



A Healthier Recreation Concession Pilot Project Evaluation

Evaluation Report

Oxford County Public Health

July 2016

About Oxford County

Located in the heart of southwestern Ontario, Oxford County has a population of approximately 111,700 people across eight municipalities that are “growing stronger together” through a partnership-oriented, two-tier municipal government incorporated as the County of Oxford.

Oxford County is emerging as a leader in sustainable growth through the [Future Oxford Community Sustainability Plan](#) and County Council’s commitment to achieving [100% renewable energy](#) by 2050 and becoming a [zero waste](#) community. Situated in one of Ontario’s richest areas for farmland, agriculture forms a cornerstone of the County’s economy, which boasts 55,000 jobs in a rapidly expanding commercial and industrial sector bolstered by its location at the crossroads of Highways 401 and 403. The County offers a thriving local arts, culture and culinary community, as well as conservation parks, natural areas and more than 100 kilometres of scenic trails.

The Oxford County Administration Building is located in Woodstock. Visit www.oxfordcounty.ca or follow our social media sites at www.oxfordcounty.ca/social. Oxford County’s Strategic Plan is at oxfordcounty.ca/strategicplan.

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Contents

- Summary 1
- Background and Rationale 2
 - Healthier Recreation Concession Pilot Project..... 3
 - Menu Development and Project Initiation Process..... 5
- Pilot Project Evaluation 9
- Methods 9
 - Sales Tracking..... 9
 - Customer Survey.....10
 - Operator Interview11
- Results.....11
 - Sales Tracking Results12
 - Total sales and expenses: Arena season comparisons.....12
 - Monthly summary: Sales and food and beverage costs12
 - Daily summary: Sales averages and totals.....14
 - Sales summary: Food and beverage classification and sales in units15
 - Sales summary: Food and beverage classifications and sales in dollars.....20
 - Customer Survey Results25
 - Operator Interview Results26
- Discussion28
 - Strategic Menu Changes30
 - Strategic Promotional Activities31
 - Streamline Operational Expenses31
 - Engaging Key Stakeholders and Advocating for Policy Change32
- Conclusion32
- References34
- Appendix A: Product and Service Specifications37
- Appendix B: Total Sales Summary.....38

Summary

Recreational spaces are key community settings that can promote healthy food provision while simultaneously supporting physical activity, community cohesiveness and healthy living. Families in Oxford County including Blandford-Blenheim identified healthy eating and active living as the two most important health behaviours to create a healthy community.¹ This work goes beyond educating patrons about healthy eating to make it easier for patrons to make healthier food and beverage choices.

Financial loss and potential food waste have long been two commonly identified barriers to the introduction of healthy food choices in many recreation facilities. This collaborative pilot project with a rural arena in Oxford County demonstrated that a healthier food environment is financially feasible and can be achieved by:

- strategic product purchasing and menu planning to increase availability of healthy food and beverages
- decreasing availability of traditional (i.e., unhealthy) food and beverages
- ensuring competitive pricing of healthier food and beverages
- effectively using product placement and promotional strategies

Continued conversation county-wide among recreation leadership is encouraged to build supportive communities where the healthy choice is the easy choice within recreation facilities.

A Healthier Concession Pilot Project Evaluation

Background and Rationale

The two major health behaviours that are most important to families in Oxford County including Blandford-Blenheim are healthy eating and active living.¹ In its efforts to assist decision-makers and service providers to meet the current and future recreational needs of a community in a sustainable and thoughtful manner, the Blandford-Blenheim Recreation Master Plan² acknowledges the need to address these behaviours.

Creating healthy recreation food environments is a focus of Oxford County Public Health & Emergency Services (Public Health) to improve healthy eating behaviours among residents. Mandated nutrition standards exist within child care and school settings in Ontario to promote healthy eating; however, there are no standards for food environments in a number of other public community spaces such as recreation facilities. Having mandated nutrition standards helps ensure that the food and beverages sold meet the nutritional requirements that contribute to healthy growth and development, and the prevention of diet-related chronic diseases.

Food environments include the physical, social, economic, cultural, and political factors that impact the accessibility, availability and adequacy of food within a community or region.³ The Ontario Public Health Standards,⁴ Healthy Kids Strategy Report,⁵ the Ontario Society for Nutrition Professionals in Public Health,⁶ Nutrition Resource Centre⁷ and the Dietitians of Canada⁸ identify and support recreation spaces as a key setting to target for the continued promotion of healthy eating and increased access to healthy food and beverages.

Recreation facilities are a gathering place and community hub for people of all ages. They are key community settings that can promote healthy food provision as they aim to support physical activity, community cohesiveness and healthy living. These facilities are also considered a consumer food environment, characterized by availability, price, variety and quality of food

along with on-site promotions and marketing.³ After the conclusion of the provincial *Eat Smart! Awards of Excellence* program in 2009 targeting healthier recreation food provision, public health agencies began to plan similar efforts at the local and regional level to create healthier food environments in recreational facilities.⁹

All elements of food procurement need to be considered when improving recreation food environments, including food and beverage sales (vending machines, canteens/concessions, restaurants, catering), meetings, recreation programs, fundraising and advertising on site.¹⁰ This work goes beyond educating patrons about healthy eating, to actually making it easier for patrons to make healthier food and beverage choices.¹⁰

Healthier Recreation Concession Pilot Project

To improve healthy eating behaviours among residents, Public Health sought to address the food environment at local recreational facilities. The objective of this pilot project was to introduce, promote and evaluate healthier food and beverage sales at local recreation facilities in Oxford County. Our long term goal is to normalize consumption of nutrient dense food and beverage within public recreation spaces, and work towards the implementation of a municipal policy that enforces standards for food environments in recreational facilities.

