

**A PROVINCIAL SCAN OF
FOOD ENVIRONMENTS
IN RECREATION FACILITIES
ACROSS BRITISH COLUMBIA**

2014



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Executive Summary

THE CURRENT CONTEXT

Food and beverage sales are common in recreation facilities across British Columbia. 73% reported having vending (most both snack and beverage) and 59% reported having a concession, which was similar to 2006 where 62% reported having a cafeteria or snack bar.

A majority of the vending appears to be contracted out (93% contracted out) with 72% reporting also having food and beverage contracts in place for their concessions but with a greater proportions of concessions being operated by the facility (publicly operated) or volunteers (49%). The percentage of facilities with food and beverage contracts appears similar to 2006 where 76% reported having contracts (concessions and vending were combined in 2006).

49% of facilities reported having food tables run by sports clubs fundraising.

Corporate incentives were not common (lower than reported in the 2006 scan where 19% of facilities reported receiving incentives) but more than a third of facilities had product advertising on site.

RECREATION SECTOR CAPACITY

Although strides are being made in some facilities there is room for improvement overall. The average total facility capacity score was about 40% of the ideal score of 54. This varied across sub-scales with higher scores for Supportive Environments and Communication and Education over Strategic Planning.

Strategic Planning

- 24% (17/71) of communities had a dedicated healthy eating committee fully or partially in place (in comparison to 9% in 2006). A further 7/71 reported having one under development. The average score was higher than in 2006 but lower than in 2009, most likely due to the fact that in 2009 the facilities had to form a committee to prepare a proposal and apply for the capacity-building grant.
- 42% (30/71) reported having a 'healthy choices' policy or plan fully in place (21%) or partially in place/needing improvement (21%). The average score for this item was similar to baseline scores in 2009 (see Figure 3).

Supportive Environment

- The provision of a comfortable eating space was the most developed indicator (2.1/3). This was similar to the scoring in 2009 as well.
- Two areas of food environment with ratings showing they were *not commonly in place* were increasing access to healthy food for vulnerable populations and ensuring the external recreation programs offered healthy choices.

Communication and Education

- Facilities reported that supporting staff to continue making changes to the food environment was in progress (1.9/3) as was providing Food Safe certification training (1.8/3). These two indicators were rated higher in 2014 than during baseline assessments in 2009.

- Workshops, classes and educational opportunities for the public and nutrition training for staff were under development or in progress (1.3 and 1.1/3 respectively). This appears to be an improvement over baseline levels in 2009. What the 2009 data does show is that capacity-building made a significant difference in this area in 2009.

VENDING PRODUCT PROFILES

Most facilities were not meeting the Provincial Guidelines for Vending in Public Buildings.

- 65% of vending products (n=8,191) were Do Not Sell items.
- 20% of vending products were Sell Sometimes
- 15% were Sell Most
- 24% of facilities had candy machines, which staff indicated were not considered to be food and beverage machines.
- A higher proportion of snacks were Do Not Sell (68%) compared to beverages (63%)

CONCESSION PRODUCT PROFILES

Concessions were also not 'health promoting'; achieving on average 30% of the ideal score on the Nutrition Environment Measurement Scale for Concessions. Healthy products were present in the broader context of less 'healthy' options.

- Whole wheat bread, 100% fruit juice and lower fat dairy products were common products. 46% of concessions had fresh fruit and 19% had fresh vegetables. No concessions had salad bars.
- In 96% of the concessions at least half of burgers and sandwiches were healthier options.
- 85% of concessions sold sports drinks or energy drinks
- 35% sold candy
- 65% had unhealthy impulse items sold at the register

MARKETING

- 35% of communities reported having advertising with their vending or concessions.
- 65% of concessions had signs encouraging the consumption of 'unhealthy' products like slush puppies, candy or ice cream or encouraged over eating (images of large portions)
- 65% had unhealthy impulse items sold at the register (product placement is marketing)

SUMMARY

There is substantive room for improvement in the recreation facility food environment. Very few facilities are achieving the voluntary vending guidelines. Less have a healthy eating concession. When comparing the 2014 data to the 2006 data and the baseline and follow-up data from the 2009 Healthy Food and Beverage Sales in Municipal Recreation Initiative it is clear that without capacity-building supports and sustained investment that overall changes in this sector will be challenging. Smaller communities had significantly lower capacity and less ideal vending product profiles. There are however, facilities that are having great success in spite of substantive barriers to action. Further work needs to be done to identify critical factors in their success.

Resources and future intervention approaches have to equip recreation facility staff with both the skills and the tools to deal with external stakeholders (e.g. municipal decision-makers, contractors, suppliers); increasing the importance of action on their agendas. A targeted strategy to address the issues of smaller and rural/remote communities needs to be implemented. Advertising/ marketing to children, food fundraising, candy sales and enhancing the role of recreation facilities in food security may be issues to target in the future.

A. Background

The public health sector has increasingly recognized that solutions to unhealthy eating patterns during childhood need to recognize the interdependence between children and the multiple environments in which they spend their time as well as the levels of influence from the individual level (e.g. friends and family), to community (e.g. schools and recreation centers) to local, provincial and national policies and economies [1,2,3,4]. Recommendations for the promotion of healthy diets and the prevention of obesity have identified public service venues, including recreation facilities, as environments in which to increase access to healthy food options and decrease exposure to less healthy options [5].

The importance of the recreation environment is also emphasized by the number of annual visits to recreation facilities in British Columbia (BC), Canada; which is approximately fifty million visits [6]. Recreation users commonly cite the many activities for children, youth and families as the benefits of recreation. In addition more and more children are spending time in structured activities, many of which occur in recreation facilities, that are supervised like sports and arts programs or some form of childcare [7].

The BC Ministry of Health, researchers and public health stakeholders were among the first in the world to recognize the importance of the food environment in this setting. Attention to this issue began with a provincial needs assessment in 2006 (survey and focus groups), which was followed by the development of a capacity-building toolkit (Municipal Recreation Food Environment Action Toolkit), a roll-out of the Guideline for Vending Sales in Public Buildings (2008) and finally with the implementation of the Healthy Food and Beverage Sales in Municipal Recreation Initiative (HFBS; 2008-2010). This initiative, funded by the BC Healthy Living Alliance in partnership with the BC Ministry of Health, was implemented in 49 British Columbia communities and 12 First Nations communities across 4 waves between October 2008 and December 2010. The evaluation, supported by funding from the BCHLA in partnership with the Michael Smith Foundation for Health Research, showed that the capacity-building intervention (seed grants, toolkit, training, technical support) in combination with the Provincial guidelines had a significant impact on recreation facility capacity, policies, and vending product profile mix. In addition, the report showed that there were many changes to concession practice, that the implementation was possible, and facilitated by the capacity-building activities, but that it took time and there were substantial barriers to action (e.g. healthy product availability, buy-in from decision-makers, staff skill set, etc.).

