

Improving the Healthfulness & Sustainability of UC Vending Machines

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Roadmap

1. Background & Context (Janice)
2. Research Questions and Methods (Janice)
3. Results (Isa)
4. Implications & Next Steps (Janice)

Our project roles



Janice Kao

- Chair of UC GFI Healthy Vending Working Group
- Researcher at the UC Nutrition Policy Institute
- Expertise in program and policy evaluation



Isa Harrison

- Student at University of Wisconsin, Madison
- 2019 CHORI Summer Student Research Program; placed at NPI
- Data management and analysis of healthy vending data



UC Healthy Vending: Project Background

Started as a UC Global Food Initiative project

- Working group formed
- Main goals:
 1. Develop a set of system-wide standards for vending machines at all UC locations to ensure the availability of healthy options.
 2. Create a toolkit of best practices to assist UCs and other institutions with implementing healthy vending programs.



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Why work on healthy vending?

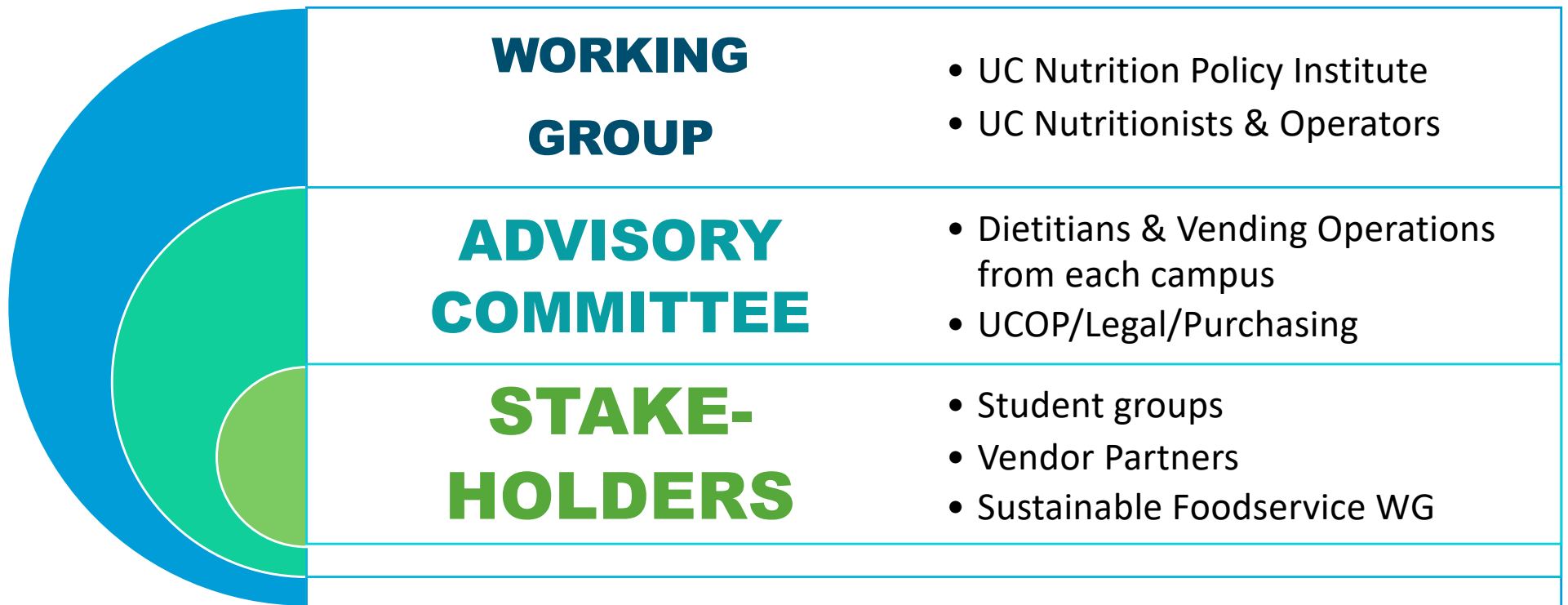
- University of California has approximately 530 food vending machines and 780 beverage vending machines
- Vending is sometimes all that is available or is the most convenient option
- “Traditional” vending offerings are low in nutritional value and high in calories, fat, salt, and sugar
- Many vending machines offer few, if any, healthy options
- Many consumers prefer healthier options, when they are given a choice
- Improving access to healthy options encourages and supports a healthy lifestyle
- Working on vending can provide a toe-hold; lead to other health/wellness



Why work system-wide?

