between 0-3 (0=not in place, 1=under development, 2=partially in place/could be improved, and 3=fully in place) according to the current food environment. This assessment can be completed for one facility or collectively for several that operate under the same local government.

## Average Facilities Assessment Scores for Comparison and HFBS Grant Communities



## Discussion on the Facility Assessment Questionnaire

The Facility Assessment Questionnaire showed that those facilities that participated in the HFBS initiative had developed their capacity to support the provision and promotion of healthy foods and beverages to a greater extent than the comparison communities.

According to the baseline FAQ scores, HFBS grant and comparison facilities indicated a very similar starting place with respect to environments, communication and education supporting healthy eating. Not surprisingly, HFBS grant communities overall reported a higher level of development in the area of strategic planning than comparison communities; facilities participating in the initiative would have had to have implemented planning activities to apply for a grant. Facilities that agreed to participate in the comparison study were interested in the initiative but were reported being either unaware of the grant opportunity, not having the capacity to apply at the proposal time, or not being ready to make changes at the time when the call for proposals was sent out. These facilities on average were assigned a lower development score in the category of strategic planning (on average 2.1 out of 12 or 18%).

At follow-up, both HFBS and comparison communities reported a higher level of development overall and in all three categories of the FAQ ( $p < .05$ ), however, the HFBS Grant communities showed a significantly greater level of development overall and for each sub-category of the scale. There was notable change in the category of strategic planning (from 42% at baseline to 73% at follow-up) and communication and education (36% at baseline to 60% at follow-up). Most HFBS Grant communities focused on building a planning group, developing a strategic plan and supportive policy as the foundation for making long-term sustainable change towards prioritizing healthier food and beverage choices in their facilities. The FAQ results also showed that although comparison facilities had overall lower scores in strategic planning, they still showed a small but significant increase in this score from baseline to follow-up (from 18% to 25%). According to feedback from the interviews, this development was a result of exposure to the HFBS study and conducting the audit. Those communities that agreed to participate in the assessment became more aware of the changes occurring in other facilities throughout the province and expressed an increased readiness to make healthy food and beverage sales a priority.

Overall, the FAQ showed significantly greater capacity in those facilities participating in the HFBS grant initiative, than in the comparison facilities that were not funded.

