

# FRESH-IT

**Research Report  
Waterloo Region  
2015-2018**



Food Retail Environments  
Shaping Health:  
Intervention Toolkit



**CIHR IRSC**  
Canadian Institutes of Health Research  
Instituts de recherche en santé du Canada



Region of Waterloo  
PUBLIC HEALTH AND  
EMERGENCY SERVICES

FRESH-IT: Implementing a PHAC/Health Canada Local Government Toolkit in Smaller Jurisdictions to Develop Evidence-Informed Retail Food Environment Interventions.

Region of Waterloo Public Health and Emergency Services would like to thank municipal staff in the Cities of Cambridge, Kitchener, and Waterloo and the Townships of North Dumfries, Wellesley, Wilmot, and Woolwich as well as elected officials, food service operators and food service distributors who offered their time and expertise for the purposes of the FRESH-IT project.

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The FRESH-IT network is led by Dr. Catherine L. Mah at Memorial University in collaboration with Dr. Leia Minaker at the University of Waterloo, supported by the Canadian Institutes of Health Research (CIHR FRN# KAL139697).

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## **Executive Summary**

### **Background on the FRESH-IT Project**

From 2015 to 2018 Region of Waterloo Public Health and Emergency Services participated as a lead in the Canada-wide FRESH-IT project. The focus of the FRESH-IT project in Waterloo Region was food retail settings in municipally funded recreation centres in Waterloo Region. The purpose of the project was to share knowledge with stakeholders on the topic of retail food environments in recreation settings. Stakeholders included: elected officials, municipal staff, food service operators and food distributors.

### **FRESH-IT Intervention**

The intervention began in 2016, with a baseline assessment of the existing retail food environments in recreation centres. In October 2016, a forum was held for municipal and food industry stakeholders. The forum was designed to provide an overview of the importance of recreation centres as a setting for health promotion and stimulate discussions about what kinds of changes stakeholders would like to see in recreation settings. Several action items were suggested by participants. In 2017, Region of Waterloo Public Health and Emergency Services worked to address the suggestions and provide consultations to municipal and food industry stakeholders.

### **Outcomes**

Although the main purpose of the project was to share information and create an implementation plan, several municipalities took action to make improvements to their food retail settings.

In October 2017, the food retail settings in recreation centres were re-assessed to determine if there had been any measureable improvements to the retail food environment in recreation centres across Waterloo Region. Although there were a few recreation centres that made notable improvements to their food retail settings, as a whole there are no significant changes to food retail in recreation settings across Waterloo Region.

### **Next Steps**

The retail food environment in recreation centers across Waterloo Region does not promote an eating pattern that is consistent with good health outcomes. The challenges and barriers documented throughout this project provide a good first step in understanding the nature of food retail in recreation settings. Public Health will continue to work with municipalities to address these barriers with an ideal outcome of creating healthy food retail environments in recreation settings in Waterloo Region.

## **Part 1: Background on the FRESH-IT Project**

Region of Waterloo Public Health and Emergency Services participated in the FRESH-IT project beginning in 2015. Dr. Catherine Mah and Dr. Leia Minaker are the project leads for the study, which was funded by the Canadian Institutes of Health Research. This knowledge translation project was intended to develop evidence-informed, testable, local population health interventions in Canada, to improve access to healthier food and beverages in the retail food environment.

In Waterloo Region, the focus of the FRESH-IT project was retail food settings in municipally run recreation centres. The nutritional quality of food and beverages sold in recreation settings is at the sole discretion of the municipality. Enhancing the nutritional quality of food and beverages in recreation centres is an opportunity to align the actions of recreation centres with other federal and provincial initiatives to promote the physical and mental health of children and youth in Waterloo Region.

### **The Importance of Recreation Centres to Promote Health**

Our food environments, which includes the food and beverages that are available to us where we live, work, learn and play, is a determinant of what we eat as individuals. The primary purpose of recreation is to promote health.<sup>1,2</sup> Recreation centres are a natural setting to promote and support healthy eating messaging.<sup>1,2</sup>

The presence of less healthy food and beverages in recreation settings may encourage parents to reward children with food. Food rewards are not recommended as they contribute to poor diet quality, lead to poor internal motivation to be physically active and can create a poor psychological relationship with food that can last into adulthood.<sup>3,4</sup>

Being involved in organized recreation may create time limitations for families, leading them to rely on the food and beverages that are sold in recreation settings.<sup>5,6</sup> Additionally, parents report that children use vending machines and concession stands during tournaments and after games.<sup>5</sup> One Canadian study found that buying snacks from vending machines and convenience stores once per week was found to have a significant negative effect on diet quality in adolescents.<sup>7</sup> Therefore, it is important to address the nutritional quality of food and beverages that are available for sale in this setting.

### **Collaboration with Community Stakeholders**

Region of Waterloo Public Health and Emergency Services (Public Health) was working with staff from the Cities of Cambridge, Kitchener, and Waterloo and the Townships of North Dumfries, Wellesley, Wilmot, and Woolwich on the [Healthy Kids Community Challenge](#) (Healthy Kids). The Healthy Kids steering committee was comprised of staff from Public Health, all seven municipalities in Waterloo Region, as well as staff from the Waterloo Catholic District School Board.

Waterloo Region is one of 45 communities across Ontario participating in the Healthy Kids Community challenge. The goal of the Healthy Kids Community Challenge was to support the well-being of children,

and to help create communities in which it is easy for children to lead healthier lives. Public Health manages the project and is the flow through agency for funds, which the other members use to implement programming based on the central themes of the Healthy Kids Community Challenge.

Before the project began, the FRESH-IT lead attended a [Waterloo Region Healthy Kids Community Challenge](#) Steering Committee meeting to discuss the possibility of participating in the project. At that time the steering committee members agreed to participate in the study.

Municipal employees have been instrumental in the implementation of the Healthy Kids Community Challenge in Waterloo Region. Improving the nutritional quality of food and beverages in retail settings in recreation settings in Waterloo Region is an opportunity to put the messages from this campaign into action: be physically active, drink water, eat vegetables and fruit, and reduce time spent in sedentary activities.

### **Ontario School Food and Beverage Policy P/PM 150**

Schools in Ontario are required to follow the nutrition standards outlined in the Ontario School Food and Beverage Policy P/PM 150. Schools are not permitted to sell: energy drinks, sugar-sweetened beverages, sports drinks, chocolate bars, candy or deep fried food. The nutrition standards used to assess the nutritional quality of food and beverages in recreation settings, the [Nutrition Standards for Workplaces](#)<sup>®</sup>, are based on the nutrition standards in P/PM 150.

Applying the nutrition standards used in schools to recreation settings in Waterloo Region is an example of a “joined-up policy” that would enhance the effectiveness of the Ontario School Food and Beverage Policy P/PM 150.<sup>8,9</sup> This is especially true for recreation settings that are attached to schools or that are located in close proximity to schools.<sup>9-11</sup>

### **Changes in the Nutrition Standards for Workplaces<sup>®</sup>**

Mid way through the project the [Nutrition Standards for Workplaces](#)<sup>®</sup> were updated. This change may have affected the final FRESH-IT results.

The changes to the nutrition standards reflect the declaration of processed meats as a Group 1 carcinogen by the World Health Organization. As a result, products containing processed meats are not eligible for the Maximum Nutritional Value category. Some of the criteria for Maximum Nutritional Value were also updated to reflect emerging nutrition recommendations to limit consumption of sugar.

At the beginning of the FRESH-IT project, there was no category in the [Nutrition Standards for Workplaces](#)<sup>®</sup> for nut-based bars. A category for these products was introduced. The consequence of this change is that food service operators were initially informed that these products were not recommended at the beginning of the project. However, by the end of the project, some of the products in this category would have counted as healthier choices. The result of this discrepancy may have caused some of the operators to remove these products from their machines, which may have reduced the

proportion of healthy choices in the outcome assessment compared to the base-line assessment, in a limited number of recreation centres.

## Part 2: Methods

1. Each municipality received an official letter invitation from Public Health to participate in the FRESH-IT project.
2. Once confirmation was received, a representative from Public Health went to each municipal recreation centre that sold food and beverages to conduct a baseline assessment. Baseline assessments took place from August to October 2016.

