

Creating Healthy Food Environments in Recreation and Sport Settings:

A Review of the Evidence & Real Life Examples

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Rationale

- Why consider healthy eating in recreation and sport?

Current State

- What do food environments look like in recreation and sport?

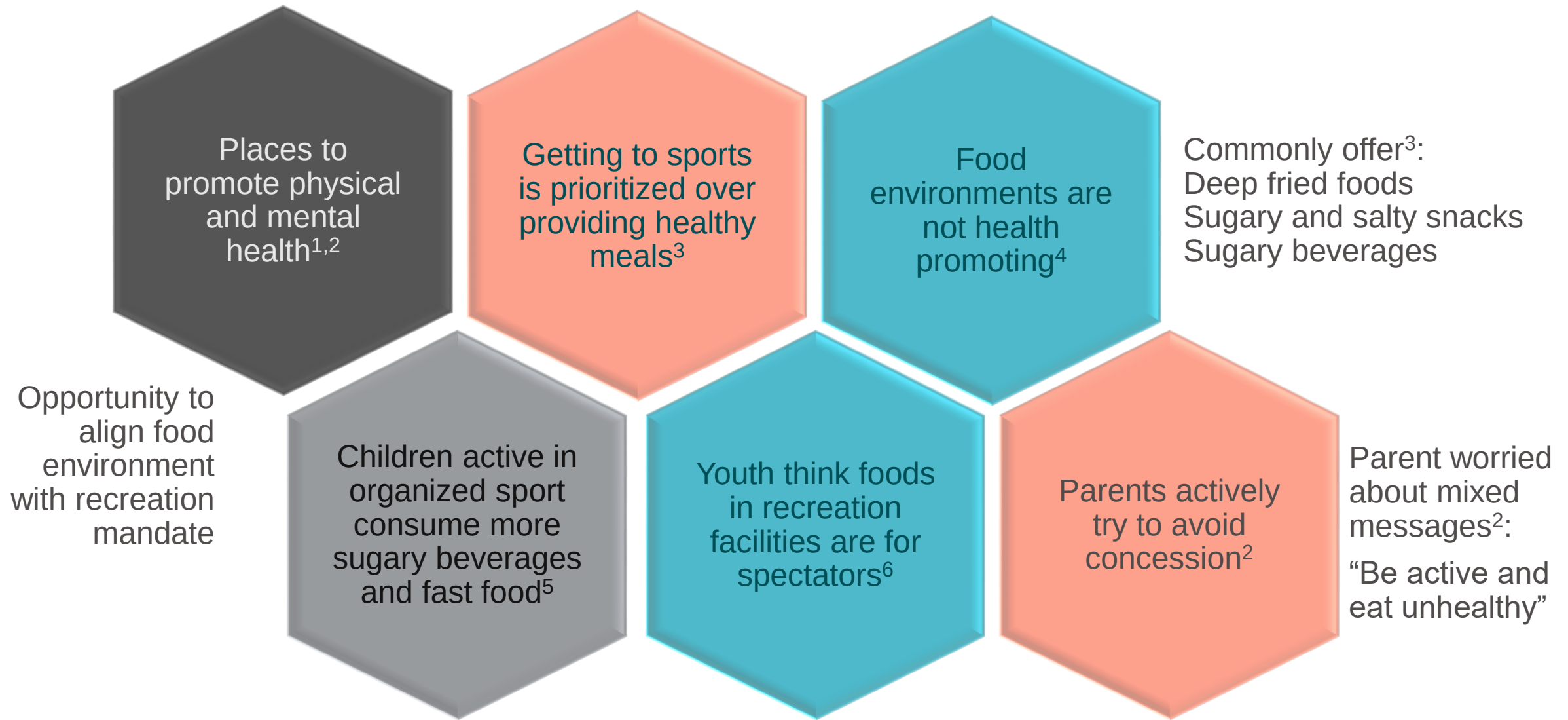
Ideal State

- What could healthy food environments look like in recreation and sport?

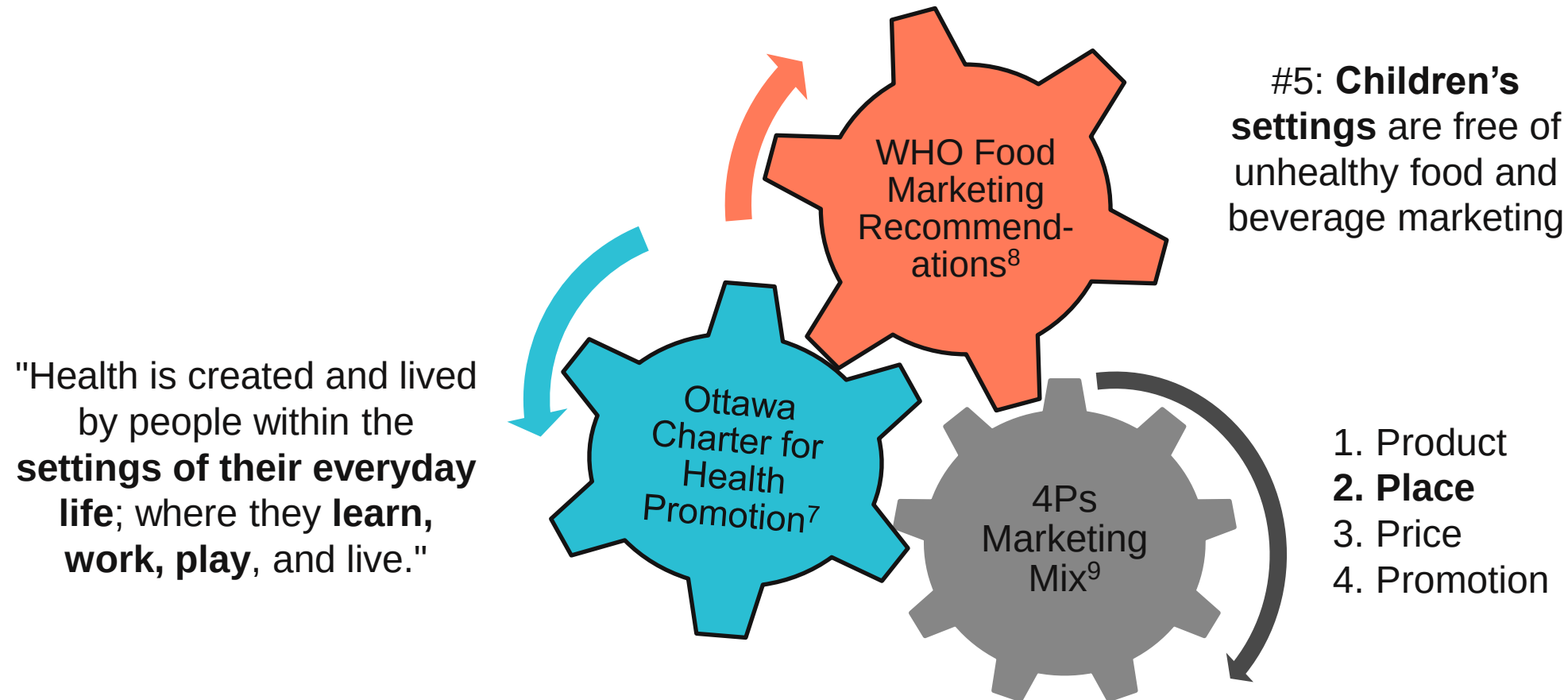
Examples

- What has worked? Why?
- Supports and Challenges

Rationale for Healthy Food in Recreation and Sport



Recreation and Sport is a PLACE for Health Promotion

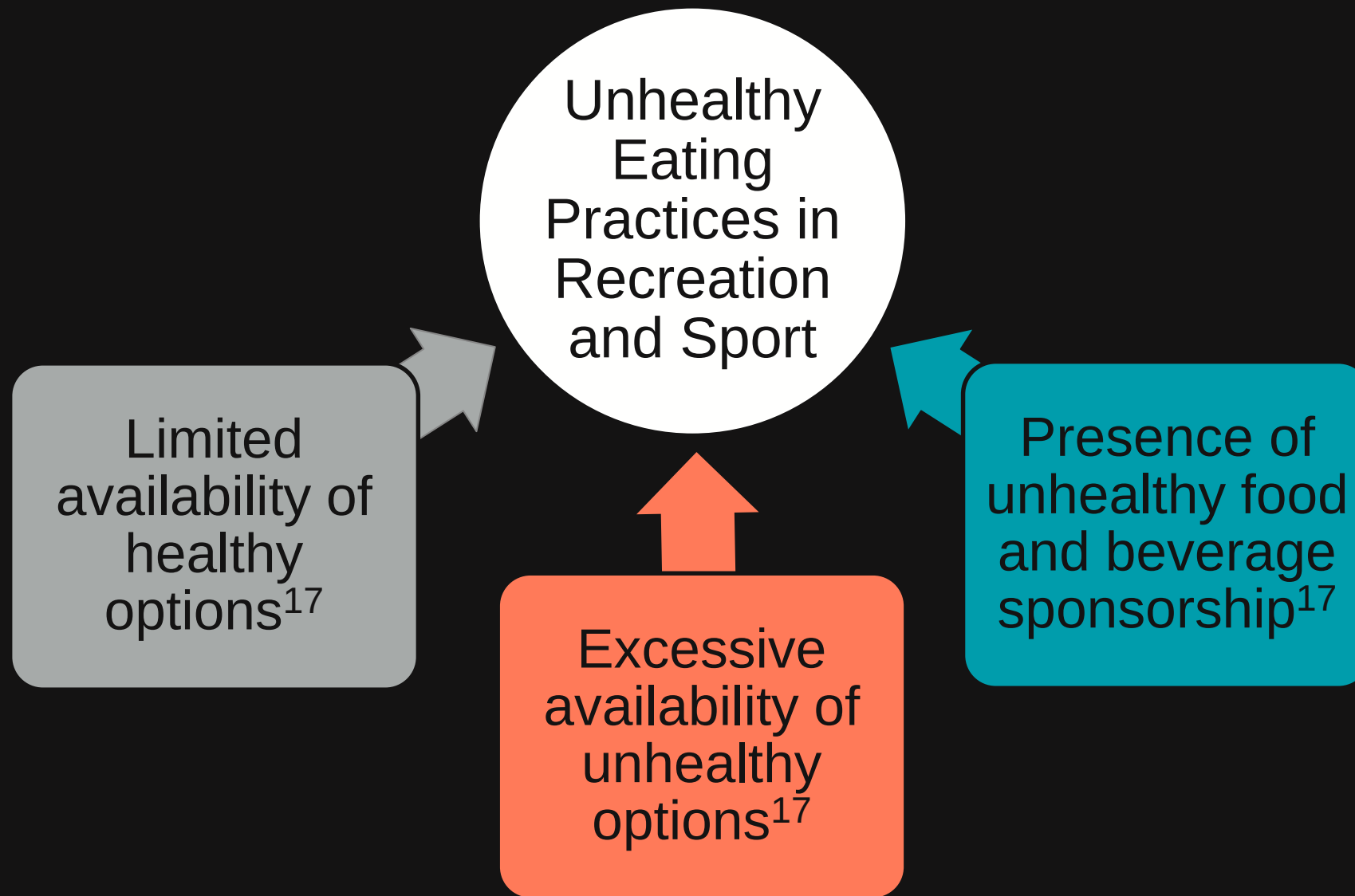


Why Consider Food Environments (Marketing) in Recreation and Sport?

1. Sport settings have a **large population reach**¹⁰
2. **Health halo effect** of marketing food with physical activity¹¹
3. Food industry **emphasizes physical activity**¹²
4. Children **associate unhealthy foods**¹³ and beverages¹⁴ **with sport**
5. Children **recall** and are **loyal to sport sponsors**¹⁵
6. Sponsorship increases engagement with the sponsor¹⁶



Photo credit: Rachel Prowse



Impact Of Unhealthy Food Availability In Recreation And Sport^{2,18}

- Foods available = foods sold
- Children pester parents, requesting junk food
- Intake of foods that might not be the best fuel for activity or health
- Perceived limited choices; choose to bring food or go elsewhere
- Loss of potential revenue
- Mismatch with organizational mandate
- Perceived mixed messages reduced likelihood patrons will support facility food services (actively avoid concession)

“We just don’t eat concession food....We eat real food, we don’t eat mac and cheese, and chicken fingers...we try to support the food that we want and the food that we’d have at home...”
(Parent 8)

“we’re a healthy living facility, right, it’s mental health with the library and like keeping your brain strong; the pool; the skating; well it just to me is a hand-in-hand, right. Yeah why would you just serve poutine and burgers? At place where you’re trying to encourage active living.”
(Parent 10)

Impact Of Food Marketing (Sponsorship) In Recreation And Sport^{2,16,19}

- Elite and community sport sponsorship widely exposes children and youth to unhealthy food products and brands
- Influences brand awareness, preferences, and behavioural intentions
- Food marketing techniques such as signage, branding, fundraising, giveaways, and in-kind donations “activates” sponsorship which increases consumers’ engagement with the sponsor and increases the impact of the sponsorship
- Children pester parents, requesting junk food
- Foods marketed = increased purchasing
- Intake of foods that might not be the best fuel for activity or health
- Mismatch with organizational mandate
- Perceived mixed messages increased feelings of distrust

“[food service operators] put all that fun kids’ stuff right at eye level, just like the grocery store, which is smart for them. Right, smart for the people selling it, not so good for me. Because my kids want that stuff.”
(Parent 5)

“[the facility] says ‘do what I say not what I do’. It’s a very inconsistent message that I see. Um, that there’s this message of eat healthy, but then they don’t necessarily put that out there and give a lot of healthy options’
(Parent 8A)