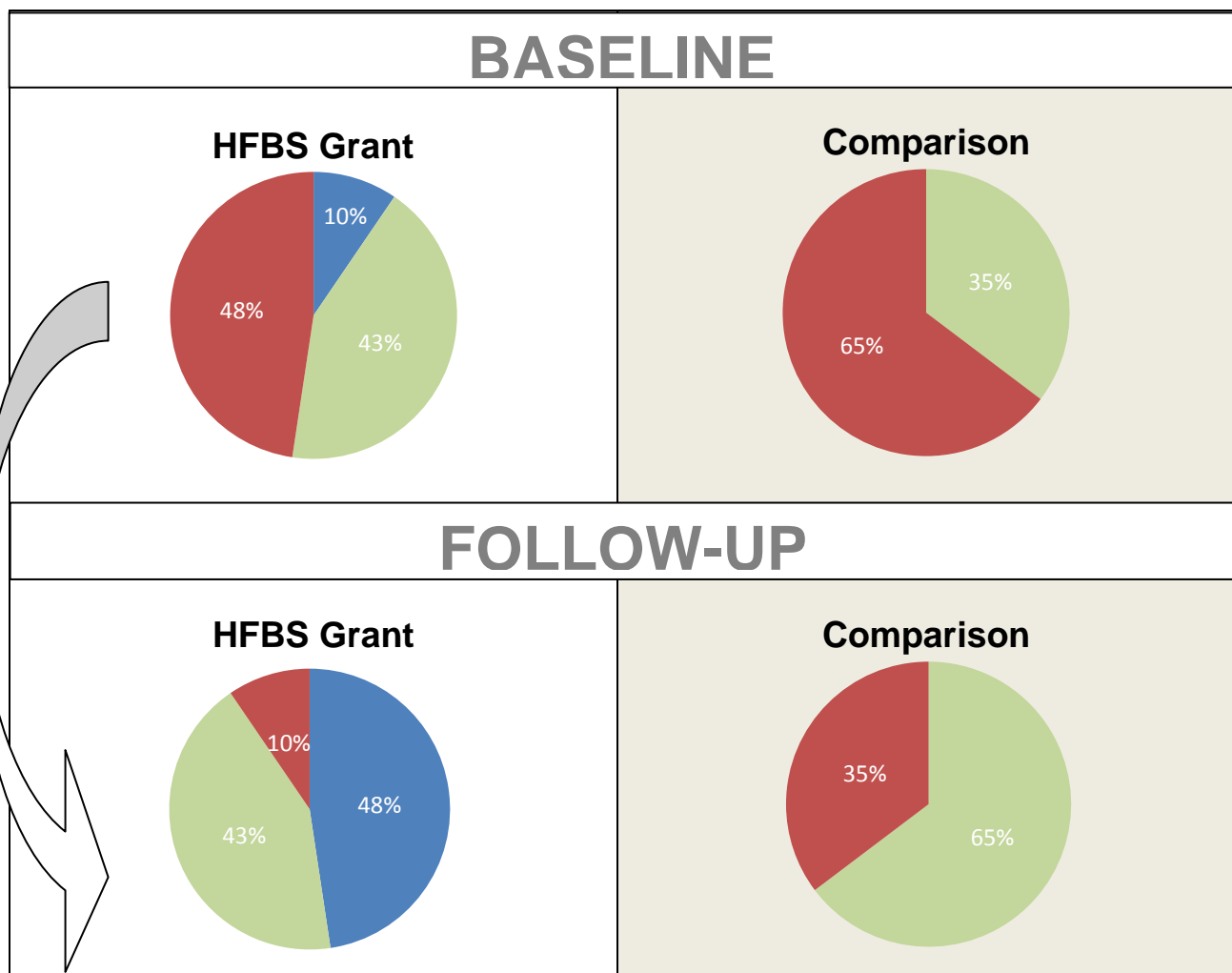


# Healthy Food & Beverage Policy

At baseline, 43% of HFBS grant communities and 35% of comparison communities indicated being involved in healthy food and beverage policy development in a facility assessment. Only a few select HFBS grant communities indicated already having a policy in place (10%) and no comparison communities were found to have policy. At follow-up, FAQ and interview data indicated that nearly half (48%) of all HFBS grant communities had official approved a policy and had begun implementing it. In contrast, no (0%) comparison community had a formally adopted food and beverage policy; however, 65% indicated that development of such a policy was underway:

*“I don’t think it’s on the top of their list to worry about that at the moment. But I think if I push or prod a little bit, maybe management here might look into it ... It would have to be a District policy, not just a recreation policy. So that would take a little bit longer.”*

~Recreation Staff Member from a Comparison Community



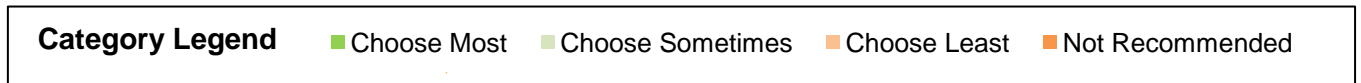
# Vending Audits

The *Vending Audit* assessed products in standard snack food and beverages in vending machines found in recreation facilities and categorizes the products using the Brand Name Food List according to the four choose categories established by the BC Nutrition Guidelines for Vending Machines in Municipal Buildings.