Based on the HFBS evaluation results the Coalition for Action on Childhood Obesity adopted the toolkit and capacity-building approach as an evidence-based approach to disseminate in CACO jurisdictions (including BC). During the implementation of the initiative in BC anecdotal reports suggested that momentum from the 2008-2010 initiative had been lost and that, despite the vending guidelines that the foods sold in the majority of recreation facilities in BC were not health promoting.

Thus the BCRPA, with funding from the BC Ministry of Health, implemented the Healthy Food and Beverage (HFB) initiative between October 1, 2013 and September 30th, 2014. The HFB initiative aimed to scan a sample of recreation facilities across British Columbia to assess the current: a) capacity, policies and practices; b) food and beverage sales environment and product offerings; and c) marketing and the promotion of food and beverages in recreation facilities. It also involved reviewing, revising and updating resources, tools and the www.stayactiveeathealthy website to reflect the new food and beverage guidelines and current information including new information about marketing to children.

Main Objective of the Provincial Scan

The overall objective of the HFB Provincial Scan was to provide an updated overview of the food and beverage environment in recreation facilities in communities throughout the province. The Scan focused on three key areas: overall facility capacity to take action, vending product profiles, food services and marketing.

B. Data Collection -Specific Components

B.1 Facility Assessment Questionnaire (FAQ)

The objective of the FAQ was to determine the level of capacity for taking action on the municipal recreation food environment in each community. Specifically, the assessment addressed their capacity in terms of planning, their environment and the level of communication and education related to healthy eating that was currently present. The Planning sub-scale addressed their state of readiness in regards to strategic planning: Did they have 'healthy choices' committees in place? Did they have written plans, goals and policies? Did the facility have dedicated resources and or assigned staff responsible for plans and policies? Were the facilities plans, goals and policies monitored and evaluated annually? The Environment sub-scale identified a) if they had a variety of food services or healthy food access points: vending machines, concessions or cafes, external recreation programs, internal recreation programs and third party fundraising, 2) if they supported healthy choices in the work place and 3) if they offered comfortable eating spaces for staff and the public. Under Communication and Education community stakeholders identified if they offered nutritional training and/or resources for staff and volunteers; if food safe training was provided; if staff provided information to the public about the healthy food initiatives at the facility, if they offered workshops or other educational opportunities aimed at improving the healthy eating environment regularly, if staff members were supported by management to make healthy food changes to the facility and if programs or initiatives were underway to educate children and/or public about healthy food choices. Specific questions about vending and food services contracts were also included.

B.2. Vending Audit

The objective of the vending audit was to provide a detailed Provincial picture of the products being sold in recreation facility vending machines and determine the level of implementation of the current Guidelines for Vending in Public Buildings.

B.3. Concession & Marketing Audit

The concession audit used a valid and reliable observation process (Nutrition Environment Measurement Survey – Concessions) and data collection procedure to assess concessions related to their environment (including the presence of marketing), menu quality, pricing and common barriers to healthy eating. We added a few items to the NEMS-C to facilitate comparison with the HFBS 2009 concession audits and to include evaluation of a 'kids' menu which are sometimes present in recreation facility concessions.

C. Procedures

- A Coordinator was hired and facilitated the implementation of all measurement components.
- An Advisory Committee provided oversight and consultation on all components of the initiative and the following steps were followed:
 1. Existing measurement tools and previous provincial evaluation measures were reviewed.

2. Tools were selected, modified and reviewed for readability, completeness and logical validity and the capacity assessment survey was transferred into Fluid Surveys for distribution.
3. Community contact lists were reviewed, revised and expanded.
4. Municipal recreation representatives from 95 communities were identified and sent the Capacity Assessment survey to complete.
5. Provincial coordinator travelled to 46 communities to audit vending machines and assess the marketing and concession environment and offerings. Four Northern communities were supported via phone to audit their vending and send the product lists to the Provincial Coordinator for analysis.
6. Data analysis and reporting

D. Analysis

- Where possible current capacity, vending and concession audit results were compared with those from either the 2006 Provincial Scan or the 2009 Cycle II report from the Healthy Food and Beverage Sales in Municipal Recreation Initiative (HFBS).

E. Results

E. Facility Capacity Assessment Survey

E.1.1. Response Rate & Descriptives

- 95 communities that had Recreation Directors registered with BCRPA (out of 187 municipalities and regional districts) were sent notices about the survey.
- 71 surveys were completed (75% response rate). (Note these 71 communities represented 309 facilities but the scan asked them to report specifically on up to their top six highest traffic facilities, n=220) See Appendix A for communities.
- Of 220 facilities:
 - 130 had concession/s (59%)
 - 160 had vending (73%)
 - 144 Snack, 156 Beverage
 - Almost all facilities had both snack and beverage machines

E.1.2. Vending and Concession Contracts and Operations

The following numbers don't align perfectly with the numbers reporting vending and concession operations because some respondents selected more than one option.

If they had vending:

- 13 were publicly operated
- 145 were operated by a contractor
- 5 were operated by volunteers

Vending context/environment:

- 149 had food and beverage service contracts in place (93%)
- 12 received corporate incentives (7.5%)
- 50 had advertising on site (31%)
- 21 had food and beverage sponsorship (13%)
- 59 reported having control over their own food and beverage operations (37%)

If they had a concession:

- 40 were publicly operated (30%)
- 73 were operated by a contractor (56%)
- 31 were operated by volunteers (23%)

Concession context/environment:

- 93 had food and beverage service contracts in place (72%)
- 15 received corporate incentives (12%)
- 46 had advertising on site (35%)
- 22 had food and beverage sponsorship (17%)
- 57 reported having control of their own food and beverage operations (44%)

Other food and beverage services offered

- 3 reported having cafeterias
- 35 had fundraising food table by club (49%)

E.1.3 Facility Capacity

The ideal total facility capacity score is 54; 12 for the strategic planning sub-scale, 24 for environment and 18 for communication and education sub-scale. As is shown in Figure 1 the average total facility capacity score was about 40% of the ideal score demonstrating a need for improvement. Figures 3, 5 and 7 show the detailed item scores while Figures 4, 6 and 8 show the current scores in comparison to the 2009 community baseline and follow-up (after capacity building intervention) scores.