**Current State of Food Environments in
Recreation and Sport**

Relevant Research

- Prowse et al. . Creating healthy food environments in recreation and sport settings using choice architecture: a scoping review. *Health Promot Int.* 2023 Oct 1;38(5):daad098. doi: 10.1093/heapro/daad098. Erratum in: *Health Promot Int.* 2023 Dec 1;38(6).
- Prowse et al. Monitoring food promotion in recreation facilities in Canada: Phase 2 Final; March 2023. Prepared for Health Canada.
- Prowse et al. Choice, Motives, and Mixed Messages: A Qualitative Photo-Based Inquiry of Parents' Perceptions of Food and Beverage Marketing to Children in Sport and Recreation Facilities. *Int J Environ Res Public Health.* 2022 Feb 23;19(5):2592. .
- Kirk et al. Appetite for Change? A socio-ecological exploration of facilitators and barriers to implementing provincial nutrition guidelines in Canadian recreation and sports facilities. *Health Promotion International*, 2021, daab017,
- Minaker L. Interventions to Support Healthy Eating in Recreation Centres and Sports Clubs: An evidence synthesis of impacts, facilitators, and barriers related to healthy eating interventions. 2020. Prepared for Health Canada.
- Prowse et al.. Impact of a Capacity-Building Intervention on Food Marketing Features in Recreation Facilities. *J Nutr Educ Behav.* 2020 Oct;52(10):935-943.
- Olstad et la. (2020). Baseline results from the Eat, Play, Live trial: A randomized controlled trial within a natural experiment examining the role of nutrition policy and capacity building in improving food environments in recreation and sport facilities. *Food Policy*, 92, 101870.
- Olstad et al. Eat, play, live: a randomized controlled trial within a natural experiment examining the role of nutrition policy and capacity building in improving food environments in recreation and sport facilities. *Int J Behav Nutr Phys Act* 16, 51 (2019).
- Lane et al. Healthy vending contracts: Do localized policy approaches improve the nutrition environment in publicly funded recreation and sport facilities?. *Preventive Medicine Reports.* 2019 Dec 1;16:100967.
- Prowse et al. Exploring Nutrition Labelling of Food and Beverages in Vending Machines in Canadian Recreational Sport Settings. *Can J Diet Pract Res.* 2019 Jun 1;80(2):55-62.
- Prowse et al. Food marketing in recreational sport settings in Canada: A cross-sectional audit in different policy environments using the Food and beverage Marketing Assessment Tool for Settings (FoodMATS). *Int. J. Behav. Nutr. Phys. Act.* 2018, 15.
- Caswell et al. Adolescent perspectives of the recreational ice hockey food environment and influences on eating behaviour revealed through photovoice. *Public Health Nutr.* 2018, 21, 1255–1265.

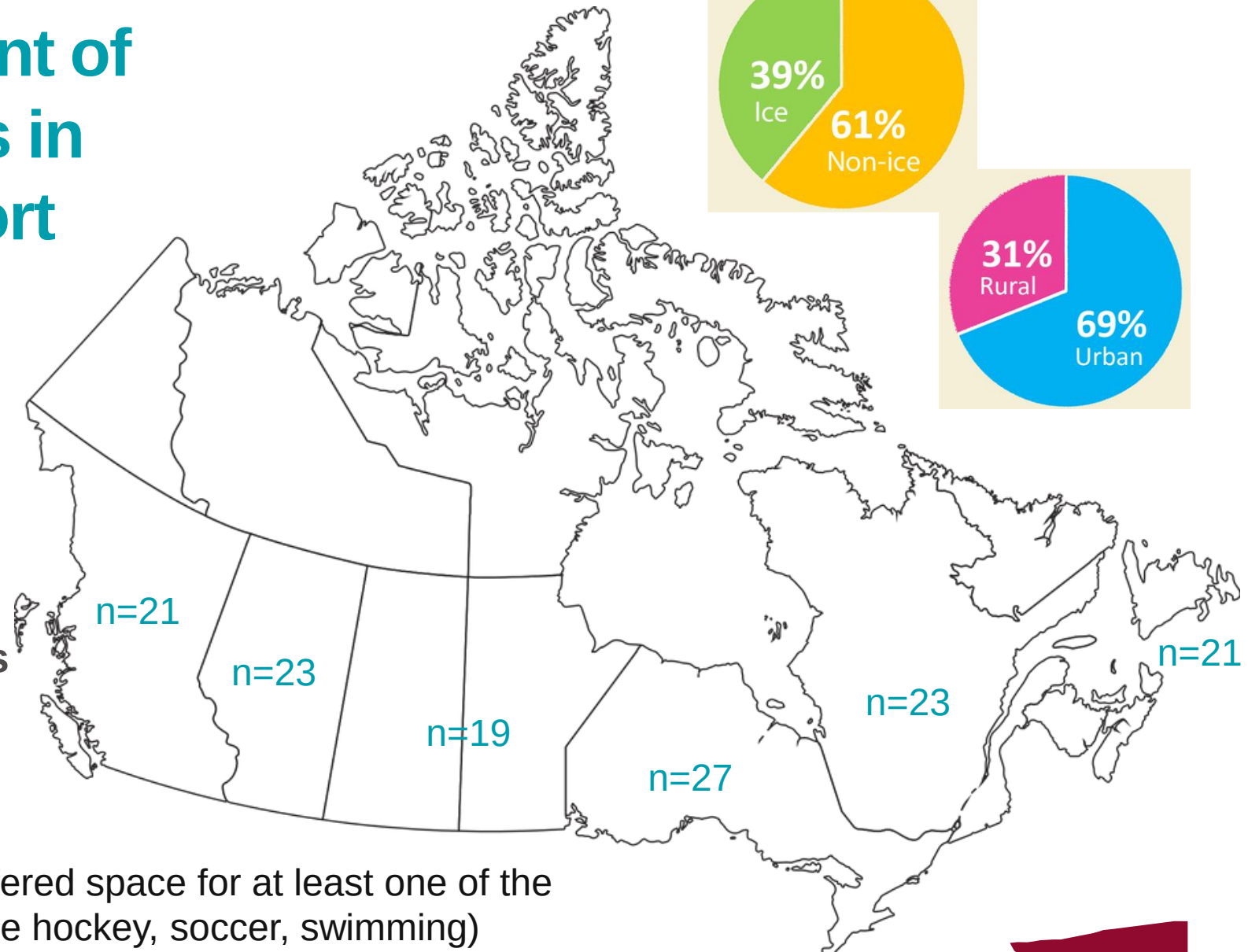
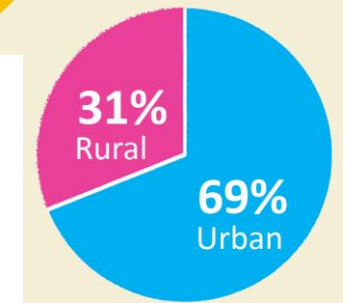
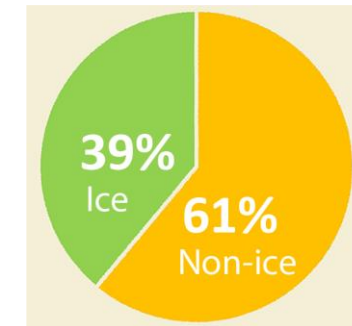
National Assessment of Food Environments in Recreation and Sport



134 facilities*

- 456 sport areas
- 83% had vending machines
 - N=465 vending machines
- 60% had concessions
 - N= 102 concessions

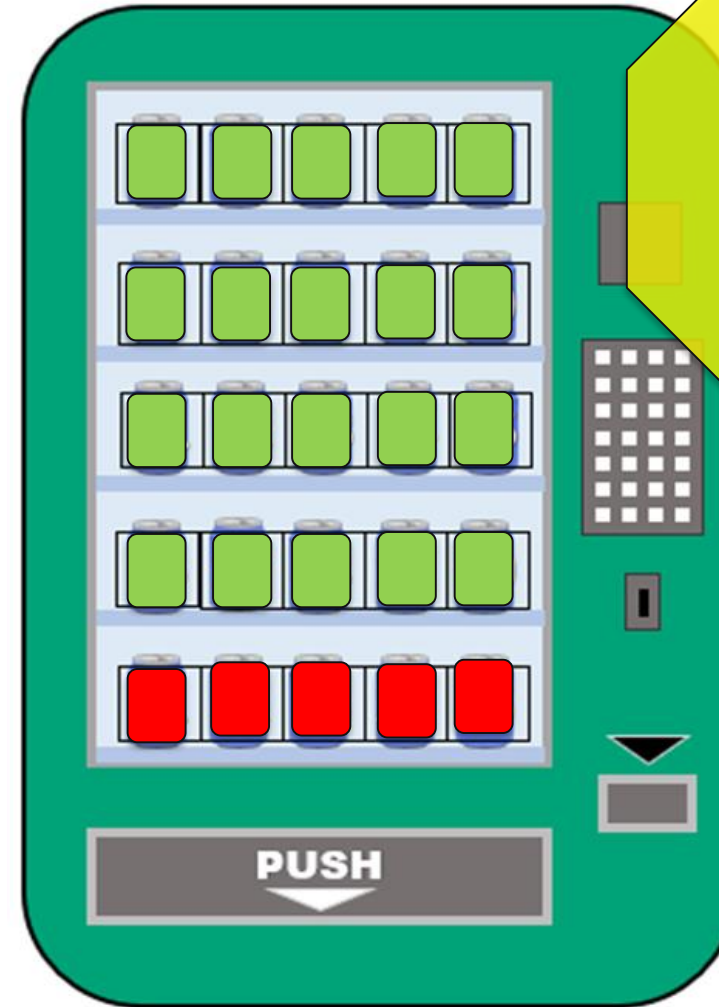
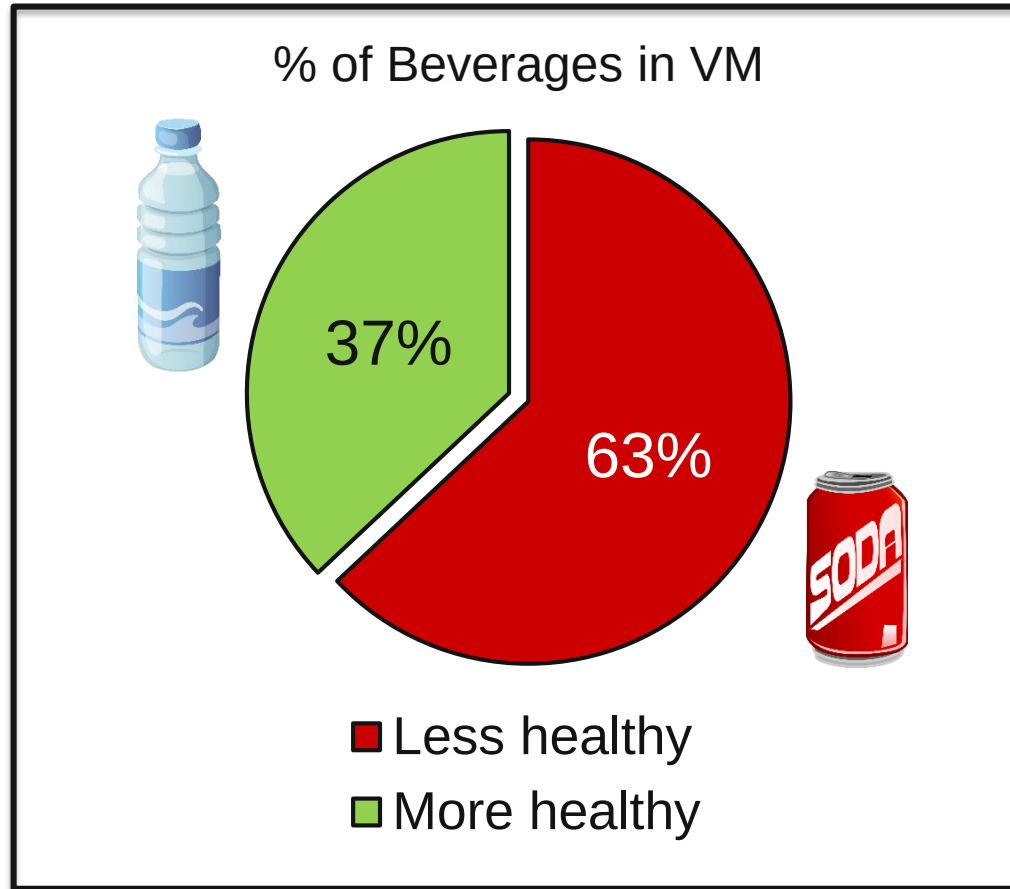
*Bricks and mortar facilities that offered space for at least one of the top 3 popular sports for children (ice hockey, soccer, swimming)





Vending Machines - Beverages

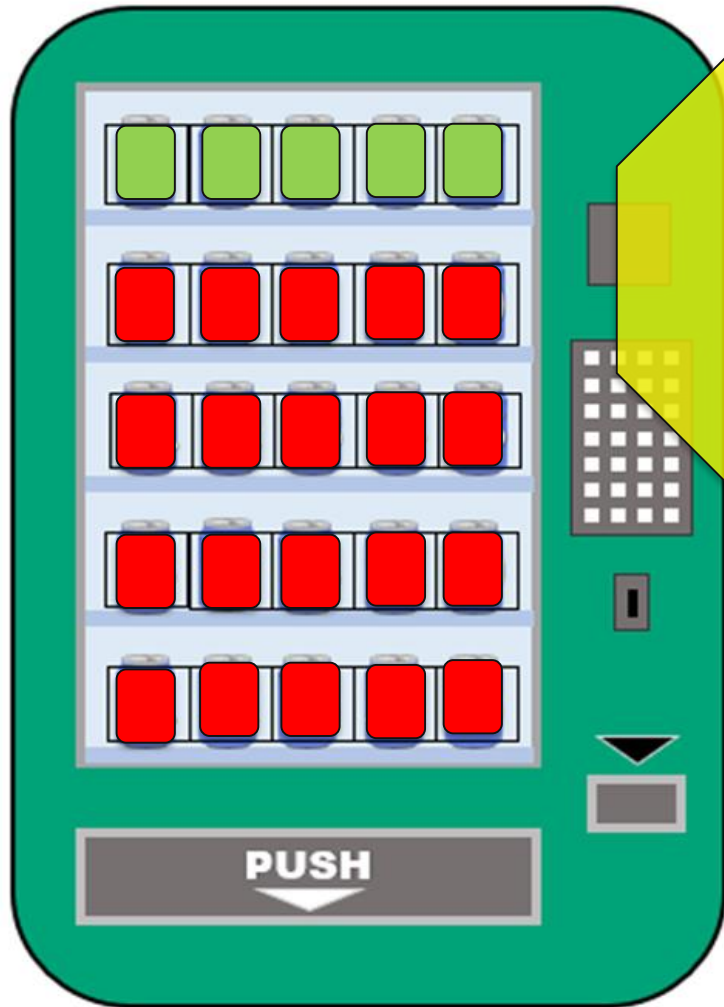
Across 189 beverage vending machines (VM):