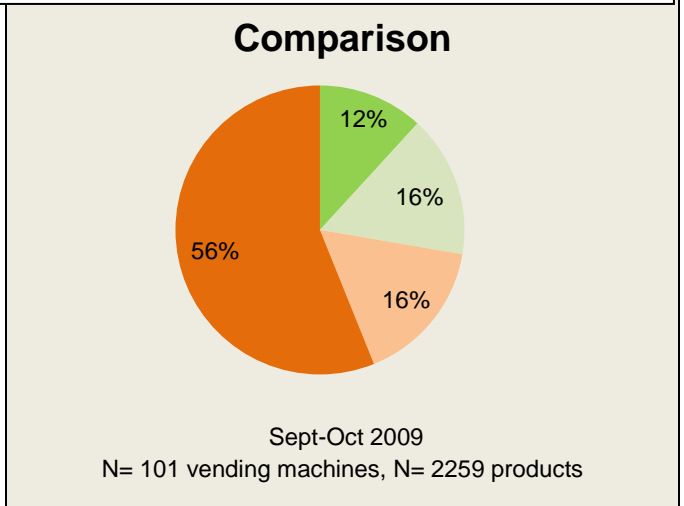
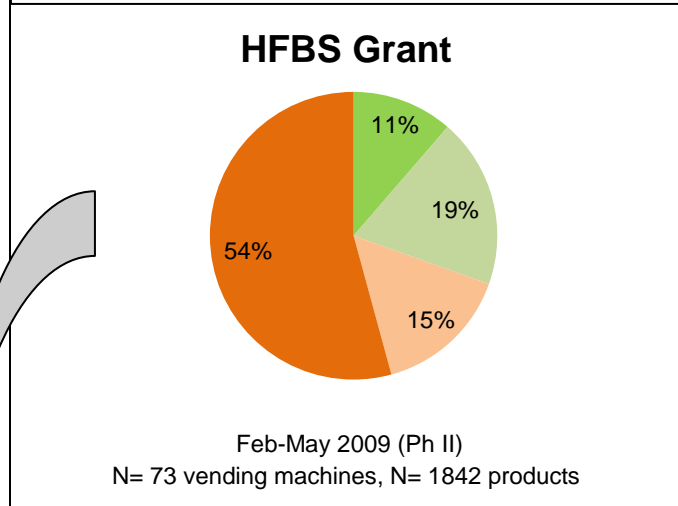
## BC Nutritional Guidelines for Vending Machines in Public Buildings



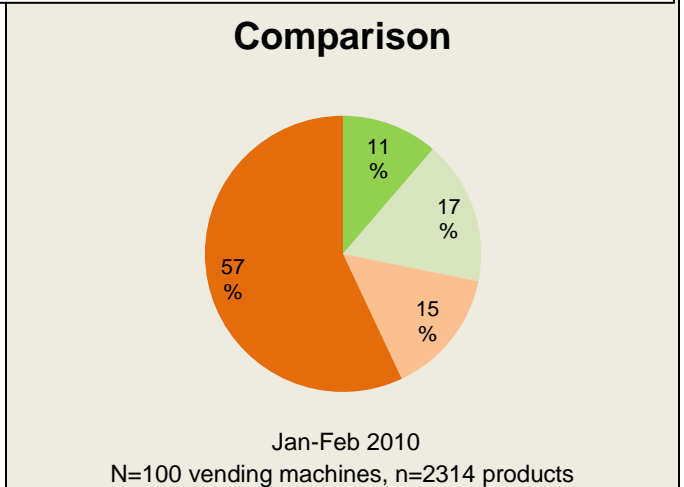
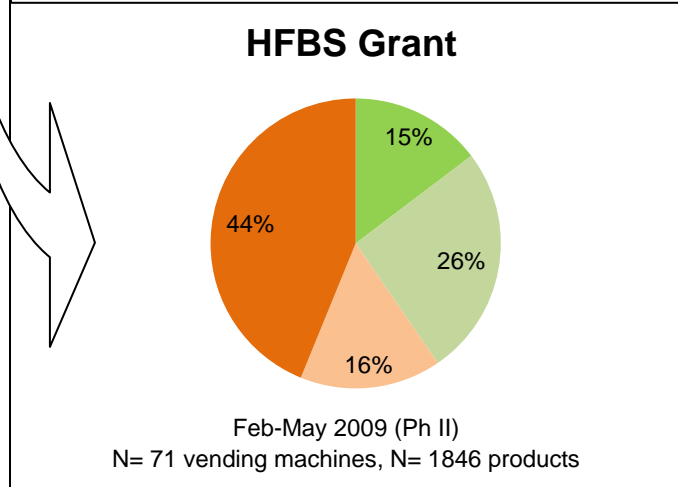
0% Choose Least & Not Recommended