- UC locations have previously participated in large variety of healthy vending programs -- wide variation in implementation and definition of “healthy”
- System-wide standards provide consistency and ensure meaningful baseline – campuses are welcome to go above and beyond
- Utilize existing system-wide structures, like procurement and sustainability
- Eventual goal is to create UC system-wide policy
- Institutionalize healthy vending practices, makes sure that healthy changes are sustained

Development process



Dissemination & Current Status

- Policy adoption not straightforward
- Finalized materials as UC Healthy Vending Guidelines (HVG)
- Asked same stakeholder groups and Healthy Campus Network to help disseminate for voluntary implementation at campuses
- Opportunity to collect baseline vending sales data to see how UCs are already doing with healthy vending
- Continuing to try different options to get HVG adopted as policy
- Health and sustainability connections – campus and system-wide

UC HVG Materials

Available at: http://npi.ucanr.edu/Resources/UC_Healthy_Vending_Policy/



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Healthy vending guidelines (HVG)

Healthy snacks:

- First ingredient must be a fruit, vegetable, low-fat dairy, protein, or whole grain
- No more than 250 calories
- Fat: $\leq 35\%$ of calories and $\leq 10\text{g}$
- Saturated fat: $\leq 10\%$ calories and $\leq 3\text{g}$
- Trans fat: none
- Sodium: $\leq 360\text{mg}$
- Sugar: $\leq 35\%$ of total weight and $\leq 20\text{g}$

Snacks made up of only nuts, nut butters, seeds, beans, eggs, cheese, fruits and vegetables with no added sugar or fat are exempt from fat/sugar limits

Healthy drinks:

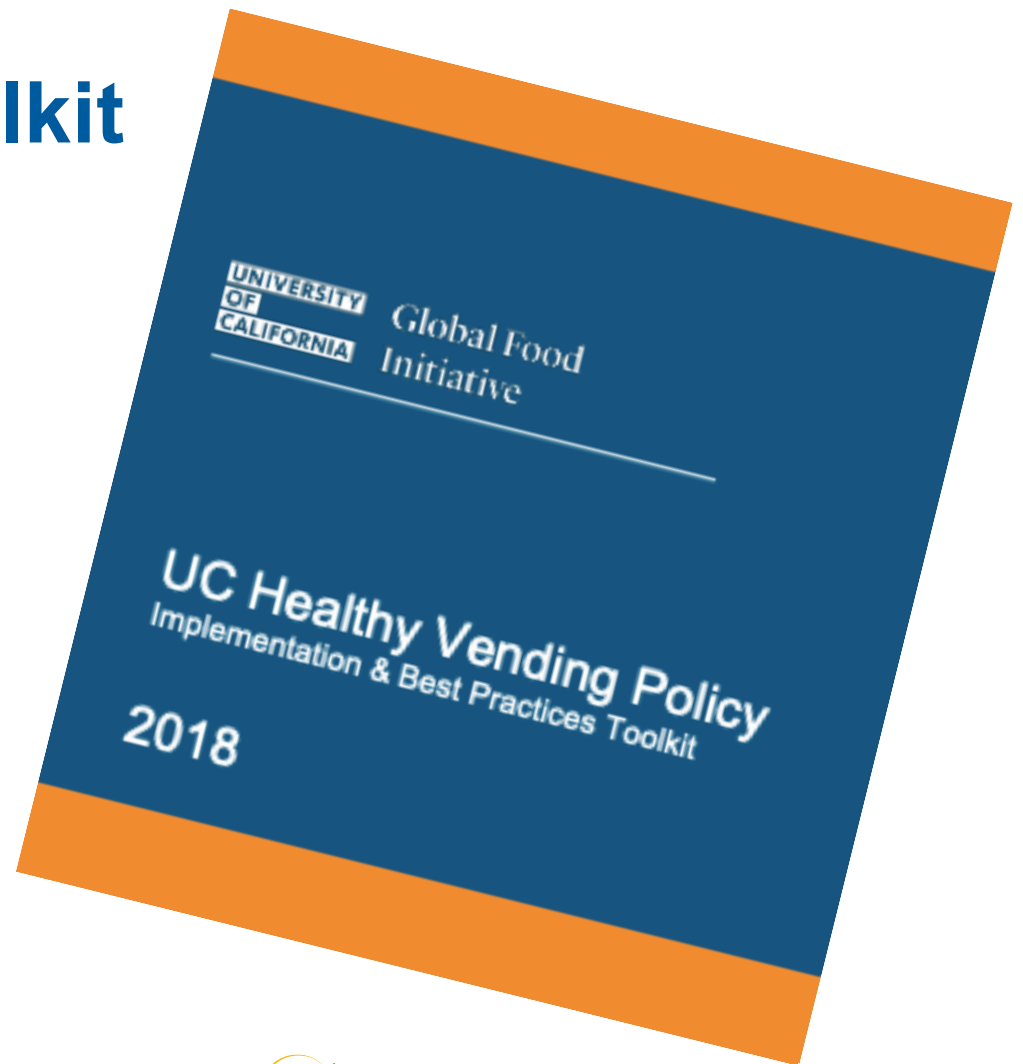
- Water: unflavored, with no added sweeteners (caloric or non-caloric); includes still, carbonated, and mineral waters
- Low-calorie beverages: ≤ 40 calories per 12 oz
- Juice: 100% fruit or vegetable juice or juice blends, with no added sweeteners; vegetable juices with ≤ 230 mg sodium; can add water
- Milk: plain, 1% or less
- Plant-derived or non-dairy milk: plain, Vit D and calcium fortified
- Supplemental nutrition beverage: no added caloric sweeteners
- Tea/Coffee: unsweetened
- No added caffeine



