

Implementation of Washington State's Healthy Nutrition Guidelines Under Executive Order 13-06

MID-TERM EVALUATION

November 30, 2015

Prepared for:

Washington State Department of Health

By:

Jennifer J. Otten, PhD, RD, Mary Podrabsky, MPH, RD, Anne Althausen, MPH,
Sara Diedrich, MPH, RD and Shelly Johnston

Center for Public Health Nutrition, University of Washington School of Public Health

Acknowledgements

The authors thank the Washington State Department of Health staff, cafeteria operators, vendors, worksite wellness coordinators, and agency leadership for their time and valuable input.

This publication was supported by the Washington State Department of Health through the Centers for Disease Control and Prevention State Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health Program Grant # 1 U58DP005531-01



DOH 340-274 January 2016

*For persons with disabilities, this document is available on request in other formats.
To submit a request, please call 1-800-525-0127 (TDD/TTY 711)*



CENTER FOR PUBLIC
HEALTH NUTRITION

Table of Contents

Executive Summary.....	3
Introduction	9
Evaluation Purpose	10
Methods.....	12
Cafeteria Assessments	12
Vending	14
Micro-markets.....	15
Interviews.....	15
Results.....	18
Cafeteria Assessments	18
Basic Criteria	18
Additional Criteria: Beverages, Food Components, and Behavioral Economics Strategies..	20
Healthful vs. Non-Healthful	23
Placement and Promotion.....	27
Vending	30
Micro-Markets.....	32
Interviews.....	35
Discussion.....	49
Limitations.....	54
Recommendations	56
Works Cited.....	57
Appendices.....	59

Executive Summary

OVERVIEW

In 2013, Washington Governor Jay Inslee signed Executive Order 13-06 (EO), *Improving the Health and Productivity of State Employees and Access to Healthy Foods in State Facilities*, making Washington the first state to adopt a comprehensive approach to increase access to healthier food on state property and facilities. The EO will potentially affect 46 agencies, boards and commissions encompassed in the Executive Cabinet and Small Cabinet agencies, and an estimated 73,000 state employees and clients served in institutional settings. A key requirement of the Order is that all state executive agencies adopt and implement food service guidelines that meet the Washington State Department of Health's (WA DOH) Healthy Nutrition Guidelines (HNG), which are based on the 2010 Dietary Guidelines for Americans. These guidelines include criteria to ensure that healthy options are available in cafeterias, on-site retail venues, vending machines, meetings and events, and institutional food service sites. Implementation of the HNG began on July 1, 2014, and full implementation is to be achieved by December 31, 2016.

In 2014, WA DOH contracted with the University of Washington, Center for Public Health Nutrition (CPHN) to assist in developing and conducting an evaluation of implementation of the HNG. This mid-implementation evaluation is a follow-up to the baseline evaluation, conducted by CPHN during the summer of 2014

(http://depts.washington.edu/uwcphn/pubs/documents/CPHN_Report_DOH_FBSGEO_FINAL_2014_09_30_FORPUBLICPOSTING_000.pdf).

EVALUATION PURPOSE

The purpose of this mid-implementation evaluation is to assess the current food environments in order to inform continuing implementation of the HNG and future evaluation efforts, to assess change in observance of guidelines since baseline, and to make recommendations for ongoing implementation of the guidelines.

METHODS

This mixed-method evaluation included on-site assessments of cafeterias and micro-markets, photo analyses of vending machines, and interviews of key stakeholders. Data collection took place from July through September, 2015.

Evaluation Data Sources

- Environmental assessment of 10 cafeterias
- Photographs of vending machine contents of 97 machines (n=52 beverage machines and 45 snack machines)
- Interviews (6 cafeteria operators, 11 worksite wellness coordinators, 13 executive agency leads, and 1 other stakeholder)
- Inventory and sales data from 3 micro-markets

RESULTS

Cafeterias, vending machines, and micro-market environments are not yet fully observing and in compliance with the HNG. However, progress towards *meeting* guidelines is evident and many opportunities exist for improvement.

Cafeteria Assessments

The HNG for cafeterias include basic criteria, which must be met by all sizes of cafeteria (small, medium and large), and additional criteria for beverages, food components, and behavioral economics approaches that medium and large cafeterias select to address in order to earn additional points required. Small cafeterias are also encouraged to work on the additional criteria, but are not required to do so.

Healthy Nutrition Guidelines Criteria

Basic Criteria

- While none of the cafeterias met all 9 basic criteria, all demonstrated partial observance by meeting some of the basic criteria.
- Since baseline, the most progress has been made in the areas of providing whole grains, low fat dairy products, and lean protein, and offering and promoting free water.
- All cafeterias met the basic criteria for offering whole grains, raw salad-type vegetables, lean protein options, and zero trans fats.
- Basic criteria observed by some but not all cafeterias included offering at least 3 whole or sliced fruits daily, offering at least one low-fat and one non-fat milk product, and offering and advertising the availability of free water.
- No cafeterias offered and promoted a low sodium entrée.

Beverages, Food Components and Behavioral Economics Criteria

- All ten cafeterias achieved the additional criteria points required beyond those earned for observance of basic criteria. These additional points are earned across additional strategies addressing beverages, food components and behavioral economics.
 - Beverages and Food Components
- All cafeterias met the additional criteria for no free refills of sugar sweetened beverages (SSB); offering at least one non-fried fish or seafood option per week; offering condiments, sauces, and dressings on the side; and offering smaller portions of desserts.
- Additional criteria not observed by any cafeterias included offering low fat milk as the default option for coffee service; offering only low-fat (1 %) and non-fat fluid milk; offering only 100% fruit juice; offering non-fried vegetables or fruit as the default side dish with meals; when grains are offered, making whole grain options the default for at least half of the meals; and offering yogurt with no added caloric sweeteners or labeled as reduced/less sugar.
 - Behavioral Economics
- At least half of the cafeterias observed the following behavioral economics criteria: all healthier options of chips, cereal, yogurt, milk, soda and juice are sold at an equal or lower price than equivalent items; healthier items are placed more prominently, closer

to customers, at eye level; at least 75% of promotional signage is for healthier items; and there is no marketing of deep-fried options as a feature of the day.

- Behavioral economics criteria with the lowest levels of adherence included training employers to prompt customers to choose non-fried vegetables when ordering; and promoting healthier menu options via advertising, coupons, price promotions, signs, kiosks and table tents.
- No cafeterias observed the following behavioral economics criteria: employers to prompt customers to choose zero-and low-calorie beverages when ordering; listing healthier items first for each menu category; and listing zero and low-calorie beverages on the menu before sugar-sweetened beverages.

Proportions of Healthful Vs Non-Healthful Foods

While these criteria are not included in the HNG, they are commonly used measures to further describe cafeteria food environments.

- At mid-implementation, over half of the cafeterias offered greater proportions ($\geq 51\%$) of healthy yogurts and juice beverages compared to the non-healthful varieties. This represents an improvement since baseline.
- None of the cafeterias offered $\geq 51\%$ of healthy chip or healthy milk (skim or 1%) options compared to non-healthful varieties of these food items during either time period.

Placement and Promotion

These criteria are also not included in the HNG but they are commonly used measures to describe placement and promotion of healthier food items.

- Over half of the cafeterias had signs or other displays that encourage healthy eating; promoted a feature of the day or special combination meal; offered appealing fruit and vegetables that were well-lit and offered Washington-grown products.
- The following improvements were observed since baseline: six cafeterias added signs or other displays that encouraged healthy eating or healthy food choices (note: this captured both menu-related and general signage) and seven additional cafeterias offered Washington-grown products. However, three fewer cafeterias made nutrition information available on the intra/internet and three fewer placed fruit near the cash register or point of purchase.

Areas for improvement:

- More than half of the cafeterias had signs or displays that encouraged overeating (e.g. supersizing, all-you-can-eat) and almost half had signs or displays that encourage less healthy eating or less healthy food choices.
- Placement and promotion criteria with the lowest levels of adherence included the provision of nutrition information about foods served on the agency intranet/internet; indicating healthier options on the salad bar; listing standards for terms such as “healthy” and “light” when they are used to describe food offerings; posting of nutrition

information; locating fruits and vegetables near the point of purchase and promoting Washington-grown products.

Vending

- 38% of beverage machines assessed met the healthy criteria; none of the snack machines assessed met the criteria.
- The range of beverage item compliance across agencies was 26%-64%.
- The range of snack item compliance across agencies was 4%-14%.
- At baseline, the range of beverage item compliance was 13%-50%, and the range of snack item compliance was 29%-41%. (Note: baseline and mid-implementation vending machine samples were not matched).

Micro-Markets

- Of the three micro-markets, two of the beverage sections, one of the entrée sections and none of the snack sections were in compliance with the guidelines.
- Compared to vending machines, micro-markets generally offered more healthy items. Micro-markets contained 28-34% healthy snacks versus vending which had only 3-14% of healthy snacks.
- The top selling snacks in micro-markets were hard boiled eggs, cheese and almonds.

Interviews

Cafeteria Operators

- Cafeteria operators (CO) perceive that they have an important role in offering more healthful items to employees with the end goal of improving their overall health.
- CO are not sure of the effectiveness of the guidelines so far, they acknowledge that a long-term commitment is required for improving consumer food purchasing behavior.
- CO perceive that they are fully observing the guidelines but several expressed a lack of clarity about them.
- Common barriers to implementation of the HNG include increased food cost, insufficient communication and support, lack of availability of compliant food products, and difficulty in getting product nutrition information.
- Common facilitators include internal and external support, positive response from customers, and personal motivation of the cafeteria operator.

Worksite Wellness Coordinators

- Worksite wellness coordinators (WWC) expressed ambiguity about their specific role with regard to implementation of the guidelines and a need for more training about when and where the guidelines apply.
- WWC seek more support and cross-agency and peer-to-peer sharing about successes and different approaches taken in implementing the guidelines.
- WWC are interested in better data to track progress and better monitoring systems.
- Both CO and WWC acknowledged the support received from DOH staff.

- Frustration with the lack of progress made in changing vending machine contents to healthier snack and beverage items was frequently expressed by both WWC and agency leads (AL).

Agency Leads

- AL rely heavily on the WWC to implement the guidelines but realize that WWC have varied time to spend, competing priorities, and sometimes limited capacity to do this work.
- AL noted successes that include increased efforts to bring healthy food to meetings and agency events and an increase in cafeteria offerings of healthy options.
- AL identified the need for training—including for employees—regarding nutrition and wellness and a need for more information sharing across agencies regarding successful approaches.
- AL talked about the difference in food preferences among the different workforces and agencies and emphasized that small steps and a long term commitment are needed to see sustainable success in changing food environments across agencies.
- AL talked about the need for data showing progress along the way and for more specific accountability steps.

RECOMMENDATIONS

Cafeteria:

- 1) Clarify HNG criteria. This can include clearer definitions for operators, assuring consistency in definitions throughout, and/or re-wording of criteria.
- 2) Investigate the HNG criteria that were not met in either assessment, and identify ways to address them. Some of the criteria may not be realistic for cafeterias to implement, or may not help achieve the goals as intended by the Executive Order.
- 3) Develop customized implementation plans with cafeteria operators.
- 4) Offer financial incentives for cafeteria operators to try new foods/menu items—for example, some kind of protection against revenue loss while new items are piloted.

Micro-Markets and Vending:

- 5) Increase the breadth of data collection for micro-markets and vending machines to capture additional information regarding product availability, stock dates, sales trends, and consumer purchasing behavior. This may be facilitated by further collaborating with vendors to share valuable insights and purchase and price data, and increasing data collection time periods.
- 6) Finalize micro-market HNG criteria and work with vendors to provide technical assistance.
- 7) Continue working with food suppliers to communicate demand for healthier products.

Collaboration/Communication:

- 8) Offer additional technical assistance and resources. For example, provide cafeteria operators with lists of items that meet the nutrition guidelines.

- 9) Share best-practices and success stories between agencies.
- 10) Improve or continue to expand opportunities to build relationships between key stakeholders (i.e. WWCs to WWCs, WWCs to vendors, WWCs to CO's and CO's to vendors).
- 11) Develop opportunities to widely celebrate and communicate successes of implementation of healthy nutrition guidelines across agencies.

Customers

- 12) Capture customer feedback about food available in worksites.
- 13) Explore reasons for use of vending vs. micro-market vs. cafeteria.
- 14) Encourage vendors and cafeteria operators to include taste tests and other vendor-sponsored activities to support vendors and operators in making changes.

