

Does policy matter?

Improving food environments in recreation and sport facilities

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EAT PLAY LIVE

Conflict of Interest

- I was part of the team that designed the draft version of the Alberta Nutrition Guidelines for Children and Youth

Food environments

- Availability, accessibility and promotion of healthy/unhealthy foods
- Healthy food environments support healthy dietary behaviours and body weights¹



¹Driesen et al, Obes Rev 2014; Engler-Stringer et al; BMCPH 2014

Food services in recreation facilities

- Canadian recreation facilities have unhealthy food environments¹
- Partnership with the private sector
 - Portion of revenues returned to recreation facilities
- Primary goal is profit
 - Available foods are those that are the most profitable
 - Energy-dense and nutrient-poor items

Paradox: Sales of unhealthy foods support affordable physical activity



¹Chaumette et al, 1996; Naylor et al, 2010; Olstad et al, 2011, 2012; Thomas and Irwin, 2011

Barriers to offering healthier foods¹

- **Perceived lower profitability of healthy foods**
 - *“There’s nobody in this business can make money [selling healthy foods]. If you’re offering the choices they’re always going to go for the unhealthy choice.²”*
 - *“Whether we like it or not they don't want cucumbers with light organic dressing. What sells is fries and poutine.²”*
- Limited capacity (i.e. knowledge, resources, supports)
- Contracts
- Stakeholder buy-in
- Limited availability of shelf-stable healthy options in the marketplace

¹Olstad et al, BMCPH 2011, BMCPH 2012; Naylor et al, J Park Rec Admin 2010, Child Obes 2015; ²Olstad et al, BMCPH 2012

Does it really matter?

- **Myth:** Kids in sport are active, so it does not matter what they eat
- Systematic review concluded¹: “No clear association between body weight status and sports participation in youth”
 - Youth in sports are more active BUT
 - They are also more likely to consume:
 - Fast food, SSB, and more calories overall

*Is this partly because the food in recreation facilities is unhealthy?
Are youth eating back the additional calories they expend?*



*Can
policy
help??*

What is a policy?

Policy

- A statement of values and intended actions (Buse et al, 2012)
- Anything a government chooses to do or not to do (Dye, 1987)

Policy-making

- A process of continuing interaction among institutions, interests and ideas (Gilson et al, 2008)

Alberta Nutrition Guidelines for Children and Youth (ANGCY)

- Government of Alberta, 2008
- Voluntary
- Facilitate children's access to healthy foods in:
 - Schools
 - Childcare
 - Recreational facilities

Alberta Nutrition Guidelines
for Children and Youth

A Childcare, School and Recreation/Community Centre
Resource Manual

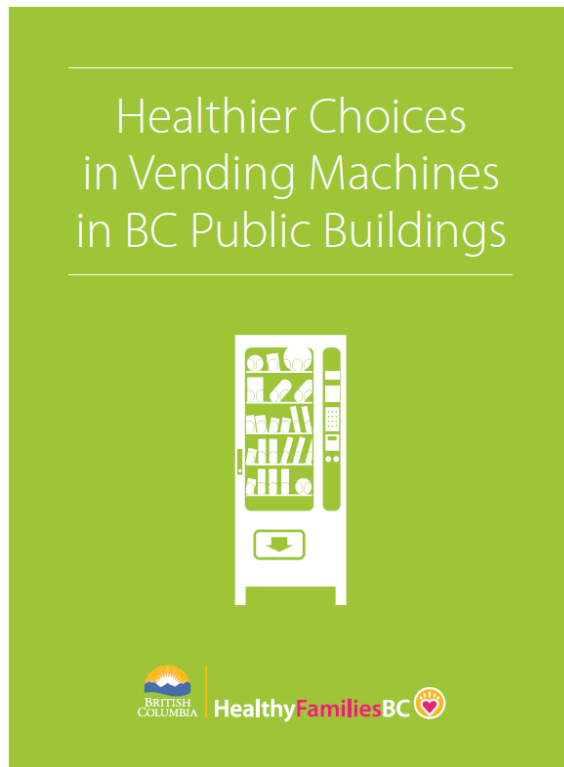


ANGCY Recommendations

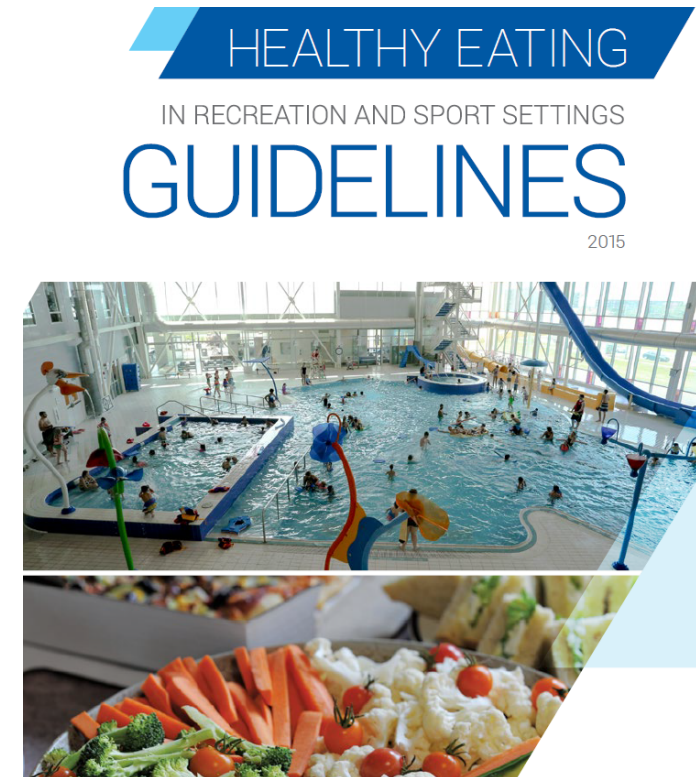
- Healthier items are:
 - Available in all vending machines and concessions
 - Competitively priced
 - Prominently displayed
 - Attractively packaged/presented
 - Convenient
 - Fresh
- Limit availability of less nutritious foods
- Address portion size