Implementation Toolkit

Sections

1. Introduction & Background
2. UC Healthy Vending Policy Nutrition Standards
3. Implementation Requirements and Schedule
4. Recommended Vending Machine Products
5. Forming Partnerships
6. Meeting with Your Vendors
7. Marketing and Promotion
8. Anticipating Barriers
9. Monitor, Evaluate, Review



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PRODUCT

PLACEMENT

PRICE

PROMOTION



The green bar is location of Choice Plus Clip and Choice Plus Snack.

Doritos	Cheetos	Fritos	Lays SCO	Cheetos Flaming Hot			
\$1.50	\$1.50	\$1.50	\$1.50	\$1.50			
Baked Ruffles CSC	Special K BBQ	Smartfood Popcorn	PopComers Jalp	Lays Kettle Jalp Chs 40%			
\$1.50	\$1.50	\$1.50	\$1.50	\$1.50			
Mr Nature Unsalted Trail Mix	Zoo Animal Crackers	Baked Flaming Hot Cheetos	Cheezits RF 1.5 oz	Baked Lays Regular			
1.65	1.65	\$1.50	\$1.50	\$1.50			
Grandma's Brownie Cookie	Knott's Strawberry	Jack Links Jerky	Lay's Original	Snyders FF Mini Pretzel			
\$1.50	\$1.50	\$2.25	\$1.50	\$1.50			
Snickers	M&M Peanut	Reese PBC 2PK	Twix	Mr Nature Almond	Nutrigrain Strawberry	Kind Bar Caramel SS	Fiber One Bar
\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$2.50	\$1.50
Hostess	Grandmas Mini Vanilla	PopTart Strawberry	Redvines	WG Rice Krispie			
\$1.65	\$1.65	\$1.65	\$1.65	\$1.65			



Appendix C. Products that meet HVG

*Also meet UC Sustainability Guidelines (*these products are all organic*)