The assessor:

- 1) Tasted the water and reviewed the condition of the water fountains on-site (based on the Bright Bites [Water Access Scan Tool](#)).
- 2) Documented any marketing for less healthy food and beverage options. \* For the purposes of this research, the assessors looked at advertisements, menu boards, pictures, posters, window, door and floor clings, specials, vending machine decals, staff uniforms and sponsorship materials including: boards surrounding ice rinks and branded score boards, to ensure they did not feature less healthy food or beverages or promotional messages that do not align with healthy eating recommendations.
- 3) Reviewed the concession and restaurant menus and recorded the price, product name, product size, nutrition information and ingredient information for each menu item. In the event there was not enough information to properly categorize the item using the nutrition standards, it was categorized as “unable to assess”.
- 4) The total number of vending options were counted and compared to empty machine slots, to identify potential issues with machines running out of products. The assessor recorded the product name, package size, and price for each product in the vending machines.
  - a. Nutrition information and ingredient information for vended options was collected at a later time from identical packages in concession stands and retail stores. (It is difficult to collect nutrition information while products are in the vending machines).
- 5) Each product was categorized based on the [Nutrition Standards for Workplaces](#)<sup>®</sup>. In the event there was not enough information to properly categorize the item using the nutrition standards, the product was categorized as “unable to assess”.
- 6) Information was entered into a spread sheet and compared to the “Definition of Healthy Food Retail Settings”.

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\* Items that met the criteria for "Not Recommended" in the [Nutrition Standards for Workplaces](#)<sup>®</sup>.

### **Definition of Healthy Food Retail Settings**

For the purposes of the FRESH-IT project a healthy retail food environment in recreation settings was defined as:

- 1) Good access to free tap water for drinking
- 2) No marketing for less healthy food or beverages\*
- 3) At least 25 per cent of food beverages available for sale were healthier<sup>†</sup>
- 4) Healthier food and beverages<sup>†</sup> were priced the same or less than comparable less healthy food and beverage options\*

3. A report for each recreation centre was provided to the respective municipal representatives. The FRESH-IT project lead from ROWPHE met with municipal representatives to review the results and answer any questions about the assessment.

4. A FRESH-IT Forum was held on October 20, 2016. Elected officials, food service operators, food service distributors and municipal staff were invited from all of the municipalities in Waterloo Region.

5. Over the next year Public Health worked on developing resources to meet the needs of the FRESH-IT project participants. In some cases, Public Health offered consultations to help work through barriers to making changes in these settings.

6. A follow-up assessment was conducted in 2017 to measure changes to food and beverages sold in recreation settings. A representative from Public Health went to each site that was assessed in 2016. In some cases, municipalities were no longer selling food and beverages. These sites have been excluded from the analysis in this report.

7. This report contains objective information collected through the site assessments as well as information provided by municipal staff, food service operators and food distributors.

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<sup>†</sup> Items that met the criteria for “Maximum Nutritional Value”, “Sell/Offer Most” or “Sell/Offer Less” in the [Nutrition Standards for Workplaces](#)<sup>®</sup>. Sugar-free gum was counted as a healthier food choice.

### Part 3: Results of the 2016 Baseline Assessment

#### Description of Food Services in Recreation Settings in Waterloo Region

Thirty-one recreation centres in Waterloo Region were assessed in both 2016 and 2017, in six of the seven municipalities. One municipality was removed from the analysis, as the food services in the recreation centres stopped operating in 2017.

Within the 31 recreation facilities, there were 87 vending machines, 14 concession stands and one restaurant.

#### The Results of the 2016 Baseline Assessment

##### Tap Water for Drinking

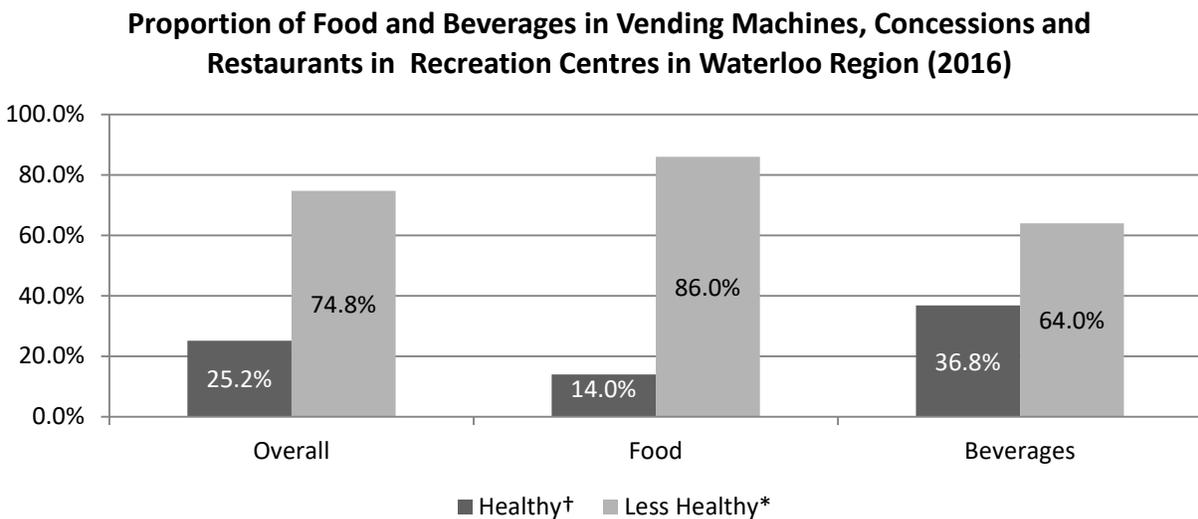
One hundred per cent of recreation centres in Waterloo Region had good access to tap water for drinking.

##### Marketing

Forty-two per cent of recreation centres did not have any marketing of less healthy food and beverages.\*

##### Proportion of Healthier Food and Beverages<sup>†</sup>

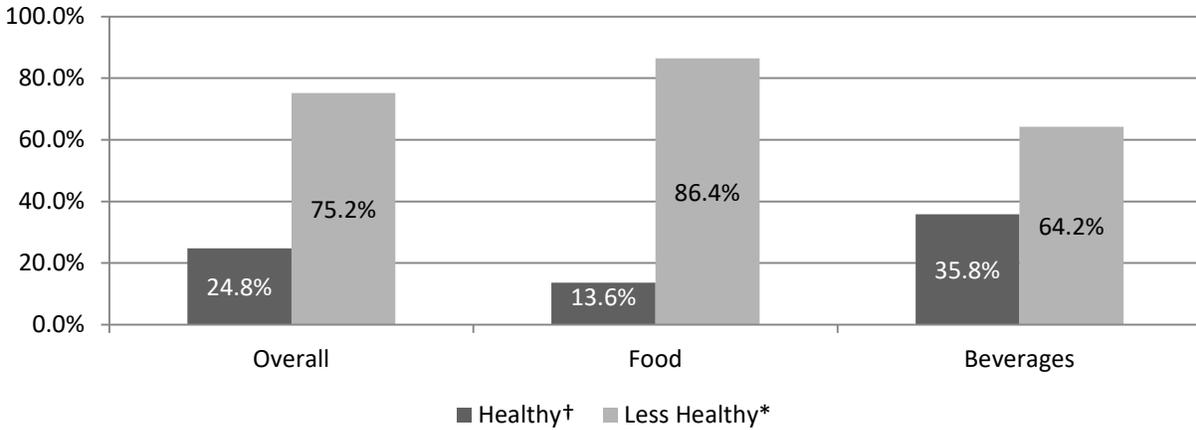
Overall, 25.2 per cent of all food and beverage options that were assessed were healthier choices.<sup>†</sup> There were a larger number of healthier beverage choices<sup>†</sup> available compared to healthier food choices<sup>†</sup> (36.8 per cent compared to 14 per cent).