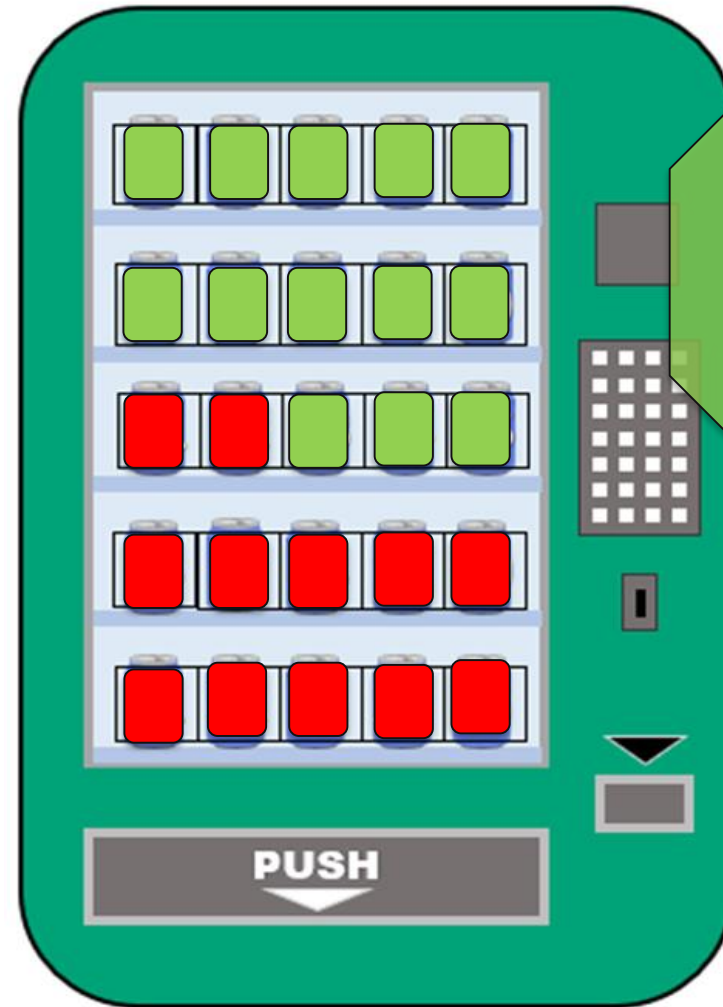
Only 16 VM (8%) had a beverage profile that is at least 80% healthy

Image adapted from McLaughlin et al., healthiness of beverages in vending machines in recreation and sport centers across Canada. Presented at Canadian Nutrition Society 2022

Vending Machines – Foods²⁰



Majority
(>74%) of
foods
available in
vending
machines are
“do not sell”



Healthy food
availability
was 55% in
provinces with
nutrition
guidelines and
capacity-
building

Images adapted from
McLaughlin et al., 2022

Concessions - Foods

82% of concessions had zero healthy entrées on their menus

10/54 concessions reviewed had a healthy entrée:

- Grilled chicken burger with salad
- Chicken quesadilla with a whole wheat wrap
- Grilled chicken multigrain sub sandwich

83% of concessions had zero healthy snack options

9/54 concessions reviewed had a healthy snack:

- Fresh fruit
- Oatmeal
- Yogurt cup

The majority of healthy entrées and snacks were priced equally or lesser to a similar regular equivalent entrée or sized snack (e.g. cookie, chocolate, baked good)

All facilities were in provinces with provincial nutrition guidelines for recreation (BC, AB, SK and NS).



Concessions - Pricing

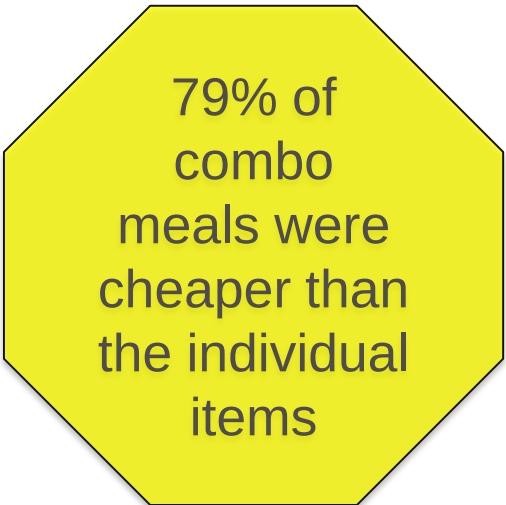
Half of concessions offered combo meals.

- **Examples:**

- wrap and smoothie
- burger and fries
- soup and sandwich and coffee
- chicken fingers and fries
- breakfast sandwich and muffin

61% of concessions offered small and large sizes for side items (e.g. fries, poutine, popcorn) **or beverages** (e.g. slushies)

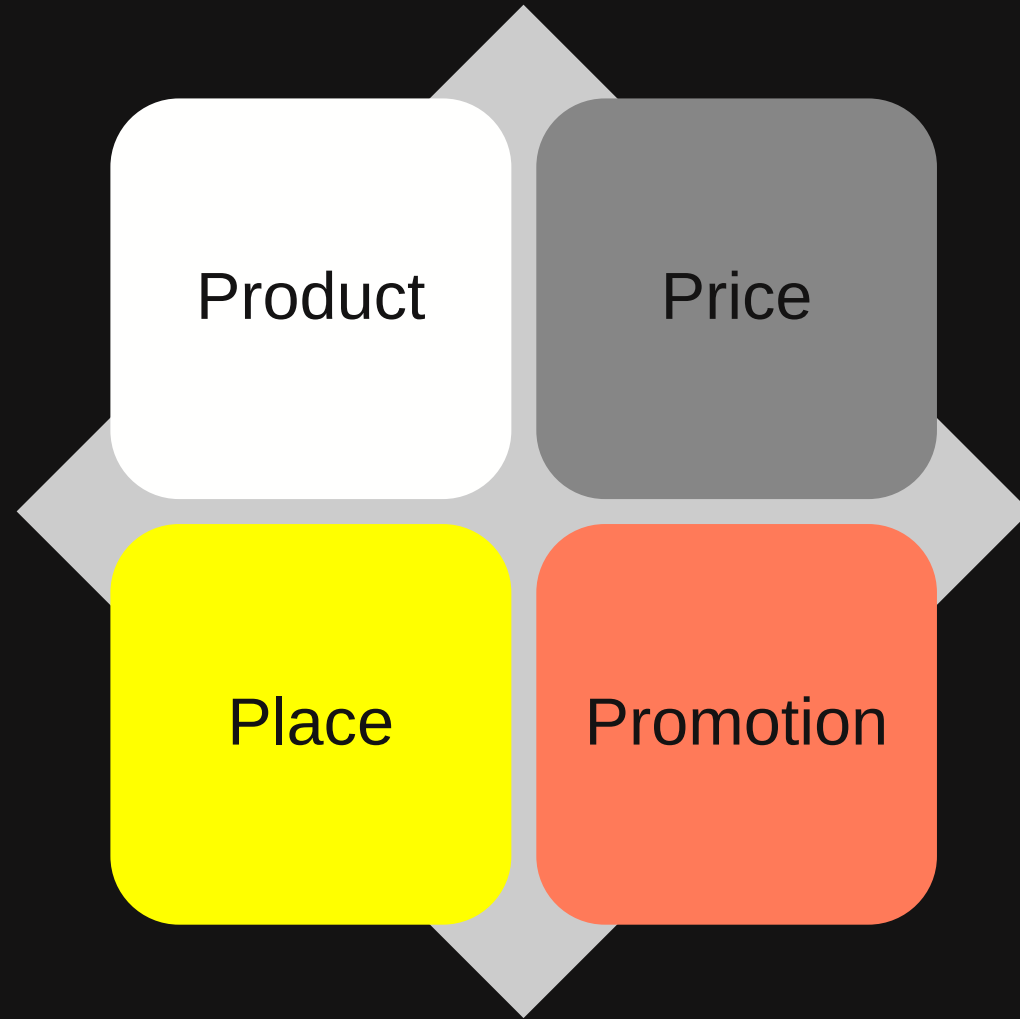
- Prices of small sizes ranged from 59 to 93% of large sizes



79% of
combo
meals were
cheaper than
the individual
items



Prices of
small sizes
were 75% of
the prices of
large sizes
on average



Concessions – Placement at checkout

Highly visible items

FOOD OPTIONS

Frequently available / High variety:

Chocolate
Chips
Candy

Less commonly available / Less variety:

Granola/Protein Bars
Baked goods
Popcorn
Fruit
Cheese

Infrequently available:

Sandwiches
Nuts
Hummus and crackers
Ice cream
Kraft Dinner cups
Pudding cups
Fruit snacks

Concessions – Placement at checkout

Highly visible items

BEVERAGES OPTIONS

Frequently available:

Water
Pop (high variety)
Sports drinks (high variety)
Diet pop
Fruit Juice/Drink

Less commonly available:

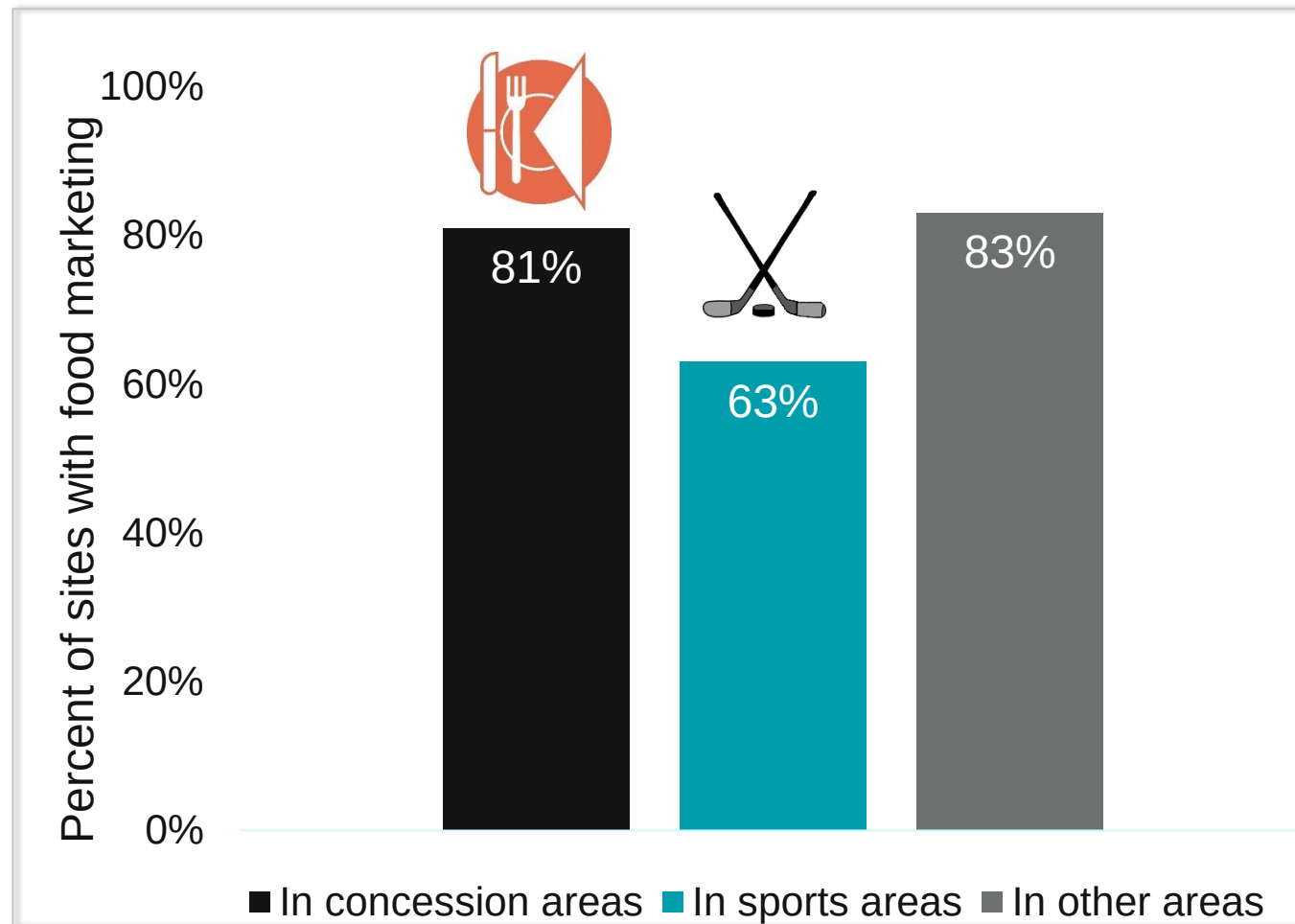
Sweetened milk
Vitamin water (high variety)
Low calorie sports drinks