Provincial nutrition guidelines

BC 2006



Nova Scotia 2015



Objectives

Examine whether recreation facilities in provinces with nutrition guidelines had:

- *Greater facility capacity*
- *More facility nutrition policies*
- *Healthier food environments*

...relative to recreation facilities in a no guidelines province



Recruitment

- Provincial Parks and Recreation Association websites, email, meetings
- Eligibility:
 - Publicly funded
 - No research involvement since 2010
 - Offered food/beverages in vending machines and/or a concession
 - Able to change their food environment
 - Offer recreational programming to children



Guidelines groups

- Guidelines facilities (BC, AB, NS; n=32)
 - **Province-specific nutrition guidelines**
 - Publicly available:
 - Nutrition guidelines from other provinces
 - Nutrition resources and supports
- No guidelines facilities (ON; n=17)
 - Publicly available:
 - Nutrition guidelines from other provinces
 - Nutrition resources and supports



Data collection

- Outcomes
 - ✓ Facility capacity
 - ✓ Facility nutrition policies
 - ✓ Food environment:
 - ✓ Vending audit
 - ✓ Concession audit



Facility capacity and nutrition policies

- Facility capacity to support provision/promotion of healthy food
 - Strategic planning
 - One question asked whether a healthy food policy/guideline was in place in the facility
 - Communication and education
- 10 self-rated statements:
 - 0=not in place
 - 1=under development
 - 2=partially in place/could be improved
 - 3=fully in place
- Total possible score = 30

STRATEGIC PLANNING

	Fully in Place	Partially in Place/ Could be Improved	Under Development	Not in Place
a) <i>A 'Healthy Food' Committee has been formed in your facility</i>	3	2	1	0
b) <i>A 'Healthy Food' policy/guideline/plan has been written and approved by decision makers for your facility. *SEE NOTE BELOW</i>	3	2	1	0
c) <i>The facility has dedicated resources and/or assigned responsibility for the plan and/or policy.</i>	3	2	1	0
d) <i>The facility's healthy choices goals are monitored and evaluated annually.</i>	3	2	1	0
Column Totals →				
Add the total points from the column totals= Category Total →				
(Category Total ÷ 12 x 100)= Category Score →				
This represents how close you facility comes to ideal in the strategic planning category.				%

*** NOTE: IF YOU HAVE A 'HEALTHY FOOD' POLICY/GUIDELINE/PLAN IN PLACE, PLEASE SEND A COPY TO YOUR EAT, PLAY LIVE PROVINCIAL COORDINATOR.**

Please list or explain any other work that your facility is doing in terms of strategic planning for healthy choices (e.g. setting goals, meeting with community stakeholders, etc.).

COMMUNICATION & EDUCATION

	Fully in Place	Partially in Place/ Could be Improved	Under Development	Not in Place
a) <i>Training on nutrition and healthy eating is provided for staff and volunteers.</i>	3	2	1	0
b) <i>Food Safety (e.g. Food Safe, Food Hygiene, etc.) training is provided for staff and volunteers.</i>	3	2	1	0
c) <i>The public is made aware of the facility's healthy eating initiatives. (e.g. newsletter, website, posters)</i>	3	2	1	0
d) <i>Workshops, classes or other educational opportunities in relation to healthy eating are offered regularly.</i>	3	2	1	0
e) <i>Staff members are supported making healthy eating changes to the facility.</i>	3	2	1	0
f) <i>Programs or initiatives are underway to educate children or the public about healthy food choices.</i>	3	2	1	0
Column Totals →				
Add the total points from the column totals= Category Total →				
(Category Total ÷ 18 x 100)= Category Score → This represents how close you facility comes to ideal in the communication and education strategy.				%

Please list or explain any other work that your facility is doing to increase communication and/or education for healthy food choices.

Food environments

Researchers audited:

- Vending machines
 - Packaged snack and beverage audit
- Concessions
 - Packaged snack and beverage audit
 - Nutrition Environment Measures Survey – Restaurant reduced item audit (rNEMS-R)¹
 - Valid and reliable

¹Partington et al, 2015 Am J Prev Med



BC food classification system

Consistent basis for national comparisons



Sell most



Sell sometimes



Do not sell



Data analysis

- ANOVA
 - Differences in facility capacity and food environments between guidelines and no guidelines facilities
- Chi-square tests
 - Differences in policy development between guidelines and no guidelines facilities