**Vending Machines**

Of the food and beverages assessed in vending machines, 24.8 per cent of the food and beverages met the criteria for healthier.<sup>†</sup> Almost fourteen per cent of the snacks and 35.8 per cent of beverages in vending machines met the criteria for healthier.<sup>†</sup>

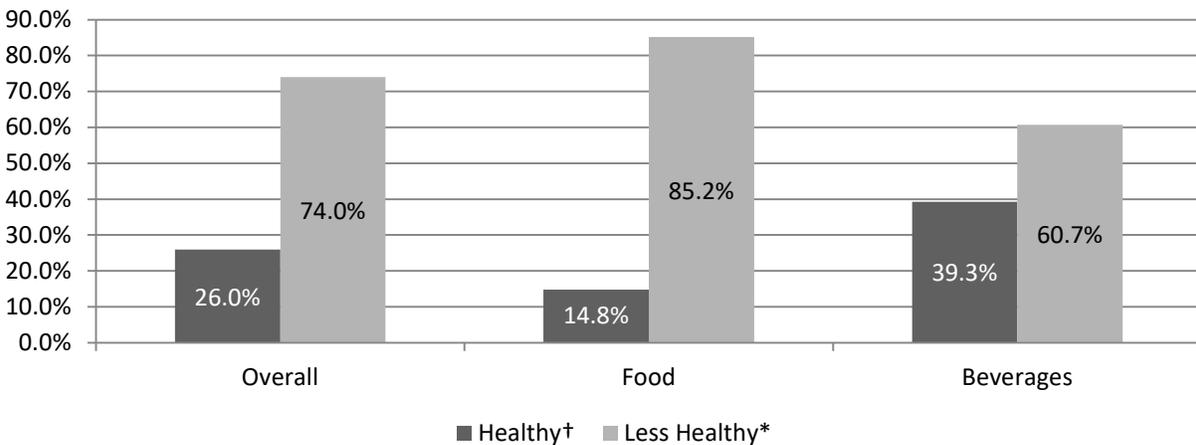
**Proportion of Food and Beverages in Vending Machines in Recreation Centres in Waterloo Region (2016)**



**Concessions and Restaurants**

Of the food and beverages assessed in concession stands and restaurants, 26 per cent of food and beverages were healthier.<sup>†</sup> Almost 15 per cent of the food options and 39.3 per cent of the beverage options were healthier.<sup>†</sup>

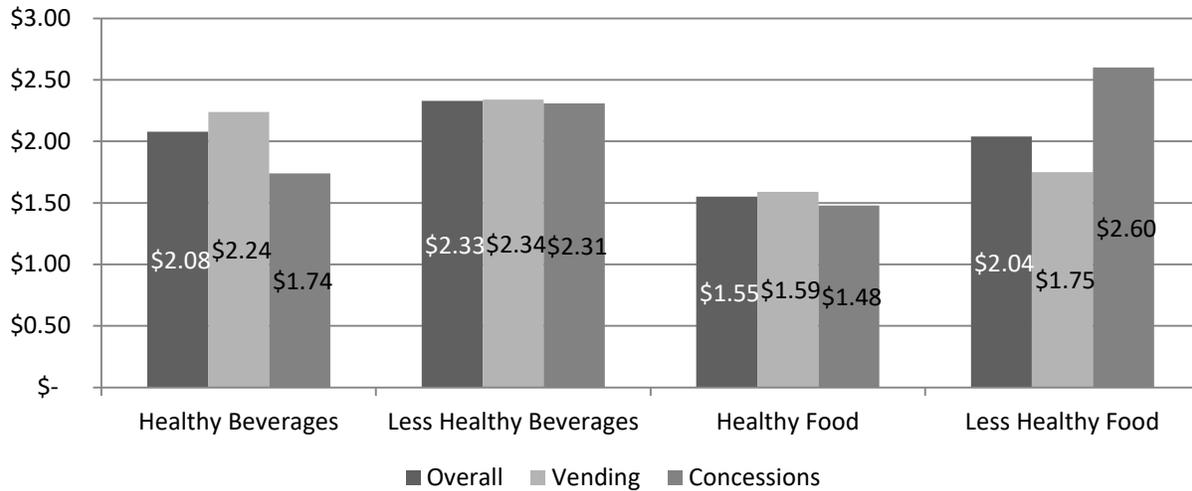
**Proportion of Food and Beverages in Concessions and Restaurants in Recreation Centres in Waterloo Region (2016)**



**Pricing**

Overall, healthier food beverages<sup>†</sup> were less expensive than other options.\* There were not as many healthy entrées to choose from, which accounts for the lower price of healthier foods in concessions and restaurants as these items tended to be smaller items.

**Average Price of Food and Beverages in Recreation Centres  
in Waterloo Region (2016)**



**Incidental findings**

During the assessments some municipal staff approached the assessor and expressed a desire to improve the nutritional quality of the food and beverages sold in recreation settings to align with their existing health promotion activities.

The baseline assessment also revealed that several recreation centres had \$0.25 candy machines and some recreation centres offered energy drinks for sale.

## **Part 4: Recommendations for Recreation Centres**

When the assessment reports were returned to municipal staff, several recommendations were made:

### **Recommendation 1:**

#### **Replace marketing for less healthy food and beverages with marketing for healthier options.**

Studies have found that there is clear evidence that marketing food and beverages affects children's food preferences and their diet quality.<sup>12</sup> Marketing less healthy food and beverages have been shown to increase consumption of less healthy food and beverage options.<sup>13</sup> Messages that link certain types of food and beverages to performance can influence children's beliefs.<sup>5</sup> For example, children may believe that sports drinks will improve their sports performance or that they are required after sports to replenish nutrient losses during physical activity.

In settings that promote health such as recreation centres, it is strategic to use marketing to promote healthy eating and to eliminate marketing materials that may negatively influence children's diet quality.

The pending Child Health Protection Act (S-228) will prohibit food and beverage marketing to children.<sup>14</sup> This legislation may affect current practices in recreation settings. For example, candy machines, vending machine decals, posters, menu boards and sponsorship materials that promote less healthy food and beverages may not be permitted in recreation settings that serve children.

### **Recommendation 2:**

#### **Increase the proportion of healthier food and beverage options to a minimum of 25 per cent.**

Increasing the proportion of healthy options has been shown to increase sales of healthy food.<sup>8,15</sup>

Food service operators often have concerns that healthier options will not sell.<sup>2,5,6,16,17</sup> Therefore, it was recommended that any increases in the proportion of healthy food and beverages were implemented along with a pricing strategy that ensures healthier options are priced less than comparable products.<sup>8,17,18</sup>

### **Recommendation 3:**

#### **Price healthier options to be \$0.50 less than other choices.**

Pricing appears to be the most important aspect of promoting healthier food and beverages.<sup>8,18-21</sup> Altering the pricing structure so that healthier choices were priced lower than comparable products is one of the most important strategies to improve sales of healthier items.<sup>8,17</sup> Price incentives higher than

10 per cent have been shown to improve sales of healthier items in food retail settings in general.<sup>8</sup> For example, a healthy granola bar costs \$1.35 or less, while chocolate bars are priced at \$1.50.

Larger price differences encourage higher sales of healthier products.<sup>8</sup> For example, some studies have shown that pricing healthier products at least \$0.25 to \$0.50 lower than comparable products, increases the sale of healthier items while preserving profits.<sup>17,19-21</sup> For example, healthy granola bars priced \$0.50 less than chocolate bars.

#### **Recommendation 4:**

##### **Remove \$0.25 candy machines.**

The assessor observed several children pleading with their parents to buy them candy from the \$0.25 candy machines.

The \$0.25 candy machines are designed to display candy at a lower height, presumably to be in a position to attract the attention of children.<sup>22</sup> The low price point of \$0.25 candy machines also makes impulsive candy purchases more likely.<sup>22</sup>

The assessor also observed that many children put their hands up into the machine's candy dispensers searching for unclaimed candy. This may increase the spread of contagious illnesses among children.

#### **Recommendation 5:**

##### **Remove energy drinks from concessions and vending machines.**

Children and adolescents have a lower tolerance for caffeine compared to adults.<sup>23,24</sup> Drinking energy drinks puts children and adolescents at higher risk of experiencing health problems such as: sleep problems, increased anxiety, gastrointestinal problems, heart problems and in rare cases seizures and death.<sup>24,25</sup>

Members of the Canadian Beverage Association voluntarily follow the Energy Drink Marketing Code, which avoids marketing energy drinks to children in schools (grades kindergarten to grade 12) or sponsoring events where the primary audience is children.<sup>26</sup> Children and adolescents are the primary age group that use recreation settings. Municipalities can create policies to ensure that recreation centres do not promote energy drinks to children and youth.