Infrequently available:

Coffee
Tea (high variety)
Milk
Energy drink

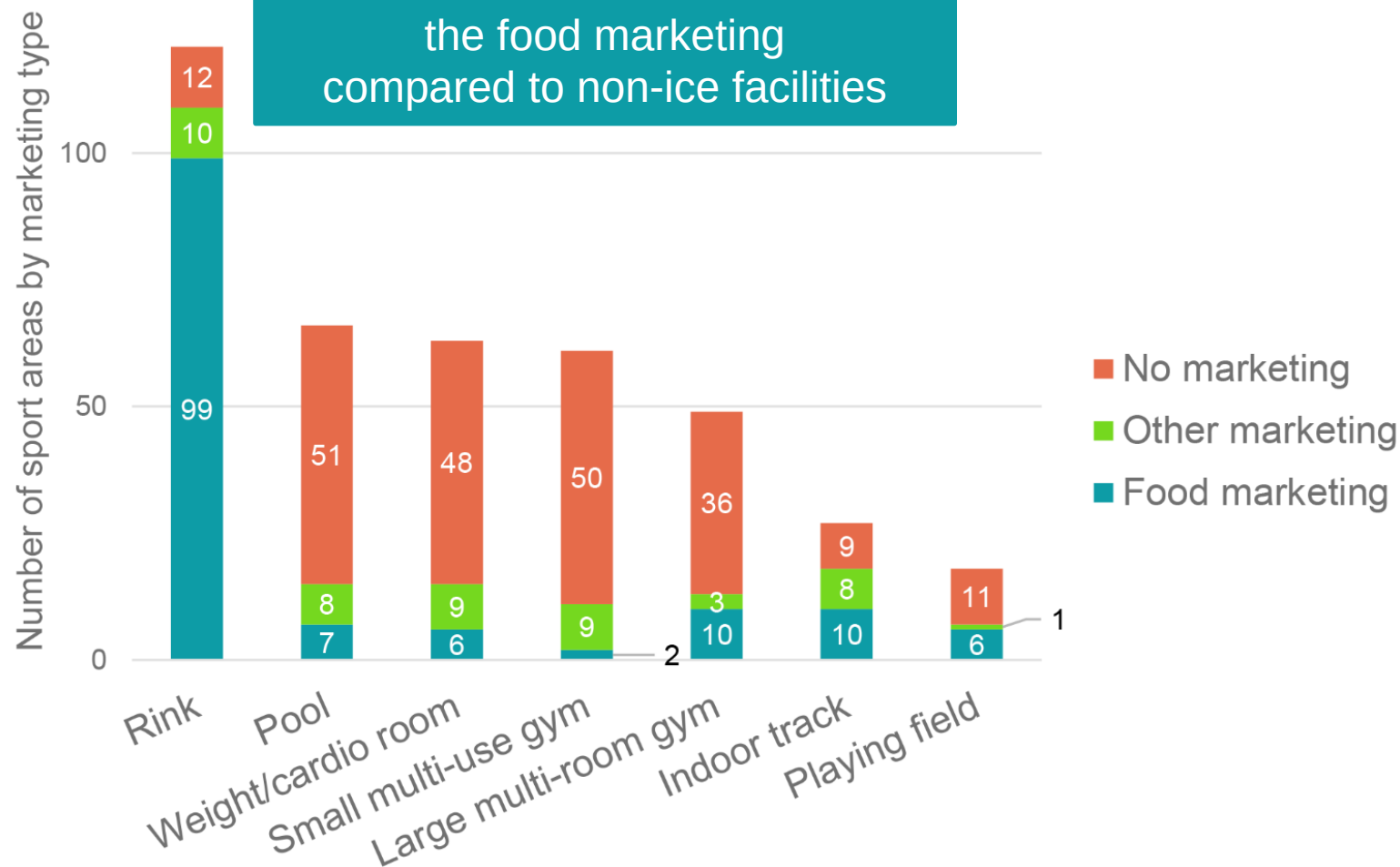


Food and Beverage Promotions in Recreation and Sport in Canada



- 89% of facilities had at least one instance of food marketing
- Over 3,000 food marketing instances identified
- Food promotions found in **sport areas** contributed over one-third of all food promotions in recreation and sport areas.
- Over half of food promotions were located at **food purchasing opportunities** (concessions and vending)

Ice facilities had
6x
the food marketing
compared to non-ice facilities



Number of sport areas containing food marketing, other marketing and/or no marketing in the six most common sport areas

82%

of rinks contained food marketing

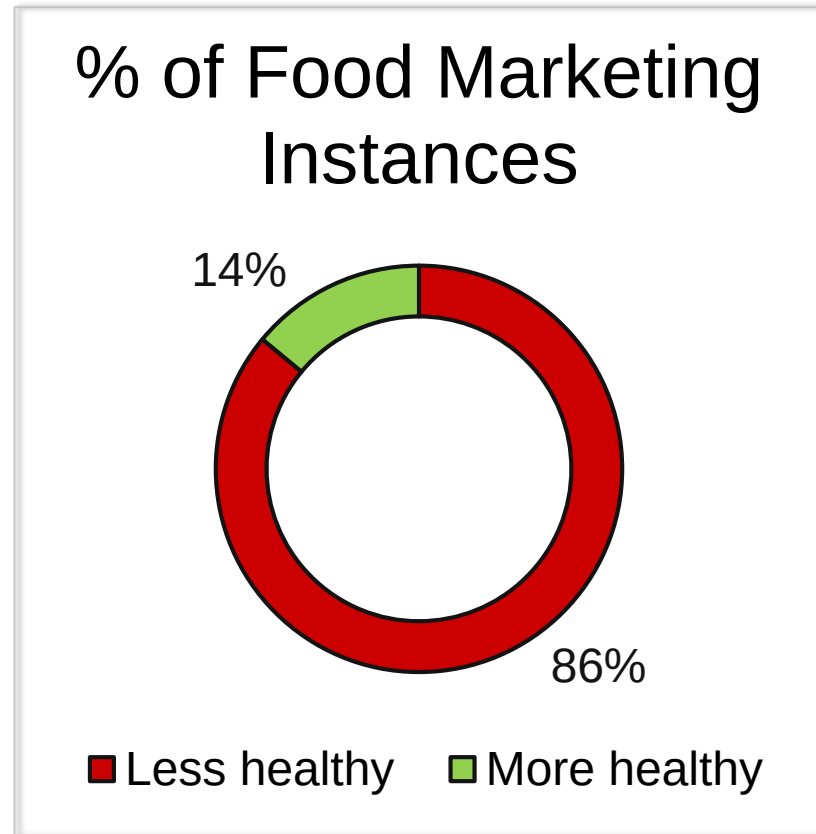
11%

of pools contained food marketing

33%

of fields contained food marketing

Healthfulness of Food and Beverage Promotions in Recreation And Sport



Foods Marketed

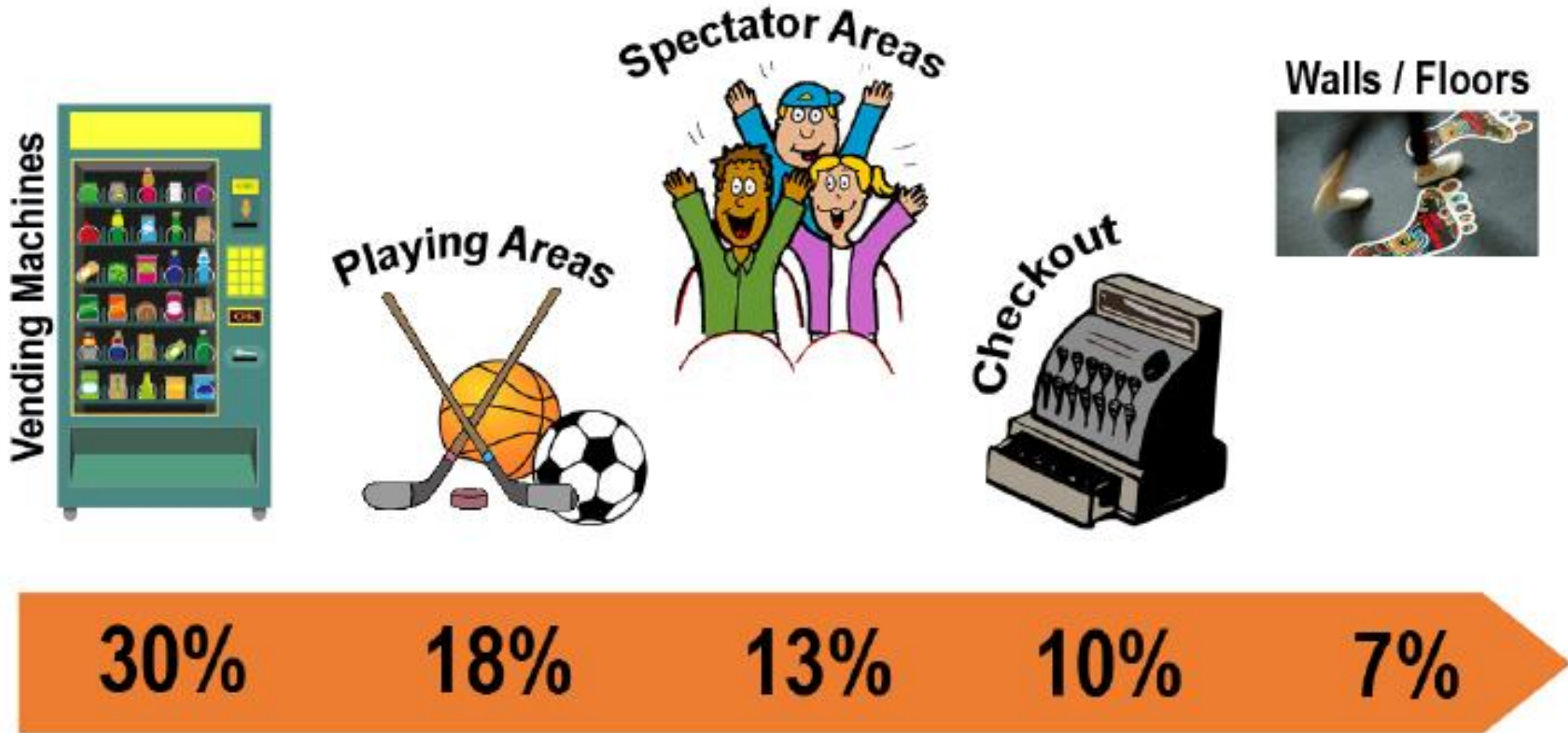
- Candy, chocolate, chips - 16%
- Pizza – 16%
- Grocery brands – 12%

Beverages Marketed

- Sugary drinks* - 59%
- Water – 15%
- Coffee/tea – 13%

*Regular pop, sport drinks, juice, slushies, sweetened milk, sweetened water, energy drinks, fruit drinks, iced tea

Top 5 Most Common Food Promotion Locations



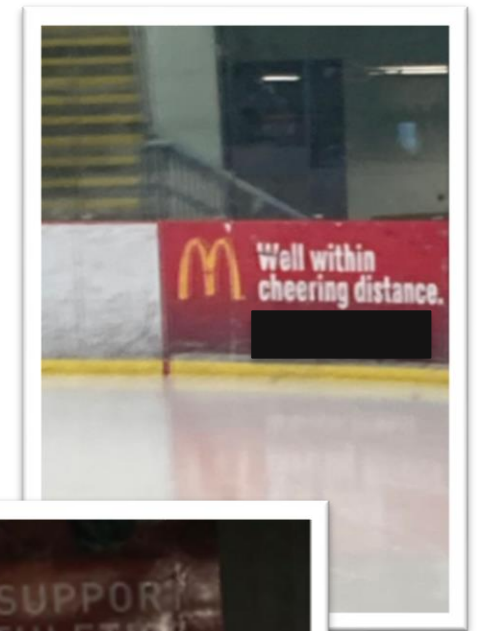
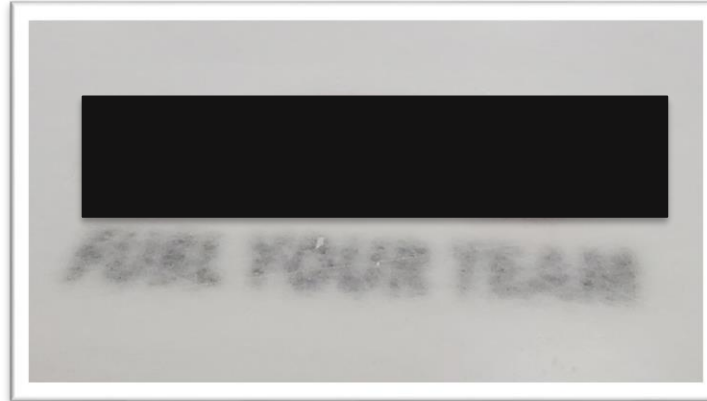
Food Promotions that Appeal to Children

- 1 in 10 ads were child-appealing
- 99.5% were 'of concern'