Pepsi	Coke	Canteen/First Class	United Natural
<ul style="list-style-type: none"> • Aquafina water • Diet Pepsi • G2 (Gatorade) • Muscle Milk – 100 cal • <i>Naked Juice – Coconut Water Organic*</i> • Pure Leaf iced tea - diet or unsweetened • Schweppes sparkling waters • Sobe Life Water, • Tropicana 100% juices 	<ul style="list-style-type: none"> • Coke Zero, Diet Coke • Dasani sparkling • Dasani water • Fairlife Non-Fat Milk • <i>Honest Fizz*</i> • <i>Honest Tea* (some flavors)</i> • Odwalla 100% juices • Powerade Zero • Smart Water • Vitamin Water Zero • Zico natural 	<ul style="list-style-type: none"> • Baked Cheetos - flamin' hot • Corn Nuts • <i>Clif Z bar*</i> • Kind healthy grains bar • Lara bars • <i>Peeled Snacks* – Mango</i> • Planters Peanuts • Whole grain rice krispie treats • General Mills cereal bars (Trix, Cocoa Puffs, etc.) • Kellogg's whole grain Pop Tart • Nature Valley Granola Bar - oats and honey • Popcorners – salt of the earth • Welch's Fruit Snacks 	<ul style="list-style-type: none"> • Lilly's classic hummus & crackers • <i>Mamma Chia Squeeze Vitality Snack*</i> • <i>Peeled Snacks* - Peas Please</i> • <i>Suja* pressed probiotic water</i> • <i>Wilcox Farms* - Hard Boiled Egg</i>



Research Description



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Research Questions:

What are the baseline levels of sales of healthy vending machine items?

Are sales of healthy products related to certain aspects of campus-level programs/initiatives?

Does an increase in healthy vending purchases improve sustainability efforts?



Methods



Collected annual vending sales data and information about healthy vending programs

- 6 UCs
- 2016 - 2019



Coded vending snacks/drinks into: healthy vs unhealthy using HVG criteria and broad snack and beverage categories



Calculated total unit sales by category and by campus and year



Results are presented as the percent of total unit sales for each campus and year or as averages



Looked up estimated GHG emissions for healthy vs unhealthy food/drink categories



Results

Campus-Level Healthy Vending Programs (2016-2019)

	UCB	UCD	UCI	UCLA	UCR	UCSF	
SNACKS	Campus or vendor standards Compared to HVG (+/-/0)	Vendor* -	Vendor* -	Vendor** -	Campus -	Vendor** -	Campus -
	Is healthy vending promoted or integrated into other initiatives?	Yes	No	No	Yes	Yes	Yes
	Min healthy in all machines?	Yes	No	No	Yes	Yes	Yes
DRINKS	Campus or vendor standards Compared to HVG (+/-/0)	Vendor -	Vendor* -	None** -	Campus 0	None -	Campus +
	Is healthy vending promoted or integrated into other initiatives?	No	No	No	Yes	No	Yes
	Min healthy in all machines?	No	No	No	Yes	No	Yes

Notes:

- UC HVG sent to each campus for review in 2017; officially disseminated in Fall 2018
- Sustainable Foodservices section added to UC Sustainability policy in 2009; 20% sustainable