- 24% (17/71) of communities had a dedicated healthy eating committee fully or partially in place (in comparison to 9% in 2006). A further 7/71 reported having one under development. The average score was higher than in 2006 but lower than in 2009, most likely due to the fact that in 2009 the facilities had to form a committee to prepare a proposal and apply for the capacity-building grant.
- 42% (30/71) reported having a 'healthy choices' policy or plan fully in place (21%) or partially in place/needing improvement (21%). The average score for this item was similar to baseline scores in 2009 (see Figure 3).

Figure 1: Average facility assessment scores (percent of ideal scores) for communities in 2014

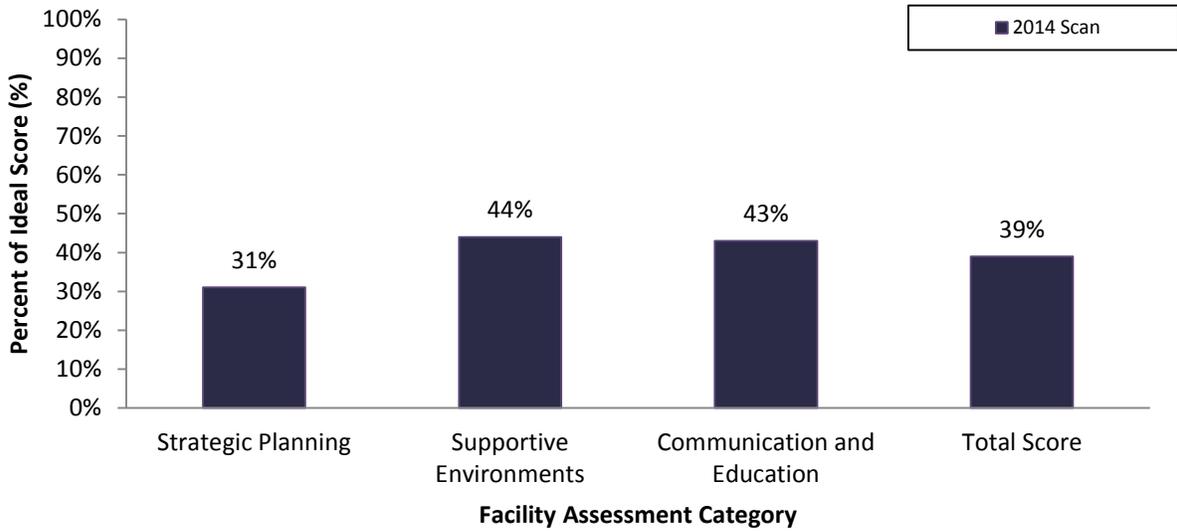


Figure 2: Average facility assessment percentage scores for 2014 communities compared to 2009