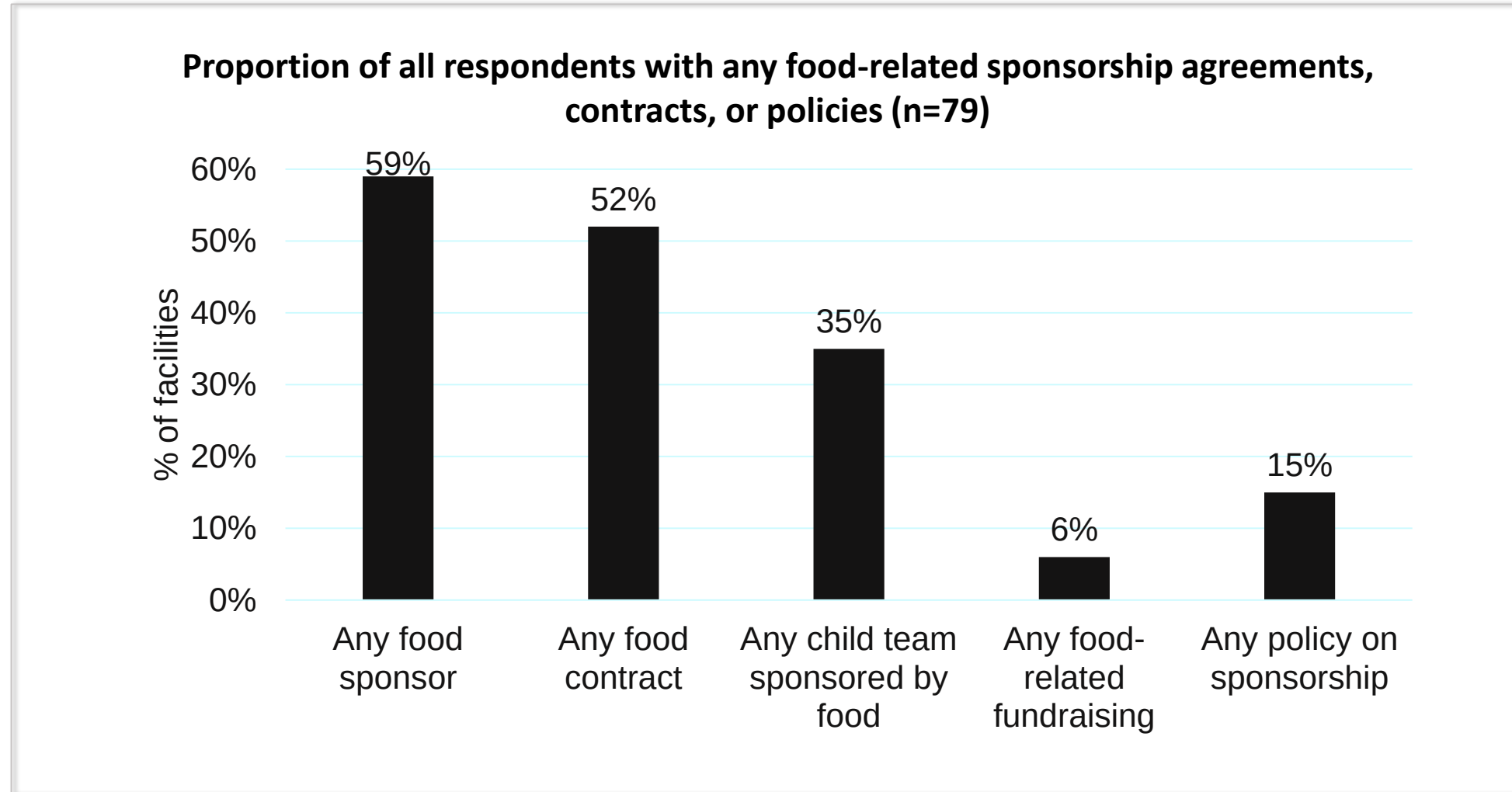


Food Promotions that are Sports-Related

- 1 in 12* ads were sports related
- *Arguable that all is “sport-related” due to location
- 100% were ‘of concern’

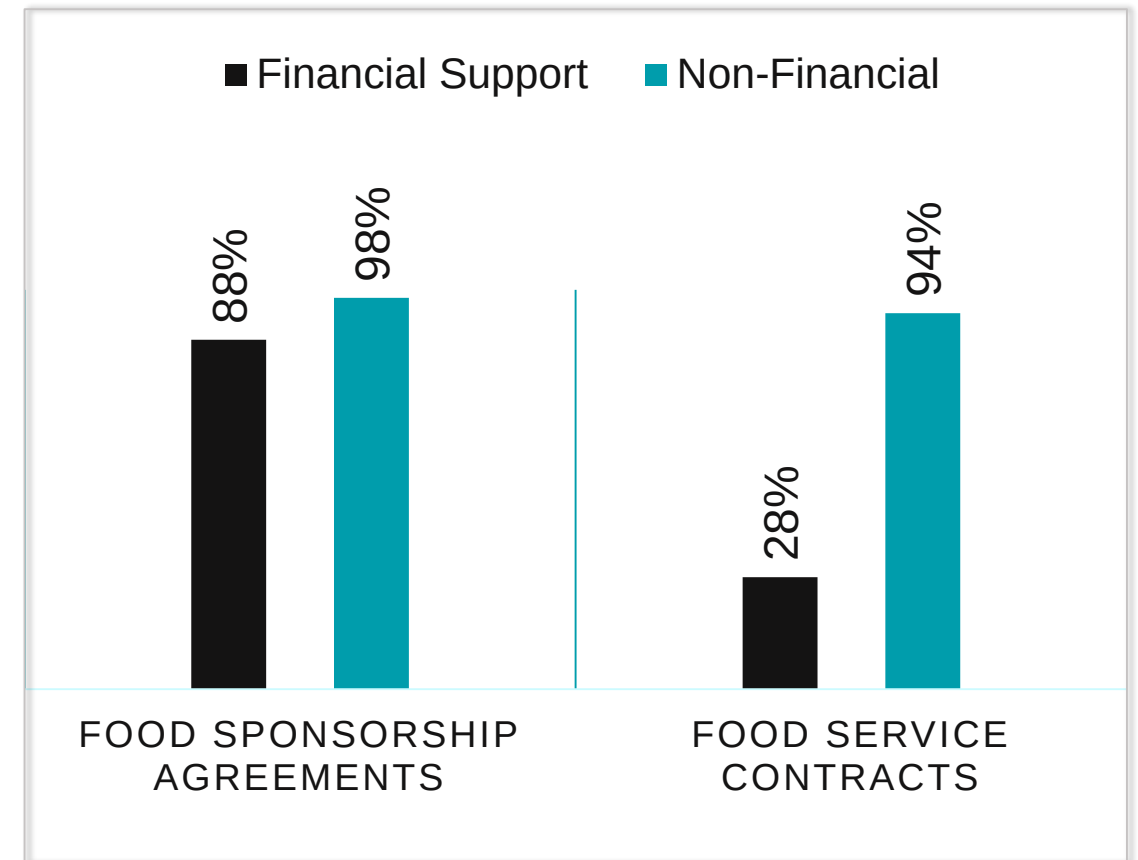


Potential Sources of Food Promotion



Food Sponsorship Agreements

- On average, all sponsors (food and non-food) provided **\$9,250** in cash annually per facility
 - Food sponsors provided **\$2,075** annually per facility, on average
- Food and beverage sponsors made up every 1 in 6 sponsors (excluding grocery and agriculture/food producer sponsors)
- 61% of food and beverage sponsors displayed their name (or associated products) at least once in the facility



Non-financial “Benefits” – to whom?

Sponsorship Agreements

- Signage in facility areas
- Logo and promotion in information pamphlet or education materials
- Sponsored events/tournaments
- Free or discounted products to members of program/service/club
- Vouchers for products
- Food provision
- Incentive programs (reward achievements with branded products)
- Vending machines
- Equipment for facility
- Concession stands/snack bar
- Fundraising

Food Services Contracts

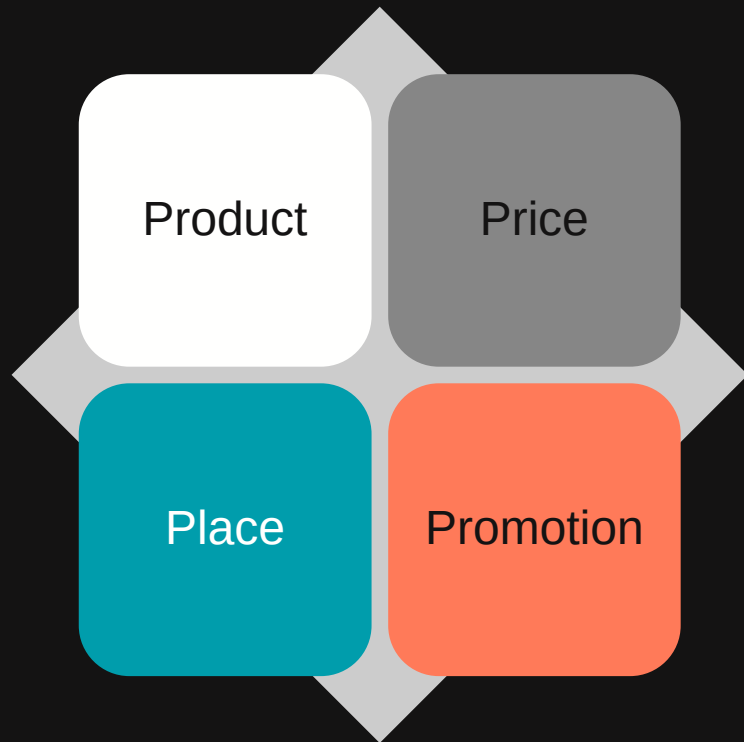
- Sponsored fundraising events
- Free food or drinks
- Exclusive supplier rights
- Purchase incentives
- Facility equipment (e.g. fridge, vending)
- Scoreboards
- Sports equipment (e.g. jersey)
- Franchises
- Decals
- Labelling (e.g. stickers)

Coca-Cola and
Pepsi were
17%
of all food and
beverage sponsors,
but contributed
60%
of all food and
beverage
promotions

The majority of
Coca-Cola and
Pepsi
promotions
were for regular
cola products or
brands.

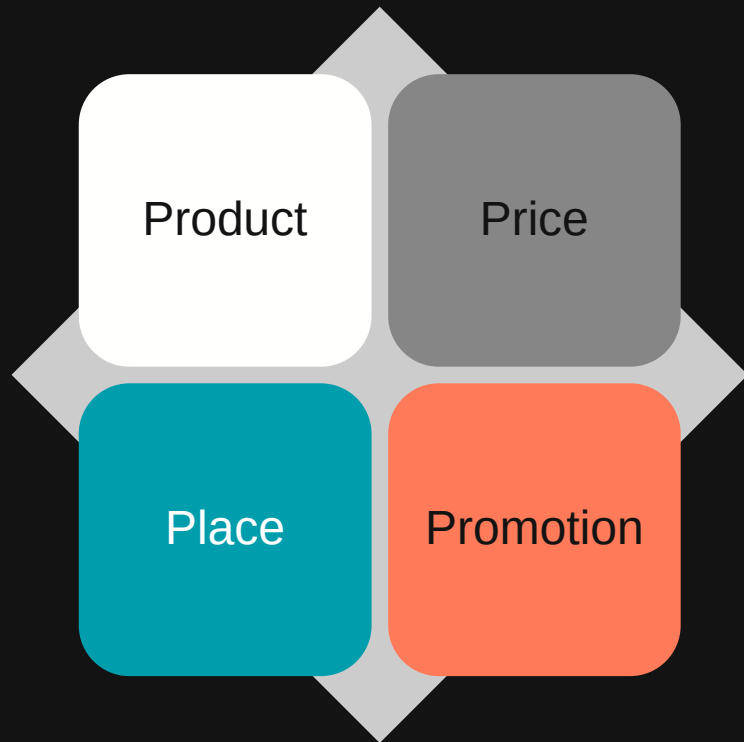


Key Learnings



1. **Healthy food and beverage availability is low in RSS in Canada, but has been shown to improve with nutrition guidelines and capacity-building support.²⁰**
2. **Food and beverage marketing is ubiquitous in RSS (especially in ice arenas).²¹**
Most of marketing does not support healthy eating. Sugary beverages are the most frequently marketed.
Non-financial “benefits” are more common.
3. **Facility agreements and contracts impact food availability and marketing.^{21,22,24}**

Key Learnings



There are examples of healthy vending machines, healthy entrees, healthy snacks, etc., and levers for change.