## Part 5: FRESH-IT Knowledge Translation Intervention: Stakeholder Forum

After presenting the baseline assessment results to each municipality, stakeholders were invited to a forum on October 12, 2016. The format of the forum was four presentations, ending with brainstorming sessions to identify next steps.

The forum was attended by an elected official and several food service operators, food service distributors and municipal staff members from all of the municipalities in Waterloo Region.

### FRESH-IT Forum Presentations:

- [Frank Prospero](#), the former Director of Recreation at the Township of North Dumfries, presented on changes he made in his recreation centre.
- [Dr. Kim Raine](#), a prominent Canadian researcher, presented on the importance of healthy food and beverages in retail food settings in recreation centres.
- [Katie Neil](#), a Public Health Nutritionist with Oxford County Public Health, presented on the promising financial results from a recreation centre concessions pilot in Oxford County.
- [Dr. Leia Minaker](#), a local food environments researcher, presented information on how the food environment influences individual food choices.

## Opportunities to Change Retail Food Operations in Recreation Settings

### Summary of Suggestions on How Public Health Can Support Recreation Centres

Participants at the FRESH-IT Forum were asked to identify ways that Public Health could help them to improve the retail food environment in recreation centres. The results are as follows:

- Create a rewards program
- Facilitate partnerships and collaborative opportunities among municipalities
- Facilitate the development of a region-wide policy on selling bottled water
- Help plan and evaluate possible change, and identify and troubleshoot the challenges to making changes in recreation settings
- Investigate government grants, supports and incentives to offer healthier choices
- Investigate the possibility of a region-wide food and nutrition policy with a single food service supplier
- Keep the group updated on the FRESH-IT project
- Offer support for the change management process
- Offer workshops for municipal staff, coaches and recreation centre clients
- Provide consultation to assess settings and identify healthy food and beverage options
- Provide education and marketing support for healthier choices in recreation settings
- Provide education information on healthy eating
- Provide information for municipal decision makers and elected officials

- Provide information on healthier products that are available
- Support pilot projects and research and share results to inform decision makers

### **Summary of Suggestions on How Decision Makers in Recreation Centres Can Create Change**

Forum participants were also asked to identify ways they could improve the retail food environment in recreation settings. Here is a summary of the suggestions:

#### **Enhancement of Existing Work**

- Use current work with the Healthy Kids Community Challenge to build in supportive food and nutrition environments in recreation settings

#### **Changes to Recreation Food Services**

- Identify helpful incentives for healthier food and beverage purchases
- Increase the availability of healthier food and beverages
- Increase the price of less healthy food available in recreation centres
- Use point-of-sale education materials to promote healthier choices
- Create a marketing strategy for healthier choices
- Promote drinking water
- Promote facilities with healthier options
- Survey recreation centre clients to determine their preferences
- Use a request for proposal to change what is required from vendors
- Work with point-of-sale data to identify the sales performance of various healthier options
- Work with vendors to find and promote healthier options

#### **Use of Education Approaches**

- Be a good role model by implementing healthy food and beverage options for recreation centre meetings and events
- Provide education to parents on healthy snack and beverage options for children
- Provide healthy eating education to stakeholders such as coaches
- Train recreation centre staff to be ambassadors for healthy eating
- Use a 'healthy' Wi-Fi password

## Part 6: Description of the Resources and Services Provided

In response to the requests from municipal and food service stakeholders, Region of Waterloo Public Health and Emergency Services created and promoted several resources:

### List of Healthier Food and Beverage Products:

A list of healthier food and beverages available to recreation settings was provided to all FRESH-IT stakeholders.

### Consultation Services

Between 2016 and 2017 Public Health employees met several municipal employees to discuss issues and make plans for changing retail food settings in recreation settings in Waterloo Region.

### Fact Sheets for Food Service Operators:

Three fact sheets were circulated through email to all FRESH-IT forum participants:

- [Tips for Creating a Healthier Vending Machine](#)
- [Tips for Creating Healthier Concession Stands](#)
- [Tips to Promote Healthier Food and Beverage Options](#)

### Educational Videos:

Region of Waterloo Public Health and Emergency Services launched four animated videos in May 2017:

- [Eat Well, Be Active](#): Highlights the importance of physical activity AND healthy eating for optimal physical and mental health. This is an important message as it is a common misconception that children who are active do not need to worry about their eating habits.<sup>5</sup>
- [Food Rewards](#): Highlights the importance of rewarding children with something other than food after physical activity.
- [Moderation for Children](#): Provides an objective definition of moderation to put current eating habits into perspective and explains how to eat favourite food and beverages without significantly compromising diet quality.
- [Sports Snacks for Kids](#): Conveys the message that water is all that is needed after physical activity.

The videos are shared on the Region of Waterloo Public Health [YouTube](#) page and have been promoted through a #parentingwins social media campaign on [Facebook](#) and [Twitter](#). Collectively, the four videos have received over 2,500 hits on YouTube.

Some of the municipalities downloaded the videos to play on screens in their recreation settings.

**Webinar:**

The FRESH-IT project was featured in a [webinar](#) hosted by the Nutrition Resource Centre. The purpose of the webinar was to support changes in recreation settings across Ontario, due to interest in this topic generated from the Healthy Kids Community Challenge across Ontario.

**Blog Post:**

In July 2017, the Nutrition Resource Centre featured the FRESH-IT project, in a [blog post](#). Several of the resources created for the FRESH-IT project are also featured in the site's Nutrition Navigator, resource repository.

## Part 7: Experiences of Municipalities and Food Service Operators

Throughout the project, many insights were discovered related to the retail food environment in recreation settings in Waterloo Region.

### Experiences of Municipal Employees

There is a great deal of tension related to retail food services in recreation settings. Some municipal employees expressed that clients have an expectation that recreation centres should provide food services in recreation settings.<sup>9,16</sup> However, implementing this service often comes at the financial expense of the recreation centre.<sup>27</sup> This leaves recreation centres with the difficult decision to close the retail setting, subsidize the operation of the food retail or outsource the food retail to an external company to improve revenue generation.<sup>2</sup> Often the unintended side-effect of pursuing revenue generation is the need to sell increased amounts of less healthy food and beverages\* to optimize profits.<sup>2,28</sup> In other circumstances, the revenue from selling less healthy food and beverages\* has been integrated with the recreation settings operations budget,<sup>9,16,28</sup> making it difficult for these recreation settings to change food retail practices.

There were also apprehensions about making changes to retail food and beverage practices in recreation settings, as previous attempts to make changes were not well received by consumers.<sup>1</sup> Employees expressed they would need to have senior management buy-in before making significant changes to current practices, as complaints often escalate to higher-level decision makers.

Recreation settings that were the most successful in implementing healthier choices were those that had support from decision makers, managers and municipal leaders to move ahead with this initiative. Research on this topic highlights the importance of decision maker support in the success of healthy eating interventions in recreation settings.<sup>1,9,29</sup> Actions to modify the nutritional quality of the retail food and beverages in recreation centres may not be possible without explicit direction from high-level municipal decision makers and elected officials.

Conversion of retail food services to accommodate healthier food and beverage options<sup>†</sup> may require capital funding.<sup>2,9</sup> One municipality attempted to convert its existing food services to promote healthier options. Food service operators were not able to help the recreation facility realize their desired retail food service operation. The recreation centre was not able to convert their operations independently due to a need for capital funding that exceeded the capacity of the recreation centre.