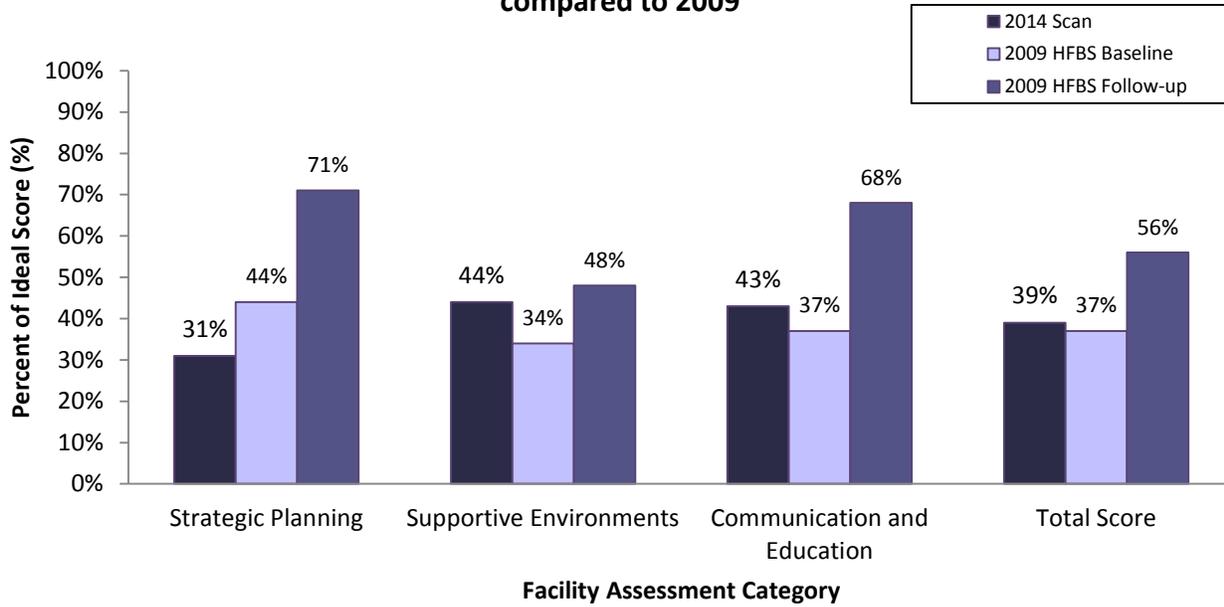


Figure 3: Average Facility Assessment Score for Strategic Planning in 2014

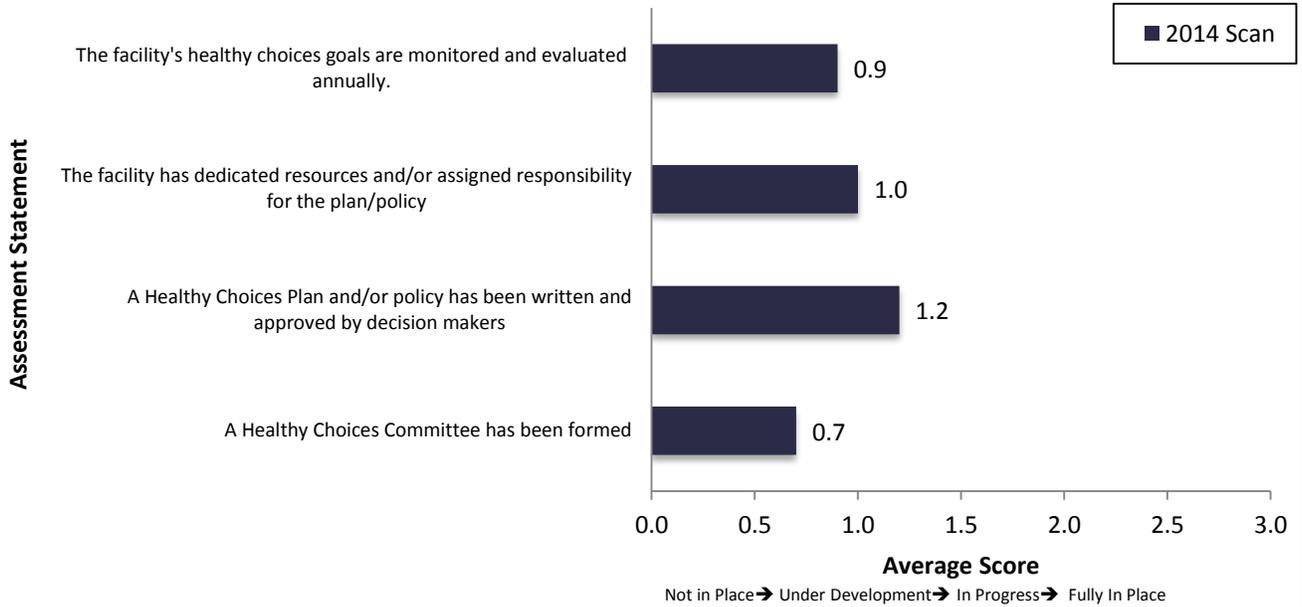


Figure 4: Average Facility Assessment Score for Strategic Planning in 2014 compared to 2009