How to Create Healthy Food Environments in Recreation and Sport

Ideal State

Scoping Reviews on Healthy Food Environments in Recreation and Sport

1. What is the evidence of **effectiveness of interventions** in terms of improving the healthfulness or decreasing the unhealthfulness of food sales, consumers' food behaviours and/or dietary intake?²³

- Identify key intervention components
- Identify facilitators and barriers

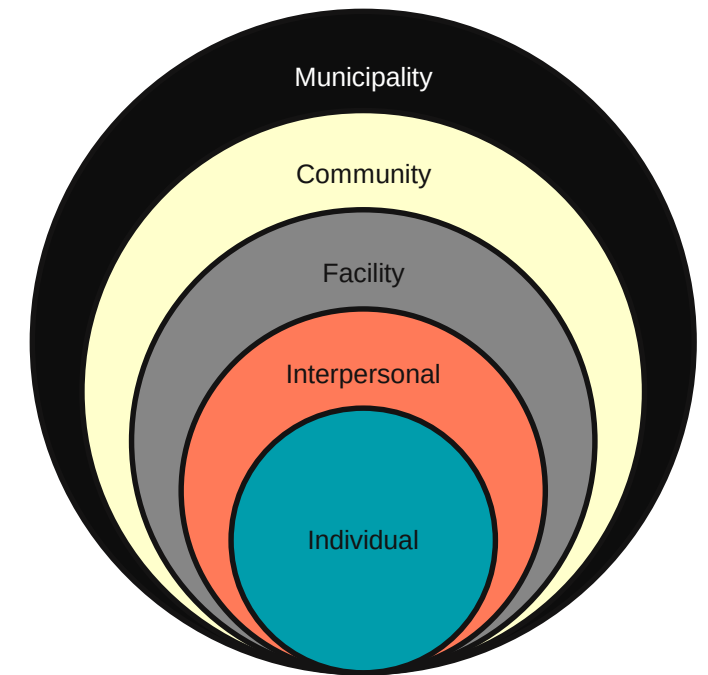
2. How was '**success**' defined in **healthy food interventions** in recreation and sport facilities?²⁴

- Generate best practices
- Suggests revisions to criteria

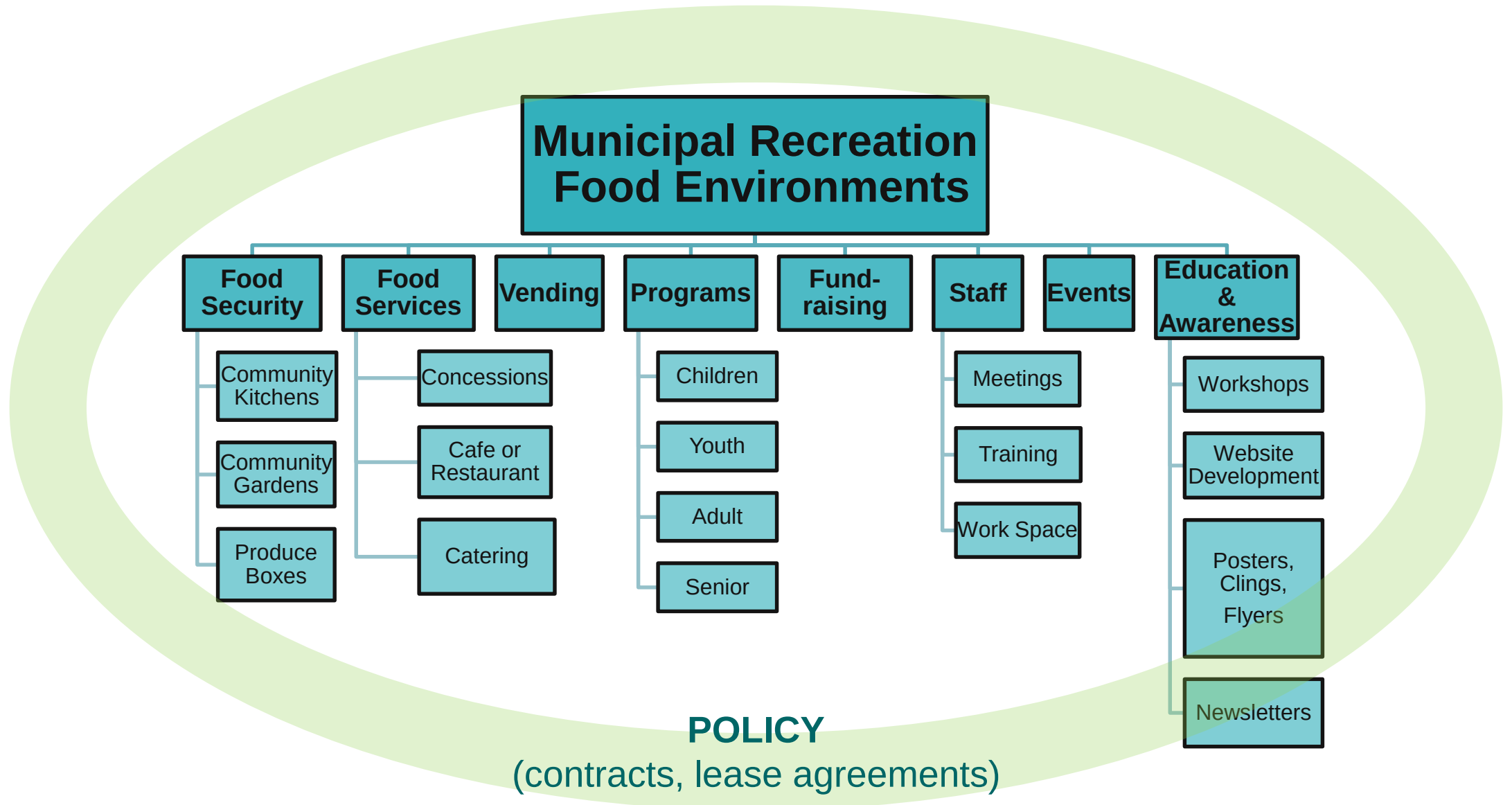
Scoping Review #1:

Evidence of effective interventions to improve healthy food environments in RSS²³

- **Multi-pronged interventions** targeting food availability, promotion, prices, nudges may be more effective than single interventions
- Interventions are **multi-level** targeting organizational policies, facility capacity building, and food services, which can mutually influence one another
- It is difficult to conclude the impact of singular intervention components



Operational Areas for Food Policy and Programs²⁵



Scoping Review #2:

How was 'success' defined in healthy food interventions in recreation and sport facilities?²⁴

Foundational Principles

Healthy foods and beverages are available.

The pricing and placement of food and beverages favours healthy options.

Promotional messages related to food and beverages supports healthy eating.

Facilities are committed to supporting healthy eating and healthy food environments.

Voluntary Marketing Mix and Nudge Strategies to Promote Healthy Restaurants¹

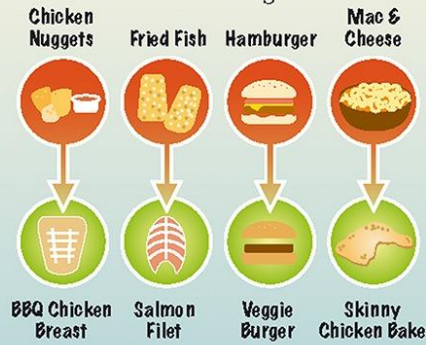
1 Place

Use lighting and visual clues to highlight healthy food and beverage choices



2 Profile

Use fresh and healthy ingredients to ensure that 50% or more of meals meet recommended nutrient targets²



3 Portion

Reduce and standardize meal portion sizes to meet recommended nutrient targets²



4 Pricing

Use pricing strategies to increase sales and revenue for healthy choices that meet recommended nutrient targets²

Healthy Menu	
* Half portions are half price every day!	
WRAPS \$6/\$3 (1/2 portion)	SALADS \$8/\$4 (1/2 portion)
Asian Chicken	Kale Caesar
Vegetarian	Asian Sesame
Tuna Melt	Mediterranean
PANINIS \$8/\$4 (1/2 portion)	
Turkey Bacon Avocado	
Spicy Chicken	
Tuna Melt	

5 Promotion

Use responsible marketing practices to promote healthy food and beverage products that meet recommended nutrient targets²



6 Picks

Establish *healthy default* choices for side dishes and beverages for all bundled meals sold to children, teens and parents



7 Priming or Prompting

Offer menu labeling and contextual info to help customers make healthy choices³



8 Proximity

Place healthy choices at eye level and physically closer to customers at point-of-purchase



Conceptual Framework for Healthy Eating in Recreation and Sport²⁴

Component	Definition Adapted from Kraak et al. 2017. Obesity Reviews.
Profile	The nutritional content of food available
Portion	The portion size of foods and beverages offered
Pricing	The relative prices of foods and beverages sold in vending/concession
Promotion	Commercial food and beverage marketing practices
Picks	Food environment factors socially normalized healthy choices
Priming	Social marketing and healthy eating promotion
Place	Changes to the facilities' amenities to increase awareness of healthy food
Proximity	Visibility of food and beverages
Policy	Formalized written commitments
People	Agents of change

THE GOALS:

#1 - Healthy Foods and beverages are available.²⁴



How do you know if you are doing it?

- Healthy food and beverage availability is increased.
- Unhealthy food and beverage availability is decreased.

How do you do it?

- Change absolute availability (e.g. present/absent) of healthy and unhealthy items
- Improve relative availability of healthy vs unhealthy items (e.g. proportion of menus, components of combo meals)
- Change variety of foods and beverages available
- Reduce portion sizes

#2 - The pricing and placement of food and beverages favours healthy options. ²⁴



2. Promote nutritious foods and beverages

How do you know if you are doing it?

- Healthy food and beverages are competitively priced relative to unhealthy food.
- Healthy food and beverages are more prominently (visibly) placed and accessible than unhealthy food and beverages.

How do you do it?

- Provide free water
- Improve relative affordability of healthy vs unhealthy items
- Change price promotions (e.g. combo deals, sales, loyalty discounts)
- Improve relative visibility of healthy vs unhealthy (e.g. eye-level vs “out of sight”)
- Change proximity of healthy food access (e.g. vending) and options (e.g. point-of-purchase) to consumers

#3 - Promotional messages related to food and beverages supports healthy eating. ²⁴



2. Promote nutritious foods and beverages

How do you know if you are doing it?

- Messages related to foods and beverages encourage healthy food and beverage practices.
- Partnerships with businesses supports health rather than commercial motives.

How do you do it?

- Use social marketing to promote healthy foods (e.g. traffic light labelling)
- Restrict commercial unhealthy food marketing (e.g. sponsorship)

#4 - Facilities are committed to supporting healthy eating and healthy food environments.²⁴

How do you know if you are doing it?

- **Healthy food availability and promotion are institutionalized through policies, contracts, or other written documents.**
- **The physical environment of facilities supports healthy food availability.**

How do you do it?

- **Develop and implement organizational or government policies**
- **Include healthy food requirements in food service contracts, leases, request for proposals, tenders**
- **Change facility infrastructure and equipment**

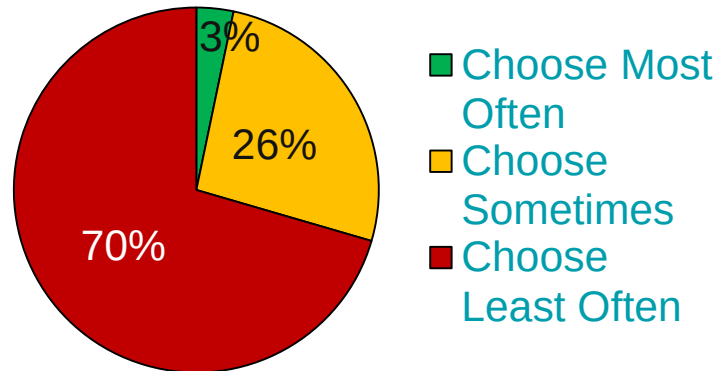
How to Create Healthy Food Environments in Recreation and Sport

Real Life Examples

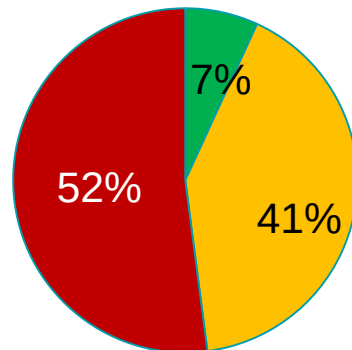
Stories of Change: Snack Vending

Example Successful Change

2016 Vending Snacks



2017 Vending Snacks



1. Existing contract vending operator that required 50% healthy vending (not being met in 2016)
2. Facility manager asked vending operator to meet agreed upon healthy directive (50% healthy)
3. Vendor had healthy products from other healthy vending initiatives (e.g. in schools and hospitals).
4. Held taste testing events to assess public support for new products.
5. Vendor assessed healthfulness of food and beverage products (with help)
6. Vendor agreed to identify healthier items with a symbol and place healthier items at eye level.
7. Vendor tracked sales by machine

Example Healthier Vending Machines

Notice:

- Products
 - healthy popcorn,
 - baked chips
 - nuts
- Glass front machines
- Dasani branding