## BASELINE



## FOLLOW-UP



## Discussion on the Vending Audit

There was no significant difference between HFBS Grant and comparison communities' vending at baseline. At follow-up those communities that participated in the HFBS initiative, had a significant decrease in Not Recommended products, while the control group showed no change in this category. The decrease in Not Recommended products was accompanied by a significant increase in healthy choice products, most notably Choose Most products ( $t(18)=-2.295$ ,  $p<.034$ ). The change in Choose Sometimes products approached significance ( $t(18)=2.017$ ,  $p<.059$ ). When the Choose Most and Choose Sometimes categories were combined the percentage of the products increased from 30 to 41% in HFBS communities and stayed the same (28%) in comparison communities. Shifts in vending were small but significant in light of some of the barriers highlighted in the interviews:

- Being locked into existing contracts
- Lack-of cooperation or willingness by vendor to make changes
- Limited healthy choice product variety
- Limited suppliers with healthy choices who serve area
- Product expiration dates and low product turn-over in low-traffic facilities
- Monitoring and ensuring machines are stocked correctly with healthy choices
- Healthy choice vending products not being purchased by patrons (either too expensive or not palatable)
- Lower profit margins on healthy choice products

In addition to showing a greater improvement in the proportion of healthy options sold in facility vending machines, when interviewed, recreation staff in the HFBS communities were universally aware of the Provincial Guidelines that have been established for vending machines in public buildings while one fifth of staff in comparison communities were not aware.

# Interview Findings

One recreation staff member from each comparison community participated in a phone interview and were asked to describe their facility's current food environment, policy, and perceived barriers to action. The interviews were conducted by one HFBS investigator, and recorded digitally. The interviews were then transcribed verbatim using Sony Digital Voice editor 3, then themed using NVivo 8.0 qualitative analysis software.

Overall, very similar response themes arose in interviews with HFBS Grant communities versus comparison communities. In interviews, recreation staff from HFBS Grant communities were overall more intimately aware of the barriers to offering healthy choices in their facilities but also much more aware of the supports and information available to support this change.

## Plans for Healthy Eating in BC Recreation Facilities

We know that HFBS Grant Communities are well on their way to providing healthy food and beverages in all avenues of recreation facilities and operations and ensuring that the healthy choice is the easy choice. When recreation staff from comparison communities were asked about their plans for the future in regards to transitioning to healthy choices, the responses aligned with two common themes: 1) "We are making changes for sure" and 2) "We would like to make changes, but it's not yet a priority".

### 1) "We are making changes for sure!" Sample quotes:

*"At this point we are developing strategy... ... if we can see a change to the positive within the next year I think we have succeeded."*

*"We're really open to making changes; if we believe this is a facility for healthy living and healthy pursuits, [we] want to be able to rest our hat on that ...."*

*"Yes we are making changes, especially with concessions. With vending we are waiting for our contract to expire but working towards transitioning with the existing contract."*

### 2) "We would like to make changes but it's not yet a priority and we aren't ready"

Sample quotes:

*"We've been going with the same things for a number of years now, we haven't changed anything."*

*"I've actually done some research ... to compile a policy. Then for different reasons it's been set aside. There are different priorities ... I guess it's sort of like: "Do I want to attack this battle?" That's a big thing!"*

*"I think just the fact that it is going to be a long process for some places. Because there are other priorities ... But I think that this is something that will just take a while to build up and get a better policy in place and go from there."*

*“There’s a new society coming in on the board, and I’m hoping that they will be more progressive. And be interested in doing something like that ... all I can do is keep trying and seeing if I can find someone to get enthused along with me.”*

In addition, there were a few interviewees in comparison communities that were doubtful that changes towards healthy eating would be possible in their facilities:

*“When you go to some of the larger centers they have the healthier foods in the concession stands. In my opinion, that was never going to happen here.”*