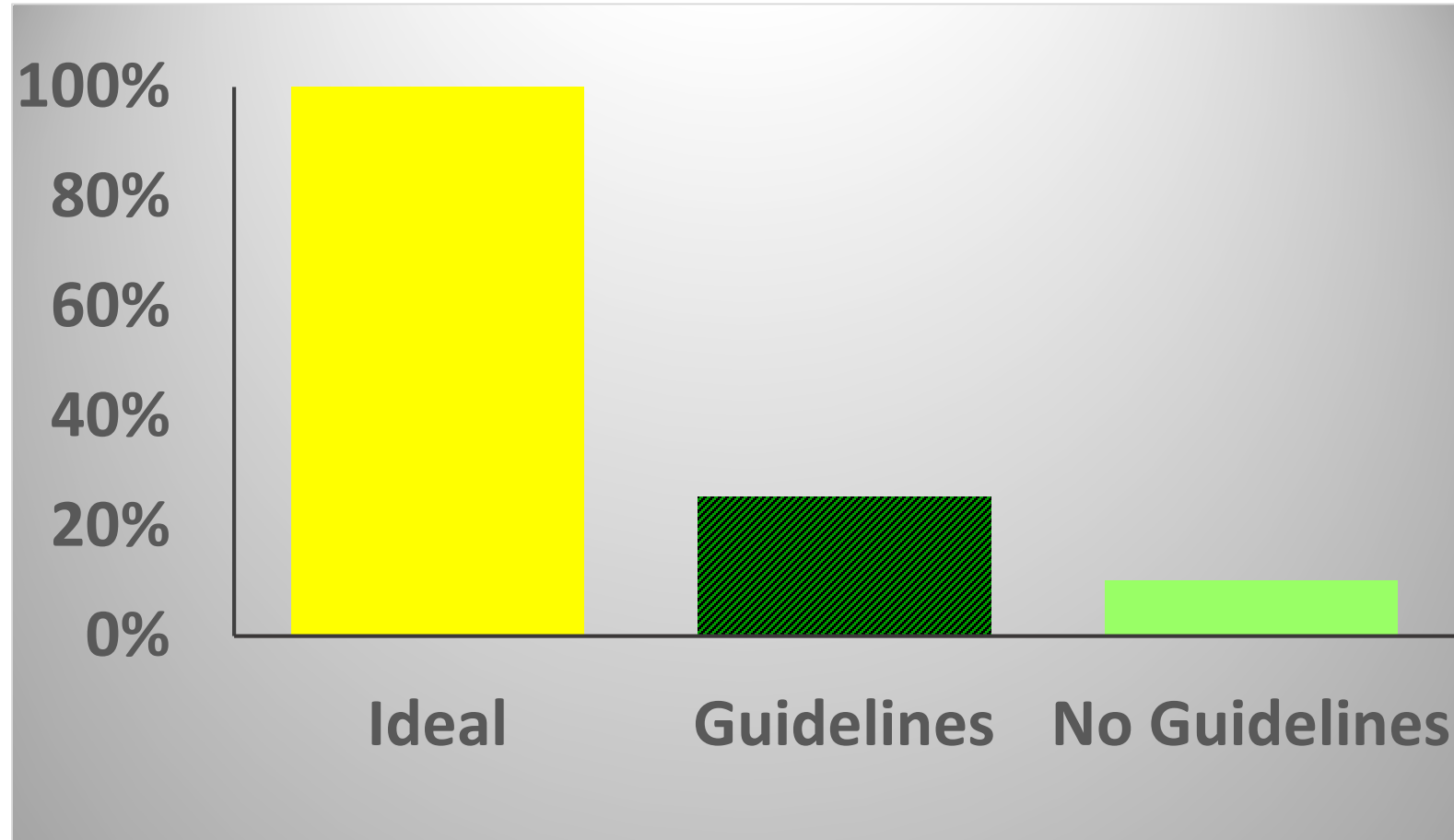
RESULTS



Facility characteristics

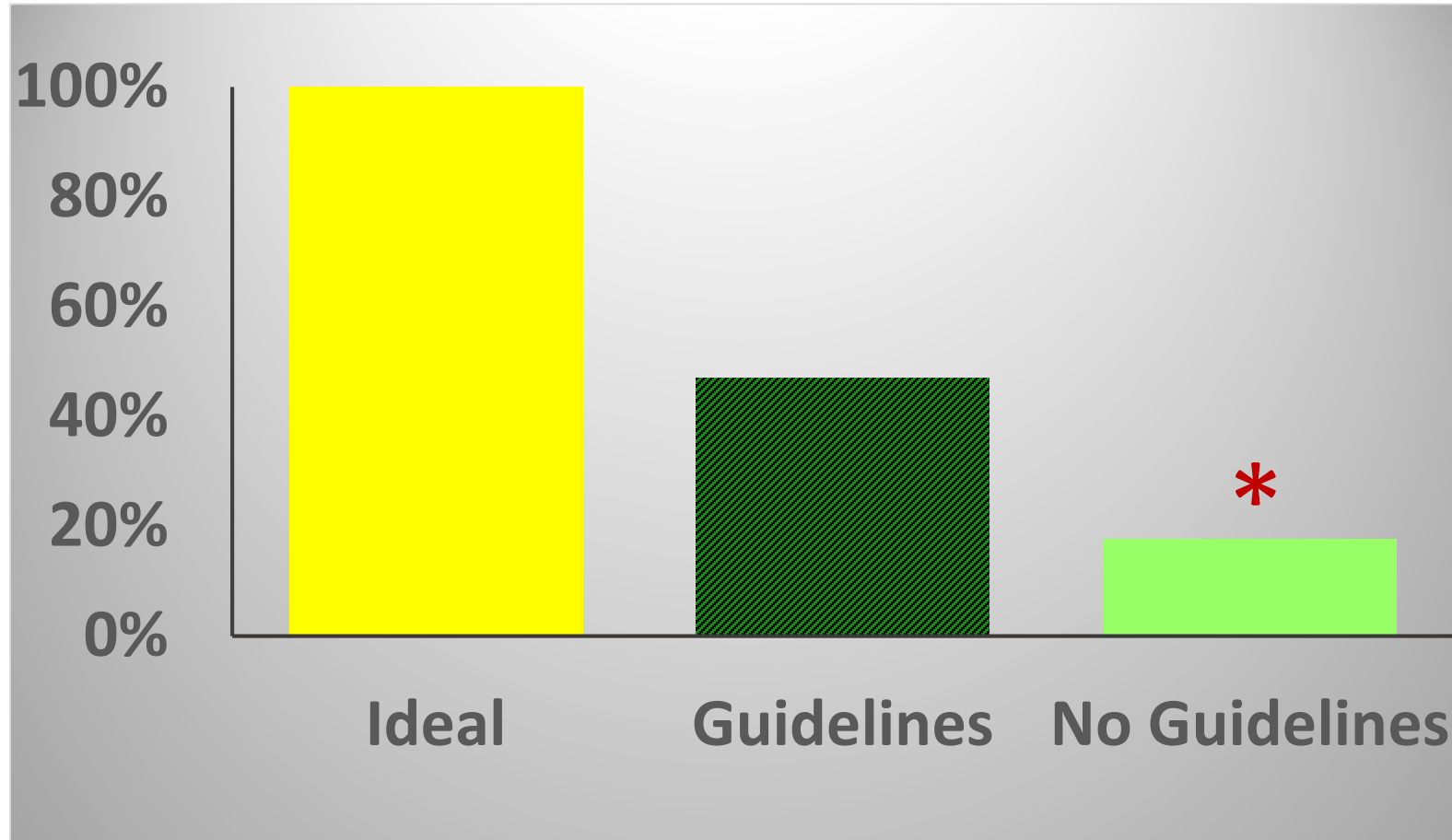
	No guidelines (n=17)	Guidelines (n=32)
Community size (% of facilities)		
<i>Rural</i>	0	6.3
<i>Small population centre</i>	17.6	56.3
<i>Medium population centre</i>	17.6	3.1
<i>Large urban population centre</i>	64.7	34.4
Facility size (% of facilities)		
<i>Small</i>	5.9	40.6
<i>Medium</i>	35.3	21.9
<i>Large</i>	58.8	37.5
Number of vending machines	Mean: 6.5; Range: 1 - 15	Mean: 4.7; Range: 0-25
Number of concessions	Mean: 1.1; Range: 1 - 2	Mean: 0.9; Range: 0 - 4