Introduction

In Washington State, approximately 62% of adults are considered overweight or obese.¹ These conditions are associated with a number of chronic diseases including coronary heart disease, diabetes, stroke, and some cancers.² Furthermore, the medical costs associated with obesity in the United States are estimated at \$147 billion among adults.³ Diet-related approaches that target the individual have proven unsuccessful in curbing the obesity epidemic, and the need for large-scale environmental and policy strategies that make healthy options available, accessible, and affordable has been widely recommended.^{4,5} Specifically, policies that target the food environment and food supply, such as healthy food procurement and healthy food and beverage service guidelines, are considered a promising approach to improving healthy eating behaviors. The Centers for Disease Control and Prevention (CDC) recommends that state and local government agencies adopt food procurement policies and food and beverage service guidelines that align with the Dietary Guidelines for Americans.^{6,7}

In 2013, Washington Governor Jay Inslee signed Executive Order 13-06 (EO), *Improving the Health and Productivity of State Employees and Access to Healthy Foods in State Facilities*, making Washington the first state to adopt a comprehensive approach to increase access to healthier food on state property and facilities.⁸ The EO will potentially affect 46 agencies, boards and commissions encompassed in the Executive Cabinet and Small Cabinet agencies, and an estimated 73,000 state employees and clients served in institutional settings. A key requirement of the Order is that all state executive agencies adopt and implement food service guidelines that meet the Washington State Department of Health's (WA DOH) Healthy Nutrition Guidelines (HNG), which are based on the 2010 Dietary Guidelines for Americans.^{9,10} These guidelines include criteria to ensure that healthy options are available in cafeterias, on-site retail venues, vending machines, meetings and events, and institutional food service sites.

To support this approach, WA DOH convened a Food Procurement Workgroup to develop a guide for use by agencies and cafeteria operators in implementing the HNG. In addition, to facilitate implementation of the guidelines, WA DOH's Healthy Eating and Active Living (HEAL) unit conducts trainings, facilitates outreach efforts, and provides ongoing technical assistance to food service operators, agency leaders, worksite wellness coordinators, and food and beverage providers. The implementation guide and guidelines may be viewed at <http://www.doh.wa.gov/portals/1/documents/pubs/340-224-healthynutritionguidelines.pdf>

Implementation of the HNG began on July 1, 2014 with full implementation to be achieved by December 31, 2016. The State Employee Health and Wellness Steering Committee, staffed in part by WA DOH, is responsible for EO 13-06 compliance oversight. Due to the far-reaching

impact and unique needs of individual agencies and venues, WA DOH allocates significant resources in support of the successful adoption and implementation of EO 13-06. In addition to EO 13-06, WA DOH was also awarded CDC's Sodium Reduction in Communities Grant in 2013 which aims to increase access to lower sodium food options, reduce sodium intake, and continue to build practice-based evidence around effective population-based strategies to reduce sodium consumption at the community level. The overlap of these two initiatives provides an opportunity for collaboration in implementation and evaluation efforts.

In 2014, WA DOH contracted with the University of Washington Center for Public Health Nutrition (CPHN) to assist in developing and conducting an evaluation of implementation of the HNG. The baseline evaluation, conducted approximately three months into the implementation period found compliance rates in both cafeteria and vending environments to be low, however progress towards meeting the guidelines and acknowledgement of opportunities for improvement were identified in the report. Interviews with cafeteria operators (COs) revealed that many operators believed their facilities met or exceeded the guidelines. Key stakeholders described primary implementation barriers as being fear of loss of revenue due to decreased sales and increased cost of new food items, perceived lack of support/communication throughout the system, and lack of resources (e.g. staff time and marketing materials) for agency leads and worksite wellness coordinators. However, interview respondents also revealed widespread support among all stakeholders for providing employees and customers with more healthy food options.

For this mid-implementation evaluation, WA DOH again contracted with the University of Washington Center for Public Health Nutrition (CPHN) to assess implementation of the HNG. One notable difference between the baseline and this mid-implementation evaluation is the emergence of micro-markets as a new food-service option. Micro-markets provide customers with a mix of items traditionally found in vending machines, as well as grab-and-go fresh and frozen food options such as sandwiches, salads, fruit and frozen meals. Customers select desired food items and purchase them using a touch screen kiosk. Micro-markets located in executive branch office buildings fall under jurisdiction of EO 13-06. Three new micro-markets are included in the mid-implementation evaluation.

Evaluation Purpose

The purpose of this mid-implementation evaluation is to assess the current food environments and document the experiences of agencies, stakeholders, and venues affected by EO 13-06 in order to inform continuing implementation and future evaluation efforts, assess change in

observance of guidelines from baseline where possible, and make recommendations for ongoing implementation of the guidelines. Key evaluation questions include:

- 1) How does EO 13-06 impact the food environments of affected food service venues, such as worksite cafeterias and vending machines?
- 2) What are the current and anticipated facilitators and barriers of implementing EO 13-06?
- 3) What impact do the changes at affected food service venues have on the impact of venue purchases and sales?
- 4) How have the food environments changed since the baseline evaluation was conducted?
- 5) What additional resources and support are needed to facilitate implementation of the guidelines?

The evaluation plan and logic model that guide the evaluation are included in Appendices A and B.

Methods

This mixed-method evaluation included on-site assessments of cafeterias and micro-markets, photo analyses of vending machines, and key stakeholder interviews. Data collection took place from July through September, 2015. The University of Washington Institutional Review Board approved study procedures. Table 1 lists the data sources included in the evaluation.

Table 1 Evaluation Data Sources

Data Sources
Environmental assessment of 10 cafeterias
Photographs of vending machine contents of 97 machines
Interviews (6 cafeteria operators, 11 worksite wellness coordinators, 13 agency leads, and 1 other stakeholder)
Inventory and sales data from 3 micro-markets

Cafeteria Assessments

The HNG for cafeterias include basic criteria, which must be met by all sizes of cafeteria (small, medium and large), and additional criteria for beverages, food components, and behavioral economics approaches¹ that medium and large cafeterias select to address in order to earn additional points needed to receive credit for meeting the guidelines. Small cafeterias are also encouraged to work on the additional criteria, but are not required to do so. Points are awarded for each criteria.

The assessment tool used for the baseline evaluation was updated to incorporate all criteria from the HNG, clarify criteria and portion sizes, add additional detailed comment sections, and streamline the tool for easier use by researchers in the field. In addition to HNG criteria, the tool includes items adopted from the *Nutrition Environment Measure Survey (NEMS-C)*, the Center for Disease Control and Prevention's *Healthy Hospital Cafeteria Food and Beverage Environment Scan*, and General Services Administration's *Health and Sustainability Guidelines for Federal Concessions and Vending Operations*. The revised tool was piloted in University of Washington cafeterias to test for clarity and inter-observer agreement. Results from the initial pilot were incorporated into a second revision which was piloted again prior to finalizing the tool. See Appendix C for the cafeteria assessment tool.

WA DOH staff informed cafeteria operators that researchers would be contacting them and provided a contact list to the UW. Researchers followed up with the operators to schedule

¹ Behavioral economics refers to low-cost/no cost cafeteria changes such as product placement, pricing and promotion, that “nudge” customers toward making healthier food choices.

assessment visits. Four large and 6 medium cafeterias were assessed. These included 9 that were assessed at baseline (see Table 2).

Table 2 Cafeterias Assessed

Agency	Food Service Venue	Surveyed at Baseline	Affected by EO 13-06
Agencies within the Natural Resources Building)	City Picnics	Yes	Yes
Labor and Industries (LNI)	Bienvenue Café	Yes	Yes
Department of Licensing (DOL)	Hot Little Bistro	Yes	Yes
Goodrich Building (includes Department of Corrections (DOC) and Dept of Transportation)	Fresh Taste Café (formerly Courtyard Café)	Yes	Yes
Department of Social and Health Services (DSHS)	Oasis Café	Yes	Yes
Department of Enterprise Services (DES)	Megabites Deli	Yes	Yes
Legislative building	Dome Deli	Yes	No**
Department of Ecology (ECY)	The Ecology Café!	Yes	Yes
Department of Social and Health Services (DSHS)	Bobby Jayz	Yes	Yes
Department of Transportation (DOT)	R-Café	N/A*	Yes

**The cafeteria was not in operation during Year 1 evaluations*

***Although technically not covered under EO 13-06, this cafeteria is one of two managed by an operator who applies the guidelines to both operations.*

Three researchers visited cafeteria sites between July and August during regular lunch hours to ensure consistency. Each researcher was responsible for collecting data in a pre-assigned section of the cafeteria assessment tool. If a researcher was uncertain of the appropriate response, they first spoke with the cafeteria operator or cafeteria manager (if present), then discussed the response with the research team, and then documented the final decision in the

tool comments. When necessary, cafeteria operators were contacted after the visit to confirm that the recorded data were accurate.

Researchers used a code book to code and enter observational data into an excel spreadsheet. Data were visually inspected for errors and discrepancies or questions were discussed among the team and corrected prior to analysis. The primary analysis included the evaluation of observance of the basic criteria and trends in observance of EO13-06 between baseline and mid-implementation. Secondary analysis included the evaluation of the additional criteria which contained proportion, price of healthy items, and placements and promotion of items. When possible, observance of these criteria were also compared between baseline and mid-implementation.

Vending

The HNG for vending includes three categories of foods and beverages: healthiest, healthier, and limited. Vending machines must contain at least 50% of items meeting nutrition criteria listed in the healthier and/or healthiest categories. Researchers assessed vending machine contents by visually assessing photographs which were provided by worksite wellness coordinators and WA DOH staff who followed an established protocol for taking and labeling photographs (see Appendix D for vending machine photo protocol). Photos of 98 machines taken in 35 buildings representing 10 agencies were received (see Table 3 for agencies included in vending machine assessments). Of the machines assessed, 45 machines contained snack items and 53 machines contained beverages. Out of 98 vending machine photos, 97 machines were code able and 1 machine was un-code able due to lack of clarity and quality of the photos.

Table 3 Location of Assessed Vending Machines Within Agencies

Department of Health
Department of Retirement Systems
Department of Services for the Blind
Department of Veteran Affairs
Department of Social and Health Services
Health Care Authority
Labor & Industries
Licensing Department
Natural Resources Building
WA State Lottery

Research staff evaluated images from each machine by recording the total number of slots and the specific food and beverage product in each slot. Food items were matched to a nutrition database that categorized individual food and beverage items as either healthiest, healthier, or limited. The proportion of healthiest, healthy, and limited items in each machine was calculated.

Micro-markets

Micro-markets are relatively new and at the present time, no national guidelines exist for these new foodservice venues. The HNG for micro-markets (still in draft form at the time of this evaluation) includes three categories of snacks and beverages: healthiest, healthier, and limited. As with vending machines, micro-market snack and beverage items must comprise at least 50% of items meeting nutrition criteria listed in the healthier and/or healthiest categories. Micro-markets include a third category of foods designated as grab and go entrees. At least 25% of grab and go entrees present must meet healthy criteria (see Appendix E for draft micro-market guidelines). Three micro-markets from three state agencies were assessed between July and August 2015.

To assess observance of the guidelines, researchers used a standard protocol to photograph micro-markets (see Appendix F for micro-market photography protocol). Research staff evaluated images from each micro-market by recording the total number of specific food and beverage items and matching them to a nutrition database that categorized individual food and beverage items as either healthiest, healthier, limited for snacks and beverages; or, healthy for grab and go entrees. The proportion of healthiest, healthy, and limited snack and beverage items were calculated. The proportion of healthy and unhealthy grab and go entrée items was also calculated. The micro-market vendor also provided sales data from April to August 2015 for each micro-market. The sales data were evaluated to assess the amount of healthy and unhealthy options sold each month, and to identify and compare the most frequently sold healthy items in each market.

Interviews

WA DOH staff received approval from the Department of Services for the Blind Business Enterprise (BEP) Program Manager to have UW researchers directly contact their cafeteria operators (CO) who are licensees under the BEP program. The remaining operators were informed by WA DOH that the UW would contact them for an interview, and encouraged them to participate. WA DOH staff also identified agency leads (AL), worksite wellness coordinators (WWC) and other stakeholders (STKD) for interviews. WA DOH and the Washington State Health Care Authority leadership sent initial email invitations to the potential interviewees to encourage them to participate in the voluntary interviews when contacted by UW researchers. Using a contact list provided by WA DOH, UW researchers contacted potential interviewees by

email, providing information sheets, and asked them to respond if willing to be interviewed. The research team made three attempts to recruit each potential interviewee. All interview protocol were approved by UW Human Subjects Division. Table 4 shows the number and type of potential interviewees contacted and the number interviewed.