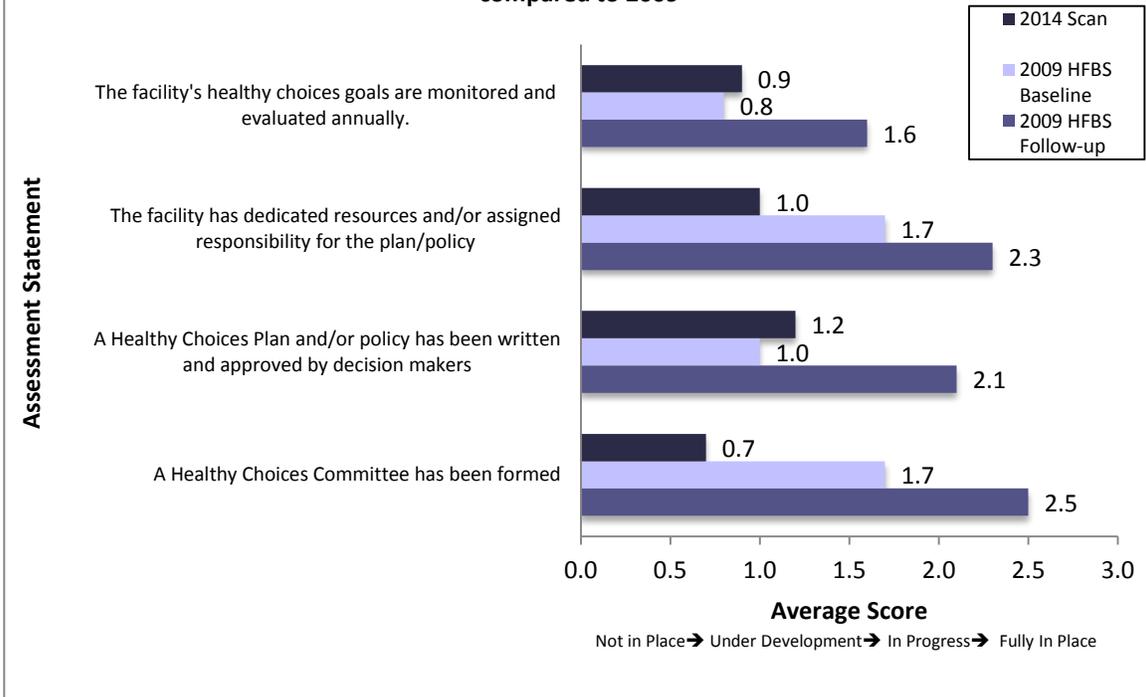


Figure 5: Average Facility Assessment Score for Supportive Environments 2014

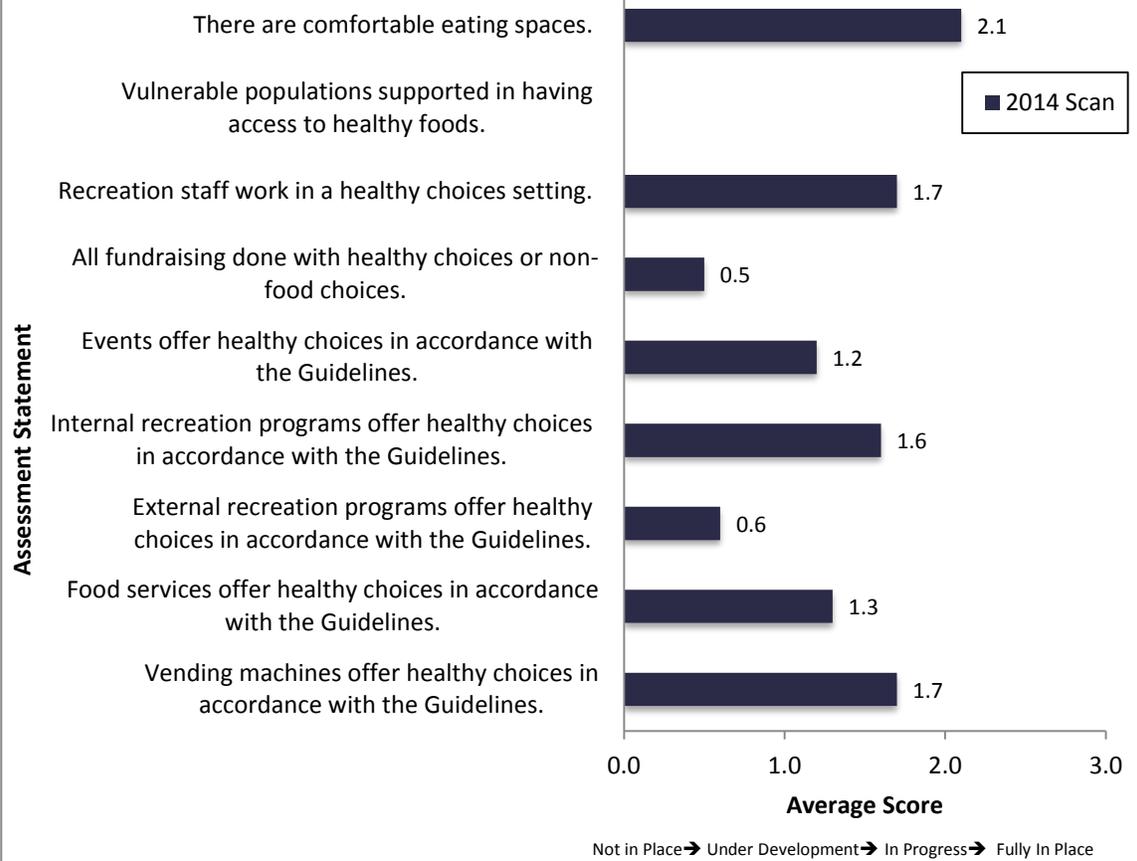


Figure 6: Average Facility Assessment Score for Supportive Environments in 2014 compared to 2009