Some municipal employees were concerned that making changes to retail food services will result in patrons purchasing less healthy options somewhere else, leading to lost opportunities for profits. This is a common apprehension cited in the research.<sup>2,16,30</sup> However, purchases of less healthy food are often made on impulse, and will not necessarily be made at other locations.<sup>31</sup>

The food environment in Waterloo Region is a food swamp, meaning that there are an overwhelming number of opportunities to purchase less healthy food and beverages\* in our community.<sup>32</sup> Changing

the food environment in recreation settings may not change the purchasing behaviour of consumers outside of the recreation setting. However, enhancing the nutritional quality of what is available in recreation settings does decrease the tendency for children and parents to make impulse purchases because of temptation in the immediate food environment.<sup>5,22,31</sup> Offering healthier food and beverages also creates consistency between the health promotion mandate of recreation centres, health promotion messaging about healthy lifestyles offered in recreation settings and the food and beverages offered for sale in recreation settings in Waterloo Region.

## **Experiences of Food Service Operators**

### **Food System Barriers**

Discussions with vending machine operators were very helpful in learning about current food retail environments in recreation settings. There are some barriers within the food system that make it difficult for retailers to get products that are enjoyable, but that also meet nutrition standards. This has also been documented in research on food environments.<sup>1,2,5,8,9,16</sup> In some cases, operators found that the product expiration dates were much shorter for healthier food options,<sup>†</sup> making it challenging to sell them before they expire.<sup>2</sup>

Future opportunities to reduce barriers within the food system include investigations related to: exploration of different food distribution options, creating opportunities for patron taste testing and feedback and research into sales performance for healthier options in recreation settings.<sup>1</sup>

### **Barriers Related to Vending Industry Structure**

Vending machine operators employ drivers who fill the machines in each facility. Even when an understanding is in place between the recreation facility and the vending machine operator, machines may not be stocked according to the agreement.<sup>18</sup> Drivers use their discretion to fill the machines. The content of the machines is limited partially by what drivers have in their trucks to put in the machines. Drivers may also use their discretion to remove healthier items<sup>†</sup> if they are not performing well in terms of sales.<sup>18</sup> Drivers may also forget about the service agreements, not understand what products are healthier, or there may be a lack of knowledge of service agreements due to employee turnover. Due to these issues, it is unclear how sustainable a vending machine strategy is through conventional vending machine services. This issue needs to be investigated further to explore how to make improvements in the nutritional quality of food and beverages in vending machines.

### **Desire for Increased Consumer Demand Before Making Changes to Services**

The industry perspective was that consumers should receive education before any changes are made so they will realize that healthy eating is important and in turn, demand healthier choices.<sup>2,28</sup> Operators are willing to meet the demand for healthier food and beverages, once demand has been increased.

Education is necessary to help consumers understand nutrition and to enable them to select and

prepare healthy food. However, education is not sufficient to improve demand for healthier food and beverages. Nevertheless, interventions meant to improve the nutritional quality of food and beverages sold in retail settings can benefit from the addition of an education component. Further investigation is needed to determine the most appropriate and effective healthy eating education strategy for recreation centres in Waterloo Region.

## Part 8: Measured Changes in Retail Food and Beverages in Recreation Settings

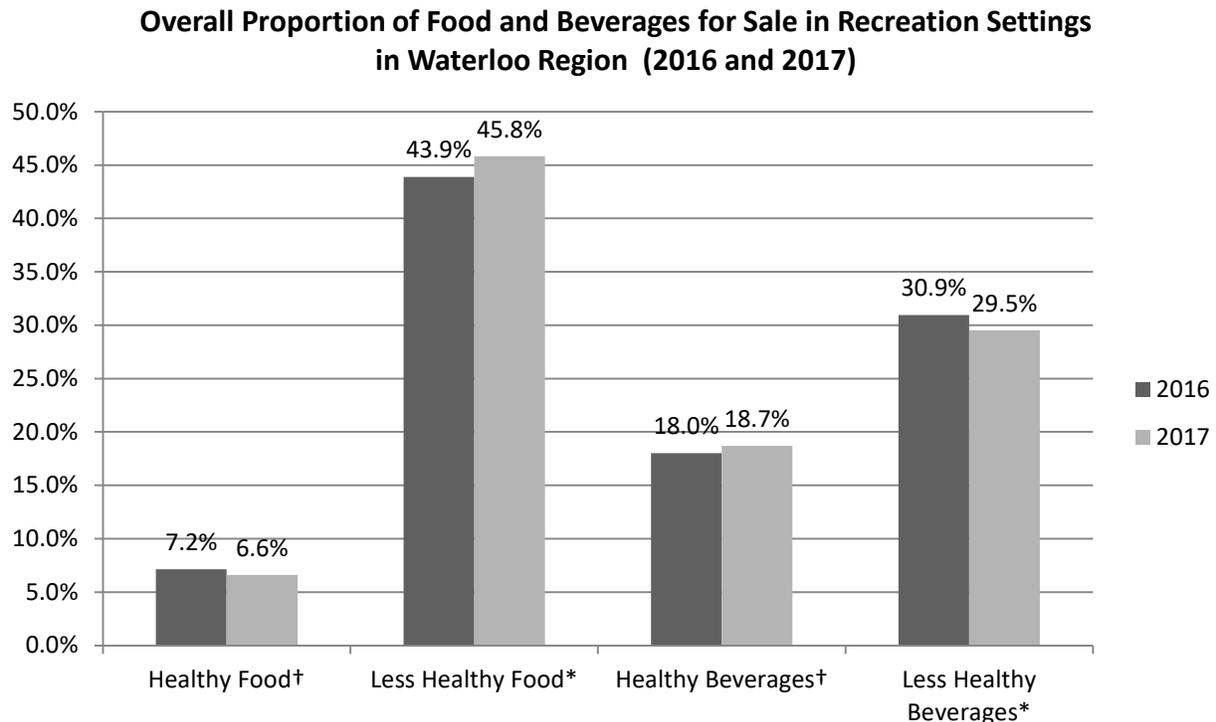
The main goal of this research project was to interact with stakeholders to give and receive information about their retail environments. The primary purpose was not to implement any changes. However, since the forum in 2016, several of the municipalities in Waterloo Region have been working towards creating healthier retail food environments in their recreation settings.

In 2017, each recreation centre was re-assessed to see if there were any measureable changes in the proportion of healthier food and beverages offered in recreation centres. Thirty-one recreation centres were assessed in 2016 and in 2017. The results are as follows:

### Overall Food and Beverages Available for Sale in Recreation Centres

The proportion of healthier food and beverages<sup>†</sup> available in vending machines, concession stands and restaurants in recreation centres increased slightly from 25.2 per cent in 2016 to 25.3 per cent in 2017.

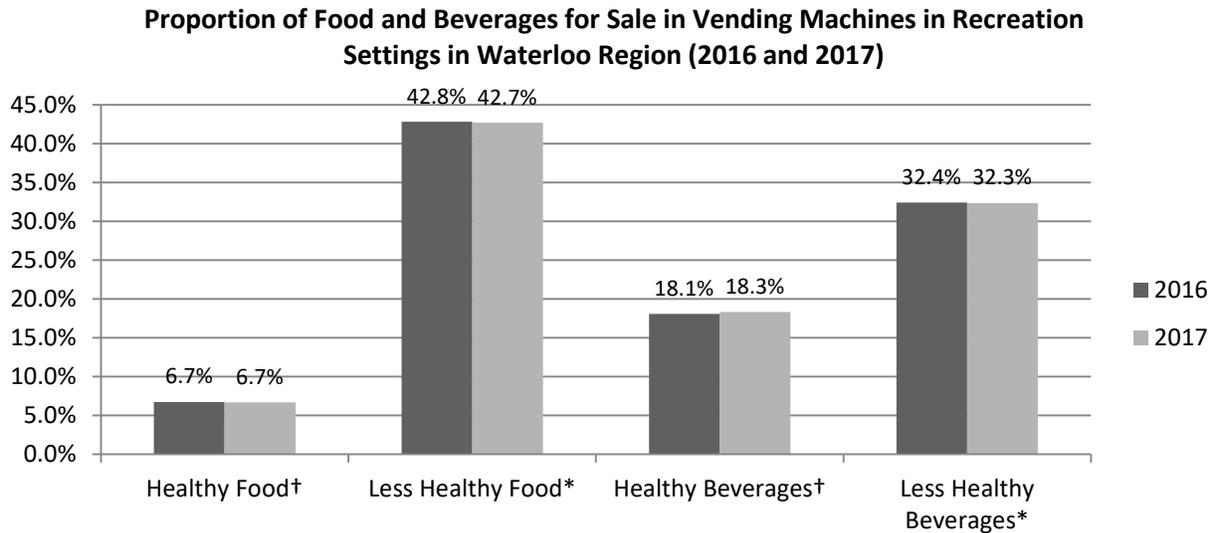
Overall, the knowledge exchange activities and supporting resources provided throughout the FRESH-IT project were not enough to generate significant changes in retail food environments in recreation centres across Waterloo Region.