Table 4 Interviewees

Interviewee Category	Number Contacted	Number Interviewed
Cafeteria Operators (COs)	8	6
Worksite Wellness Coordinators (WWCs)	14	12
Agency Leadership (ALs)	27	12
Other Stakeholders (STKDs)	1	1
TOTAL	51	31

Of the 51 individuals contacted, 31 responded including 6 COs, 13 AL, 11 WWC, and 1 representative from a major vending company (STKD). Of the 8 COs contacted, 6 agreed to participate, 1 declined to be interviewed, and 1 did not respond. Five CO interviews were conducted in-person at the cafeteria site and 1 was conducted over the telephone. Twenty three ALs and 14 WWCs were invited via email to participate in interviews. Of the ALs contacted, 9 agreed to participate, 4 recommended alternates, 4 declined, and 7 did not respond. One AL who agreed to participate was unable to complete the interview because of a scheduling conflict. Reasons for AL interview declines included limited availability and the belief that the EO had minimal application to their agency. Of the WWCs contacted, 12 agreed to participate, and 2 did not respond. Agency lead, WWC, and the stakeholder interviews were all conducted via telephone. The interviews lasted between 45-60 minutes. See Appendix G for the interview questions.

The research team audio recorded all interviews and an outside consultant transcribed them verbatim. Four interviews were not transcribed due to a recording malfunction; detailed notes from these 4 interviews were incorporated into the analysis. An initial codebook for the CO interviews was developed based upon interview responses and the baseline evaluation codebook. Two researchers separately coded 3 of the CO interviews. They discussed any coding discrepancies until consensus was reached. Following the preliminary coding phase, researchers revised the codebook and re-coded the original set of interviews until a higher inter-rater agreement was reached. The remaining 4 CO interviews were coded independently. A similar codebook was developed to evaluate interviews with AL, WWCs, and the STKD.

Results

Cafeteria Assessments

Basic Criteria

While none of the cafeterias satisfied all 9 basic criteria, all cafeterias demonstrated partial observance by meeting some of the basic criteria:

All 10 cafeterias assessed offered:

-
- At least 1 whole grain
-
- At least 1 raw, salad-type vegetable
-
- At least 1 lean protein option
-
- No meals containing trans-fats

7 of 10 cafeterias offered:

-
- At least 3 whole or sliced fruit options
-
- Low-fat and non-fat dairy products
-
- No more than 1 deep-fried entrée option daily

5 of 10 cafeterias offered and promoted:

-
- Free water

0 of 10 cafeterias offered and promoted:

-
- At least one low-sodium entrée

While none of the cafeterias met all of the HNG basic criteria (see Table 5), progress has been made in the area of providing whole grains, low fat dairy products, lean protein and water.

Table 5 Numbers of Cafeterias Observing Basic Criteria

Criteria (Required for all food service venues)	# Cafeterias Baseline (n=9)	# Cafeterias Mid-Implementation (n=10)
Whole Grain <i>Large: Do you offer two whole grain rich options daily?</i> <i>Medium: Do you offer at least one whole grain rich option daily?</i>	0	10
Vegetable <i>Large: Do you offer at least one raw, salad-type and at least one steamed, baked or grilled vegetable daily?</i> <i>Medium: Do you offer at least one raw, salad-type vegetable daily?</i>	not assessed	10
Fruit <i>Large/Medium: Do you offer at least three whole or sliced fruits daily?</i>	7	7
Lean Protein <i>All: Do you offer at least one lean meat option such as poultry, fish, or a low-fat vegetarian option?</i>	9	10
Low Sodium Entrée <i>All: Do you offer and promote at least one low sodium entrée?</i>	0	0
Deep-Fried <i>All: Do you offer no more than one deep-fried entrée option daily?</i>	8	7
Oils (trans-fat, partially hydrogenated oils) <i>All: Are all meal items free of artificial trans-fat or partially hydrogenated oils?</i>	not assessed	10
Low Fat and Non Fat Milk Products <i>All: Do you offer at least one low-fat and one non-fat milk product?</i>	5	7
Water <i>All: Do you offer free water and advertise its availability?</i>	1	5

Baseline to Mid-Term Implementation Comparison

Since the baseline evaluation (2014) The biggest gains were observed in the number of cafeterias offering whole grain rich options and low fat/non-fat milk products. This may be

partially due to our increased ability during this evaluation phase to ask cafeteria operators about the products they carry when labels or other product information weren't readily available to our field researchers. Comparisons for vegetables, low sodium entrees and the presence of trans-fat/partially hydrogenated oils could not be made due to lack of baseline data for these items. Observance of other criteria appears comparable from baseline to mid-term.

Additional Criteria: Beverages, Food Components, and Behavioral Economics Strategies

Cafeterias were assessed for observance of specific beverage, food and behavioral economics criteria. The results are presented separately for food/beverages and for behavioral economics.

Table 6 lists the additional criteria for beverages and food observed by all 10 cafeterias and by none of the 10 cafeterias.

Table 6 Additional Criteria Observance for Beverages and Food: Full vs None

<i>Full Observance (10/10 Cafeterias)</i>
No free refills of SSBs
Offer at least one non-fried fish or seafood option per week
Offer condiments, sauces, and dressings on the side
If dessert is offered, offer smaller portions (2oz) of cookies, bars, etc.
<i>No Observance (0/10 Cafeterias)</i>
Only low fat (1%) and non-fat fluid milk products are offered
Coffee service has milk (2%, low-fat or non-fat) as default option rather than cream or half and half
Offer only 100% fruit juice
Non-fried vegetables or fruit are the default side dish with meals (0/3*)
When grains are offered, make whole grain options the default for half of meals
For cheese, yogurt and other milk products, offer low-fat and non-fat products as the default options
Only offer yogurt with no added caloric sweeteners or labeled as reduced/less

* Denominator for non-fried vegetables or fruit represents only 3 cafeterias because the other 7 did not offer a default side dish and were not included in this analysis.

Table 7 lists the proportions of cafeterias observing at least half and less than half of the additional criteria for beverages and food.

Table 7 Additional Criteria for Beverages and Food: Proportional Observance by Cafeterias

<i>Observed by more than half of cafeterias</i>
At least one WA grown food product is available at all times (6/10)
Allow substitution of non-fried vegetable side dish for no extra charge and promote this option (5/7)*
Offer salad bar (7/10)
Offer at least one oil and vinegar based salad dressing that is also low in sodium (8/9)*
Serve one meal per day that provides at least three of the following: (one serving of fruit, vegetables, beans or whole grains) (7/10)
Offer low sugar cereals with at least 3g of fiber (2/3)*
<i>Observed by less than half of cafeterias</i>
Low fat (1%) or non-fat milk are default fluid milk options for café service (1/8)*
Cup sizes no larger than 16 oz. (1/9)*
If SSBs are offered, an equal number of zero and low calorie beverages must also be offered (1/10)
Vegetable juices offered contain 230 mg or less sodium per serving (1/8)*
Half size portions are available for at least half of all entrée items and this option is promoted (4/10)
Offer healthy options with bread in place of butter (1/6)*
Fruit located in close proximity to dessert options (3/10)
For breakfast foods, offer small portions of muffins, quick breads and bagels (3/10)

* The denominator for some criteria is less than 10 because not all criteria were relevant to each cafeteria. For example, a cafeteria may not have offered vegetable juices, cereal, or café service and was therefore not included in this analysis.

A question regarding the purchase of lower sodium products was included in the Additional Criteria section. Each cafeteria operator was asked if they purchased low sodium soup bases, canned tomatoes, deli meat, frozen vegetables or grain products. Figure 1 shows the most frequently purchased low sodium products. Only 1 cafeteria purchased all 5 low sodium products; the other cafeterias purchased either 3 products (n=1), 2 products (n=1), 1 product (n=5) or 0 products (n=2).

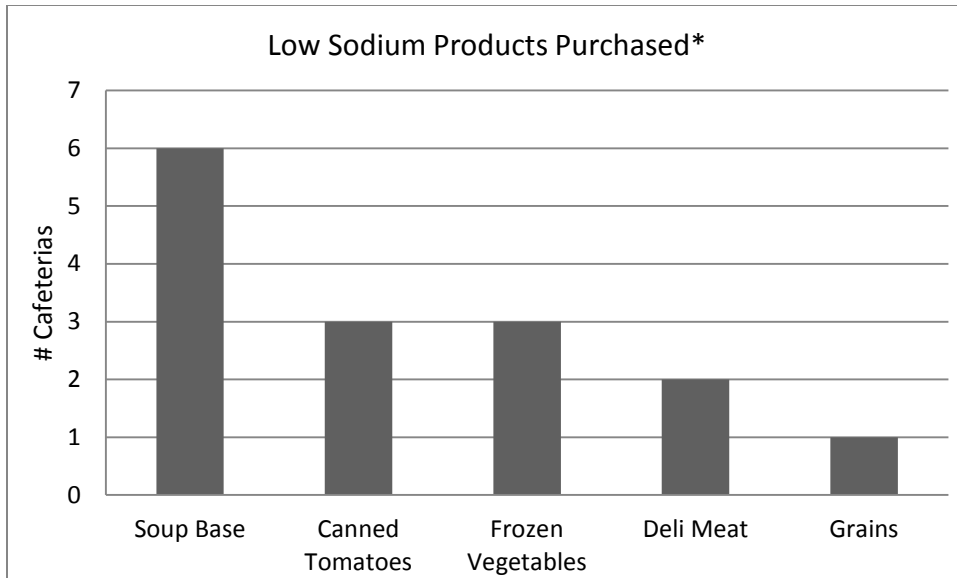


Figure 1: Low Sodium Products Purchased by Cafeterias

* These data were self-reported by cafeteria operators during interviews.

Table 8 shows the criteria for behavioral economics strategies which at least half of cafeterias and less than half of cafeterias observed.

Table 8 Behavioral Economics Criteria: Proportional Observance by Cafeterias

<i>Observed by at least half of cafeterias</i>
All healthier options of chips, cereal, yogurt, milk, soda, and juice are sold at an equal or lower price than equivalent item available (9/10)
Healthier items are placed more prominently, closer to customers, and at eye level (6/10)
At least 75% of promotion signage is for healthier items (5/10)
No marketing of deep-fried options as the feature of the day (8/10)
<i>Observed by less than half of cafeterias</i>
Employees are trained to prompt customers to choose non-fried vegetables when ordering (1/10)
Employees are trained to prompt customers to choose zero- and low-calorie beverages when ordering (0/10)
Healthier items are listed first for each category of the menu (0/10)
Zero- and low-calorie beverages are listed before sugar-sweetened beverages on the menu (0/10)
Healthier menu options are promoted via advertising, coupons price promotions, signs, kiosks, table tents, etc. (3/10)

Cafeterias are required to achieve minimum additional combined points from scores from beverages, foods and behavioral economics criteria. Medium size cafeterias must earn a

minimum of 10 additional points and large cafeterias must earn at least 25 additional points. Table 9 shows the total scores (not including basic criteria) for each cafeteria. All cafeterias achieved the required minimum additional points.

Table 9 TOTAL: Additional Criteria + Behavioral Economics Scores

Cafeteria Code	Score
Medium Size Cafeterias	
J	28
D	32
C	24
I	24
G	19
E	16
Large Size Cafeterias	
F	40
B	30
H	25
A	26

Healthful vs. Non-Healthful

The proportion and price of healthful compared to non-healthful food and beverage options in cafeterias was assessed. Although these criteria are not included in the HNG, the results help to further describe the cafeteria food environments. Table 10 lists the proportion of cafeterias which offer at least half healthy options.

Table 10 Proportion of Cafeterias Offering At Least Half Healthy Options by Food Category at Baseline and Mid-Implementation

Category	Proportion of Cafeterias Offering ≥51% Healthy Options	
	Baseline*	Mid-Implementation*
Low-sugar/High Fiber Cereal	1/5	0/4
Low-fat Chips	0/9	0/10
Low or Reduced-fat Yogurt	1/7	7/9
Skim or 1% Milk	0/9	0/8
Diet Soda	0/7	1/9
100%/Low-sodium Juice	2/9	5/9

* The denominator for some criteria is less than the total number of cafeterias assessed because not all criteria were relevant to each cafeteria. For example, a cafeteria may not have offered cereal, yogurt, or juice and were therefore not included in this analysis.

At mid-implementation, over half of the cafeterias offered greater proportions ($\geq 51\%$) of healthy yogurts and juice beverages compared to the non-healthy varieties. This represents an improvement since baseline. Notably, none of the cafeterias offered $\geq 51\%$ of healthy chip, or milk options compared to non-healthy varieties of these food items during either time period.

Assessment of price data revealed that all cafeterias offering both healthy and regular options priced the comparable cereal (n=2), chip (n=6), and soda (n=10) options at the same price per product. In 5 cafeterias offering both yogurt options, the healthier yogurt was less expensive at 3 cafeterias and the same price as regular yogurt at 2 cafeterias. At 2 cafeterias offering both low-fat (1% or skim) and whole and/or 2 percent milk options, the low-fat milk option was less expensive than the regular milk in one cafeteria, and the same price in the other.