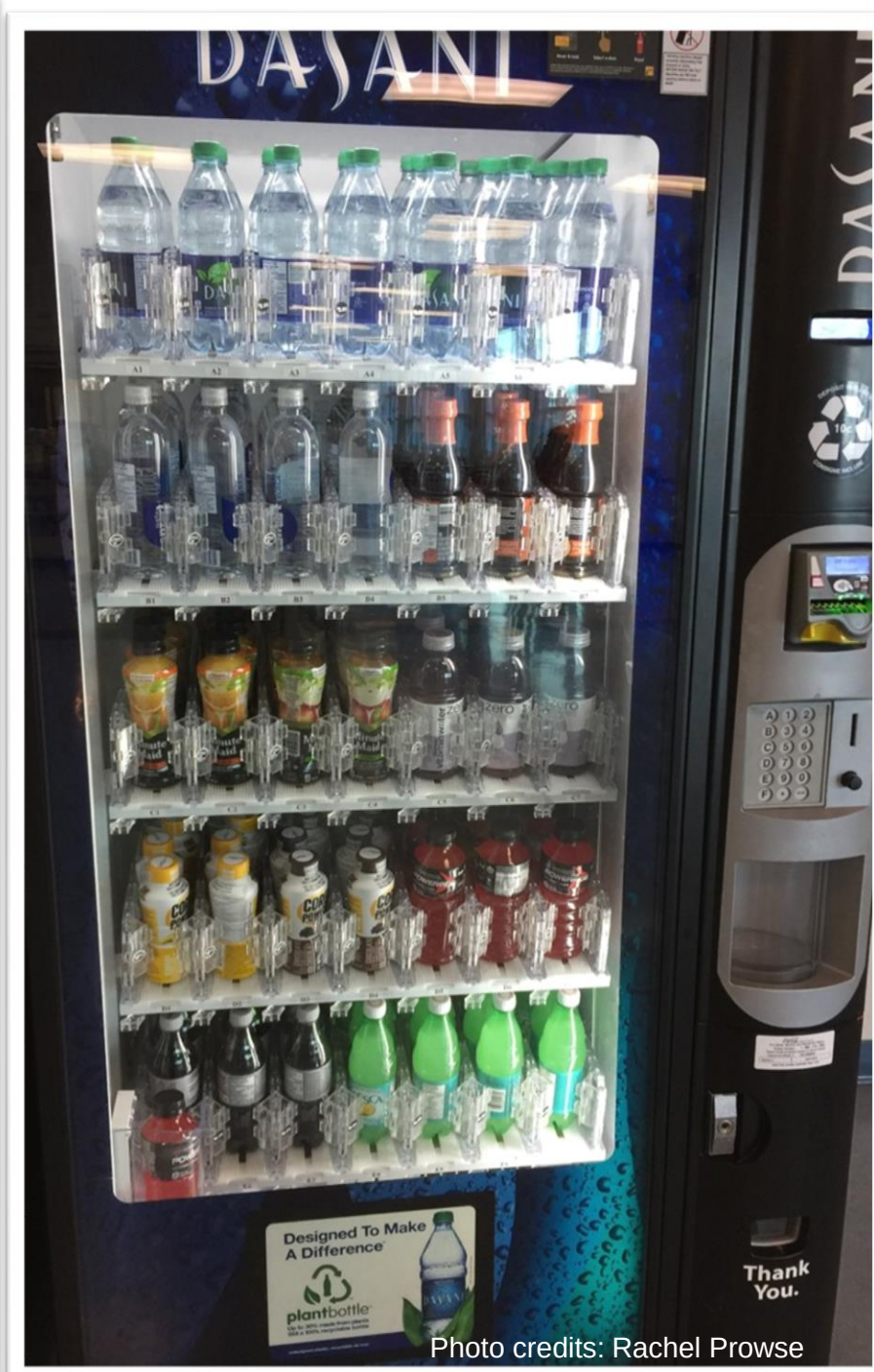
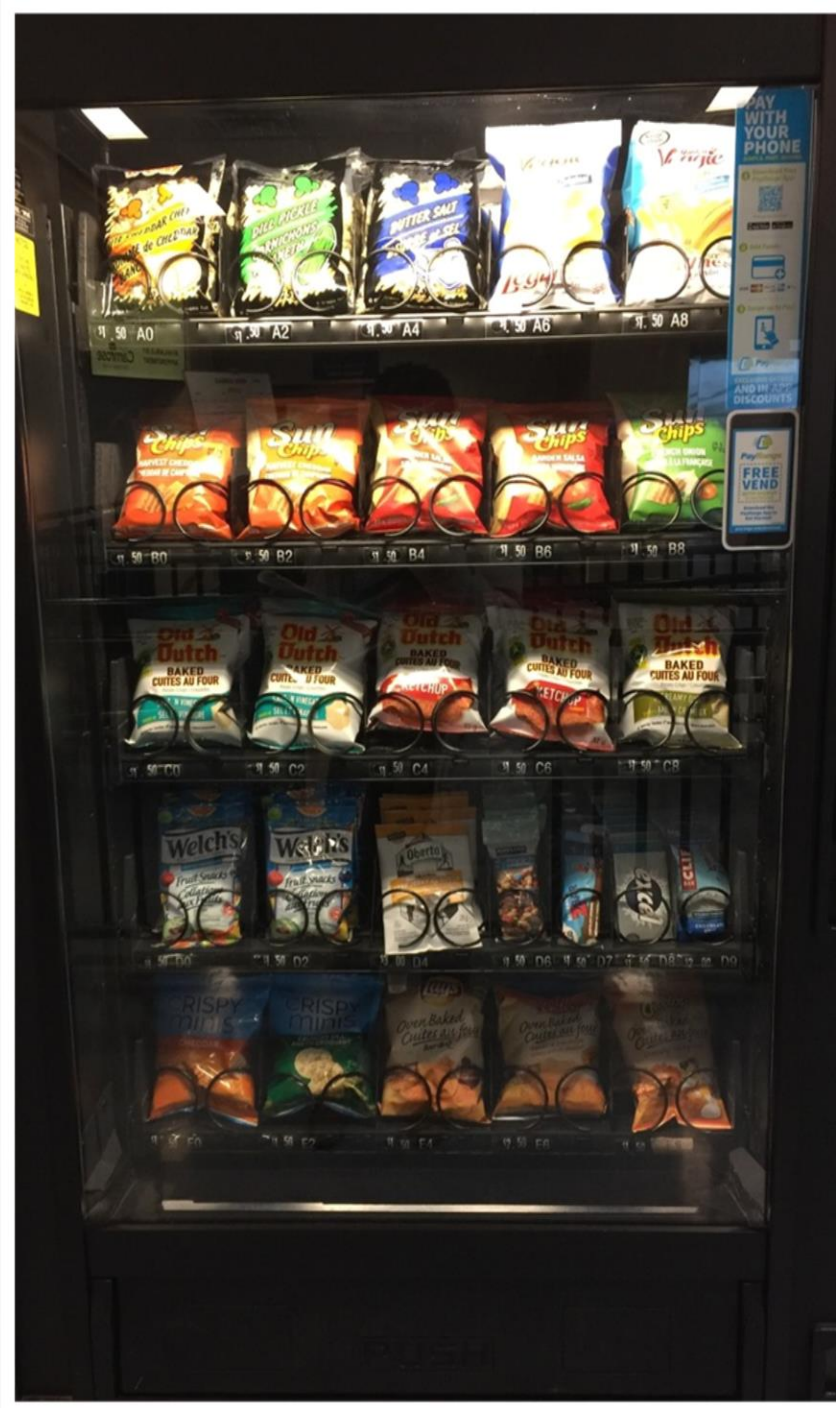
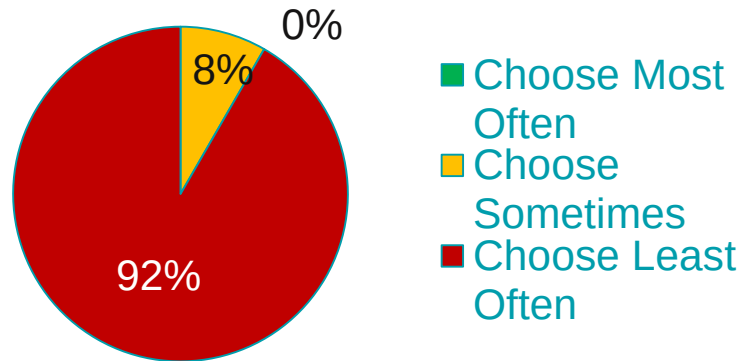


Photo credits: Rachel Prowse

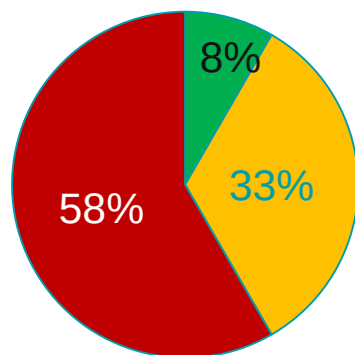
Stories of Change: Snack Vending

Example Successful Change

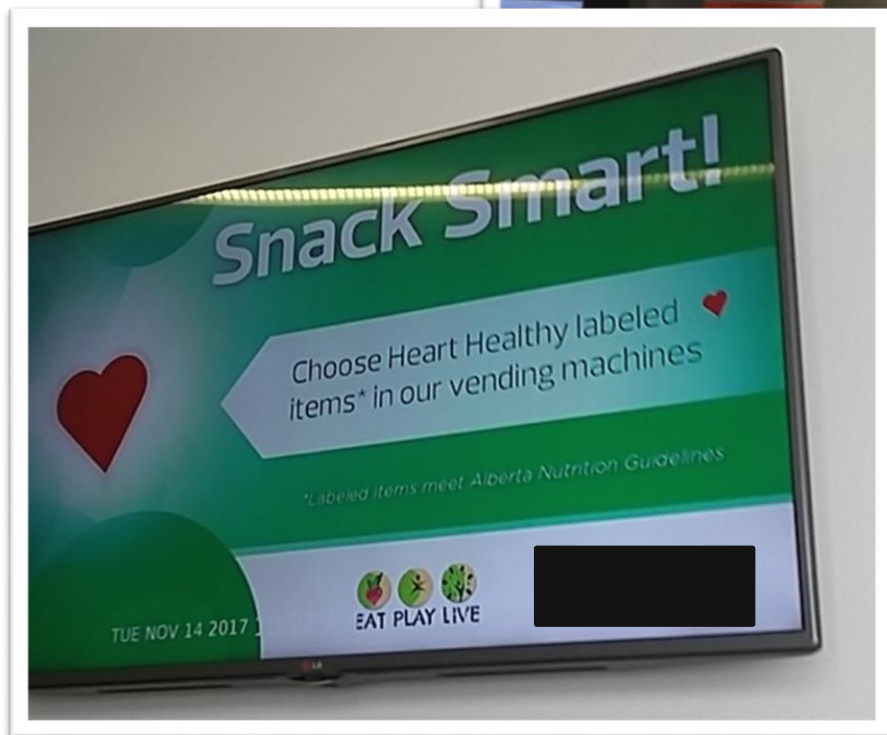
2016 Vending Snacks



2017 Vending Snacks



1. No contract with vending operator
 2. Facility manager asked vending operator to provide healthy foods or would find a new vendor that would
 3. Vendor sourced new products
 4. Vendor assessed healthfulness of food and beverage products (with help)
 5. Vendor made planogram to have 1/3 CMO, 1/3 CS, 1/3 CLO
 6. Vendor developed labelling system to identify healthier items
 7. Vendor tracked sales for each item
- Revenues were higher after adding healthier options.



Example Healthier Vending Promotion

Healthy Vending

Barriers

- Healthy product availability
- Vending sales trending down?
- Public awareness of new products
- Perceived desire for traditional vending products

Existing Helpful Factors

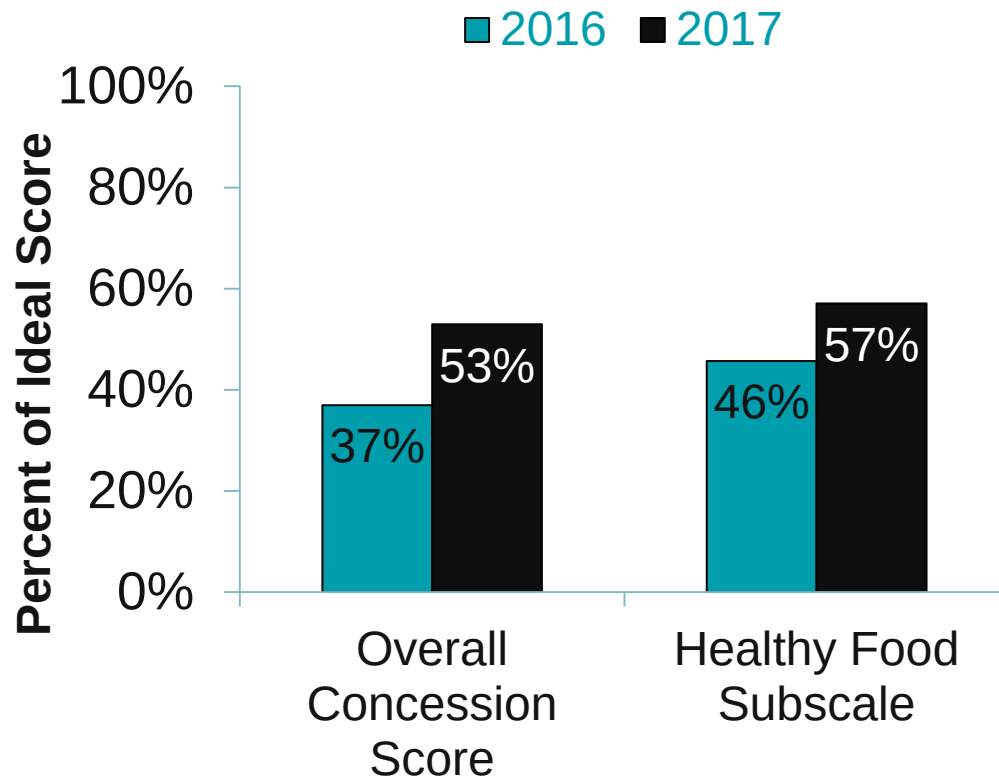
- Existing contract with healthy food directive (50-100% healthy)
- No contact but facility request for healthy vending
- Buy-in from vendors (see it as a way to grow their business)

Added Supportive Factors

- New product sourcing (by vendor)
- Taste testing to vote on new products to add
- Monitoring (by facility)
 - Become familiar with products that fit and do not fit
- Labelling (by vendor)
 - Consider monitoring
- New sales recording systems (by vendor)
- New machines (facility request; vendor provided)
 - All glass front
 - Healthy branding (water instead of pop)

Stories Of Change: Concession

Example Successful Change



1. Concession had signed **lease agreement** stating they would provide healthy items.
2. Facility administered **patron survey** to identify support for healthy options (high)
3. Concession wanted to make **small changes** to menu and to **label healthier options** on menu
4. **Registered dietitian** worked with concession to review menu and identify healthier options
5. Obtained **additional funding** from community wellness grant to purchase blender to make smoothies.
6. Changed **pricing** and **placement** of healthy options to encourage purchasing.