### *Challenges in Transitioning to Healthy Food and Beverages*

Respondents in comparison communities reported very similar barriers to offering healthier choices to the HFBS grant communities. The number one perceived challenge between for both the comparison and HFBS Grant communities was potential costs and revenue loss associated with transitioning to healthier choices. Finding available healthy choices that patrons and staff would buy was the second most commonly cited challenge followed shortly by the issue of working with vendors and suppliers. Staff recognized that a lack of education or awareness may also be a barrier in gaining greater public buy-in to offering healthy choices in recreation facilities. Buy-in from management and local decision-makers was also mentioned as a barrier by some staff from the comparison communities, but this barrier is much more pronounced in interviews with staff that had participated in the HFBS initiative and had pursued developing supportive policy, making sustainable changes in facility food environments. One area of challenge that was more pronounced in interviews with comparison communities was a lack of resource, support or information required to make change. These communities also seemed more apprehensive about investing in change without knowing the reaction from patrons or the impact on the bottom line. One interviewee in a comparison community said:

*“To be quite frank, I don’t think we have a clear indication of where this is going. Province-wide and where the market trends are going ... We rely on others to give us the information which will allow us to make informed decisions. We’re not going to make change that isn’t going to make sense, isn’t going to have success ... not potentially being what [patrons] want and affecting our bottom line.”*

Some sample quotes highlighting further challenges are as follows:

#### **Concern of revenue loss and associated costs**

*“I know we have looked into the healthier vending machines and I think at this point ... money is the biggest issue ... I think contract and money are the biggest issues.”*

*“A lot of money goes into score clocks...very expensive (many thousand). The vending contractor, Pepsi or Coke, provide these as “perks” for the contract.”*

#### **Lack of viable healthy choice products**

*“Right now the selection of healthy options is lousy other than the choice of water and some juices that are ok.”*

### **Lack of resources to support making change**

*“The problem with that is we don’t have the resources to form a committee and get things moving in that direction.”*

### **Lack of local decision-maker buy-in**

*“There’s a new society coming in on the board, and I’m hoping that they will be more progressive.”*

### **Limited staff resources**

*“We haven’t really had a policy up until this point. There is no staff time to commit to making it happen right now.”*

### **Patron demand**

*“It is not that it is something that you don’t want to change. It’s how is it possible without the volume and people coming on a regular basis? It’s really difficult. And being in an arena; most people that come here want...that’s kind of what sells at a hockey game.”*

### **Legislation with bottled water**

*“This is a real dichotomy because we have council sitting here saying “we don’t want to serve bottled water” and we have the dietitians saying “choose most is bottled water.”*

## **Recommended Supports**

When asked what supports would be needed to make the changes, interviewees from comparison communities had several suggestions:

1. Provide ongoing funding and grant opportunities.
2. Make all recreation providers within BC aware of the resources on the Stay Active Eat Healthy website and related resources including the Toolkit, Marketing Materials and templates of what other communities have done.
3. Provide a semi-annual newsletter that celebrates success in healthy food and beverage sales in facilities throughout BC and provides information and tips on the process
4. Continue to build partnership with the food and beverage industry, including manufacturers, suppliers and distributors.

*“We would like to be able to see [what others have done], so we can try to model our adjustments based on pursuits that other people have already championed.”*

*“One of the things that really helped us in terms of our evolution towards healthier choices is ... we’re never really 100% sure what our audience is ready for ... we’ve been working with suppliers just saying: ‘tell us what directions you’re going’ ‘What kind of healthy options should we consider’. That’s their business that they need to help us with’.”*

# Discussion

We set out to examine the impact of the HFBS initiative on the food environments of recreation facilities that participated compared to a selection of volunteer facilities that had not yet participated. The purpose of the comparison was to extend and strengthen our confidence in the findings from the Phase I and Phase II evaluations that showed HFBS communities significantly changed their capacity, planning, policies, programming and vending and concession product profiles (to more healthy options). A comparison trial allowed us to more confidently attribute the changes we observed to the initiative by ruling out selection bias (the impact of working with self-selected 'willing' communities) and the impact of the measurement process (communities start to change just because they were measured) as reasons for change. We found that HFBS significantly accelerated changes in organizational capacity, policy and vending product profiles in participating facilities when compared to the comparison facilities. There was still room for improvement and HFBS grant communities indicated that it would take time (years) to achieve the 'ideal' food environment (for instance 100% compliance with the nutritional guidelines for vending in public buildings) .