In 2014, planning was undertaken for a pilot project to assess the feasibility and potential for effectiveness of changing menus at local recreation centres. Figure 1 demonstrates the timeline and preliminary work leading up to pilot project initiation in Oxford County.

Figure 1: Planning and project timeline



The first step was to conduct a Healthy Lifestyles phone survey of local residents with the help of EKOS Research Associates. The results of this survey confirmed that the public may be supportive of changing the food environment at recreational facilities and provided suggestions for potential concession menu changes. Next, a community consultation was held with parents, youth, municipal operators, recreation managers and directors to gather detailed opinions about how to improve food provision in recreation facilities.

In early 2015, Public Health launched a Food & Sports webpage, www.oxfordcounty.ca/foodandsports, written by a Registered Dietitian to provide a credible medium for population-wide nutrition education. Staff then launched a complementary **Food for Thought** poster campaign to continue the conversation around fueling the body optimally for physical activity. The purpose of the campaign was to educate patrons about the disconnect that existed between physical activity and food and beverage options within the recreational setting. Posters were displayed at county-wide recreation sites as part of this campaign in early 2015.

In the spring of 2015, Public Health facilitated separate stakeholder focus groups for municipal operators, recreation associations (parents and volunteers) and site users (patrons) to assess readiness and potential barriers with regards to working together to improve food environments in recreational facilities.¹¹ Additional outreach included presenting a pilot project proposal (e.g., promotional materials, in-kind contributions and supplies from Public Health) to interested stakeholders as a follow-up to the focus groups. One municipal council, one community-based

recreation advisory committee and one-to-two recreation contacts from each municipality were contacted at this time from those who expressed interest.

Feedback collected from stakeholders demonstrated some hesitation toward the initiative. Specifically, they feared that healthier items would not sell because of low consumer demand, which would then cause high levels of food waste and increased financial loss due to perishability of healthy food options. Some stakeholders also noted that the amount of work required to initiate healthy changes would be too much of a burden for many recreation facilities.¹¹ It was also identified that concessions are often viewed as a non-essential business for many municipalities. Specifically, it was noted that small concession operations do not generate enough revenue to provide funding for other municipal services or recreation core programming. Based on this feedback, staff proposed that those operators offering a concession as a customer service for the public work with Public Health to ensure that the mix of available food and beverages promote healthier eating behaviours.

This pilot was a collaborative project that took place at a rural arena from September 29, 2015 to April 2, 2016. The Township of Blandford-Blenheim, Public Health, Gordon Food Service (GFS) and Foris Signs worked together to launch and promote a healthier menu, monitor sales and operational costs, and gather feedback. Increased availability of healthy food and beverages, decreased availability of traditional (i.e., unhealthy) food and beverages, competitive pricing, product placement and promotional strategies were used within this project to establish a healthier food environment on site. Although vending machines are an important aspect of the food environment, this pilot project targeted concession operations only and did not make changes to the vending machines at the arena.

Menu Development and Project Initiation Process

Preliminary meetings between a Registered Dietitian from Public Health and the site operator were held to discuss the menu, food and beverage suppliers, purchasing processes and deadlines. Primary considerations for menu changes included increasing nutrient density of products, product costs and limiting risk for food waste (focusing on non-perishable and freezer

items when possible due to small concession business operations). Knowledge from the operator helped inform some of the new menu suggestions. For example, chocolate milk previously sold quickly, so we decided not to purchase shelf-stable chocolate milk as initially planned. We also avoided purchasing fruit cups because it did not sell quick enough to avoid expiration, contributing to food waste and financial loss. Obtaining this first-hand knowledge from the operator was valuable in shaping the new menu to be most successful from site-specific lessons learned. Though the Registered Dietitian provided suggestions about menu pricing, additional supply needs, product type and quantity, the operator had ultimate authority over these decisions.

The pilot menu introduced new healthy food and beverages, increased the nutrient density of some of the prior menu items and maintained some of the traditional menu items. The operator wanted to maintain the same food supplier (GFS) used previously. This decision was cost-effective because it avoided any fees charged to the operator to start a new supplier contract and also met requirements for the minimum purchase order per month.

A number of data sources were considered during the menu development process. Those included were: successful healthy menu items currently being sold in recreation facilities in other Ontario regions (when evaluation reports were available), Ontario Student Nutrition Program guidelines, Ontario's School Food and Beverage Policy, and a heavy focus on healthy food and beverage suggestions from our Oxford County residents' phone survey. As per Registered Dietitian guidance and professional opinion, product brands under consideration were analyzed for key nutrients of interest. Improvements included: lower fat, sodium, and sugar contents and/or products with increased fibre, protein and calcium contents, along with overall macronutrient (carbohydrate, protein and fat) distribution considerations. These products were then categorized as healthy or traditional (unhealthy) items for evaluation purposes.