Healthy Concessions

Barriers

Existing Helpful Factors

- Buy-in from concessionaire
- Freedom of concessionaire to make changes
- Local public health RD
- Community wellness committees

- Healthy product availability
- Equipment and structural constraints
- Navigating nutrition - what is healthy?
- Outside competition
- Economics of offering fresh healthy products
- Public awareness of new products
- Perceived desire for traditional vending products

Added Supportive Factors

- New product sourcing (by vendor)
- New menu ideas (by vendor)
- Consumer engagement (patron surveys)
- Special event menus (team packages/ tournament menus)
- New equipment
- Additional funding
- Promotions and marketing
- Menu labelling
- Lease agreements with healthy food requirements

Examples of Healthy Food Pricing and Promotion

Special event menus

TEAM MENU		
SNACK-PACKS Homemade Muffin & Whole Fruit \$3.00+ GST/person FUEL Up to Perform!	PASTA Spaghetti & Meat Balls Penne & Chicken with Rose Sauce Lasagna Served with: Caesar or Garden Salad Garlic Toast Bottled Water \$8.00+ GST/person	WRAPS Roasted Chicken Taco Beef Tuna Served with: Veggies & Dip or Whole Fruit Bottled Water \$8.00 +GST/person

Please provide 24 hours' notice for all team orders
Vegetarian options available upon request

Labelling & highlighting healthier options

Healthy Choices

CHICKEN WINGS..... \$12
1lb of crispy chicken wings tossed in your choice of sauce
hot, buffalo, medium, teriyaki, honey garlic, BBQ, Caribbean jerk, Baja chipotle, hot teriyaki, honey hot, salt & pepper
 Add Ranch \$0.75
Try baked wings - please allow 20 minutes

SALADS

BEEF or CHICKEN TACO SALAD or WRAP \$8.75

GARDEN \$6.00 CHEF \$9.25

QUESADILLA

BEEF OR CHICKEN \$9.25

CHEESE \$7.25

Promotional signs for healthier combo options

eat. live. play. \$12⁹⁰
 combo



Smoothie

Fresh spinach, banana, pineapple, lemon, ginger, orange juice, unsweetened almond milk

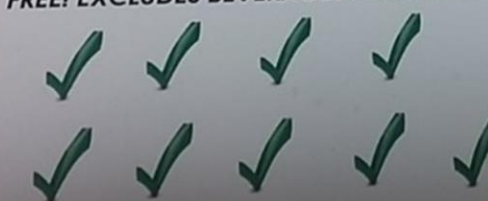
+ salad rolls

Five grilled chicken breast with fresh red pepper, spinach, carrots, cucumber and cilantro. Wrapped in rice paper with sweet chili dipping sauce.

Loyalty cards to encourage repeat purchases of healthier options

HEALTHY FOOD ITEMS REWARDS CARDS

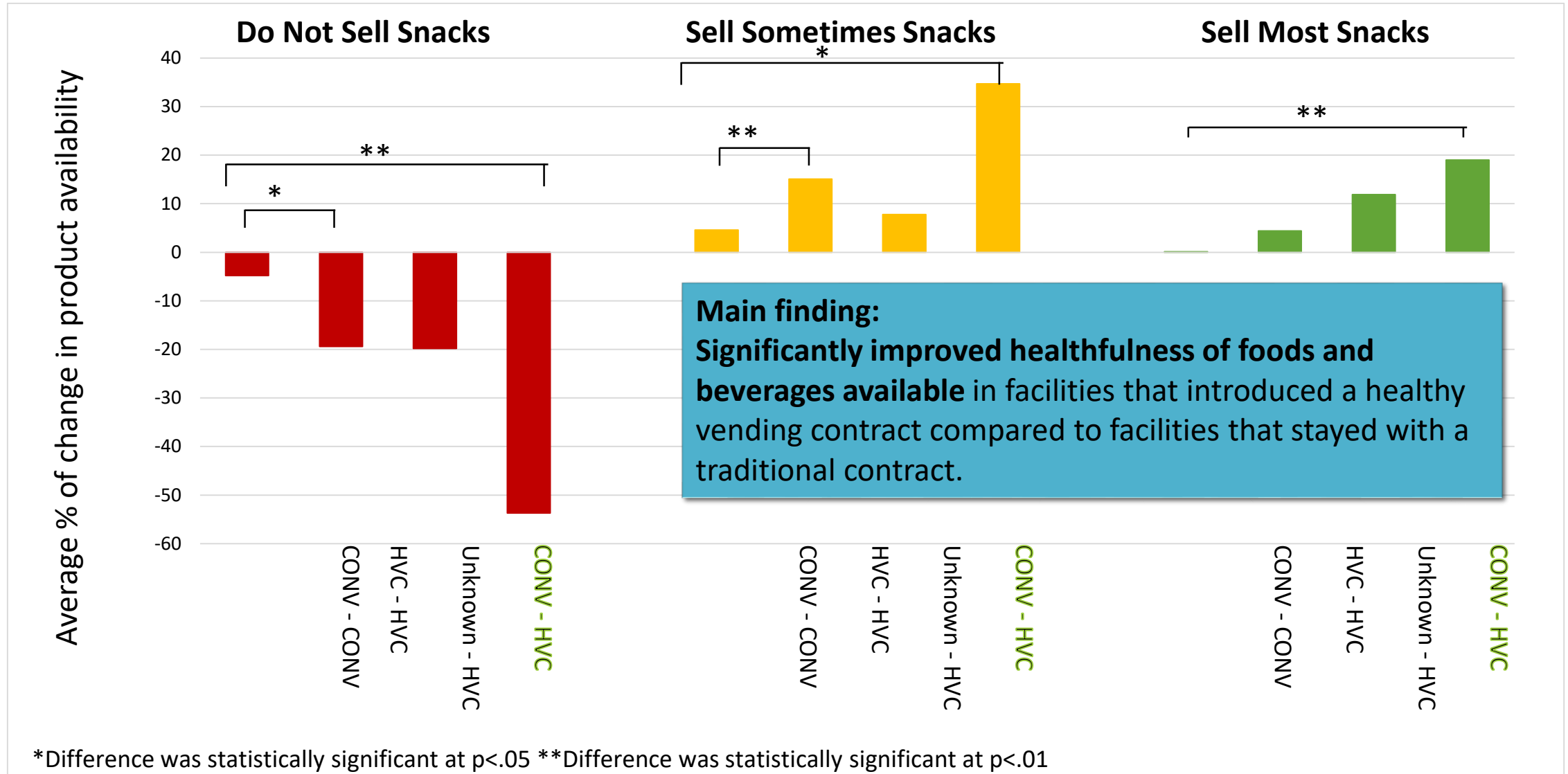
BUY 9 ENTREES WITH A CHECKMARK AND GET THE 10TH FREE! EXCLUDES BEVERAGES AND SIDE DISHES



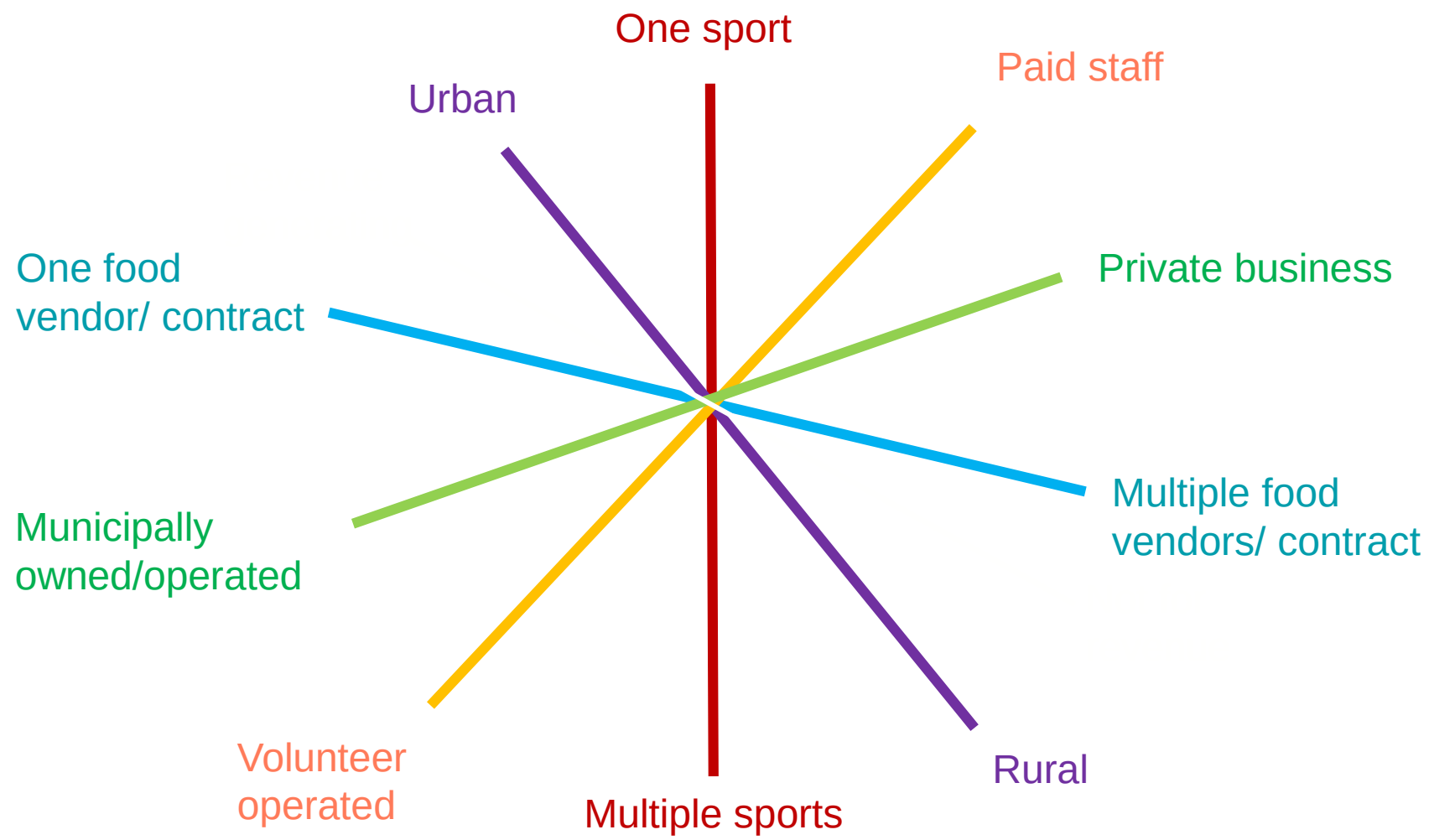


EAT PLAY LIVE

Policy Impacts: Healthy Vending Contracts²⁷

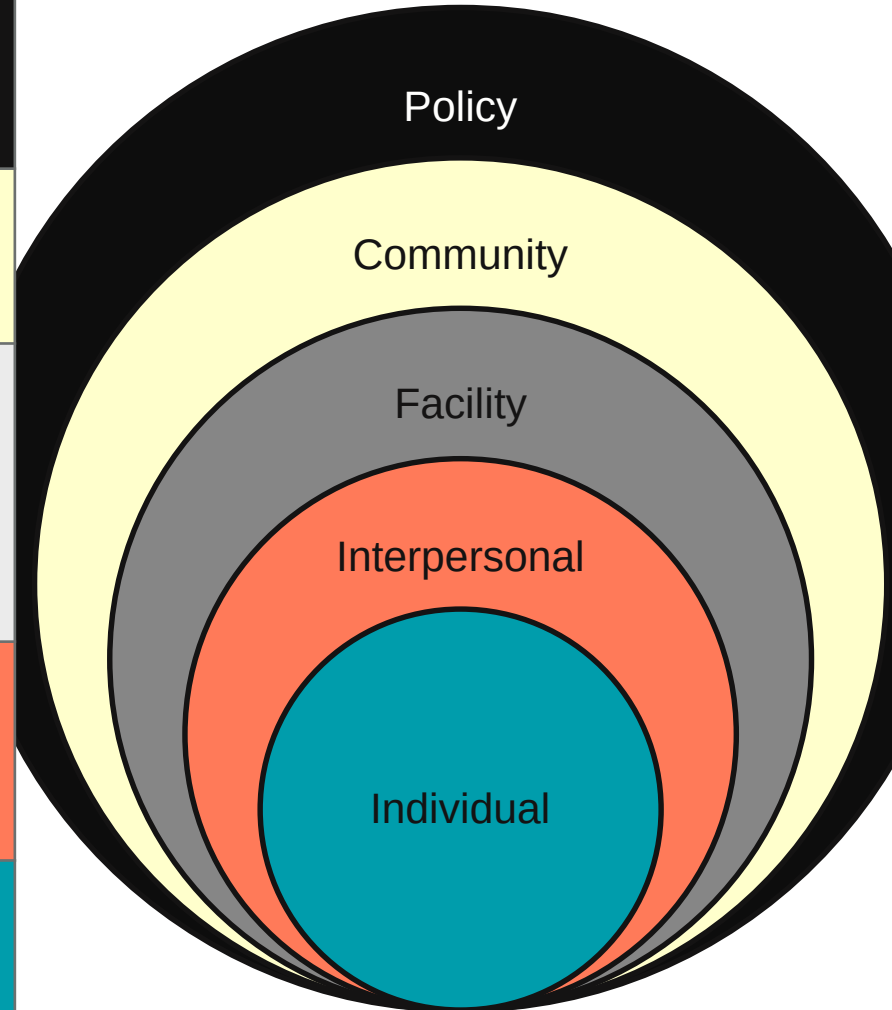


No One Size Fits All: Recreation and Sport Facilities In Canada are Diverse and Complex



Barriers^{17,23}

- **Complex** guidelines/policies
- Social norms and values related to the **acceptability of unhealthy food** in sport
- **Competition** from external food vendors
- **Unable** to change contract until renewal time
- **Incentives** (i.e. marketing dollars, branding, machines) written into vendor contracts
- **Financial concerns**
- **Staff feeling responsible** for unpopular decisions
- A perceived **lack of expertise** in implementing healthy policies
- Lack of a **champion**
- **Resistance** to change
- A lack of **organizational motivation** and perceptions of **individual responsibility** for nutritional decision-making.



Facilitators^{17,23}

- **Simple** and effective health-related policies
- Provincial/municipal **expectations** of guideline implementation (mandatory)
- Guideline implementation is **funded**
- **Consumer demand** for healthier food choices
- **Engagement** with, and **education** of, the organization and community
- **Freedom** to make changes with vendors anytime or at renewal time
- **Profitability**
- **Capacity-building** support for food environment improvement
- Food preparation and storage **equipment**
- **Clear communication** to staff around the policy directives
- High staff/volunteer **capacity**
- Presence of a **champion**
- Top-down, macro-level **managerial** support for changes in the food environment.

THANK YOU QUESTIONS?

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