Facility capacity



No significant difference between guidelines and no guidelines; $p = 0.065$

Facility nutrition policies

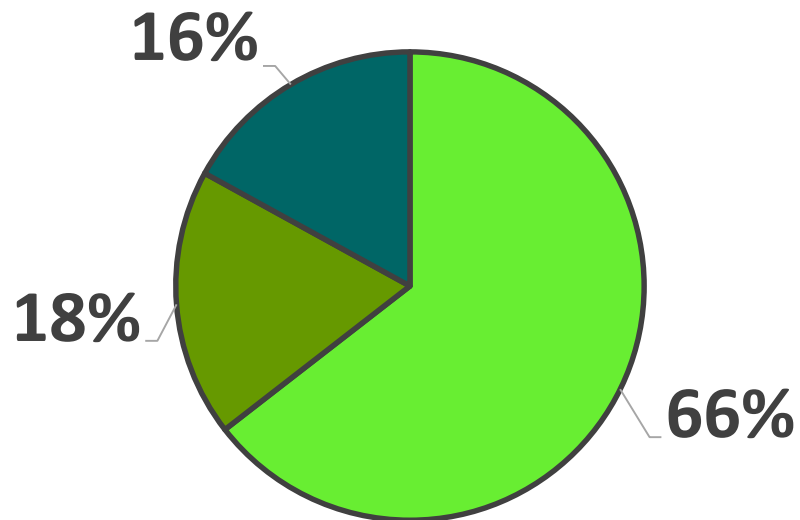


Policy defined as:
Fully/partially in
place or under
development

*** Significant
difference between
guidelines and no
guidelines; $p < 0.05$**

BEVERAGE VENDING

GUIDELINES

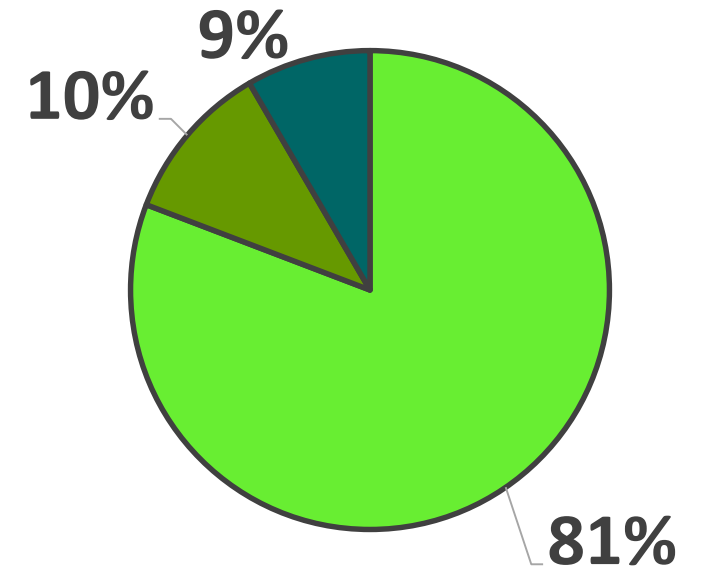


DNS

SS

SM

NO GUIDELINES

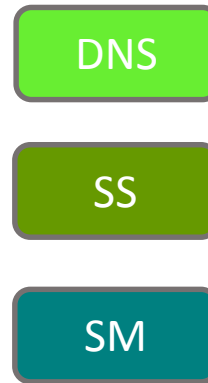
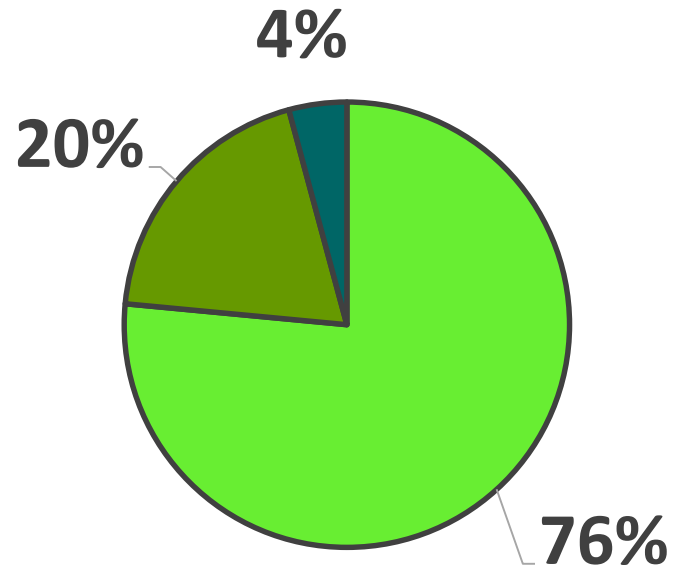


Significant differences b/t guidelines and no guidelines facilities:

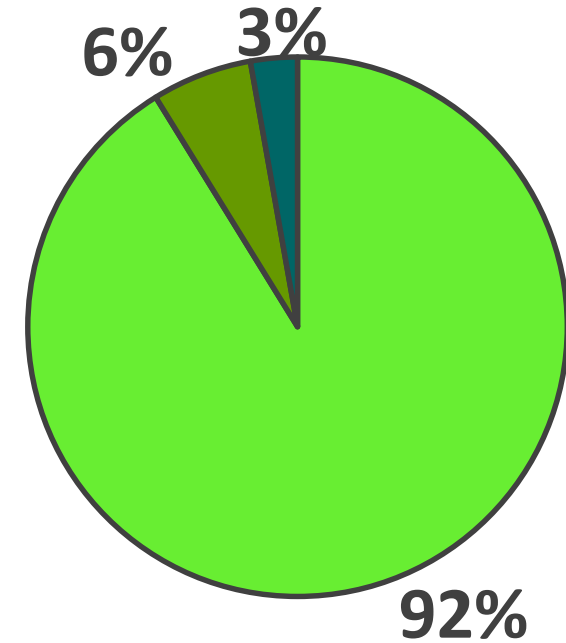
- ✓ Do Not Sell
- ✓ Sell Sometimes
- ✓ Sell Most

SNACK VENDING

GUIDELINES



NO GUIDELINES

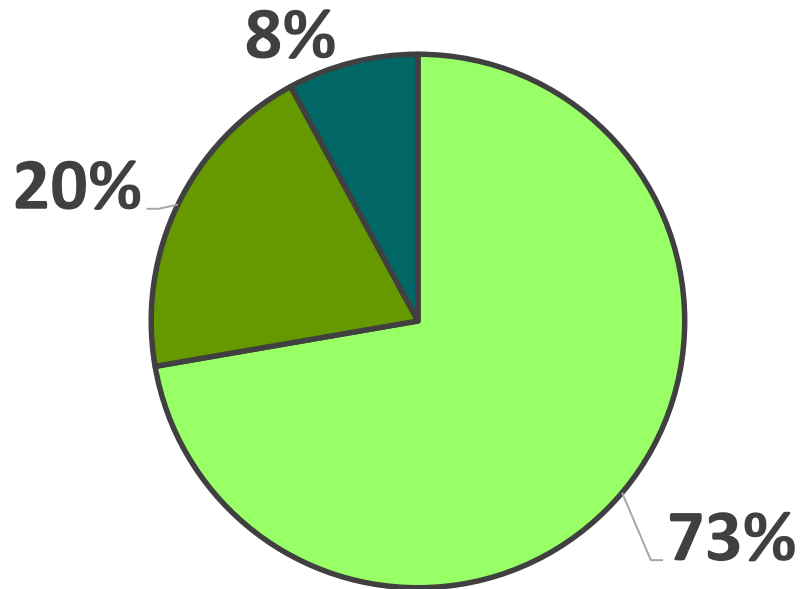


Significant differences b/t guidelines and no guidelines facilities:

- ✓ Do Not Sell
- ✓ Sell Sometimes

BEVERAGE CONCESSION

GUIDELINES

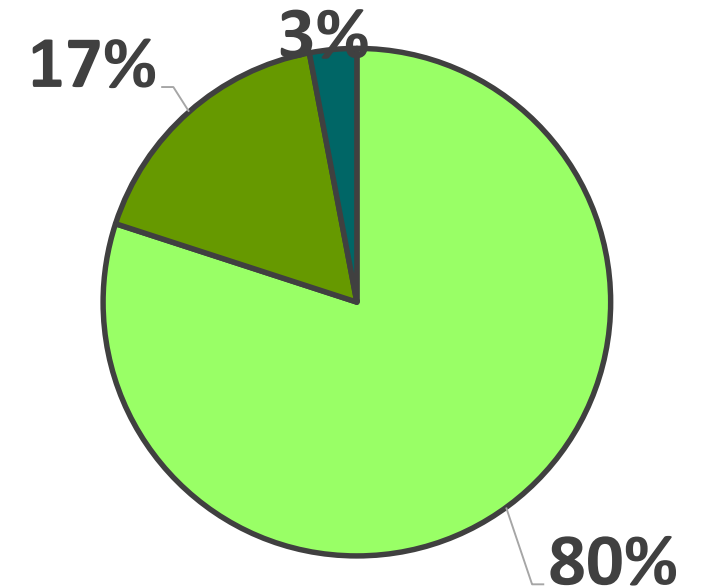


DNS

SS

SM

NO GUIDELINES

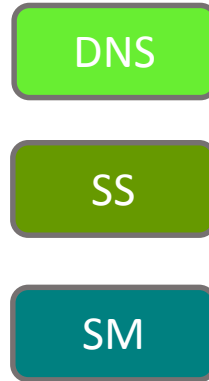
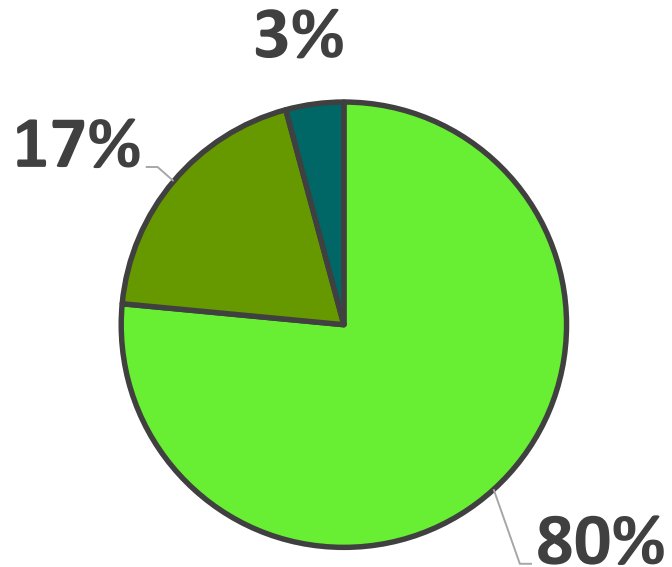


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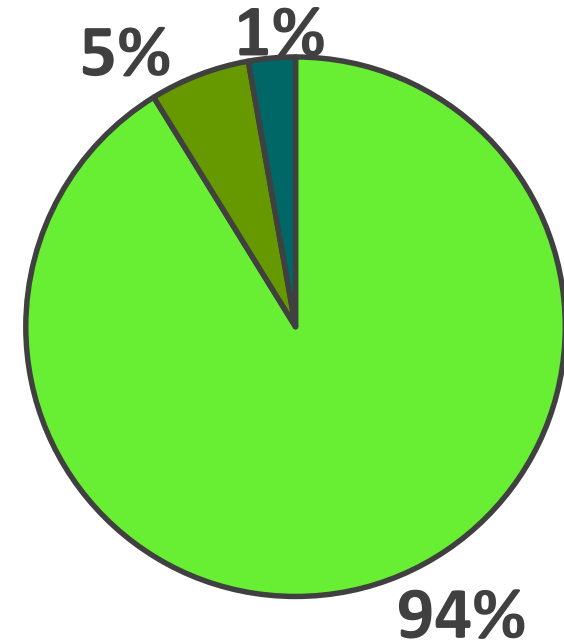
- ✓ Do Not Sell
- ✓ Sell Most