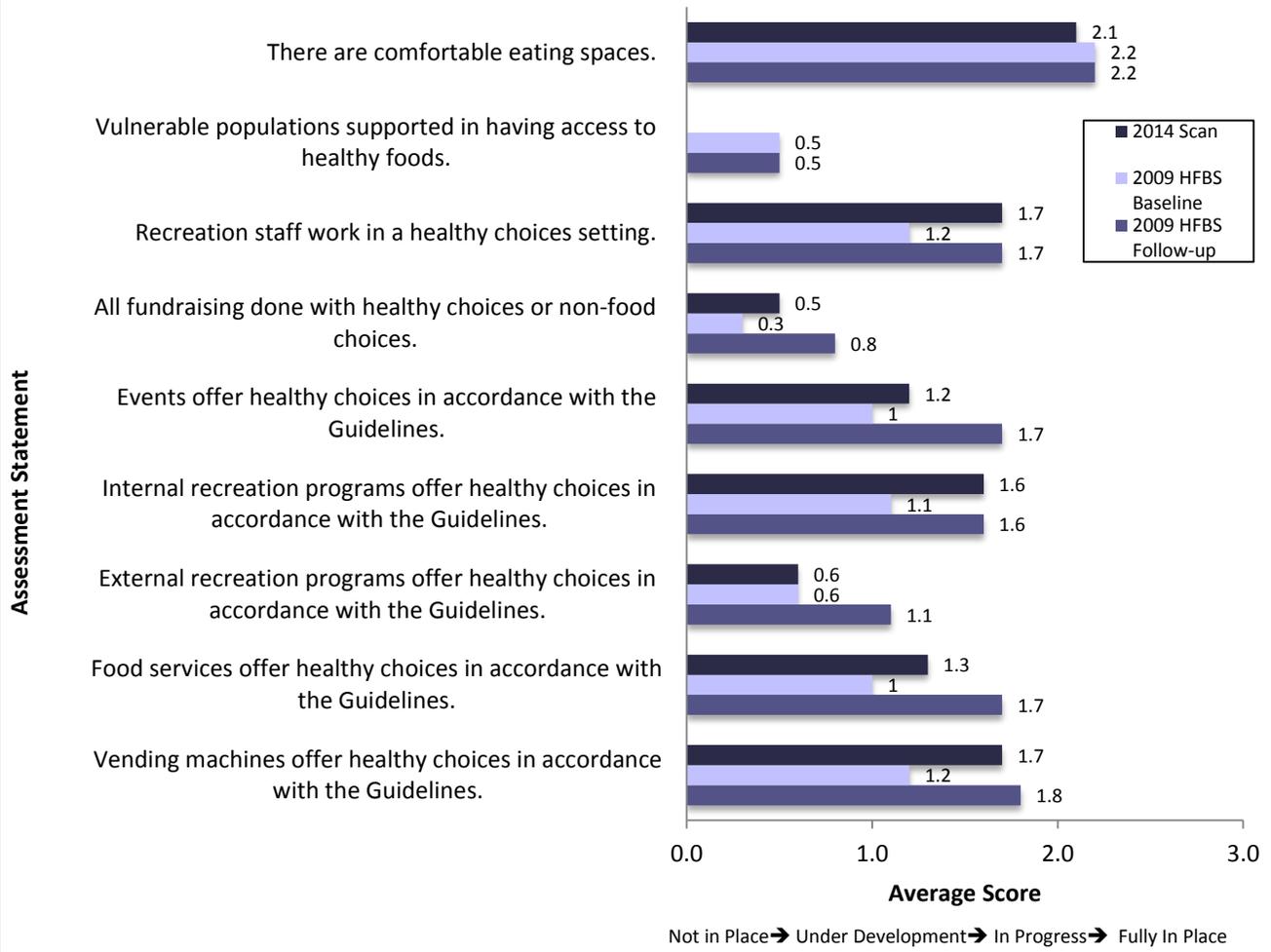


Figure 7: Average Facility Assessment Score for Communication and Education 2014

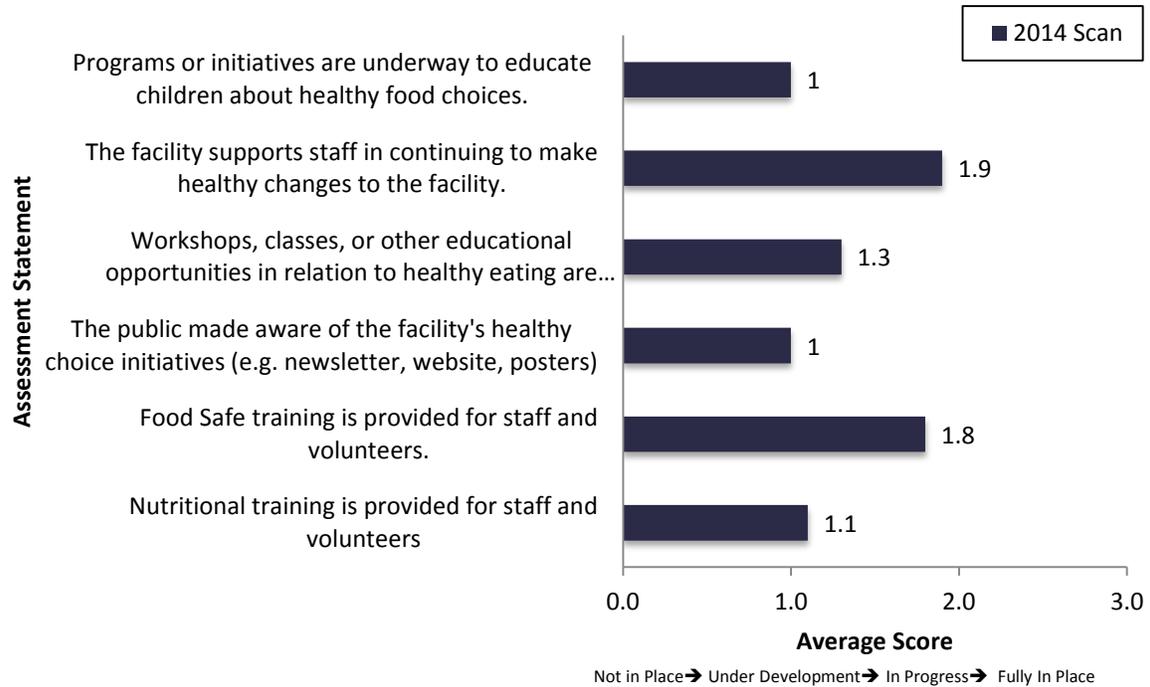
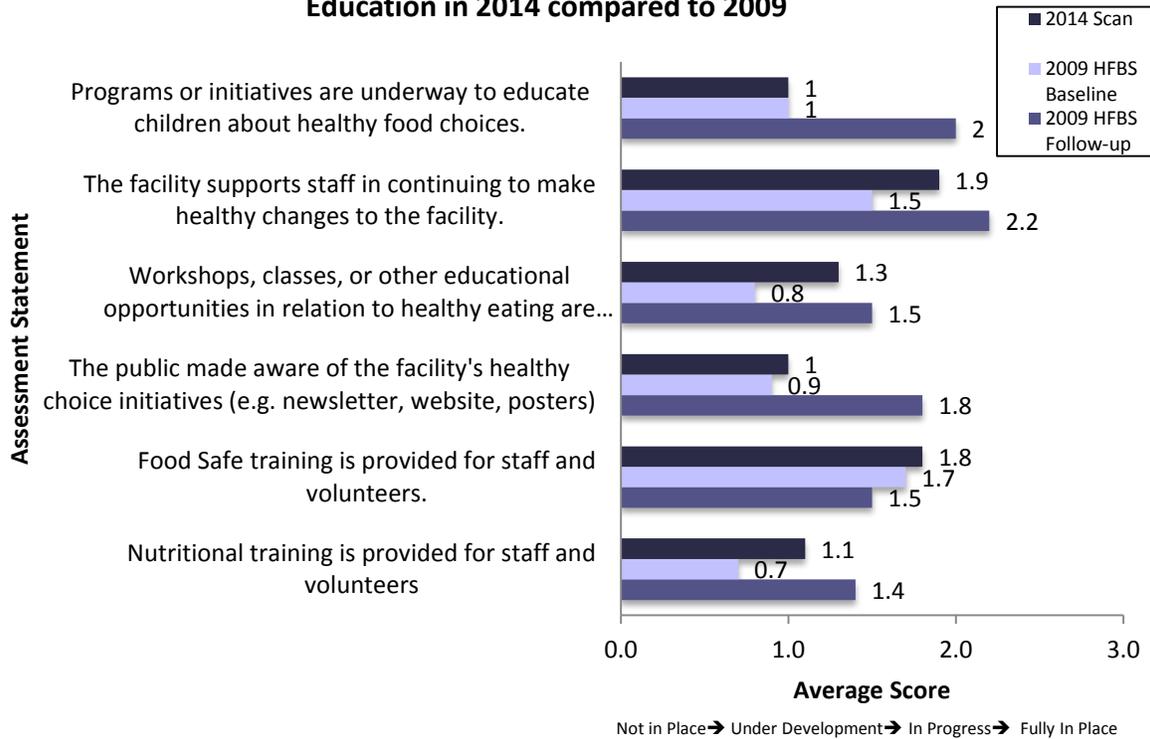


Figure 8: Average Facility Assessment Score for Communication and Education in 2014 compared to 2009



F. Vending audits

- 50 communities and 79 facilities were audited (representing all 5 health authorities and 53% of the recreation facilities with recreation directors registered with BCRPA). See Appendix B.
- An audit of additional machines (e.g. candy, coffee, ice cream) and marketing and promotions were also gathered while on-site.
- A total of 301 food and beverage vending machine profiles were generated using the Brand Name Food List (BNFL) scorecard system and 8191 products were rated.
- The average number of vending machines per facility was 3.96 (range 1–10). On average these machines contained a majority (65.15%) of options designated as “Do not sell” by Provincial Guidelines, and contained the smallest proportion (14.55%) of those designated as “Sell most” (See Figure 1).
- Most facilities were not meeting the provincial guidelines.
- Some facilities were doing better than others with one of the facilities only having 8% do not sell products, 50% sell most and 42% sell sometimes across all of their machines.
- 19/79 facilities had candy machines (6 paired with games or toys), 16 had coffee machines and 10 had ice cream machine/s.
- Candy and toy machines were promoted as ‘non-food’ and were being considered by recreation staff as outside of the guidelines.
- A higher proportion of snack foods were Do Not Sell (see Figures 11 and 12)