## Vending Machines

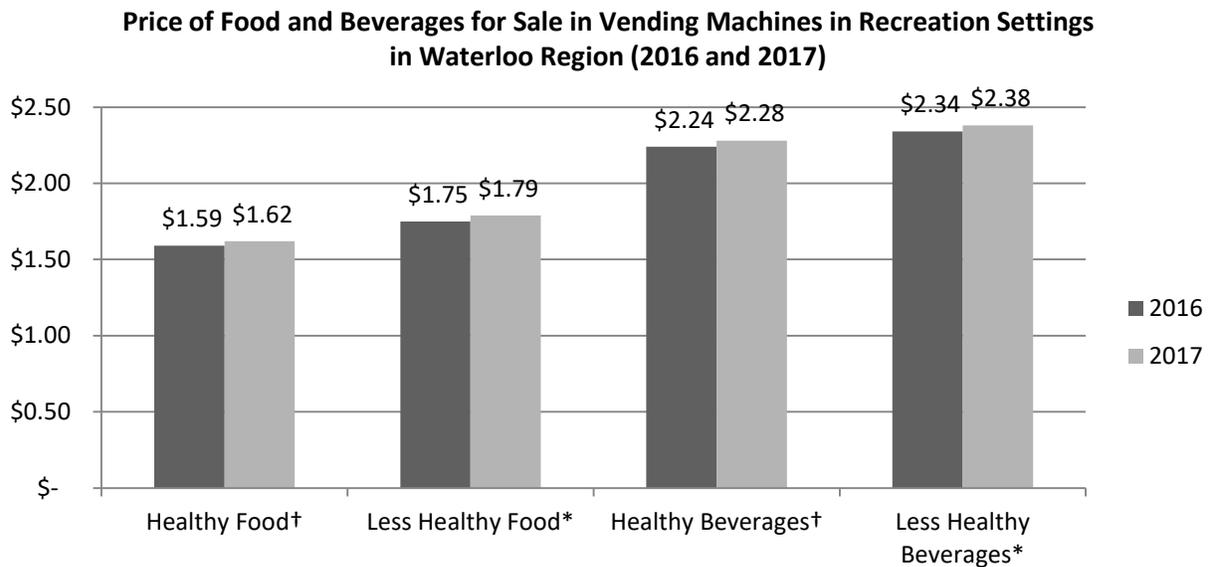
### Proportion of Healthier Choices<sup>†</sup>

Overall, the proportion of healthier options<sup>†</sup> in vending machines was 25 per cent healthier choices in 2017, up slightly from 24.8 per cent in 2016.



### Strategic Pricing of Healthier Items in Vending Machines<sup>†</sup>

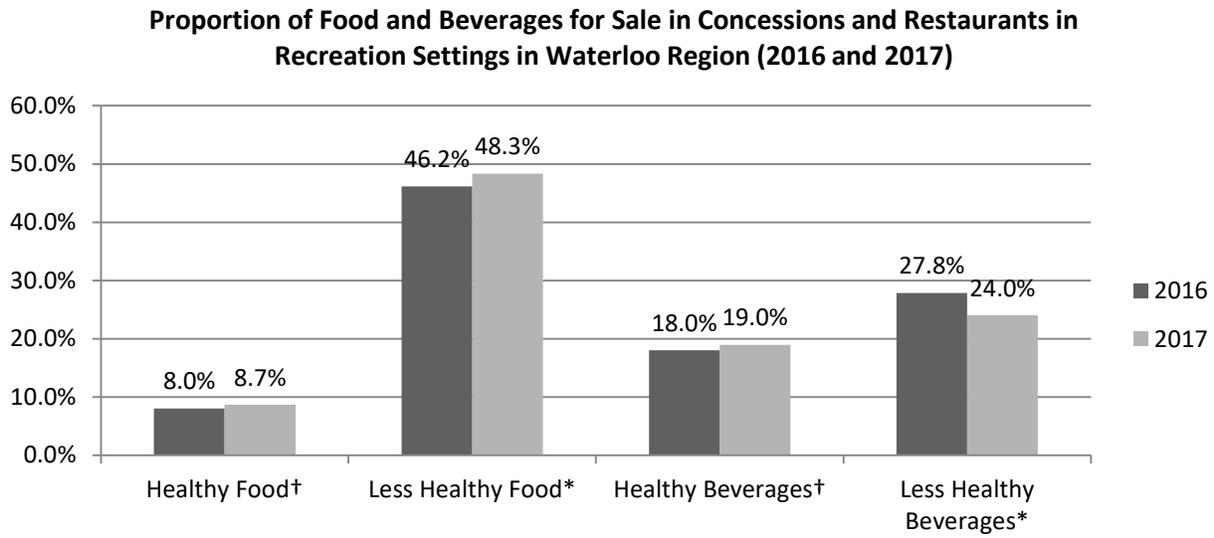
In vending machines, the average healthier food and beverage option<sup>†</sup> was priced lower than less healthy food and beverages.\*



## Concession Stands and Restaurants

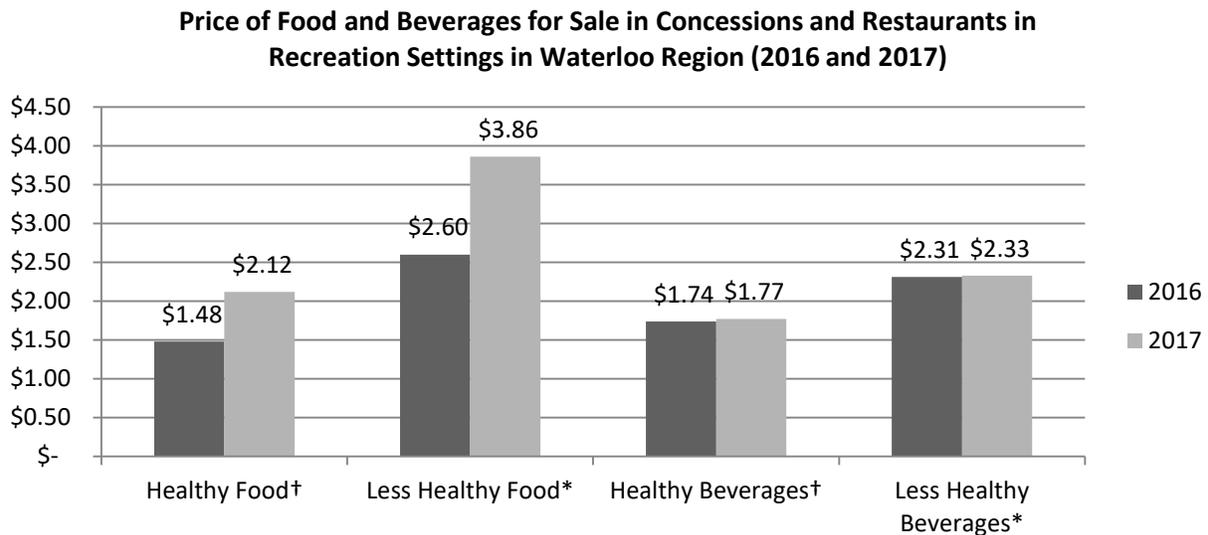
### Proportion of Healthier Choices<sup>†</sup>

Most of the differences that did occur between the assessments in 2016 and 2017 were in recreation centres that were operated by municipal staff. Overall the proportion of healthier food and beverage options<sup>†</sup> increased slightly to 27.6 per cent in 2017 up from 26 per cent in 2016.