*adopted HVG or similar during tail-end of data collection

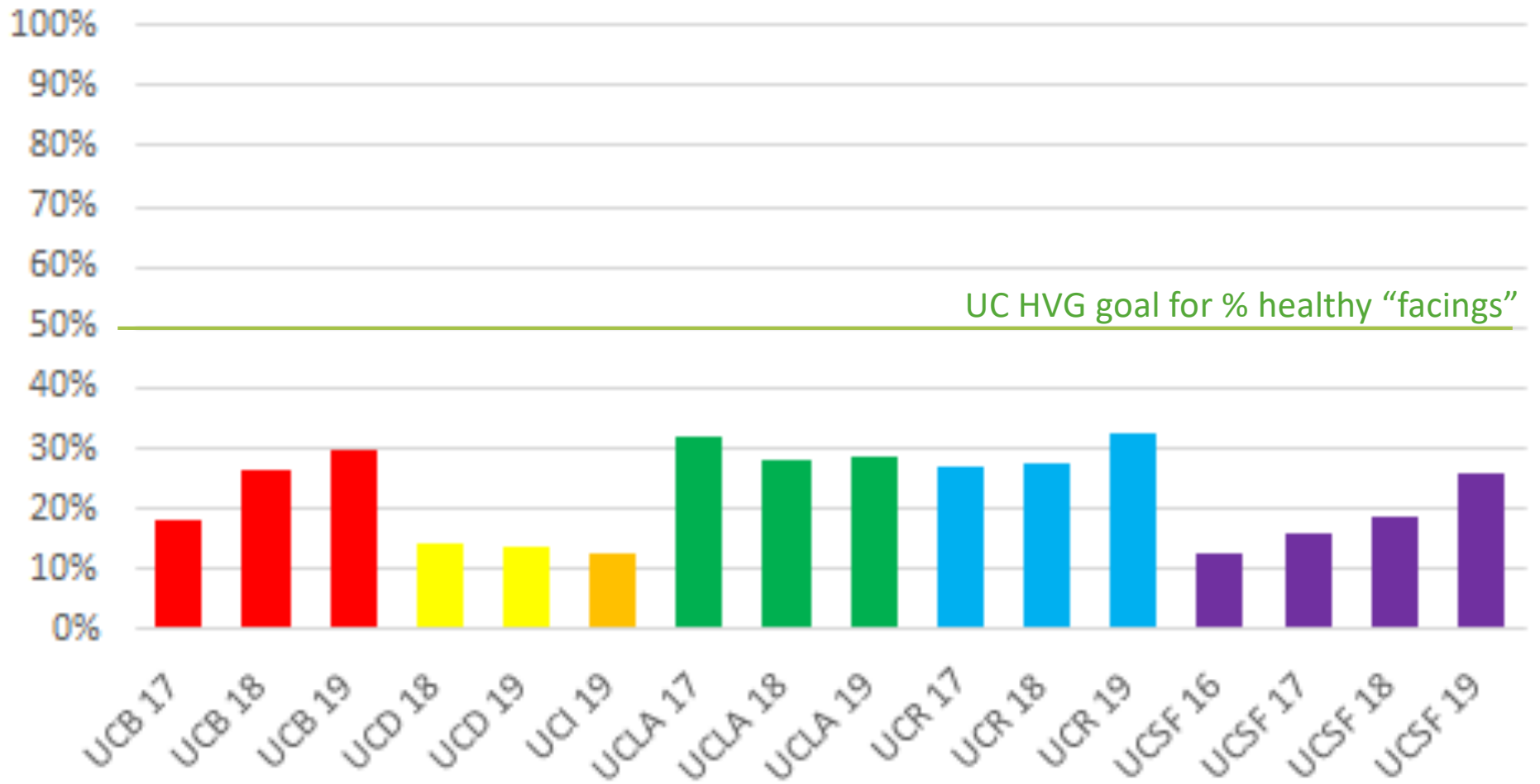
** adopted HVG or similar after data collection period