Of course, there is a range of nutritional factors to consider when making improvements to food provision in any environment. Categorizing a food as healthy versus unhealthy is not simple. Figure 2 represents an interpretation of the range from traditional menu items (low nutrient density) commonly sold in recreation settings in Ontario, to the gold standards of nutrition (high nutrient density). Any step towards the right on the arrow can be viewed as a positive shift

toward increased nutrient density. For example, slushies are a common beverage in many recreation concessions. Slushies were replaced with fruit smoothies made on site from milk or 100% fruit juice, frozen fruit and yogurt during this pilot (representing a shift from traditional to healthy). The industrial movie style popcorn was also replaced with individual serving *Farm To Table* popcorn, representing a shift from traditional to healthier/healthy (see Appendix A for product and service specifications).

Figure 2: Recreation food and beverage nutrient quality spectrum



Once menu item suggestions were categorized nutritionally, GFS was contacted by the operator to check product brand availability and bulk price estimates. The GFS sales representative was informed about the pilot project and provided a price list for items the operator and Registered Dietitian wanted to review. A cost analysis and final suggested product list was provided to the operator to approve. Once cost estimates were approved by the operator, a meeting was set with the GFS sales representative and Registered Dietitian to complete the final purchase order for new menu initiation. The meeting was an opportunity to troubleshoot logistical challenges and to gather product details prior to ordering. Meeting with the GFS sales representative was also an opportunity to navigate new popular products and find alternatives to any items that were not available. In many cases, product lists from large food service companies can be confusing. Due to bulk shipping, it can be difficult to determine exact per unit package quantities and other product specifications (carton, bottle, box, etc.). For operators, this may lead to blind ordering and can be a source of financial loss and frustration when the wrong size, brand or type of product is delivered.

Menu price suggestions were made based on the previous year's concession menu prices and other local recreation concession menu prices. Competitive pricing was used to further promote the sale of the healthier menu items. Prices were increased by \$0.25 to \$0.75 cents for unhealthy menu items and prices were reduced slightly (while still set to profit) for healthy menu items to ensure they were more affordable than the unhealthy options.^{3,12-20}

Product placement was also considered in concession set-up once the order was delivered. Healthy options were placed in more visible areas. For example, healthy options at the height of an adult's eye level within the front of the fridge and healthy snacks items were placed in the front of a lower concession kiosk window where it was most visible to a child's eye level.^{13-15,17,21} Menu board signage was updated to include new menu items, ordered lowest to highest price per section, and depicted healthier combo options with the inclusion of water and milk as drink choices as opposed to the strictly cola beverage options depicted the year prior.

During the pilot period, one promotional event was held on site to offer samples of the new smoothies, gather feedback on the healthier menu changes and bring attention to the value of promoting nutritious food and beverages within recreation and sport settings. This two-hour event was held during a hockey tournament in the arena foyer on a Saturday in December. A table with a promotional pop-up display was set up to entice patrons to speak to Public Health staff and sample the smoothies. The concession was open during this event, and arena and Public Health staff wore promotional T-shirts. Smoothies were made in batches by concession staff and were provided to patrons in 3 oz cups to sample.

Pilot Project Evaluation

The purpose of this pilot was to provide an opportunity to introduce, promote and evaluate healthy food and beverage sales and uptake within a recreational facility. The questions we sought to answer included:

- Can a healthier recreational concession menu achieve the same level of sales as a traditional menu?
- What recommendations can be proposed to further increase the purchasing of healthy food and beverages items in recreation settings?

Methods

Sales Tracking

Before the start of the pilot period, the point of sale (PoS) system was updated to account for the menu items that were available at the concession. The PoS system provided accurate sales information during times when the concession was open. However, the PoS system was not programmed to represent all individual menu items, leaving some items grouped into one PoS key. For example, though several cola options were available (e.g., coke, diet coke, ginger ale, iced tea, etc.), there was only one PoS key for these items. It was equally important to understand the expenses incurred to determine annual operating costs. On a monthly basis, the concession operator provided sales receipts from the PoS system, as well as expense invoices received from food distributors.

The information from the sales and expense receipts were then entered into two separate custom tabulated Excel databases (e.g., sales database and expense database). The sales database tracked daily sales (by units and dollars) for each menu item, with different tabs representing the various months in which the pilot operated. An additional tab tracked the total

number of menu items sold (by units and dollars) for each month of the pilot, and tracked menu items sold (by units and dollars sold) for the various classifications of interest (e.g., healthy items, unhealthy items, miscellaneous).

The invoice database tracked each menu item that was purchased, with each tab representing the various months in which the pilot operated. Other information that was tracked in the database also included the total amount of orders and the total number of units purchased for each item.

Sales and expense data from the 2014/15 arena season was obtained from the concession operator. This data, however, was not as comprehensive as the data retrieved from the pilot and served primarily as a basis for comparisons between overall sales and expenses (e.g. total sales, total expenses, etc.). Additionally, labour and benefits data for both the 2014/15 and 2015/16 arena season were obtained from the concession operator to understand the impact on human resources.

Customer Survey

An online survey (using FluidSurveys software) was made available to arena patrons to learn more about the healthy food and beverage implementation at the concession. The survey was available throughout the duration of the pilot, and was advertised to patrons via business cards and displayed throughout the arena. The survey was also advertised during the December on-site promotional event aimed at increasing patrons' awareness of the menu changes at the concession. Respondents were entered into a draw to win one of three \$20 Sport Chek gift cards upon survey completion.

Once data collection ended, results were exported from FluidSurveys into Microsoft Excel. From there, data was cleaned and imported into statistical software (STATA) for analysis. Responses were analyzed to provide descriptive statistics.