Figure 9. Average Proportion of Vending Machine Items Offered

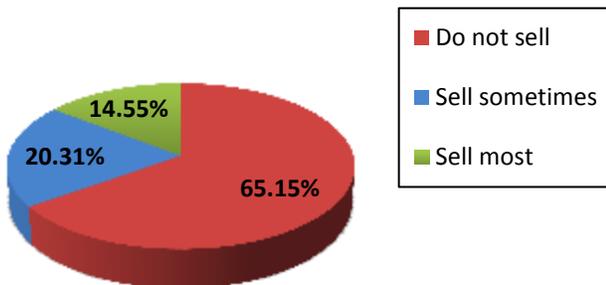


Figure 10. Guideline Proportion of Vending Machine Items to be Offered

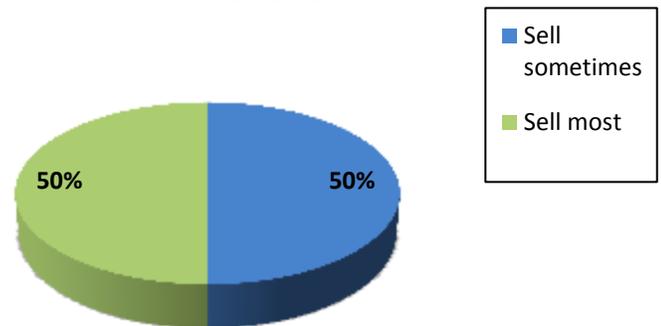


Figure 11. Beverage product profile

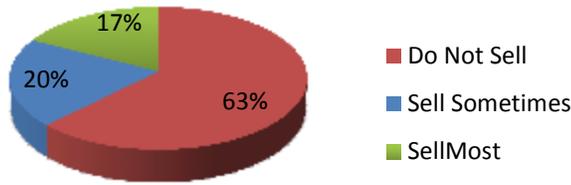
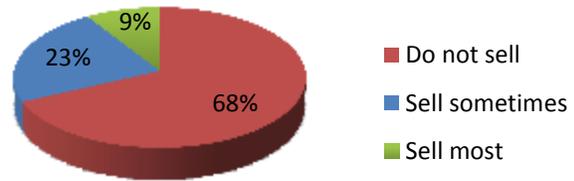
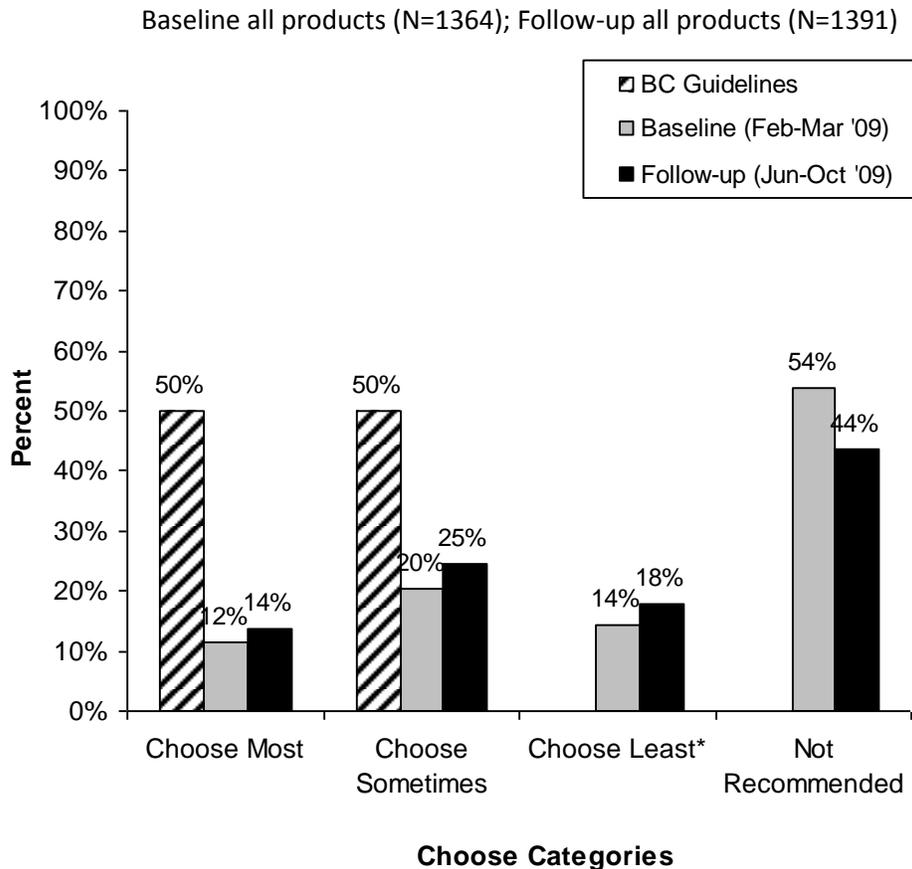


Figure 12. Snack product profiles



In 2006, 57% of beverages were sugar-sweetened drinks and 68% were chocolate bars and chips (Naylor et al 2010). Today, these food products would typically be classified as Do Not Sell. The current vending audit results appear comparable to the 2006 profiles and, although the food product categories changed in 2014, the prevalence of Sell Most and Sell Sometimes product also appears comparable to pre-intervention baseline levels from 2009 (Naylor and Vander Wekken, 2010: see Figure 13).

Figure 13: Baseline to follow-up comparison of all vending products by choose category in Phase II of Healthy Food and Beverage Sales Initiative (Naylor and Vander Wekken, 2010)



G. Concession audits

- Facilities that were visited for vending audits and had an open concession (n=26) were audited using the NEMS-C tool.
- Table 1 shows the mean scores for the NEMS-C sub-scales and total nutrition environment score.
- The percent ideal score was about 30% of what could be achieved with a healthy food environment.

Table 1. Means, standard deviations and range for NEMS-C scores^a by category

	Minimum Score	Maximum Score	Mean	Std. Deviation
Environmental Review <i>Range (-3 – +4)</i>	-2.00	3.00	-0.15	1.22
Menu review <i>Range (0 – +17)</i>	1.00	12.00	5.50	2.97
Detailed Menu Review <i>Range (0 – +27)</i>	6.00	22.00	13.96	4.05
Menu Information <i>Range (0 – +4)</i>	0.00	2.00	0.39	0.57
Barriers <i>Range (-4 – 0)</i>	-3.00	0.00	-1.19	0.80
Pricing <i>Range (-3 – 0)</i>	-1.00	0.00	-0.23	0.43
Kids Menu <i>Range (-3 – +9)</i>	0.00	5.00	0.58	1.47
• Sell sport and/or energy drinks	-1.00	0.00	-0.85	0.37
• Sell candy	-1.00	0.00	-0.35	0.49
Total NEMS-C Score <i>Range (0 – +61)</i>	4.00	41.00	17.65	8.96
NEMSC Percent Ideal Score	7%	67%	29%	14.7%

^a Higher scores denote a 'healthier' rating

Although the rating of the concession environments was low there were some facilities that were providing healthier products. In addition, most facilities did have some healthy products. Table 2 highlights some concession specifics, which include key indicators of the marketing environment.