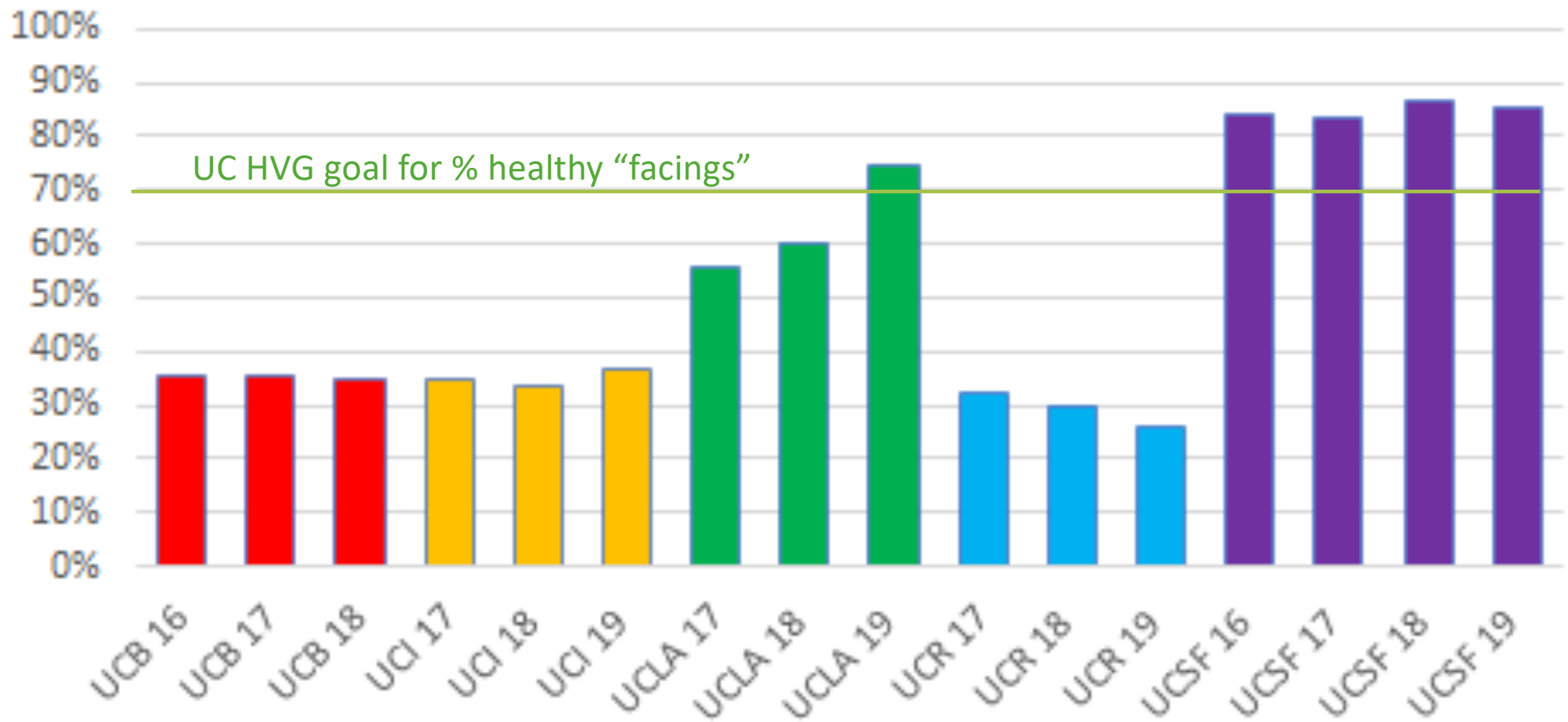
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