Operator Interview

After the completion of the pilot, an interview with the operator of the concession was conducted to understand the processes involved with implementing the new menu. Specifically, staff sought to learn more about his perceptions of the new menu changes, positive experiences and challenges experienced by introducing healthy food and beverage options at the concession.

The operator interview was directed by two Public Health Planners and was conducted via telephone. Questions were developed prior to the interview and were asked in an open-ended manner. Questions to prompt further clarification on certain concepts were also asked.

Throughout the interview, both Planners recorded notes on a notepad to document the operator's responses. After the completion of the interview, the notes from both Planners were combined and analyzed using content analysis.

Results

Typical concession hours of operation for the pilot period were 3-4 hours during weeknights and 5-6 hours on Saturdays and Sundays. It should be noted that the concession was closed 2-3 days per week from mid-February 2016 until April 2, 2016. This change was implemented by the operator because there was as an opportunity for cost savings by avoiding labour expenses on traditionally low concession sales days.

This section highlights sales and expense data tabulated in the Excel databases discussed above.

Sales Tracking Results

Total sales and expenses: Arena season comparisons

As depicted in Table 1, the costs incurred for food and beverages were more than the sales earned during the 2014/15 season.

Table 1: Summary of concession sales, expenses, gross profits and net profits, 2014/15 and 2015/16

	2014/15 Season (\$)	2015/16 Season* (\$)
Sales	24,783.96	25,834.75
Food and beverage costs	25,221.12	20,784.87
Labour	10,464.41	10,414.24
Benefits	1,323.16	955.11
Gross profits	(437.16)	5,049.88
Net profits	(12,224.73)	(6,319.47)

Notes:

* Expense figures depicted for 2015/16 do not account for capital costs incurred throughout the season

Monthly summary: Sales and food and beverage costs

Table 2 depicts figures for sales – both including and excluding miscellaneous items – as well as food and beverage costs for each pilot month during the 2015/16 season. Miscellaneous transactions accounted for nearly an additional \$800 in sales.

Table 2: Monthly concession sales, and food and beverage costs, 2015/16

Month	Sales – excluding Miscellaneous (\$)	Sales – including Miscellaneous (\$)	Food and beverage costs (\$)
September*	70.75	82.75	1,465.74
October	3,328.50	3,507.00	2,189.68
November	3,861.00	4,005.00	3,387.69
December	4,739.50	4,935.00	3,279.88
January	4,153.25	4,324.25	3,889.98
February	4,997.25	5,076.25	2,941.50
March	3,597.00	3,614.50	3,285.85
April*	290.00	290.00	344.55
Total	25,037.25	25,834.75	20,784.87

Notes:

* Concession only operated for one day in September and April

The months with the highest sales, November through March, were also the months with the highest food and beverage costs. January had the both highest sales and food and beverage costs.

Daily summary: Sales averages and totals

As depicted in Table 3, the concession was open for 145 days during the 2015/16 season. The concession opened more frequently on Tuesdays, Saturdays and Sundays, and achieved the highest total sales on the latter two days. Combined, Saturdays and Sundays accounted for 67% of all sales and had the highest average sales per day. Conversely, Friday was least grossing and average sales per day, and accounted for only 3% of the overall sales.

Table 3: Daily concession sales averages and totals, 2015/16

Day	Days open	Average sales (\$)	Total sales* (\$)	Per cent of total sales (%)
Monday	17	85.75	1,457.75	6
Tuesday	24	122.61	2,942.75	11
Wednesday	18	86.96	1,565.25	6
Thursday	21	79.46	1,668.75	6
Friday	18	49.38	888.75	3
Saturday	23	407.59	9,374.50	36
Sunday	24	330.71	7,937.00	31
Total	145	N/A	25,834.75	100

Notes:

* Includes miscellaneous transactions

Sales summary: Food and beverage classification and sales in units

The following tables highlight the total units sold by their particular food and beverage classification (i.e., healthy units, unhealthy units and miscellaneous). An additional table also highlights unit sales for the different smoothie flavours that were available during the pilot. Note, items followed by a number in the PoS Item column indicate the number of different products that fall under that particular PoS system key.

Table 4 shows the healthy items with the most and least unit sales. The healthy items with the most unit sales included popcorn, chocolate milk and water. In contrast, the healthy items with the least unit sales were yogurt tubes, yogurt cups and the hummus combo.

Table 4: Summary healthy unit concession sales, 2015/16

Point of sales item	Units sold	Per cent of units sold (%)
Popcorn (4 items)	516	22
Chocolate milk	492	21
Water	439	19
100% Fruit juice (2 items)	312	13
Smoothies (3 items)	256	11
Hummus (2 items)	74	3
Trail mix	58	2
White milk	54	2
Granola bars (2 items)	54	2
Yogurt tubes	43	2
Yogurt cups	26	1
Hummus combo	9	<1
Total	2333	100

Table 5 shows smoothie sales by flavour. The chocolate banana flavour sold the most units, while, the orange mango-flavoured smoothie sold the fewest units.

Table 5: Summary smoothie unit sales, 2015/16

Smoothie flavour	Units sold	Per cent of units sold (%)
Chocolate banana	137	54
Strawberry	74	29
Orange mango	45	18
Total	256	100

Table 6 shows the unhealthy items with the most and least unit sales. The items with the most unit sales included: fries, colas and sport drinks. However, when combining individual units of hot dogs with hot dogs sold as part of the hot dog combo, the total number of hot dogs sold equals the third highest unhealthy sales item (n=700). In contrast, the unhealthy items with the least unit sales were bagels and liquid drops.