Table 11 lists the proportion of cafeterias observing at least half and less than half of the healthy vs non-healthy criteria.

Table 11 Proportion of Cafeterias Observing Healthy vs Non-Healthy Criteria

Observed by at least half of cafeterias ↓	Observed by less than half of cafeterias ↓
<i>Healthful</i>	
Offered 100% unsweetened tea in fountain drink stations (7/9)*	Offered ≥50% diet sodas in fountain drink stations (1/9)*
Salad or fresh vegetables can be substituted for fries or chips at no additional cost (6/7)*	Whole grain starch side w/o added sauce is available (3/7)*
Non cream based soup available (10/10)	
Low-fat Dressing Available (4/6)*	
<i>Non-Healthful</i>	
Fries are automatically included as a meal side (3/3)*	Chips are automatically included as a meal side (1/4)*

*The denominator for some criteria is less than 10 because not all criteria were relevant to each cafeteria. For example, a cafeteria may not have offered sides for meals, a salad bar, or a fountain drink station and were therefore not included in this analysis.

Baseline to Mid-Term Implementation Comparison

Figure 2 shows proportion of healthy snacks offered in cafeterias at baseline and mid-term implementation. Overall, results were mixed across categories. One category improved (healthy yogurt), one remained the same (healthy chips) and one worsened (healthy cereal).

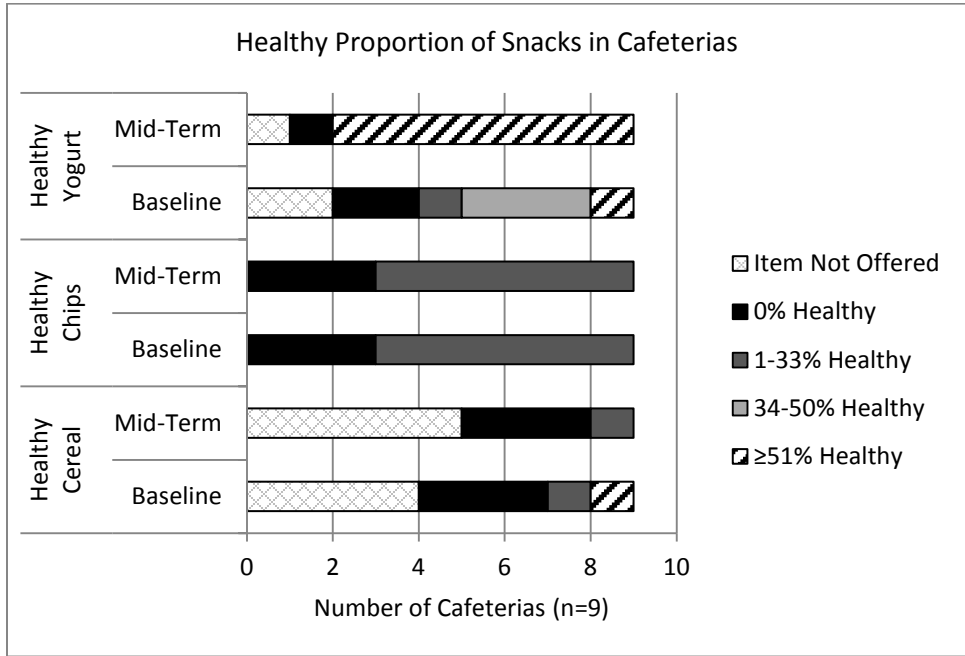
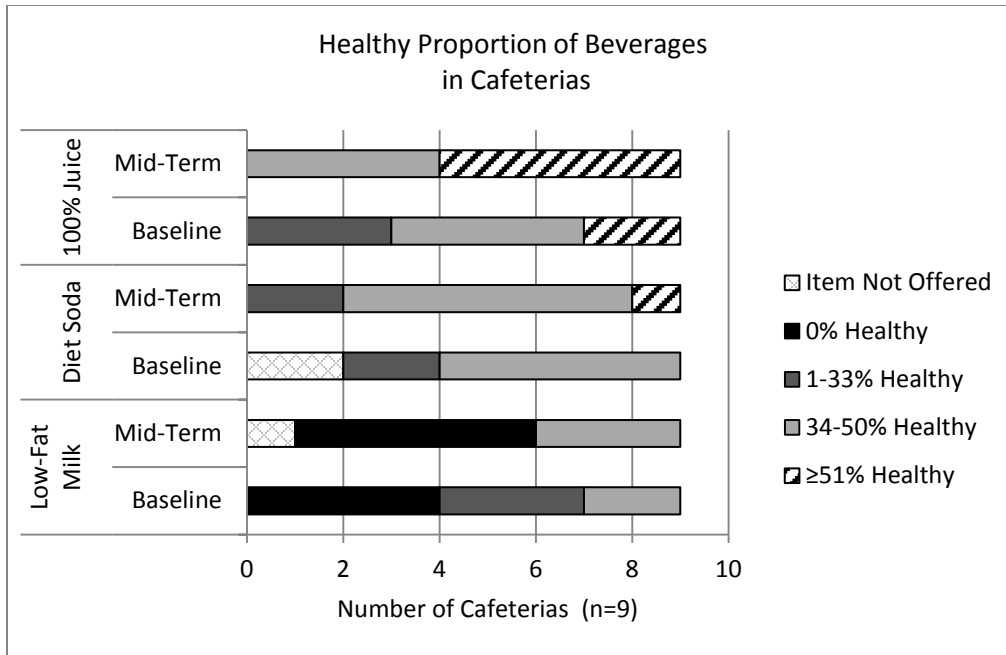


Figure 2 Proportion of Healthy Snacks at Baseline and Mid-Implementation

* Data includes the 9 cafeterias assessed both at baseline and mid-term implementation.

Figure 3 shows the proportion of healthy beverages offered in cafeterias at baseline and mid-term implementation. Again, results are mixed but a clear improvement in proportion of healthful juice beverages was observed.



* Data includes the 9 cafeterias assessed both at baseline and mid-term implementation.

Figure 3 Proportion of Healthy Beverages at Baseline and Mid-Implementation

Placement and Promotion

The final section of the Cafeteria Assessment evaluated the placement and promotion of healthier items. Although these are not part of the scored HNG criteria, the results help to further describe the cafeteria food environments. Table 12 shows the criteria observed by at least half and less than half of cafeterias.

Table 12 Placement and Promotion Criteria

More than half met criteria ↓	Less than half met criteria ↓
<i>Healthful</i>	
Cafeteria has signs or other displays that encourage general healthy eating or healthy food choices (posters on wall, signs, table tents, etc.) (8/10)	Cafeteria has other information about promotions or pricing strategies (farmers markets, discounts on healthy items, locally grown, etc.) (0/10)
Feature of the day or special combination meal is promoted (10/10)	Brochure/nutrition information is on the intranet/internet (4/10)
Fruit is well lit (7/10)	Healthier options are indicated on salad bar (Go, Slow, Whoa icons or other systems) (0/10)
Fruit is appealing in appearance (looks fresh, not bruised, etc.) (7/10)	Cafeteria identifies menu items as "healthy" or "light" (1/10)
Vegetables are well lit (7/10)	When terms "healthy" or "light" are used, standards are listed for these items (0/10)
Vegetables are appealing in appearance (looks fresh, not discolored, etc.) (10/10)	Nutrition information is posted on menu boards, brochures, or in other display areas (1/10)
Washington-grown products are available (7/10)	Some fruit is located near the register/point of purchase (4/10)
	Some vegetables are located near the register/point of purchase (2/10)
	Washington-grown products are promoted/marketed (0/10)
<i>Non-Healthful</i>	
Cafeteria has signs or displays that encourage overeating (supersizing, all you can eat, etc.) (10/10)	Cafeteria has signs or displays that encourage less healthy eating or less healthy food choices (4/10)

Baseline to Mid-Term Implementation Comparison

Table 13 shows the number of cafeterias that met each placement and promotion criteria at baseline and at mid-implementation. Since the baseline assessment, six cafeterias added signs or other displays that encouraged healthy eating or healthy food choices and seven additional cafeterias offered Washington-grown products. However, three fewer cafeterias made nutrition information available on the intra/internet and three fewer placed fruit near the cash register or point of purchase.

Table 13 Placement and Promotion

Criteria	# Cafeterias Baseline (n=9)	# Cafeterias Mid-Implementation (n=10)
<i>Positive Indicators</i>		
Cafeteria has signs or other displays that encourage general healthy eating or healthy food choices (posters on wall, signs, table tents, etc.)	2	8
Feature of the day or special combination meal is promoted	8	10
Cafeteria has other information about promotions or pricing strategies (farmers markets, discounts on healthy items, locally grown, etc.)	0	0
Brochure/nutrition information is on the intranet/internet	4	1
Healthier options are indicated on salad bar (Go, Slow, Whoa icons or other systems)	0	0
Cafeteria identifies menu items as “healthy” or “light”	2	1
When terms “healthy” or “light” are used, standards are listed for these items	1	0
Nutrition information is posted on menu boards, brochures, or in other display areas	1	1
Fruit is well lit	9	7
Fruit is appealing in appearance (looks fresh, not bruised, etc.)	6	9
Some fruit is located near the register/point of purchase	7	4
Vegetables are well lit	7	8
Vegetables are appealing in appearance (looks fresh, not discolored, etc.)	8	10
Some vegetables are located near the register/point of purchase	2	2
Washington-grown products are available	1	7
Washington-grown products are promoted/marketed	0	0
<i>Negative Indicators</i>		
Cafeteria has signs or displays that encourage less healthy eating or less healthy food choices	3	4
Cafeteria has signs or displays that encourage overeating (supersizing, all you can eat, etc.)	1	0
Unhealthy items are located near cash register/point of	9	10

For persons with disabilities, this document is available on request in other formats.
To submit a request, please call 1-800-525-0127 (TDD/TTY 711)

purchase

Vending

A total of 52 beverage machines and 45 snack machines were assessed for compliance with the HNG. The guidelines for vending machines require that at least 50% of vending products meet the healthier or healthiest criteria. Table 14 shows the number and percent of compliant vending machines in each agency. It illustrates that a higher percent of beverage machines than snack machines were compliant with the HNG. Table 15 shows the percent of snack and beverage items by HNG category (healthiest, healthier, limited) and the overall HNG compliance percentage (healthiest plus healthier) by agency. At baseline within agencies, the range of beverage item compliance was 13%-50%, and the range of snack item compliance was 29%-41%. It is important to note that the baseline and mid-implementation vending machine samples were not matched at the individual machine level. Figure 4 is a graphic representation of the final column in Table 15. It shows the percent of individual snack and beverage items meeting the guidelines in vending machines within each agency's vending machines. The range of beverage item compliance across agencies was 26%-64%, with the highest being at the Health Care Authority, and the range of snack item compliance across agencies was 4%-14%, with the highest compliance at WA State Lottery.