SNACK CONCESSION

GUIDELINES



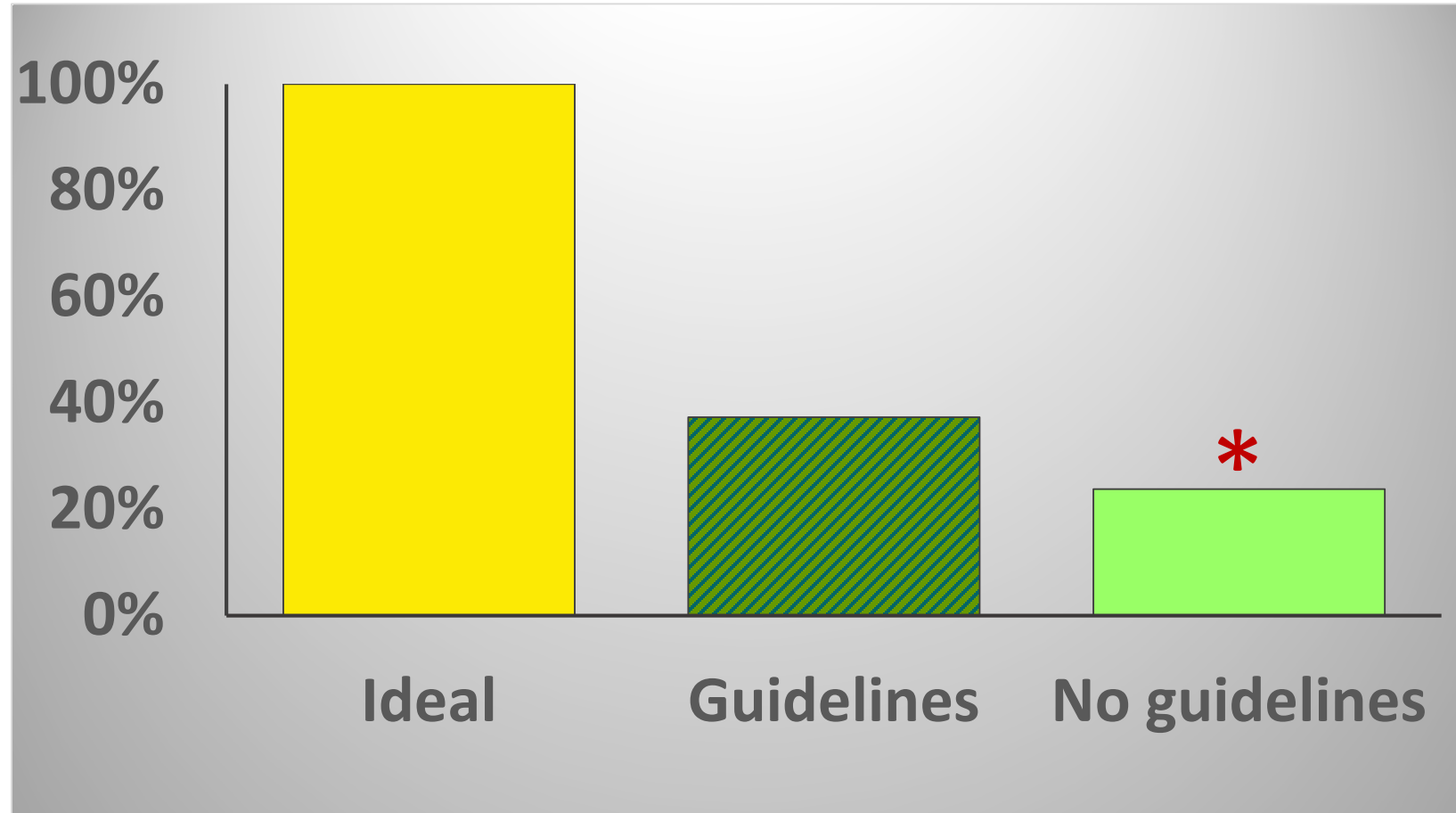
NO GUIDELINES



Significant differences b/t guidelines and no guidelines facilities:

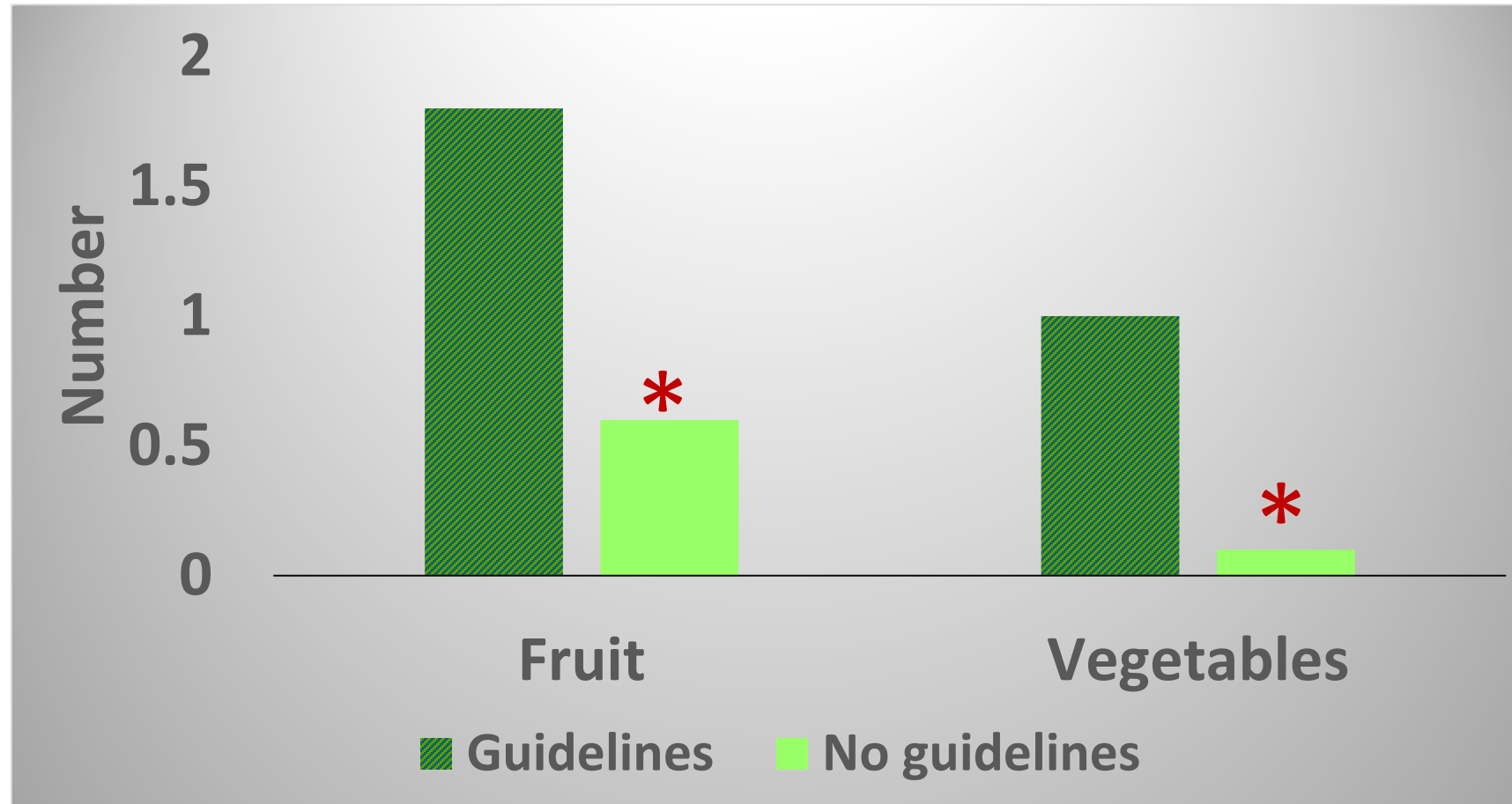
- ✓ Do Not Sell
- ✓ Sell Sometimes

Concession overall food environment



*** Significant difference between guidelines and no guidelines; $p < 0.05$**

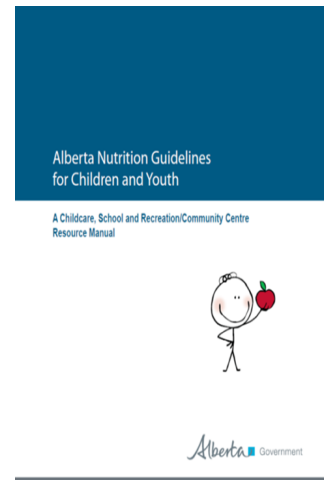
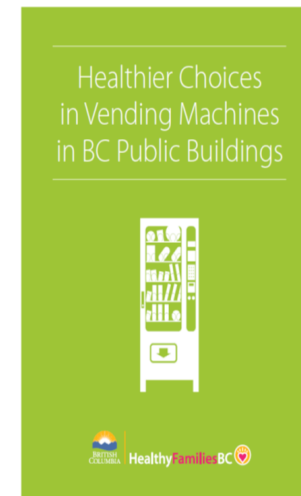
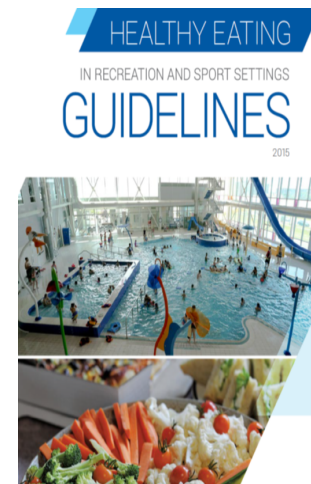
Concession number of fruits & vegetables



*** Significant difference between guidelines and no guidelines; $p < 0.05$**

Voluntary provincial policy

- Facilities in provinces with guidelines had:
 - ✓ Similar capacity to support provision and promotion of healthy foods
 - **But** 27% of ideal score
 - ✓ More local nutrition policies
 - **But** just 4 written, fully in place policies
 - ✓ Healthier food environments
 - ✓ Vending
 - **But** still mostly unhealthy
 - ✓ Concessions
 - **But** still mostly unhealthy



Vending machines

- Guidelines facilities still very unhealthy
 - 16% Sell Most beverages
 - 4% Sell Most snacks
- Facilitators¹
 - Water a top selling item
- Barriers¹
 - Few tasty, packaged, healthy, unrefrigerated snacks available
 - Refrigeration costs
 - Low customer demand



¹Olstad et al, BMCPH 2012; Olstad et al, Pub Hlth Nutr 2013

Concessions

- Guidelines facilities still very unhealthy
 - 8% Sell Most beverages; 3% Sell Most snacks
 - 1-2 fruits and vegetables available
 - 61% sold deep fried French Fries
 - Overall score: 37% of ideal
- Facilitators¹
 - Fewer restrictions in space, refrigeration, product availability
- Barriers¹
 - Few tasty, packaged, healthy snack products available
 - Low customer demand
 - Culture of sport



¹Olstad et al, 2012 BMCPH; Olstad et al, 2013 PHN

Strengths and limitations

- Facilities did not self-select to guidelines condition