Table 6: Unhealthy unit sales summary, 2015/16

Point of sales item	Units sold	Per cent of units sold (%)
Fries	1395	26
Colas (8 items)	1088	21
Sport drinks (3 items)	688	13
Baked chips	519	10
Hot dogs	417	8
Cookies (2 items)	360	7
Hot dog combo	283	5
Vitamin water (3 items)	263	5
Onion rings	214	4
Bagels (2 items)	46	1
Liquid drops (3 items)	16	<1
Total	5289	100

Table 7 shows miscellaneous transactions that occurred at the concession. The majority of these unit sales were for hot beverages, while skate sharpening services made up the next highest proportion of these transactions. The items with the least amount of unit sales from this group were: Halls, gum and the soup combo.

Table 7: Miscellaneous unit sales summary, 2015/16

Point of sales item	Units sold	Per cent of units sold (%)
Hot beverages* † (14 items)	3492	93
Skate sharpening	201	5
Soup (2 items)	22	1
Tape	15	<1
Laces	13	<1
Halls	5	<1
Gum	4	<1
Soup combo	1	<1
Total	3753	100

Notes:

* included three different sizes with varying prices for each

† Included 14 different types of tea, coffee, hot chocolate and cappuccino

Sales summary: Food and beverage classifications and sales in dollars

The following tables highlight item sales, in dollars, and by their particular food and beverage classification (e.g., healthy units, unhealthy units, other). An additional table also highlights smoothie sales, in dollars, for each of the different flavours that were available during the pilot.

Table 8 shows the healthy items with the most and least sales according to dollars sold. The healthy items with the most sales included: chocolate milk, water, smoothies, fruit juices and popcorn. These five items combined consisted of the majority of sales (88%) in this category. In contrast, the healthy items with the least sales were yogurt tubes, the hummus combo and yogurt cups.

Table 8: Healthy item sales, in dollars, 2015/16

Point of sales item	Sales (\$)	Per cent of sales (%)
Chocolate milk	984.00	24
Water	770.25	19
Smoothies (3 items)	704.00	17
100% Fruit juice (2 items)	624.00	15
Popcorn (4 items)	516.00	13
Hummus (2 items)	166.50	4
Trail mix	72.50	2
White milk	54.00	1
Granola bars (2 items)	54.00	1
Yogurt tubes	43.00	1
Hummus combo	33.75	1
Yogurt cups	26.00	1
Total	4,048.00	100

Table 9 highlights smoothie sales by flavour. The chocolate banana smoothie was the highest grossing smoothie, followed by the strawberry and orange mango smoothies, respectively. Given that the price of the smoothies were all the same, regardless of flavour, the per cent breakdown of sales for each flavour is consistent with the findings shown in Table 5.

Table 9: Smoothie sales summary, in dollars, 2015/16

Smoothies	Sales (\$)	Per cent of sales (%)
Chocolate banana	376.75	54
Strawberry	203.50	29
Orange	123.75	18
Total	704.00	100

Table 10 summarizes unhealthy items sold. As shown below, fries, pop, sports drinks, the hot dog combo, hot dogs and onion rings consisted of the most popular items sold. These six items, combined, consisted of the majority of sales (84%) in this category. In contrast, the unhealthy items with the least sales were cookies, bagels and liquid drops.

Table 10: Unhealthy item sales, in dollars, 2015/16

Point of sales item	Sales (\$)	Per cent of sales (%)
Fries	5,291.25	36
Colas (8 items)	2,495.00	17
Sport drinks (3 items)	1,892.00	13
Hot dog combo	1,556.50	10
Hot dogs	1,147.00	8
Onion rings	802.50	5
Vitamin water (3 items)	654.75	4
Baked chips (5 items)	519.00	3
Cookies (2 items)	360.00	2
Bagels (2 items)	92.00	1
Liquid drops (3 items)	68.00	<1
Total	14,878.00	100

As shown in Table 11, hot beverages accounted for the majority of the sales in the miscellaneous category (88%), while skate sharpening services provided the concession with a small portion of added sales (10%).

Table 11: Miscellaneous item sales, in dollars, 2015/16

Point of sales item	Sales (\$)	Per cent sales (%)
Hot beverages* † (14 items)	6,063.25	88
Skate sharpening	703.50	10
Laces	45.50	1
Soup (2 items)	44.00	1
Tape	30.00	<1
Halls	12.50	<1
Gum	6.00	<1
Soup combo	4.00	<1
Total	6,908.75	100

Notes:

* included three different sizes with varying prices for each

† Included 14 different types of tea, coffee, hot chocolate and cappuccino

Customer Survey Results

Twenty-one arena patrons completed the survey, but four surveys were removed because responses lacked sufficient data for analysis. Therefore, 17 surveys were used for analysis. Additionally, all but one respondent completed the survey during the promotional event that occurred at the arena in December 2015.