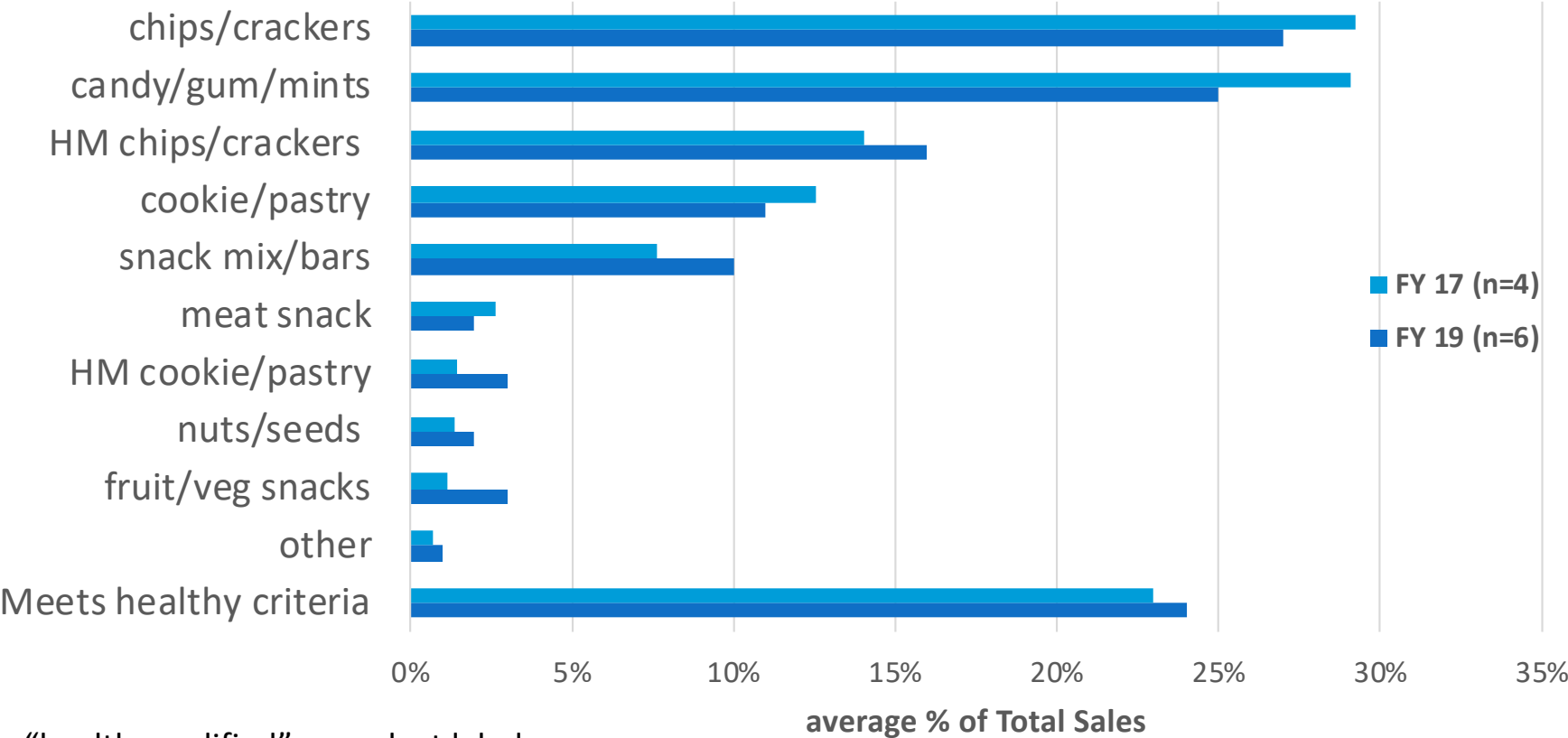
Percent Healthy Snacks Sold Per Campus Per Year