In comparison to communities that weren't participating we showed that HFBS Grant Communities had:

- Enhanced strategic planning including the formation of committees and the development of policy and plans to support the transition to healthy eating.
- Increased healthy choices and decreased selections of unhealthy options offered in vending machines.
- Increased policies addressing the food environment
- Increased the amount of information, education and marketing of healthy eating within their facilities.
- Increased awareness of the Provincial Guidelines for healthy products.

Facilities that acted as the comparison group also had begun to make small but significant shifts in their capacity. Comparison communities indicated that participating and conducting a food environment audit had increased their awareness of the provincial movement and provided them with a timely incentive and new information to motivate them towards more concerted efforts.

From the information gathered in interviews with the comparison communities, it also appeared that the HFBS initiative was having a broader impact. Non-grant communities reported observing their neighboring communities make changes and that this acted as a catalyst for their own interest. This was especially true amongst the more urban areas of BC, where local municipalities are in close proximity and communication with their neighbors. In many cases, communities within close geographical distance had common patrons, food industry partners and may have had similar professional contact through regional groups, such as the BCRPA. Interviews also indicated that increasing public desire for healthy food and beverage options and changing trends may have also played a role.

*“When you first approached us to be involved in your research, I thought “oh, we don’t fit” because we’re not totally into the health movement, we’re not moving that direction ... Since then, I was going through some of the information that you provided; we’ve been looking at what’s out there and recognized that little steps are the right steps. So we’re moving towards the nutritional guidelines ...”*

~Recreation staff member from a Comparison Community

The comparison community interviewees indicated that one quick win for a facility was to address food offered in programs and communication and education. This was a ‘fit’ for them because there would be no third-party involved (like a vending company and contract or a concessionaire) and it would have virtually no revenue implications. Not surprisingly, this was supported by findings from the Phase I and Phase II evaluations where significant changes in communication and education (which includes programming) were found.

### *Strengths and Limitations*

This was what the public health literature describes as a ‘natural’ experiment: an evaluation of an intervention in the ‘real world’. As such it comes with both strengths and limitations. The strengths of the approach are: a) that the ‘intervention’ was designed in partnership with recreation stakeholders and therefore more tailored to the context of the environment in which the change was desired; enhancing both the likelihood of adoption and sustainability, b) the intervention was flexible to allow for ‘local’ tailoring according to context; once again enhancing the likelihood of adoption and sustainability and c) the evaluation highlighted both real and perceived barriers to implementation.

The primary limitation in real world evaluations is the inability to randomize communities to the intervention or comparison condition. Randomization allows you to rule out a greater number of confounding factors like history (the community was different to begin with) and maturation (something happened other than the intervention to create the change) that provide competing explanations for the changes you observe. The HFBS initiative was underway and we were limited to measuring in communities that applied and were selected to receive grant funding or volunteered to be a comparison community. The evaluation was also designed to be feasible for communities to use outside of the implementation phases and therefore relied on self-report.

We did observe the potential influence of ‘willingness to participate’ and measurement on results; with both intervention and comparison communities making changes. However, we were able to detect significant differences while controlling for these and can be more confidently attribute these to the HFBS intervention. We also found that the HFBS and comparison groups were remarkably similar on several contextual factors (e.g. community type and location, food services, current provision of healthy options, facility type). It did appear however that comparison communities were less likely to have been planning for change and had smaller populations on average.



In community-based initiatives, context can vary radically from community to community and the number of confounding factors are exponentially greater than for individuals in clinical trials. Control over these factors is illusory. In spite of this, we were able to detect significant differences in capacity, vending and policy development within a short window of time using a very organic and context specific change process. These changes also occurred in the face of some very 'real world' limitations like lack of time, contracts, third-party providers, multiple layers of decision-making, multiple stakeholders, lack of product selection and potential loss of revenue.

## Conclusion

We have demonstrated that the HFBS initiative has accelerated change in recreation facility food environments over and above that which occurs naturally in 'interested' communities. Publicly funded recreation is a key setting where children and families spend time and has been shown to have an unhealthy food environment. Public recreation staff are motivated to make changes but identify many barriers. Further support is needed to help facilities achieve and sustain 'ideal' food environments.