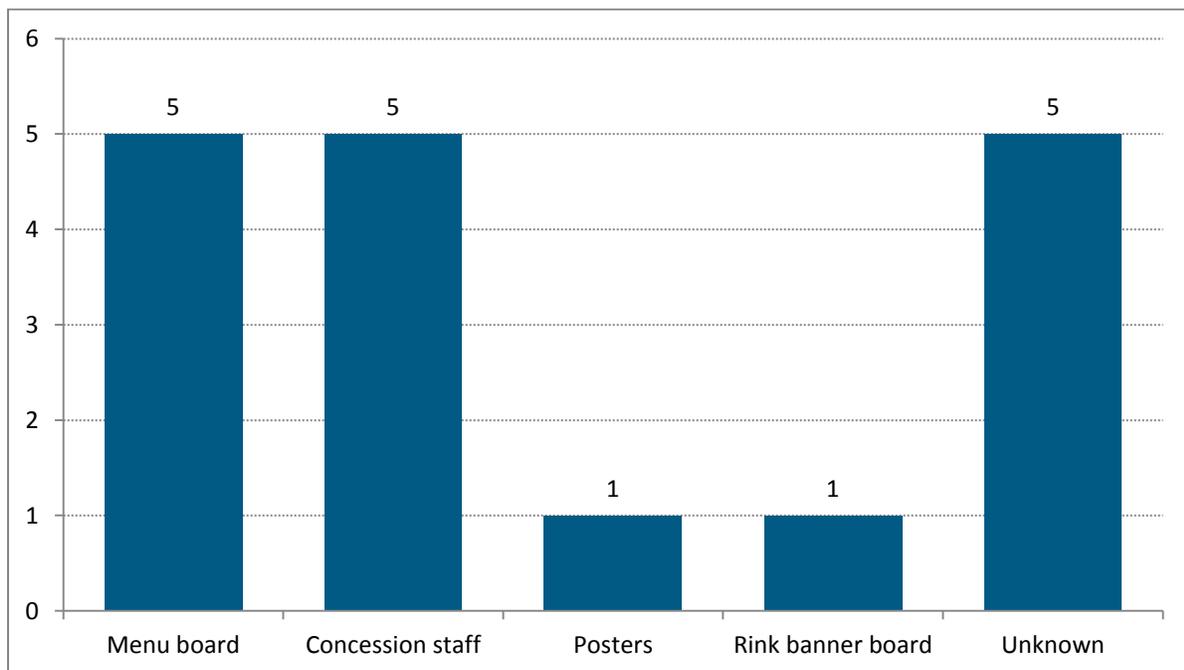
At the time of survey completion, the majority of respondents (n=11) had purchased food at the concession stand, while a few had not (n=6). Similarly, when asked if they had noticed “the new healthier options” at the concession, most respondents indicated they had noticed the new options (n=11), whereas a small number (n=6) were unaware of the changes.

Only 12 of 17 respondents answered how they became aware of the changes (Figure 3). Most respondents noted they were made aware of the changes from advertising on the menu board (n=5) or from communications with the concession staff (n=5). Additional ways in which respondents noticed the new menu changes included advertising on posters (n=1) and the ice rink banner board (n=1).

Seven respondents indicated that they had yet to purchase a healthy food or beverage item at the concession. Reasons for this included that it had been too early in the morning to consider such an option (n=1), while another respondent stated that they had not thought about purchasing healthier foods or beverages at the concession prior to completing the survey.

Generally, respondents stated that they were satisfied with the options, taste and price of the items available at the concession. Additional comments included suggestions for the removal of unhealthy drinks (e.g. sports drinks) altogether (n=2) and another respondent requested additional advertising around the arena to create more awareness about the healthier options at the concession.

Figure 3: Method of awareness for new menu, 2015/16



Operator Interview Results

The interview took place several weeks after the completion of the pilot; it was conducted over the phone and lasted about 30 minutes. Below, direct quotations from the interview were used in an effort to maintain the text as close as possible to the operator’s own thoughts.

The operator described that his motivation for implementing the pilot was because he felt that recreational centres were not doing their part in providing a more complete health and wellness environment. He noted that recreational centres play a “huge preventative role” in public health and alluded to the responsibility of facility operators: “if [operators] did not do their jobs to promote healthy eating, it continues the cycle of poor health.”

According to the operator, the support of Public Health staff, namely the Registered Dietitian and the Public Health Nurse, helped ease the implementation of the new menu. For example, he noted that having the Public Health Nutritionist available to provide nutritional expertise really

helped guide his discussions with suppliers when he was looking to obtain more information about healthier food and beverage options that he could provide at the concession, and ensured the menu remained in line with initial menu item classification proportions (healthy vs. unhealthy food and beverage items) throughout the pilot. Additionally, he stated early support from Public Health staff, roughly a year prior to actual implementation of the pilot, helped roll out the new menu.

During the pilot, the operator noted that because patrons did not often approach him directly, he relied on his staff to inform him of any feedback they received from patrons. Of the feedback that he did receive, he stated that they were all positive comments. He shared that a visiting patron attending the facility for a tournament wrote a letter to him declaring his arena “was one of the best recreational centres” she had visited with respect to healthy food and beverage options.

Yet, the operator noted several difficulties with implementing a healthier food and beverage menu. First, he stated that having to purchase certain products (e.g., yogurt) in high volume (i.e., minimum orders) proved to be a tough task because such items had a “shelf life.” He mentioned there were “periods where some products would sell well, then wouldn’t all of a sudden.” As a result, on a few occasions they were unable to sell certain products before their expiry dates.

To counter this problem, he offered a suggestion: partner with nearby arenas to share orders and distribute products amongst participating vendors to reduce food waste. According to the operator, it would allow vendors the ability to continue to purchase healthy food and beverage options without sacrificing money on an abundance of items that could potentially be lost due to expiration.