Table 14 Vending Machine Compliance by Agency

Agency	# Beverage Machines In Compliance	Total # Machines	% Bev. Machines in Compliance	# Snack Machines in Compliance	Total # Machines	% Snack Machines in Compliance
Department of Health	4	10	40%	0	6	0%
Department of Retirement Systems	1	1	100%	0	1	0%
Department of Services for the Blind	0	1	0%	0	1	0%
Department of Veteran Affairs	2	4	50%	0	2	0%
DSHS	5	20	25%	0	28	0%
Health Care Authority	2	2	100%	0	2	0%
Labor & Industries	0	3	0%	0	1	0%
Licensing	3	5	60%	0	1	0%
National Resource Building	3	5	60%	0	1	0%
WA State Lottery	0	1	0%	0	2	0%
Total Machines in Compliance	20	52	38%	0	45	0%

Percent Compliant Snack and Beverage Items By Agency

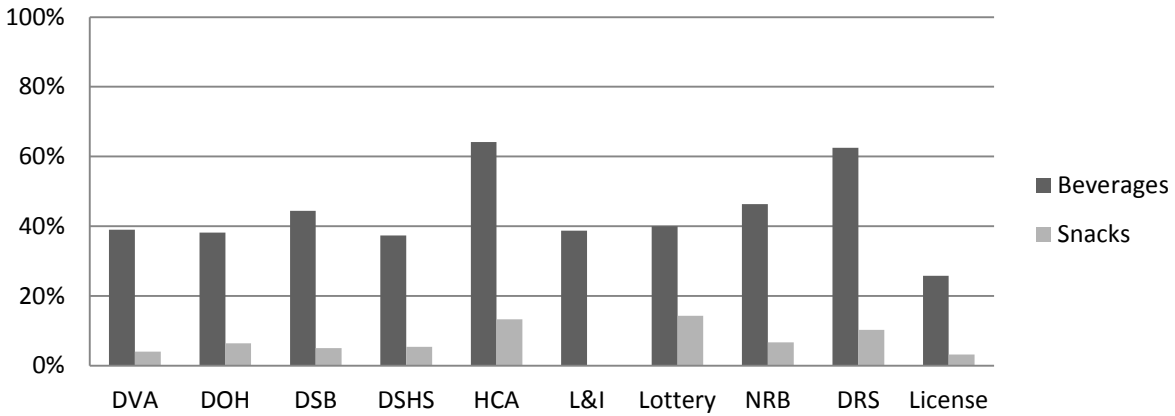


Figure 4 Percent Compliant Snack and Beverage Items by Agency

Table 15 Percent Compliant Snack and Beverage Items By Agency By HNG Category

Agency	% Healthiest	% Healthier	% Limited	% Compliant by HNG Criteria (Healthiest + Healthier) (Bold type = meets HNG)
Snack Vending Machines (n=45)				
Dept. of Health	0	6	76	6
Dept. of Retirement Services	0	10	88	10
Dept. of Services for the Blind	0	5	84	5
Dept. of Veterans Affairs	0	4	90	4
DSHS	0	5	85	6
Health Care Authority	0	13	46	13
Dept. of Labor and Industries	n/a	n/a	n/a	n/a
Dept. of Licensing	0	3	36	3
Natural Resources	0	7	74	7
WA State Lottery	0	14	64	14
Total Snacks	0	6	92	6
Beverage Vending Machines (n=52)				
Dept. of Health	9	29	62	38
Dept. of Retirement Services	0	63	38	64
Dept. of Services for the Blind	11	33	56	44
Dept. of Veterans Affairs	7	32	61	39
DSHS	10	27	63	37
Health Care Authority	11	53	36	64
Dept. of Labor and Industries	29	10	61	39
Dept. of Licensing	9	17	68	26
Natural Resources	10	37	53	47
WA State Lottery	0	40	60	40
Total Beverages	11	28	60	39

For persons with disabilities, this document is available on request in other formats.
To submit a request, please call 1-800-525-0127 (TDD/TTY 711)

Micro-Markets

A total of 3 micro-markets were assessed for compliance with the Healthy Nutrition Guidelines. The guidelines for micro-markets state 25% of grab-n-go entrees and 50% of snacks and beverages present must meet healthy nutrition criteria to be in compliance. The micro-market nutrition criteria for snacks and beverages were the same as vending machine snacks and beverages; items were categorized as 'healthiest, healthier or limited' based on calorie, sugar, fat, whole grain and sodium criteria. Entrée items were categorized as 'healthiest or limited' based on calories, fat, sodium and whole grain criteria.

Table 16 shows micro-market compliance at the three agencies assessed. The beverage sections at the Labor and Industries (L&I) and Department of Health (DOH) micro-markets and the entrée section at DOH were in compliance.

Table 16 Micro-Market Compliance

Agency	% Healthiest/ Healthy	% Healthier	% Limited	% Compliance (Bold type=meets HNG)
<i>ENTREES</i>				
Dept of Health	37	N/A	63	37
Dept of Transportation	4	N/A	96	4
Dept of Labor and Industries	9	N/A	91	9
<i>SNACKS</i>				
Dept of Health	15	19	66	34
Dept of Transportation	11	17	72	28
Dept of Labor and Industries	14	18	69	32
<i>BEVERAGES</i>				
Dept of Health	26	28	46	54
Dept of Transportation	35	9	57	44
Dept of Labor and Industries	26	29	45	55

Table 17 shows the top 10 micro-market product sales of snacks, entrées and beverages by agency. The most frequently purchased snacks included hard boiled eggs, cheese squares/string and almonds; the most frequently purchased entrees were Lunchables® and hummus & pretzels, and the most frequently purchased beverages were water, Talking Rain® (sparkling flavored water), and Starbucks Refreshers® (fruit/coffee drinks with added sugar.)

Table 17 Top 10 Micro-Market Product Sales by Agency

	L&I	DOT	DOH
SNACKS	Wilcox Hard Boiled Eggs	Tillamook Cheddar Cheese Squares	Tillamook Cheddar Cheese Squares
	Blue Diamond Almonds	Lays Regular	Frigo String Cheese Mozzarella
	Tillamook Cheddar Cheese Squares	Cheetos Crunchy	Wilcox Hard Boiled Eggs
	Mixed Berry Granola & Yogurt Parfait	Wilcox Hard Boiled Eggs	Ruffles Cheddar & Sour Cream
	Frigo String Cheese Mozzarella	Fritos Regular	Twix Bar
	Snickers	Snickers	Cliff Bars
	Avanti Markets Chocolate Pudding Cup	Blue Diamond Almonds	Snickers
	Real Foods Strawberry Parfait Cup	Peanut M&M's	Grandmas Mini Sandwich Vanilla
	Reeses PB Cup	Blue Bunny Mississippi Mud Sandwich	Rold Gold Pretzel
	That's It Fruit Snacks	Fritos Chili Cheese	Mixed Berry Granola & Yogurt Parfait
ENTREES	Lunchables (Turkey & Cheddar/Ham & Swiss)	Lunchables (Turkey & Cheddar/Ham & Swiss)	Lunchables (Turkey & Cheddar/Ham & Swiss)
	Sabra Hummus & Pretzels	Hot n Ready Breakfast Sandwich	Sabra Hummus & Pretzels
	Hot n Ready Breakfast Sandwich	Ruiz Chicken Cheese Chimichanga	Hot n Ready Breakfast Sandwich
	Bumble Bee Tuna/Chicken Salad	Hot Pockets	Dave's Killer Blues Turkey Breast & Provolone
	Chicken Caesar Wrap	Sabra Hummus & Pretzels	Black Forest Ham & Swiss Sandwich
	Black Forest Ham & Swiss	Healthy Choice Frozen Meal	Smoked Turkey Swiss Sandwich
	Chef Salad with Grilled Chicken	Napoleon Breakfast Burrito	Ham & Cheddar Sandwich
	Smoked Turkey Swiss Sandwich	Bumble Bee Tuna/Chicken Salad	Tortellini Pasta Salad
	Tortellini Pasta Salad	Nissin Chicken/Beef Noodles	British Pub roll
	Caesar Salad with Grilled Chicken	Burry Bagel Plain Cream Cheese	Caesar Salad with Grilled Chicken
BEVERAGES	Starbucks Refreshers	Nestle Pure Life Water	Talking Rain SE Lemon Lime/Tangerine
	Sugar Free Red Bull	Snapple Diet Tea Peach/Lemon	Nestle Pure Life Water
	San Pellegrino Limonata/Aranciata	Smith Brothers 2% Half Pint White Milk	Sugar Free Red Bull
	Starbucks Frappuccino	San Pellegrino Limonata/Aranciata	San Pellegrino Limonata/Aranciata
	Naked Juice Smoothie	Canada Dry Ginger Ale	Starbucks Frappuccino
	Starbucks Doubleshot	Naked Juice Smoothie	Snapple Diet Tea Peach/Lemon
	Talking Rain SE Lemon Lime/Tangerine	Starbucks Frappuccino	Starbucks Refreshers
	Snapple Diet Tea Peach/Lemon	Tea's Tea Unsweetened Green + White Tea	Starbucks Doubleshot
	Canada Dry Ginger Ale	Snapple Lemon Tea	Smith Brothers 2% Half Pint White Milk
	Nestle Pure Life Water	Welch's Apple Cranberry Juice	Tea's Tea Unsweetened Green + White Tea

Figure 5 shows the sales of all entrees, snacks and beverages meeting the 'healthiest/healthier' criteria at each micro-market from April - August 2015. Healthy beverages are sold on average more frequently than healthy snacks or entrées, and healthy entrées are sold least frequently.

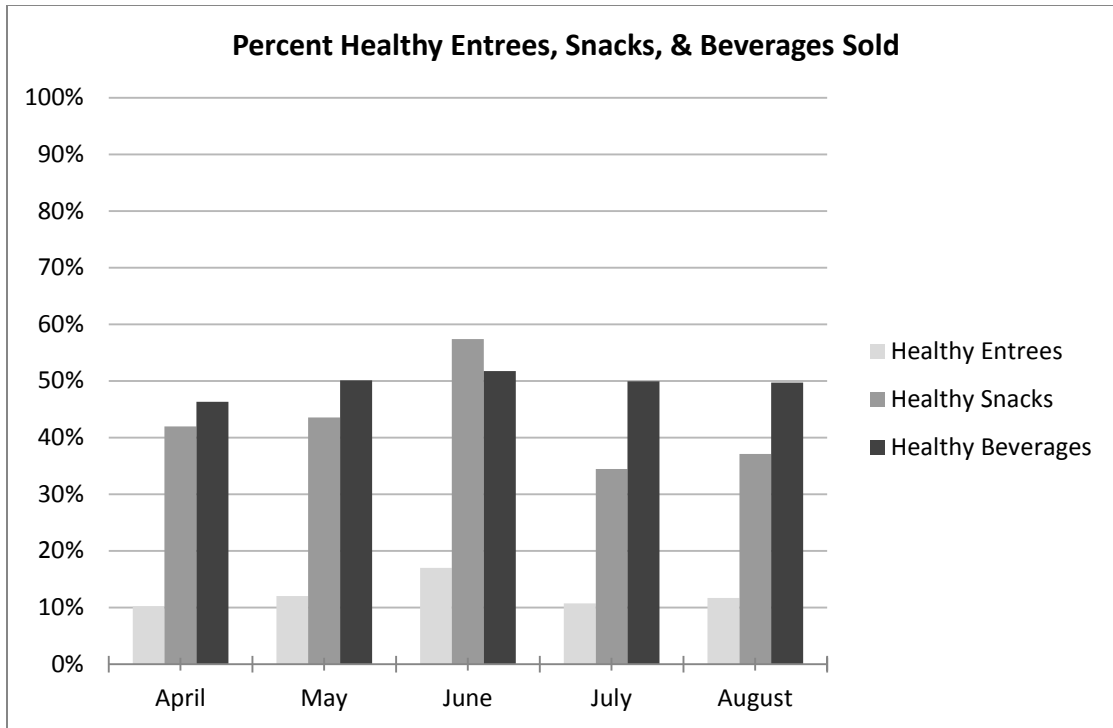


Figure 5 Percent Healthy Entrees, Snacks and Beverages Sold by Month in Micro-Markets

Figure 6 shows the sales of healthy items at each micro-market versus the presence of these healthy items. Sales of food and beverage items appear to somewhat track the proportion of these items present in the micro-market. This relationship appears stronger for beverages and entrees than for snacks.

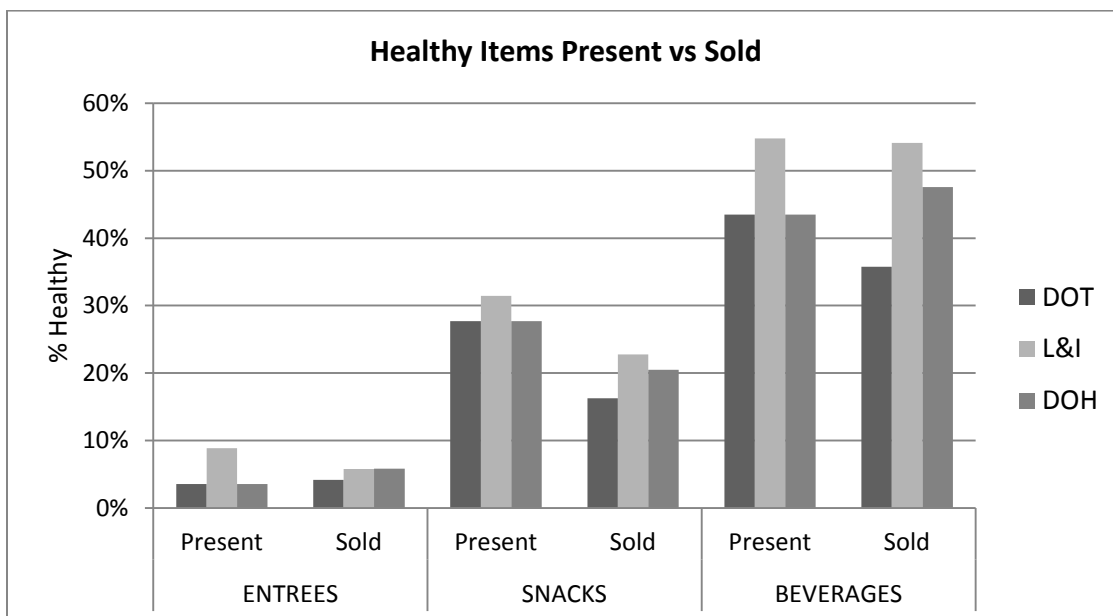


Figure 6 Proportion of Healthy Items Present vs Healthy Items Sold in Micro-Markets

Interviews

Cafeteria Operators (CO)

Perceived Goals and Guideline Effectiveness

Overall, all Cafeteria Operators (COs) agreed the overall goal of the Healthy Nutrition Guidelines is to encourage state employees to select healthier food options.