Percent Healthy Beverages Sold Per Campus Per Year

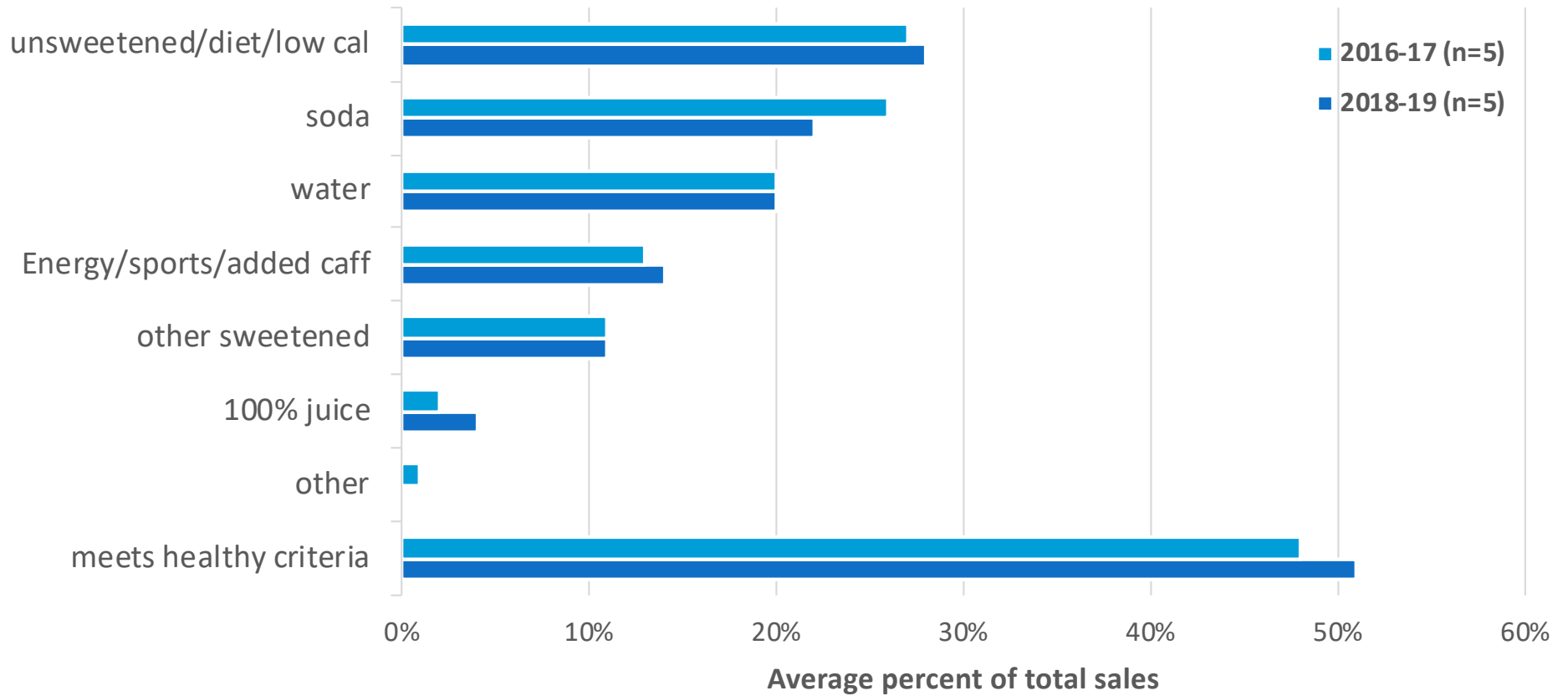


Change in Snack Types Sold



“HM” is “health-modified” – product labels say whole grain, lower in fat, sugar, etc.)

Change in Beverages Types Sold



Estimated GHG emissions

Traditional Vending	Emissions (kg CO2/lb)	Healthy Vending	Emissions (kg CO2/lb)
Potato chips	1.65	Pistachios	.6
Soft drinks	.87	Orange juice	1.06
Cookies	.68	Organic apples	.18
Candy bar ingredients: <ul style="list-style-type: none"> • Sugar • Milk • Cocoa liquor • Cocoa butter • Other stuff! 	>3.43 1.89 .45 .47 .62 ???	Healthy snack bar ingredients: <ul style="list-style-type: none"> • Almonds • Dates • Cherries • <i>No other ingredients</i> 	1.44 .95 .29 .2
White flour	.38	WW flour / Rolled oats	.34 / .31
Butter	.62	Apples / bananas	.2 / .22

Source: <https://www.foodemissions.com/Calculator>



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Implications & Future Direction



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Summary & Implications

- Starting to see small increases in sales of healthy products
- Plenty of room for improvement, especially with snacks
- Campuses that actively worked on healthy vending saw greater sales of healthy snacks and drinks. Efforts included:
 - Increasing access, making sure that *each* vending machine has healthy options
 - Promoting healthy options, meeting with vendors, integration with campus-wide, comprehensive health initiatives
- Reasons for lower snack sales
 - 1st ingredient rule: main difference between HVG and campus/vendor
 - However, this may have greater impact on health and sustainability



Future Directions

- Continue forward momentum – inclusion in the new health and wellness section of UC Sustainability policy
- Opportunity to use data to revise HVG
 - Which elements help achieve both sustainability and healthy diet goals?
 - Do any have unintentional consequences?
- Find a way to continue collecting and analyzing data, especially given how many campuses started implementing HVG in January 2019 or later
- Additional analyses:
 - Change in calories
 - Change in sales of products that meet sustainability criteria
 - What would you like to see? Tell us in the chat window!



Acknowledgements

- UC Global Food Initiative
- UCSF-Benioff CHORI SSRP
- UC Healthy Vending Working Group and Advisory Committee
- Healthy Campus Network
- UC campus-level vending managers/operators

Questions?

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Download healthy vending materials here:

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