### Strategic Pricing of Healthier Items<sup>†</sup>

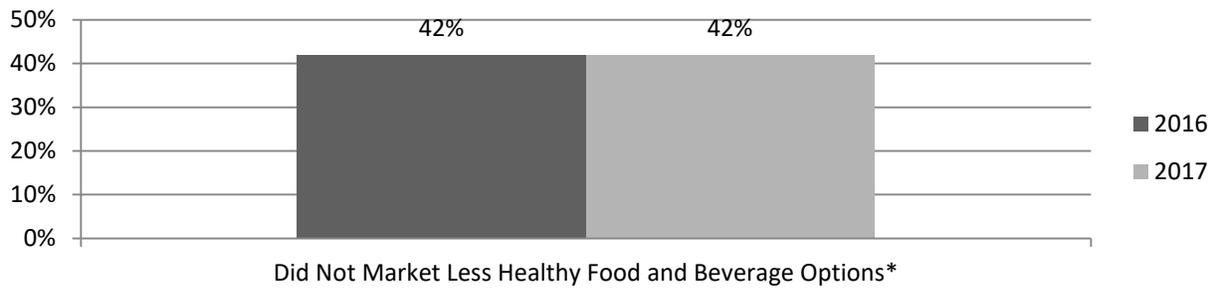
The relative price of healthier options<sup>†</sup> compared to less healthy food and beverage options\* in concessions was about 16.4 per cent lower than in 2016. On average, concessions offered healthier choices<sup>†</sup> for a significantly lower price compared to similar less healthy food and beverage options.\*



## Marketing

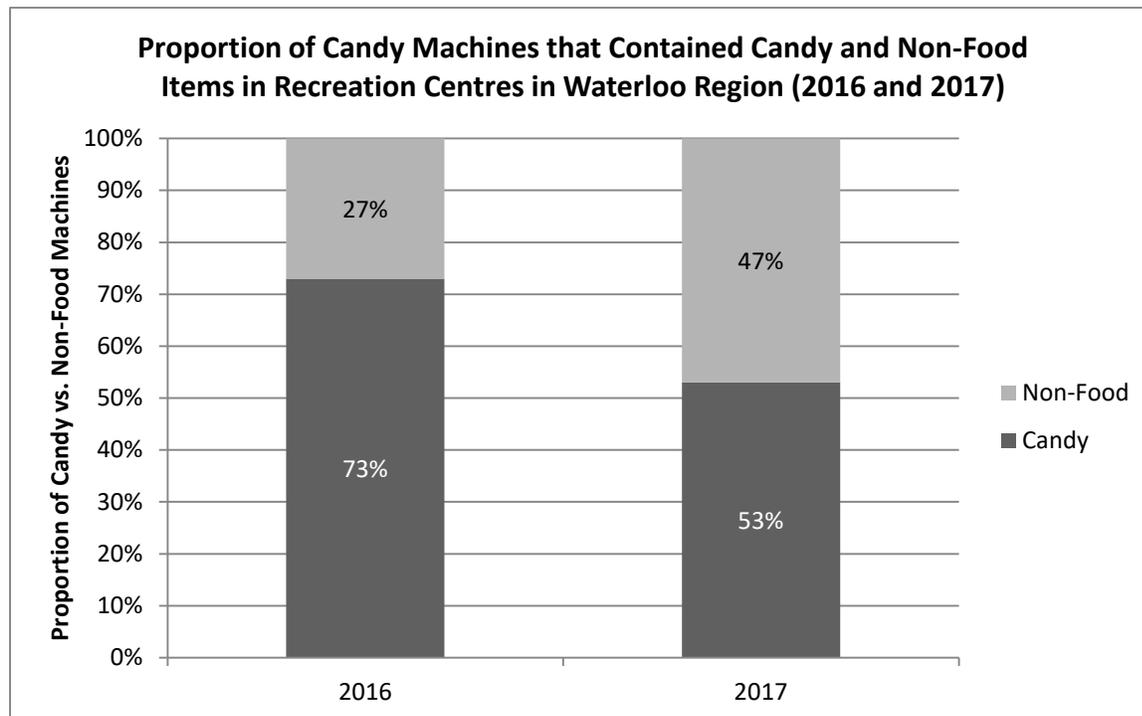
Overall there were no changes in food marketing practices across Waterloo Region. Thirteen out of 31 recreation centres did not promote less healthy food and beverage options.

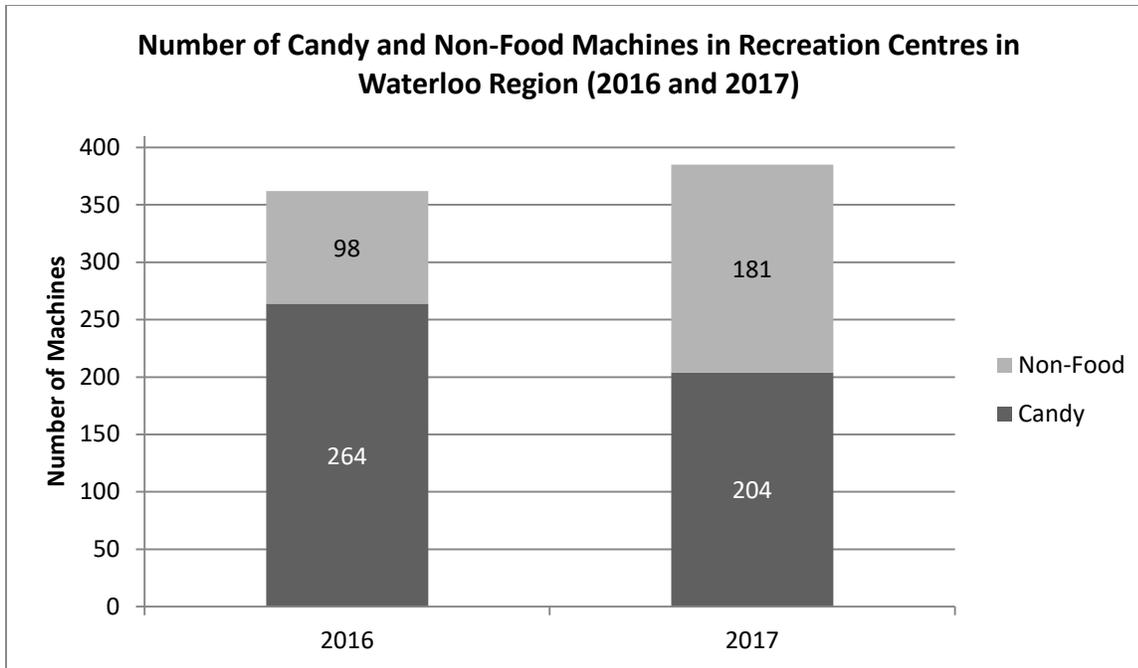
**Marketing Practices Recreation Settings in Waterloo Region (2016 and 2017)**



## Candy Machines

There was a drop in the proportion of machines that contained candy compared to those that contained non-food items, as one municipality converted almost all of their machines to non-food items such as stickers and small toys (about 60 machines). The overall proportion of candy machines changed from 73 per cent of machines containing candy in 2016 to 53 per cent of machines in 2017.





Ideally non-food items would be priced the same or less than candy. However, the average price for candy was \$0.33, while the average price for non-food items was \$1.03.

### Energy Drinks

The number of energy drinks available in vending machines and concessions across Waterloo Region dropped to 15 in 2017 compared to 21 in 2016.

## **Part 9: Next Steps**

The FRESH-IT project concluded in February 2018. Region of Waterloo Public Health and Emergency Services remains a committed partner with respect to promoting healthy eating in the community. Public Health will continue to work with municipalities to address these barriers with an ideal outcome of creating healthy food retail environments in recreation settings in Waterloo Region.

## **Part 10: Conclusion**

The food environment in most recreation centres in Waterloo Region is not supportive of a healthy eating pattern. Further work is required to address barriers that recreation centres experience when working to increase the nutritional quality of food and beverages sold in recreation settings in Waterloo Region.

Throughout the FRESH-IT project, improvements were made in a few facilities to increase access to healthier options, reduce exposure to less healthy options and implement a competitive price structure for healthier food and beverages. However, the average results for Waterloo Region do not reflect a significant overall change. Further work is needed to address the nutritional quality of food and beverages offered for sale in recreation settings in Waterloo Region.