“I think the overall goal would be to take the next step in terms of getting the general public – in this case the state employees – in taking the next step in terms of them to become conscientious of what they’re eating, how much they are eating, and what’s in the food their eating.” - CO

When asked if the overall implementation of the guidelines up to this point had met this perceived goal, responses ranged from “partially” to “insignificantly.”

The COs used terms such as “encourage,” “offer,” and “hands-off” to describe the Healthy Nutrition Guideline’s approach to increase healthier food choices. Three COs described the process of meeting the overall guideline goals as “a long-term commitment” and “a long journey” – phrases which reflected the perception that attainment of goals and subsequent behavior change among customers will take time.

“It’s not going to happen overnight. I think what you want to do is just slowly start getting people to change their habits. Old habits are hard to change, and so my goal would be to move forward slowly and just get people to start making healthier decisions, more frequently than less frequently.” - CO

Perceived Role of Cafeteria Operators

All COs indicated their role in guideline implementation is to offer healthier options that cater to customer demand. An emphasis on providing options and meeting customer demand was also identified in baseline interviews. Several COs specified that their role did not include the promotion and education of healthy foods to customers. In contrast, one CO perceived customer education to be a key factor for the promotion of healthful items. The CO stated, *“If I don’t educate them, they won’t eat it.” - CO*

Experiences during Implementation –

When asked to describe their most- and least successful changes related to guideline implementation, the COs described various experiences related to their expansion of healthy food options and execution of behavioral economic strategies.

Overall, the COs described more successful experiences offering healthier options than unsuccessful experiences. Frequently reported achievements included the addition of more low-sodium foods, fresh fruits and vegetables (including salad bar expansions) and whole grains (i.e. brown rice and whole grain breads). These changes were also highlighted during baseline interviews. Other successful actions mentioned by fewer COs included offering more half-portion options, removal of fountain drink stations, and increasing low-fat milk options.

“We brought in more snacks that are more of a healthy choice. We put in a complete salad bar. We have offered healthy alternatives to any one of the side dishes, you know? Like for the burgers we’re offering a salad along with that. We have at least one soup that’s vegetarian every day, which is more of a healthy choice.” - CO

Other COs who implemented similar strategies noted additional challenges and lessons learned.

“We have removed our Pepsi® machine at this location, and so we swapped out a Pepsi® machine for more steam table space. That cost us a little bit in the beginning, because some customers were really unhappy about it. They don’t want to buy sodas in cans. They want to buy them from the machine, but we kind of weathered the storm.” - CO

Similar to baseline remarks, responses to questions directly related to sodium were more concrete compared to responses regarding trans fats or partially hydrogenated oils. Approximately half of the COs reported the use of low-sodium bases, canned tomatoes and frozen vegetables. Several COs mentioned they faced challenges obtaining low-sodium deli-meats and low-sodium bread options, either as a result of price or product availability. Parallel to baseline remarks, most COs reported they generally did not prepare foods with trans fats and partially hydrogenated oils.

Regarding behavioral economics strategies, COs described equal numbers of success stories and lessons learned. Three CO's noted the use of strategic placement in their cafeterias including the placement of healthier options (i.e. fruit or whole grain granola bars) near less healthful options (i.e. muffins, donuts etc.). Other reported changes included the alteration of serving lines to promote healthier choices, placement of water at eye level, and choosing not to advertise healthier items—which might deter some customers—but instead to simply change to a healthier item. When asked what behavioral economic strategies were being used, one CO stated, *“I guess one of the behavioral economics [strategies] is that we don’t advertise. If we have a healthy item that we’re trying to serve, we don’t advertise it. We just serve it. We aren’t trying to tell them that it’s low sodium or that its low fat as far as ensuring this is what it is.”*

When asked to describe less-successful experiences involving behavioral economics, responses from COs varied greatly. While some COs expressed success in utilizing signage and handouts,

others noted this was not accepted by their customer base. Others did not identify significant differences when implementing behavioral economic strategies. For example, one CO attempted to implement a “Health Smart Wednesday,” which included calorie counts for the daily menu options. The CO observed, *“It went okay, but it took extra time for me...it didn’t really make a difference. If I offered something healthy without the healthy and calorie count, it would still sell.”*

Perceptions of Compliance

Overall, perceptions of compliance with the guidelines varied among COs. After describing several steps taken towards guideline implementation, one CO noted *“Beyond that I do not know what else we need to do.”* On the other hand, a CO from a smaller cafeteria acknowledged, *“We’re not 100%. We’re a small operation and we can really only do so much.”* Notably, many COs stated the guidelines were clear to them, though two COs acknowledged they had not reviewed the guidelines over the past year.

Barriers and Facilitators to Implementation

The aforementioned experiences and outcomes appeared to be influenced by a collection of barriers and facilitators. Notably, many of these barriers and facilitators were dependent upon characteristics of the cafeteria (i.e. size and supply/demand) and the compatibility of the guidelines with the CO’s personal values.

A key facilitator carried forward from baseline interviews was the framing of the guidelines as an opportunity to provide more options rather than restricting unhealthy options. Additional facilitators mentioned by fewer COs included support from other stakeholders, customer acceptance, and the CO’s personal motivation. Regarding support, two COs who reported improvements in the incorporation of low-sodium items were involved in the Sodium Reduction Communities Project (SRCP). One CO also described support from his agency’s leadership and wellness committee as facilitators of implementation.

“Before I got into the building I was awarded this facility. We had a meeting with the director here and several of the main staff heads, about how to implement, because there is a wellness committee within the building. [Agency director] was in on that which was the director at that time. I already had a really good base on this, and so from the get-go we started out with the right foot. By doing that the wellness committee is on my side instead of battling against it, which is easier to work with them, you know? They love the choices that we have changed from the old menu to the new one.” - CO

Unlike at baseline, COs provided mixed responses regarding peer support. Some COs felt additional collaboration would be useful, while others did not find the current meetings to be helpful. One CO believed continued peer-to-peer collaboration would be useful in the future.

“Well, it could be more useful as we move forward as we have more successes and more failures. It’s kind of the snowball effect. As the snowball gets down the hill you start getting more and more so it could be. I’m not sure, but yes, I think it could be more.”

- CO

Concerning customer acceptance, one CO described the relationship between acceptance and implementation when he stated, *“Getting customers to purchase what we’re offering that meet the guidelines that are out there. That’s what helps me the most. If I offer something that I consider a better choice, if customers buy it, that’s what helps me.”*

When asked what aspects made implementation difficult, one CO proclaimed *“Oh, I really don’t think anything. I’m just one of those guys that if you tell me this is what I have to do and I do it. I don’t think about anything being difficult, you know? You just have to roll with the punches.”* This personal mindset was captured in several other CO interviews.

Key barriers carried forward from baseline interviews included cost concerns, and issues surrounding technical support from DOH/DSB. Regarding cost concerns, a CO proclaimed, *“Again, if the cost difference is too significant, we can’t do it. It’s not because we didn’t want to do it, but again, we’re not doing ourselves any favors if we spend twice as much money.”* Responses regarding support from DOH and DSB varied greatly. Some COs reported positive experiences regarding additional equipment and trainings. On the other hand, a few COs noted limited communication and the need for additional technical assistance, especially with nutrition information and the identification of products in compliance.

“I could use a little more help. It would be nice to have like a dietitian that I could call and say ‘Hey help me out with this.’ I’ve got a fairly good education, but...they want me to have nutritional information available for every single item on the menu. I have a hard time keeping this place profitable as it is. That would be all my time, you know?” - CO

Other perceived barriers identified in this mid-implementation assessment included limited availability of compliant food products, limited nutrition information from vendors, and concern for infringement on personal choice. *“I think the number one thing that bothers me about the whole thing, I mean from my point of view I feel that it’s an invasion of people’s privacy.”*

Observations of Guideline Impacts

Beyond their success stories and lessons learned, COs reported cafeteria-specific impacts observed during guideline implementation, including observations related to food costs, food sales, customer opinions, customer purchasing practices, and time required for implementation. COs received both positive and negative feedback from customers after implementing changes. Positive opinions were reported by 2 COs with increased fresh fruit and healthier menu options. Negative responses reported by COs included the removal of salt/pepper shakers, reduction of soda cup sizes, and/or removal of fountain drink stations. Nevertheless, most changes, which were initially unpopular, received less feedback after customers adjusted.

When asked if they had noticed any changes in customer purchasing practices before and after implementation, 4 operators reported minimal changes, while 2 operators noted an increase in the purchase of healthier items.

“There are quite a lot of them that given that option are taking the healthy choice. When we first opened this up, the salad bar wasn’t near as busy as it is now. I have to have one person on that salad bar all throughout the lunch period. I have one person that that’s all they do all day is prep for that salad bar, and then do salads for people. That has really surprised me.” - CO

With regard to overall food sales, 4 cafeteria operators reported no effect on food sales, and 2 operators noted increased food sales as a result of an expanded customer base. When asked how he would characterize his greatest success, one CO stated, *“More customers! It’s like the more options that I carry, the more customer base that I seem to be growing.”*

A separate CO noted, “It hasn’t cost us anything as far as sales. I don’t know that it necessarily increased sales. Maybe it has increased loyalties where maybe with customers who are looking for a healthier option, we were a little bit more reliable in being able to provide it. I think that’s probably fair, than it has been before.”

Finally, cafeteria operators at 4 locations reported increased total food costs during guideline implementation, with one CO sighting cost as "the biggest drawback" to implementation. Three cafeteria operators did not believe the Guidelines had a significant effect on the total food costs for their locations. Notably, one cafeteria operator acknowledged he was able to pass additional costs to his customer base with little response - a strategy that differed from COs who reported a greater impact from increased food costs. The CO noted, *“Actually, it hasn’t affected the food costs. People are willing to pay a little bit more for healthier items if they’re*

fresh. People have gotten used to [the fact that] they have to pay a little more to get their veggie burgers, and to get their stuff like that.”

Future Plans

Moving forward, CO's at 5 locations described a range of plans to continue the implementation of the guidelines. Most of the concepts involved the expansion of menu items or snack items, and 2 operators noted future plans specifically supported by DSB(i.e. equipment) and DOH (i.e. low-sodium entrees). On the other hand, 3 operators cited limited future plans in implementation either resulting from financial constraints or contentment with current guideline observance.

Worksite Wellness Coordinators (WWC)

Perceived Goals of the Guidelines and Roles

Most WWCs believe that the purpose of the guidelines is to offer healthy food options so that employees are able to make better choices. Several WWCs spoke about the importance of creating an overall culture of health by making the entire environment healthier and educating employees about health. For one agency, creating a healthy work environment fits within their priority of being a good place to work—a place that will attract good employees. Coordinators mentioned the importance of the existing support from both internal and external leaders, including the Governor, in achieving the goals of the guidelines.

Wellness coordinators described their roles in a variety of ways. Several coordinators were involved in their agency's wellness policy development process, some are in charge of developing a comprehensive multi-component wellness program, and some spoke of their roles with regard to implementation of the guidelines and assuring compliance. Several described the multiple roles they play in their agencies including safety manager, ergonomist, labor and industry claims manager, and manager of the cafeteria contract. Many spoke of working with existing wellness committees and of working closely with their human resources department in communicating to employees about the guidelines and wellness activities. A few are in full-time wellness coordinator positions while most serve in this role on a part-time basis. For those with multiple responsibilities and less than full-time positions as wellness coordinators, they admit that sometimes wellness gets “pushed off to the side” because of competing priorities.

“We have our fingers in all kinds of pots all the way from management training to policy development to facilities modification, to cafeterias to outside walking trails and just all kinds of things.” - WWC

WWCs are supportive of the guidelines generally, but some are unsure about their roles and responsibilities regarding implementing them, and are not sure to whom exactly they should be speaking to: those implementing the guidelines (e.g., cafeteria owners, vendors) or those being directly impacted (e.g., employees).

“As someone who supports wellness in the industry, I don’t want to fail, you know? We want to help people succeed and so continuing to get more training and more information out there to help our wellness coordinators feel more in control about making that change, or supporting the vendors so that they can...” - WWC

Some WWCs expressed concern about the criteria being too strict, and the need to continue to increase rather than restrict choices. They also emphasize the fact that it will take time to fully implement the guidelines.