Although it was not a stated objective of the pilot, an additional challenge the operator noticed was changing patrons’ “attitudes and behaviours” towards the new menu changes. Trying to get people to understand reasons behind the menu changes and the provision of healthier choices was the arena’s approach of promoting a more holistic approach to well-being. This proved difficult, however, as patrons still requested the unhealthier items. As he described, “people

would ask about some of the products we used to carry, and they would either pick the healthier choice or go somewhere else.”

He acknowledged that educating parents on the importance of healthy food and beverage options at recreational facilities could, in time, change their children’s eating and drinking habits.

“It’s not going to happen in one year,” he stated. “It has to be embedded in the whole system,” from children to parents and right through to the government.

His advice for other facilities looking to make changes to their menus is to pursue local political backing to support the movement towards healthier food and beverage options. “Know your concession operations,” he stated. “Most single pad arenas don’t make a profit in a concession, [...] [so] you

need a council that’s willing to understand that if they want to have a concession open, they have to first determine if it’s a viable operation.” Nonetheless, he questioned if a facility is already going to lose money, such as a single pad arena, “Why [would they] subsidize unhealthy food?”

Discussion

Introduction of a healthier recreational concession menu can achieve the same or higher sales than a traditional menu. The results showed that both gross and net profits were higher during the 2015/16 arena season in comparison to the 2014/15 arena season notwithstanding the fact that concession stands traditionally operated at a net loss. However, it must be noted that the introduction of the new healthy food and beverage items alone cannot account for the improved financial outcomes obtained during the pilot season. The findings showed that hot beverages and unhealthy food and beverage items such as fries, colas, sports drinks, hot dog combos and hot dogs contributed to more sales than any of the healthy food and beverage items available at the concession (Table 12).

Table 12: Top 10 Item sales, in dollars, 2015/16

Point of sales item	Sales (\$)
Hot beverages* † (14 items)	6063.25
Fries	5291.25
Colas (8 items)	2495.00
Sport drinks (3 items)	1892.00
Hot dog combo	1556.50
Hot dogs	1147.00
Chocolate milk	984.00
Onion rings	802.50
Water	770.25
Smoothies (3 items)	704.00
Total	6,908.75

Notes:

* included three different sizes with varying prices for each

† Included 14 different types of tea, coffee, hot chocolate and cappuccino

See Appendix B for total sales summary

As previously mentioned, in an effort to deter patrons from purchasing unhealthy menu items, the price of unhealthy food and beverage items were increased prior to the start of the pilot. In retrospect, this may explain why unhealthy items showed higher revenue in dollars than healthy

items and why there was an increase in overall revenue during the pilot season in comparison to the previous season.

To strategically promote healthy food purchasing in recreation settings, findings from research suggest using a multi-component approach that involves changes to the consumer food environment.^{3,5,13,14,17,22,23} As such, recommendations to further increase the purchasing of healthy food and beverage items in recreation settings include: strategic menu changes in favour of promoting healthy options, strategic promotional activities, streamlining operational expenses, and engaging key stakeholders and advocating for policy changes.

Strategic Menu Changes

The literature supports increasing availability and variety of healthy options within recreation settings as a useful strategy to increase the purchase of healthy food.^{5,12-14,15,17,18,20,21,24} When items are perishable, we recommend ordering one variety or flavour of a healthy product at a time and continuing to consider non-perishable healthy options when possible. Engaging with a Registered Dietitian during initial planning can be helpful when assessing the nutritional quality of menu items to determine which healthy options should be introduced. Scientific literature recommends decreasing the availability of unhealthy food and beverage items as another effective environmental strategy to decrease unhealthy food and beverage purchases within recreation settings.^{14,25} The Registered Dietitian can also make suggestions to improve the nutritional quality of existing menu items.

There is vast scientific evidence to support the use of competitive pricing strategies to help curb purchasing toward healthy food and beverages in a variety of settings.^{3,12-15,17-20,26} It is recommended that pricing continue to be shifted in the future to determine if there is a certain threshold pricing that elicits positive purchasing behaviour change which would favour increasing healthy food sales and/or decreasing unhealthy food sales.

Strategic Promotional Activities

Product placement is documented as another effective strategy to promote healthy food and beverage purchasing in recreation facilities and other community settings.^{14,18-21,26} As part of a multi-component intervention to further encourage healthy choice selection, Public Health recommends the continued use of strategic product placement to ensure healthy menu choices are more visible than less nutrient dense options.

Part of the consumer food environment within recreation settings and other community spaces includes information provided to the consumer. These may occur through promotional signage and general prominence of healthy versus unhealthy options on site.^{3,22} Using promotional materials and marketing supports such as posters, brochures, electronically sent messages, point of purchase nutrition information and other signage on-site has been shown to have some positive impact on increasing the purchase of healthy food and beverages.^{5,12-16,21,24,27} As a result of the low response rate from the consumer feedback survey during the pilot, we were unable to evaluate the five marketing-related promotional supports for their conclusive impact on increasing healthy food purchasing or consumption on site.

Busy sales months should be targeted along with special event dates in order to deliver further promotional activities on site. Research supports promotional and awareness raising activities when part of a multi-component intervention and broader environmental changes, rather than providing one-off activities.^{13,14,17,23}

Streamline Operational Expenses

As documented in the results section of this report, a large proportion of the budget is spent on labour costs for concession staff. It is recommended that concessions review the overall weekly sales patterns to select days in which sales do not surpass operating expenses and determine if it is feasible to close the concession in order to conserve labour costs. If the majority of menu items remain non-perishable and/or freezer stored, the fewer days of operation will not likely impact sales as compared to higher losses from labour costs.