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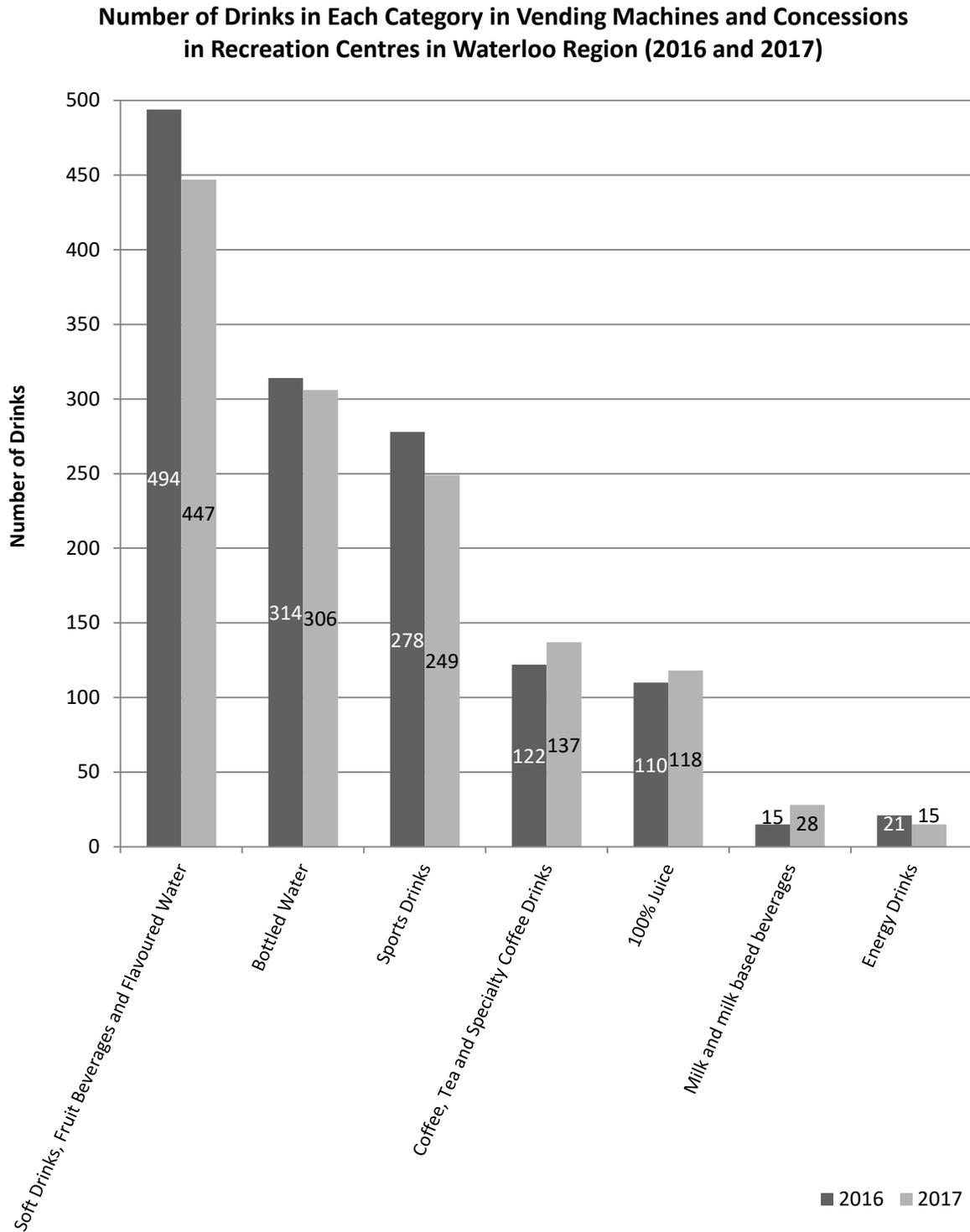
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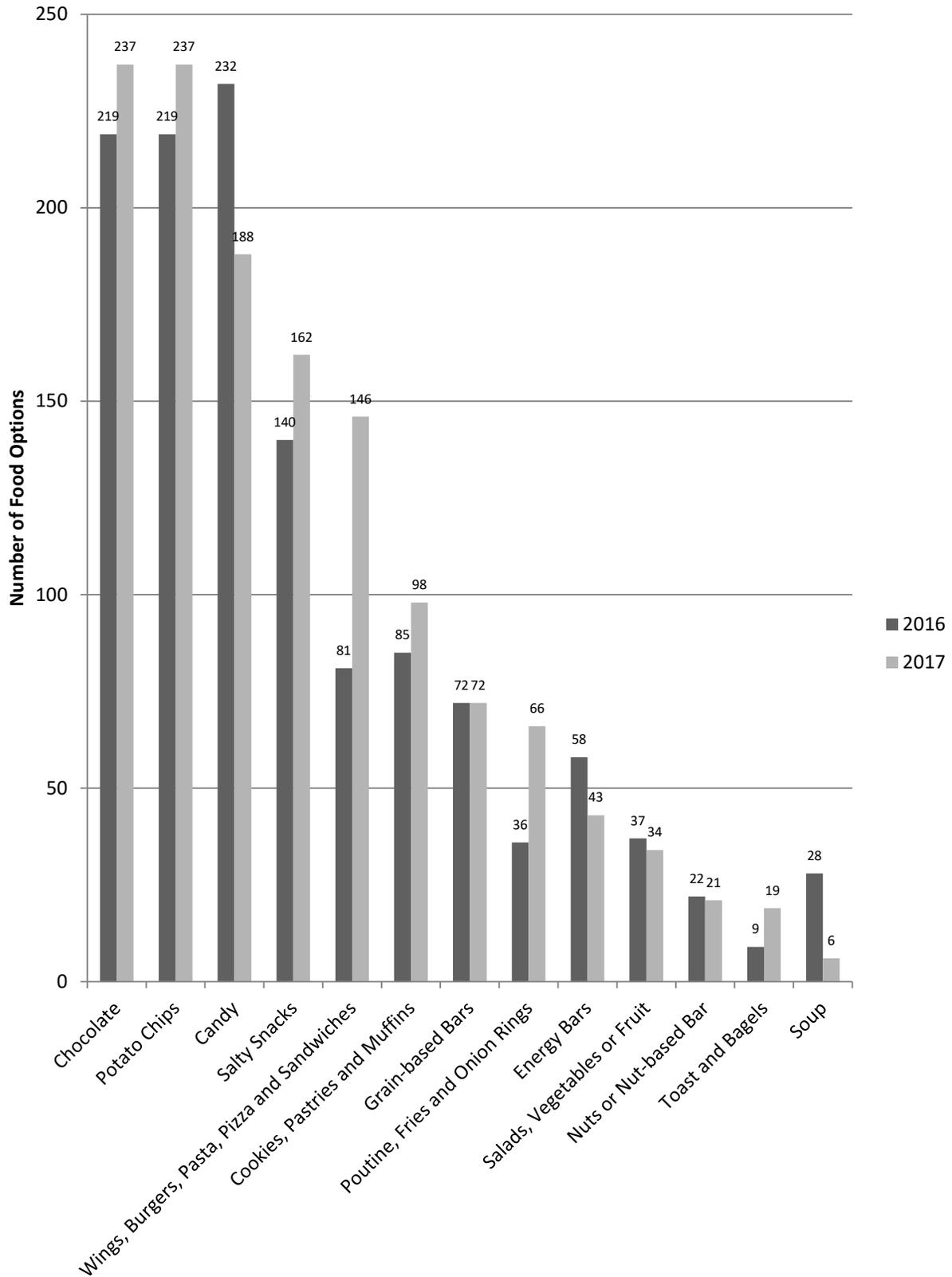
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## Appendix A: Food and Beverages Sold in Recreation Centres in Waterloo Region

The following charts provide an overview of the number and types of food and beverages that are available in retail settings in recreation centres across Waterloo Region.



**Number of Food Options Sold in Vending Machines and Concessions in Recreation Centres in Waterloo Region (2016 and 2017)**



**Proportion of Food Options Sold in Vending Machines and Concessions in Recreation Centres in Waterloo Region (2017)**