“I think the general notion of having guidelines is good, but I think that there is a risk in the way that it’s happening here. I mean, the guidelines are not that hardcore, but they’re hardcore for the environment that has had a long tradition in state government with vending machines and cafeterias and all that. I think that in state government for a wholesale change, it’s just going to take a long, long time unless you get a state agency where the leadership says, “We don’t care if we ruffle feathers. We’re going to force things to occur.” - WWC

“We’re trying not to be the food police. We’ve learned and I’ve been hearing from other people that that approach just was really not well-received in the past, and just to continue to allow people to have their sweets, but really to encourage other healthy options. “ - WWC

Clarity of Guidelines

While coordinators who are very involved with implementing the guidelines believe that the guidelines are clear and easy to follow, most coordinators believe that the guidelines are not clear and that employees are for the most part unaware of the guidelines. In particular, for some WWCs, the implementation timeline and scoring system is unclear. In addition, WWCs believe that the guidelines are hard for vendors to follow in terms of nutritional restrictions, like sodium, and that they should be adjusted to be less “strict.” Confusion exists around exactly when the guidelines apply—such as with smaller agencies that do not have cafeterias or vending and those that work with foster children, residents of some facilities, and the police/fire academy. One coordinator was not sure if the guidelines she was using were current and one coordinator had not read them.

“...I would say just at first glance that there are sometimes things that I wouldn’t expect would fit into the healthy nutrition guidelines. But because of the serving size and the actual fat percentage, it counts and fits in terms of the nutrition guidelines. To me it could be more clear.” - WWC

Implementation Challenges

Worksite wellness coordinators generally expressed support for the guidelines but they described several challenges faced during implementation. Several WWCs cited a lack of collaboration and communication amongst those implementing the guidelines and a need for more support, especially from DSB. However, the new Business Enterprise Program Manager is recognized as collaborative and helpful.

The lack of resources for implementation and competing priorities and tasks was frequently mentioned as a barrier to implementation. Coordinators also cite the lack of a clear plan or “road map” for implementation of the guidelines.

With regard to cafeterias, some coordinators note an increase in healthy options but others believe that there is not enough healthy food being offered and that cafeteria offerings are not responsive to what some customers want, including more locally sourced food. Some mentioned the tensions faced in following the guidelines while also meeting customer demands.

“Well, I think that it fell short — I’ll start with that — in that we’re not seeing a lot of local Washington-grown food. We’re not seeing a lot of organic, and we’re not seeing a lot of things that are good for you that people want, because they don’t meet the guidelines... I mean, I’m seeing that because they don’t meet the guidelines and because vendors have a hard time getting stuff that does meet the guidelines, and so I think improvements could be made there really.” - WWC

Agency location plays a large role in terms of what foods are available for purchase and the ability of the agency to influence the food suppliers. For example, agencies with locations in more rural areas do not have the same food resources available as those in urban areas where there is more competition among food suppliers. Related to location, some WWCs report the reluctance of their agency to eliminate or limit comfort foods because of the types of customers and/or visitors who utilize their cafeteria.

While the HNG criteria call for agencies to promote their healthy food items, some WWCs believe that this conflicts with other advice to more subtly promote healthy items through behavioral economics approaches like strategic product placement.

*“..but when we say that we’re working with our cafeteria vendor and even though the vendor/operator may be reducing sodium a little bit in soups, the operator does not want to publicly acknowledge any changes. I don’t know if it’s just philosophy or a way that restaurateurs do business. I’m not sure, but they’re very resistant to saying that we’re adding more healthy choices here, or making these choices healthier. He’s concerned that it’s going to affect his regular consumers or his fan base. He’s concerned about that; that they will start to get nervous about what he’s doing to their food. Yes, our main effort with our employees is not tied into the guidelines inasmuch as just basic good, solid, nutritional education in general.”
- WWC*

A challenge expressed by most WWCs relates to improving vending machine contents to comply with HNG. Agencies do not own the machines or control vending contents and often times do not even know where machines are all located. They seek assistance and more support in identifying healthy items and coordinating with vendors. Specific problems reported include the presence of vending stickers on machines that align with obsolete criteria and which often bear no relationship to the item they are located by, near-empty or insufficiently

stocked vending machines, and vending machines with a predominance of unhealthy food items in them. Often times the WWCs are not aware of the vending machine supplier and it becomes especially hard to coordinate when there are multiple vendors within an agency. Agencies that have Evergreen Vending as their vending supplier have a more positive experience however, and describe new and healthier items being offered and a company that is accommodating and transparent. One agency spoke to the importance of the new Avanti Market (micro-market) in helping address the need for providing a greater variety of healthy options to customers.

WWCs discussed the need and desire for more collaboration and the development of teams with fellow WWCs from similar agencies to learn what is being tried and what is working, and for more communication with employees and leadership staff about the long term commitment to the HNG implementation.

Communication with Leadership Staff and Agency Employees

Wellness coordinators identified the Department of Health as their primary contact when they need support or information about the guidelines, including strategies to address specific implementation issues. They specifically credit the Healthy Eating Coordinator at the Department of Health with being accessible and helpful at answering questions, providing tools and information, and clarifying the guidelines. As mentioned above, the new DSB Business Enterprise Program Manager is also recognized as approachable and helpful.

One WWC suggested that the Wellness Steering Committee could play a larger role in helping agencies develop their policies and in finding out what agencies need in terms of support to implement the HNG.

While some WWCs connect with the Health Care Authority's Washington Wellness from time to time, there is a sense that they are not very involved and that they should be playing a larger role in keeping people connected and informed about what is taking place across agencies.

Agency employees learn about the guidelines and other wellness-related information primarily through employee newsletters, agency intranet, regular emails from agency leadership, and on-site signage and education. Wellness coordinators talked about the need to expand the use of the intranet to share information about the guidelines and to use other mechanisms such as webinars and electronic forums for sharing.

Observations of Guideline Impacts and Effectiveness

Wellness coordinators were asked to talk about positive changes they have observed in their agency's food environment and to describe any actions or feedback they have received from other agencies, leadership, employees, or vendors related to implementation of the guidelines. Some WWCs talked about increased efforts to serve healthier food at meetings or events. They also described changes that have been made in cafeterias that include: an increase in healthier options—especially fruit, an overall increase in the variety of foods offered, and changes in how the cafeterias are set up to make the healthier options stand out more. Some WWCs believe

that more employees are staying on-site to eat more because of the healthier options available in cafeterias, and that healthy food is becoming more a “part of the culture.”

“I think that it’s definitely bringing awareness. Even just in the building that I’m housed in, in downtown Olympia there is talk. “Oh look, the vendor downstairs is offering brown rice and steamed vegetables.” People are choosing and they’re eating them, whereas they were never offered before and so no one ever ate them. But now that they’re offered, people are eating them. I think that’s reaching a mark or reaching a goal in terms of how many people, but at least some people are making a healthier decision. They’re also starting to have the conversation about, “Oh, well, I have an option besides French fries. I can get steamed vegetables instead of French fries.” I think from that perspective, the guidelines are making an impact in terms of awareness and starting that conversation for people.” - WWC

Two WWCs talked about the increased availability and visibility of free water in their agencies.

When asked about their perceptions regarding effectiveness to date of the guidelines, WWCs talked about the need to better monitor implementation and the need for data to show how much and what type of progress is being made.

AGENCY LEADS (AL)

Perceived Goals of the Guidelines and Roles

The AL believe that the over-arching goal of the guidelines is to provide a healthy eating environment so that employees will be healthier and more productive at work. Several leads also linked the perceived benefits to reducing health care costs and lowering obesity rates. One AL felt strongly about helping employees reconnect with where their food comes from and increasing their access to “real food.” Several AL referenced the fact that the governor cares deeply about workforce health.

Some AL are concerned that if the guidelines limit choices or if they mandate that cafeteria owners only provide healthy food, then customers would stop coming and these efforts will have failed. They indicate that DOH is working with them to help assure a balance in food offerings.

“Well, I haven’t really looked at them for a long time, but people worry about dotting the I’s and crossing the t’s and how prescriptive they are. I think the most important thing about the guidelines is to absolutely keep the vision in mind.” - AL

Several AL talked about the importance of attitude and leadership in achieving the goals of the EO and implementing the guidelines.

“I think attitude, it’s really attitude. It’s not really difficult to do these things if you have the right attitude and the right culture around it.” - AL

“The behaviors of an organization are determined by the behaviors of the leadership. So then if we’re not engaged and understand and are making the right choices.....then that’s not going to trickle down in the way that we need it to be sustainable.” - AL

Agency leads that were interviewed for this evaluation represented a range of agency sizes and different types of positions within the agencies. All were selected because they were familiar with agency activities around implementation of the guidelines. Of the 12 AL interviewed, 7 were agency Executive Directors, 1 was a Deputy Director, 1 was a Department Secretary, 1 was a Deputy Commissioner and 2 were Program Managers. Their primary responsibilities were described as overall responsibility for the wellness program and its development and implementation, communication and employee engagement, and policy development.

Clarity of Guidelines

All AL interviewed indicated that they had a designated wellness coordinator, though the coordinators time allocated specifically to this work varied, with some having full time responsibility and others sharing their time between wellness work and other areas like safety and human resources. It was common for wellness coordinators to work within or work closely with human resources departments and to work closely with leadership/wellness teams that exist within their agency. Several AL talked generally about how the efforts to implement the guidelines fit within their overall agency goals for employee wellness and safety.

Approximately 1/3 of AL interviewees felt that the HNG criteria were clear. In contrast, most of the remaining AL interviewees were not sure that the HNG criteria were clear and two representatives from smaller agencies (without cafeterias and limited vending) were not familiar at all with the HNG and had never seen the criteria or implementation guide before. One AL from a smaller agency knew about the EO but did not know that there were healthy nutrition guidelines attached. Most of the AL rely heavily on their wellness coordinator to stay on top of the guidelines and monitor observance. While all interviewees were basically supportive of and understand the importance of the guidelines, some concerns were expressed, and some leads believed that their agency already observes or mostly observes the guidelines.

I believe that they’re all being met, or close to being met at all the cafeterias, and the big difference is whether or not it’s indicated in-house that this was whole grain, this was made in Washington, this is low sodium...” - AL

Implementation Challenges

Agency leads expressed support for implementation of the HNG. They want to improve the nutrition environment and often point to the importance of small steps and a long term commitment. However, they also described some of the challenges they face that impede this progress, such as the issues of insufficient resources and competing priorities.

"I just don't think it's been a robust implementation, and that's in part resources, and it may be in part a lack of imagination on all of our parts about how you could do it. I think to make it really effective, you have to get to middle managers and below. I don't think that that's happened." - AL

One AL felt that cafeteria operators would be more inclined to take risks and try new items if there were resources available to cover any loss in revenue, while items were being tested in the cafeteria.

For some agencies, the demographic of their workforce adds to the complexity of meeting the guidelines. One lead described their situation as follows: *"...one thing that we're trying to also be very aware of is (that) our agency is becoming more ethnically diverse, and so making sure that what we're promoting is kind of within eating traditions or eating habits of different folks, but that are still healthy...I think that there is a lot more work to be done around that area."*

- AL

Different size agencies report different issues. For small agencies with no cafeteria, limited vending, and less information about the guidelines, they are not clear about the expectations around implementing the guidelines in their agencies.

Some AL report that their workforce is not well trained with regard to the guidelines and that there has not been communication between the agencies regarding what works and what doesn't with regard to their implementation. They also state the need for employee education.

"There is an awful lot of conflicting research out there right now...in the area of nutrition. It's always a little bit of a challenge for our staff to figure out the nutritional piece there because one month it's this and the next month you don't need vitamin D, and now you should be eating more fat. I think this confusion in the whole area of nutritional wellness causes those people who might want to move towards I think a healthier lifestyle to be reluctant to do so." - AL

Complaints about the lack of control of vending machine contents and difficulty finding healthy items for vending were common. One AL stated *"frankly, I'm almost at the point where if we can't get better options, then it (vending machine) just needs to be removed."* One AL talked about signage and stickers they had received over a year ago from DOH for labeling healthy

items in vending machines, but that corresponding changes in machine content had not yet been made such that they could apply the stickers. While several leads echoed the concern about a lack of changes in vending machine contents, some did report seeing more healthy options in their vending machines. Many AL expressed a desire and need for more conversation around vending options and greater efforts around increasing healthy items in agency vending machines. The need for modification of vending contracts was identified as an important next step in improving vending machine contents and complying with the guidelines. From the perspective of a major vending machine supplier, acquiring products that meet the guidelines is sometimes challenging because manufacturers are dealing with a variety of different sets of guidelines, such as those that apply to snacks in school vending. Another challenge stated pertains to the micro-market draft guidelines. The micro-market draft guidelines apply a 50% goal of healthy products across beverages and snacks and 25% for grab-n-go entrée items. A major vending supplier reported that this approach differs from the per-machine vending guidelines, where individual beverage and snack machines are assessed for compliance. As a result, a particular snack or beverage item may not meet the guidelines in a vending machine, but when placed in a micro-market, it is acceptable because of how it fits within the nutrition profile of the entire market for snacks and beverages combined. It appears that some confusion exists about the Micro-Market guidelines.