Understanding profit margins is an important component to streamlining operational expenses. During this pilot, it was difficult to ascertain individual item profits because certain PoS keys represented multiple items. Preliminary data indicated that water, smoothies and popcorn were the three healthy items with the highest net profit after costs were considered. To obtain a clearer picture of profitable items it would be helpful to have a tracking system that would detail item profits.

Engaging Key Stakeholders and Advocating for Policy Change

Beginning to normalize healthy food and beverage consumption in recreation settings is part of a long-term strategy to increase healthy food access and create more supportive food environments in public community spaces. It is well documented that policy and environmental changes that incorporate the aforementioned health promotion strategies have a strong ability to increase healthy eating practices at the population level within schools, workplaces and other government-based institutions.^{3,14,17,22,23,25} In order to continue to make sustainable strides with healthy eating initiatives within the recreation sector it is necessary to continue working with relevant stakeholders (e.g. public health, government, food and recreation industry, planners, private, public and volunteer/community members).^{3,14,15,17} Demonstrating commitment to working with local public health agencies to implement healthier changes in the recreation setting through immediate action, advocacy and voluntary municipal policy is recommended to encourage sustainable change in communities.

Conclusion

Predicted financial loss and potential food waste remain two common barriers to introducing healthy choices in many recreation facilities. With this pilot project, we were able to demonstrate that the introduction of healthy food and beverages to a traditional recreation menu achieved higher sales than the traditional menu from the previous year of operation. Although we cannot

conclude the introduction of healthy food options alone triggered this increased revenue, several factors contributed to this initiative's success. These included: increasing the availability of healthy options, decreasing the availability of unhealthy options, the promotional materials and event, competitive pricing, product placement and strategic product purchasing and menu planning. Future work should consider tracking item profits to help better streamline operational expenses.

The feedback received during this project allowed us to view a small positive shift in community members' and patrons' attitudes and readiness for healthier food environments within recreation spaces in Oxford County. Other local municipalities are engaging with Public Health in making similar changes, and Public Health staff is considering the feasibility of developing a toolkit that supports the implementation of healthier foods and beverages in local recreation facilities. Public Health looks forward to continuing the conversation and momentum with recreation leadership county-wide to build more supportive food environments for Oxford County residents.

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Appendix A: Product and Service Specifications

Menu Item	Brand	Varieties / Flavours
Healthy		
Popcorn	Farm To Table	White cheddar, dill pickle, butter light salt, sweet kettle corn
Chocolate Milk	Neilson	1%MF
Water	Coca Cola/Dasani	N/A
100% Fruit Juice	Coca Cola/Minute Maid	Apple, orange
Smoothies	n/a	Strawberry, chocolate banana, orange mango
Hummus	Sabra	Classic, roasted red pepper
Trail Mix	Fistfulls	Snack mix cranberry
White Milk	Neilson	2%MF
Granola Bars	Kashi	7 grain with almond, chewy trail mix
Yogurt Tubes	Yoplait	Blueberry, peach
Yogurt Cups	Source, Activia	Vanilla, variety pack
Fries	GFS	N/A
Cola	Coca Cola	Classic, coke zero, diet, sprite, ginger ale, root beer, sweetened lemonade, minute maid lemonade
Powerade	Coca Cola/Powerade	Fruit punch, mixed berry, lemon lime
Baked Chips	Lay's	Baked, BBQ baked, cheddar sour cream, pita simply naked, parm garlic herb
Hot Dogs	GFS	N/A
Cookies	GFS	Chocolate, oatmeal raisin
Vitamin Water	Coca Cola	Acai-blueberry-pomegranate, lemonade, orange
Onion Rings	GFS	N/A
Bagels	GFS	Cinnamon raisin, whole grain
Liquid Drops	Coca Cola/Powerade	Fruit punch, mixed berry, orange
Miscellaneous		
Hot Beverages	Miscellaneous	Cocoa supreme, FT maple, FT midnight obsess, French vanilla, FT beaver, FT banana bread, FT blueberry pancake, FT Irish cream, FT hazelnut vanilla, FT crème caramel, decaf FT, sleepy monk FT, orange pekoe, tea monks
Soup	Campbell's	Vegetable, chicken noodle
Halls	N/A	N/A
Gum	N/A	N/A
Tape	N/A	N/A
Laces	N/A	N/A
Skate Sharp.	N/A	N/A

Appendix B: Total Sales Summary

Point of sales item	Units sold	Sales (\$)
Hot beverages* † (14 items)	3492	6063.25
Fries	1395	5291.25
Colas (8 items)	1088	2495.00
Sport drinks (3 items)	688	1892.00
Baked chips	519	519.00
Popcorn (4 items)	516	516.00
Chocolate milk	492	984.00
Water	439	770.25
Hot dogs	417	1147.00
Cookies (2 items)	360	360.00
100% Fruit juice (2 items)	312	624.00
Hot dog combo	283	1556.50
Vitamin water (3 items)	263	654.75
Smoothies (3 items)	256	704.00
Onion rings	214	802.50
Skate sharpening	201	703.50
Hummus (2 items)	74	166.50
Trail mix	58	72.50
White milk	54	54.00
Granola bars (2 items)	54	54.00

Notes:

* included three different sizes with varying prices for each

† Included 14 different types of tea, coffee, hot chocolate and cappuccino



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