Table 2. Percentage of concessions in BC recreation facilities that received points or had points deducted for certain criterion

Healthy/Unhealthy Criterion	Percentage of food venues (%)
<i>Healthy items</i>	
Low-fat or skim milk	65
Baked chips	15
Fresh Fruit	46
100% Fruit juice	73
Salad bar	0
Vegetables (non-fried)	19
Nutrition information on menu or healthy item labeling	12
Nutrition information at point of purchase	4
Signs encouraging healthy eating	31
Signs highlighting healthy menu options	19
100% Whole-wheat bread	96
50% of entrees are healthy options	27
50% or more burger/sandwiches are healthy options	96
Reduced portion offered	27
<i>Unhealthy items</i>	
Unhealthy impulse items sold at register	65
Price of individual items more than combo	23
Signs encouraging unhealthy eating	65
Price of healthy entrees more than unhealthy	0
Signs promoting overeating	65
Special requests discouraged	4
Supersized portions	8
Sports drinks or energy drinks sold	85
Candy sold	35

H. Community Comparison

Communities were classified into three groups by size: small (n=41), medium (n=17), and large urban (n=14). A one-way ANOVA was conducted to determine if Community-level measures (including all facilities in the community) differed for different size communities.

H.1. Facility Capacity

There was a statistically significant difference in the Total Community Capacity Score between groups ($F(2,59) = 10.13, p = .000$). Post-hoc tests revealed that Total Community Capacity was statistically significantly lower in the small communities compared to the medium, ($-10.28 \pm 3.54, p = .016$) and large urban communities ($-15.31 \pm 3.74, p = .000$).

All subscale measures followed this pattern and differed significantly (Strategic Planning, Supportive Environment and Communication and Education) although the post hoc analysis showed that there were significant differences between small, medium and large urban communities for Strategic Planning but only

between small and large urban communities for the Supportive Environment and Communication and Education subscales.

H.2. Vending

There was a statistically significant difference in the percent of Sell Most products offered between communities of different sizes ($F(2,40) = 5.92, p = .006$).

There was a statistically significant difference in the percent of Do Not Sell products between groups as determined by one-way ANOVA ($F(2,40) = 5.24, p = .010$).

Post hoc tests revealed that the percent of Sell Most products was statistically significantly lower in the small communities group compared to the medium communities group ($-9.23 \pm 2.69, p = .004$). They also revealed that the percent of Do Not Sell products was statistically significantly greater in the small communities group compared to the medium communities group ($17.49 \pm 5.40, p = .007$).

I. Marketing Environment

On the capacity assessment survey 31% of facilities reported the presence of advertising on their vending & 35% of facilities reported having advertising at their concessions. A further 13% and 17% (vending and concessions) had corporate sponsorship.

Through the auditing process it was observed that many vending machines had incorrect labeling on foods e.g. Do Not Sell items had Choose Most check marks.

In some cases unique rating systems were present whereby every item had a checkmark of a different color related to a specific nutrient. For example, a large size candy product could have a check mark for low sodium.

65% of the facilities in the concession audits had signage that promoted unhealthy eating or overeating.

65% of the facilities in the concession audits placed unhealthy impulse items at the register.

85% of the facilities in the concession audits sold sports/energy drinks.

J. Summary

There is substantive room for improvement in the recreation facility food environment. Very few facilities are achieving the voluntary vending guidelines. Less have a healthy eating concession. When comparing the 2014 data to the 2006 data and the baseline and follow-up data from the 2009 Healthy Food and Beverage Sales in Municipal Recreation Initiative it is clear that without capacity-building supports and sustained investment that overall changes in this sector will be challenging. Smaller communities had significantly lower capacity and less ideal vending product profiles. There are however, facilities that are having great success in spite of substantive barriers to action. Further work needs to be done to identify critical factors in their success.

Resources and future intervention approaches have to equip recreation facility staff with both the skills and the tools to deal with external stakeholders (e.g. municipal decision-makers, contractors, suppliers); increasing the importance of action on their agendas. A targeted strategy to address the issues of smaller and rural/remote communities needs to be implemented. Advertising/ marketing to children, food fundraising, candy sales and enhancing the role of recreation facilities in food security may be issues to target in the future.

K. References

1. Obesity: Preventing and Managing the Global Epidemic. Report of a WHO Consultation. *WHO Technical Report Series 894*; World Health Organization: Geneva, Switzerland, 2000.
2. Ottawa Charter for Health Promotion; World Health Organization: Geneva, Switzerland, 1986.
3. Richard, L.; Lehoux, P.; Breton, E.; Denis, J.; Labrie, L.; Leonard, C. Implementing the ecological approach in tobacco control programs: results of a case study. *Eval. Program Plann.* **2004**, *27*, 409-421.
4. Kumanyika, S.; Jeffrey, R.W.; Morabia, A.; Ritenbaugh, C; Antipatic, V.J. Obesity Prevention the Case for Action. *Int. J. Obesity* 2002, *26*, 425-436.
5. Khan, L.K.; Sobush, K.; Keener, D.; Goodman, K.; Lowry, A.; Kakiemek, J.; Zaro, S. *Recommended community strategies and measurements to prevent obesity in the United States*. MMWR 2009, *58*, 1-26.
6. Phase I-Inventory. British Columbia Community Recreation Facilities Assessment Study; British Columbia Recreation and Parks Association: Burnaby, Canada. Available online: http://www.bcrpa.bc.ca/recreation_parks/facilities/sports_recreation/documents/Inventory_Phase_1_Final.pdf (accessed on 6 April 2010).
7. Harper, J.; Lamont, D. The Use and Benefits of Local Government Parks and Recreation Services a Canadian Perspective: Executive Summary; Health, Leisure and Human Performance Research Institute, University of Manitoba: Manitoba, Canada, 1997.

Appendix 1. Communities that completed Facility Capacity Assessment Surveys



Appendix 2. Communities where vending audits were conducted