- Objective assessment of food environments
- Cross-sectional and observational
 - Reverse causality unlikely
 - Unlikely provincial policy emerged in response to positive changes in facilities
 - Comparison group
 - Unlikely common secular trends across 3 distinct provinces can explain findings
- Generalizability
 - Real-world, multiple provinces
 - Few rural facilities
 - Facilities may have been more interested in nutrition
 - If present likely affected both groups
 - Results do not provide much support for this (i.e. unhealthy food environments, low capacity)

Voluntary provincial policy matters

- All had online access to resources and supports
 - No guidelines province (ON) had its own recreation nutrition toolkit and previously had a recognition program
- Key difference was presence of a provincial nutrition guideline
 - And any associated capacity building and offline resources
- BUT not sufficient:
 - Food environment overwhelmingly unhealthy = Limited policy implementation



Implications

- Positive, but limited potential of voluntary nutrition guidelines in improving food environments in recreation facilities
- Voluntary guidelines in BC and AB for > 10 years
 - Reluctance to enact mandatory policy
- Key barriers to change likely relate to:^{1,2}
 - Perceived low profitability of healthy items
 - Revenue models
 - Low capacity
 - Capacity building supports positive change²

¹Olstad et al, BMC PH 2011, BMC PH 2012; Naylor et al, J Park Rec Admin 2010; Olstad et al, BMC PH 2012; ²Naylor et al, Child Obes 2015



Eat Play Live RCT

*Can a relatively small investment in building capacity
protect government's much larger investment
in developing nutrition guidelines?*



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