Finding frozen items that meet the guidelines has been challenging due to the sodium requirement. There is also tremendous variability between what sells in the different agencies, making product selection by site another challenge. This supplier described strategies where a variety of promotional campaigns are used in other businesses as a successful way of increasing awareness of new products and encouraging employees to purchase them, but also explained that these types of activities are prohibited in agencies covered under the EO.

Agency leads also discussed the need for more sharing of success stories between agencies and the need for providing more information to employees about what is taking place around creating a more healthy nutrition environment, with a suggestion for the use of social media in these efforts.

Communication With Leadership Staff and Agency Employees

Most AL identified the Department of Health as the primary contact when they need support or information about implementing the guidelines. They appreciate the tone of “working together” and specifically identify the help received in terms of identifying healthy items as very useful. One agency lead also pointed out that the Department of Health was a good role model for holding meetings that offer healthy food and provide opportunities for attendees to stretch and move.

Agencies use a variety of communication vehicles to inform employees about the guidelines and other wellness-related information. No single means of communication was identified as preferred, because the best vehicle depends on the position and location of employees. One agency conducted a survey of employees to try to determine the best communication method and vehicle but found responses to be “all over the place.” Communication avenues include:

- Electronic-newsletter messages to staff
- Tweets on agency intranet
- “Stall Talk”
- Presentations at staff meetings
- Email
- Links on agency web page

Observations of Guideline Impacts and Effectiveness

Agency leads were asked to talk about any positive changes they have observed in their agency’s food environment and to describe employee purchasing behaviors and other feedback they have received from other agencies, leadership, employees or vendors related to implementation of the guidelines. Many AL talked about increased efforts to offer healthy foods at meetings and agency-sponsored events. ALs with cafeterias in their buildings have observed more healthy options such as salads, fruits, and healthy beverages being offered and an increase in signage encouraging healthy eating. None of the interviewees reported negative feedback or complaints from employees, but they did note that the WWCs would be in a better position to hear any employee comments first hand. They sense that people are getting used to changes and like having more food options available in their facilities. Some of the leads have not heard anything and credit this to the fact that the guidelines are becoming “much more of the norm” and that people really do want better choices.

When asked about their perceptions regarding effectiveness of the implementation of the guidelines to date, several of the AL mentioned the need for accountability and for data and measures of success to know whether or not they are effective. One AL spoke about the need for accountability steps and nearly all expressed interest in the results of the mid-implementation evaluation. Several AL expressed their belief that progress has been made simply because of acceptance of the guidelines, and because of the changes they are observing in their agency food environments. However, several stated that there is more work to do.

“...I think that we could probably do a better job of talking through kind of how they’ve (guidelines) changed; what we’re doing as an agency, and what people can do as individuals-both. In terms of activating and the activation strategy, it’s probably not anywhere close to as much as we could do.” - AL

Discussion

With this evaluation, researchers set out to determine the impacts of EO 13-06 on the food environments of affected food service venues, assess impact on food service venue purchases and sales, identify perceived facilitators, benefits, and barriers of implementation, compare progress since baseline, when possible, and propose recommendations for continued implementation.

Cafeterias, vending machines, and micro-market environments are not yet fully observing and in compliance with the HNG. However, progress towards meeting guidelines is evident and many opportunities exist for improvement.

In cafeterias, none of the 10 cafeterias assessed were observing all 9 basic criteria. There was significant improvement in free and advertised water from baseline to this assessment, which may be attributable to the low-cost of promoting free water. There was a large increase in cafeterias offering whole grains, but while all cafeterias offered whole grain options (defined as foods containing at least 50% whole grains, whole grain as the first ingredient, or having a whole grain stamp), 3 received credit for offering whole grains by offering whole grain chips, bars, or popcorn. Baseline evaluation observers did not count these items as whole grains which partially explains the increase in whole grain options from baseline to mid-implementation. Furthermore, 7 cafeterias during year 2 offered whole grain bread/buns, but this was not the default option; customers had to specifically request their sandwich or burgers be made on a whole grain product. Only 1 cafeteria offered 2 whole grain options in their main entrée line.

Additionally, none of the cafeterias at either baseline or mid-term promoted lower sodium snacks, individual food items, or individual meals. (Lower sodium was defined as 360mg of sodium or less per snack item, 480mg of sodium or less per individual food item, and 900mg of sodium or less per individual meal). While cafeterias may have offered lower sodium items, criteria dictated that they receive credit for these efforts only if items were also promoted. This highlights an area where there is need for improvement.

With regard to the Additional Criteria, the two cafeterias scoring the highest were considered large cafeterias as opposed to medium cafeterias. As one cafeteria operator noted, smaller cafeterias have less capacity to make changes than do larger cafeterias. This is likely due to a variety of differences in available financial and facility-level resources. Larger cafeterias may have greater capacity to absorb cost and revenue fluctuations when trying out new ideas.

When looking at specific criteria that none of the cafeterias fulfilled, 3 of these criteria specified the healthy option must be the *default* option (i.e. the default option must be a whole grain,

fruit/vegetable side, and low-fat/non-fat milk product.) While many cafeterias offered these healthier options (i.e. sandwiches can be made on whole wheat bread), they were not the *default* option. It's possible that cafeterias may not want to make this change for fear it would result in profit losses or it may be that cafeterias need more time or support to make this change.

Another criteria that may need attention specifies that cafeterias must “serve one meal per day that provides one serving of at least three of the following: fruit, vegetables, beans or whole grains.” While 7 out of 10 cafeterias were awarded points in this section, many cafeterias were awarded points for a meal that included a vegetarian black bean burger (includes a serving of black beans and brown rice) topped with lettuce, tomato and onion (vegetable serving). Although this item technically meets the criteria, it may not address its actual intent.

Finally with regard to low-sodium items purchased by cafeteria operators, low-sodium soup bases were the most frequent item purchased whereas only 1 out of 10 cafeteria operators purchased low-sodium grain products. Of note is that many cafeteria operators said they did not know that low-sodium grain products existed. This highlights another area where cafeteria operators may benefit from additional support such as a list of foods that meet these low-sodium criteria.

Regarding healthful versus unhealthful options offered, none of the cafeterias offered greater proportions ($\geq 51\%$) of healthy cereal, chip, and milk options compared to unhealthy options. Over half of the cafeterias offered greater proportions ($\geq 51\%$) of healthy yogurts and juice beverages compared to the unhealthful varieties. Though 8 out of 9 cafeterias offered more healthy yogurt options than regular yogurt options, the assessment criteria defined healthy yogurt as “low or reduced fat” and did not include specific guidance regarding added sugar. It is possible fewer cafeterias would have offered a greater proportion of healthy yogurts if criteria regarding added sugar were included. Furthermore, cafeterias appeared to offer increased proportions of healthy yogurt, juice, and diet soda since the baseline assessment. Overall, these findings demonstrate the need to ensure consistent definitions throughout the criteria and the opportunity to further investigate the barriers and facilitators to improving healthy proportions of food and beverage options.

In terms of behavioral economics, only 1 cafeteria trained employees to prompt customers to choose non-fried vegetables when ordering. None of the 10 cafeterias trained employees to prompt customers to choose zero- and low-calorie beverages when ordering however, opportunities to prompt customers regarding beverage choice are not evident, since most are self-service. Further discussion is needed regarding the feasibility of this guideline. Researchers heard varying opinions throughout interviews about the roles cafeteria operators should play in

the health of their customers. A couple of operators believe they have a responsibility to their customers to serve healthy, wholesome food, because their customers do not have the time or capacity to think about whether or not they are making the healthiest dietary choices, and they should trust that the cafeteria is serving them healthful food. Other cafeteria operators reported a different view in that they are there to serve what their customers want, not to dictate what is healthy or not for them. Often times these opinions were also fueled by the need to meet the bottom line and keep sales up in the cafeteria. While there are differing views from cafeteria operators about how much customers should be left to choose items for themselves, there may be an opportunity to educate and positively influence the choices of customers through positive employee interactions.

Also included in behavioral economics strategies was listing healthier menu items first for each different menu (entrée, grill, drinks). None of the cafeterias employed this strategy. Cost could be a barrier in terms of having new menus made that reflect healthier items first. Other barriers could also be the desire to still sell popular items and meet the “bottom line,” which may conflict with selling healthier items. In the placement and promotion section of the assessment, researchers looked at what was being done to promote healthier items. While fruit was available near the point of purchase in 4 of the cafeterias, this was 3 fewer than at baseline. This may be due to the fact that assessments could vary depending on the day the assessment was done. For example, if an assessment was conducted on a Friday versus a Monday, all of the fresh fruit may have sold out by then and not be restocked until the following week. Another criterion in placement and promotion included signs and displays encouraging healthy eating. Eight cafeterias received credit for this during this mid-implementation evaluation—6 more than at baseline. It’s important to note that 4 of the 8 cafeterias received credit for this criteria by having a “Choose Well, Live Well” banner or sign in the cafeteria. These posters were given to cafeterias by DOH at no cost, which may increase the likelihood of their use.

Vending

Of 52 beverage machines, 20 (38%) were in compliance, and 14 (27%) came within 15% of target compliance standards. Of the 45 snack machines, 0 were in compliance, but 1 machine was within 15% of target compliance standards. The availability of healthy beverages was much greater across the board than healthy snacks, which may be due to the fact that healthy beverages include diet soda, water, and unsweetened ice tea—all popular drink options purchased in beverage vending machines. For snack machines, there was a lack of healthy options perhaps because of low consumer demand for healthier options—consumers have not traditionally gone to vending machines for them—or perhaps because of the equipment and refrigeration necessary for inclusion of fresher, healthier items in vending machines. Examples

of healthy vending machine options included Peeled Snacks® (dried fruit snacks), Pop Chips® (non-fried potato chips), Baked Lays Potato Chips®, Corn Nuts®, and Nature Valley Bars®. As vending contracts are updated to include the standards, it is expected that compliance will improve for snack and beverage machines.

Micro-Markets

WA DOH is a leader in creating guidelines for micro markets. Since Micro-Markets generate more revenue for vendors and thus for DSB since they hold contracts for most of the vending, the demand for them is expected to increase. Of the three micro-markets evaluated, two of the beverage sections were in compliance with the HNG and the third beverage section came within 15% of target compliance standards. Furthermore, healthy beverages were present and purchased more on average than healthy snacks or entrees. This shows that it may be easier for vendors to offer healthy beverages than snacks or entrees that comply with the guidelines and/or that customers tend to buy more healthy beverages than snacks and entrees from micro-markets. Similar to vending machines, this may be due to the fact that healthy beverages, such diet soda, water, and unsweetened ice tea, are all popular drink options.

When comparing micro-markets to vending machines, the micro-markets generally offered more healthy items. Micro-markets contained 28-34% healthy snacks versus vending which had only 3-14% of healthy snacks. The top selling snacks in micro-markets were hard boiled eggs, cheese and almonds; all 'whole' foods generally deemed healthy as opposed to the more processed baked chips, crackers and granola bars categorized as healthy in vending machines. The same trend was true for beverages: 43-54% of micro-market beverages were categorized as healthy whereas 38-39% of vending beverages were categorized as healthy. This suggests micro-markets may be a better environment to offer healthy items than vending machines.

Healthy entrees were the least sold items in micro-markets. The top selling entrées in micro-markets were Lunchables® and Sabra Hummus & Pretzels® followed by an array of sandwiches, wraps, burritos and frozen entrée meals. None of the top selling entrée items were categorized as healthy. While it is apparent customers seem to be going to micro-markets to buy healthy beverages, they may not be going to micro-markets to purchase healthy entrées. This may be because the entrées available at micro-markets tend to be frozen meals or pre-made sandwiches/wraps that customers may not view as being as appetizing as the entrées prepared fresh that day in cafeterias. Furthermore, these micro-market entrées don't give customers the flexibility to make their entrées healthier by building their own sandwiches, requesting sauces on the side, or adding fruit and vegetables side options that would be possible in cafeterias. Also, while items were categorized as entrées, customers may have purchased them with the intention of eating them as snacks. This is especially relevant to items like the hummus and

pretzels. If this is true, then even fewer items consumed as entrées were sold at these micro-markets.

Our evaluation of micro-markets suggests these may be new environments to offer customers healthy beverage and snacks that are not feasible in vending machines (due to refrigeration requirements); however, customers do not appear to be purchasing healthy entrées at the same rate from these micro-markets.

Interviews

Overall, the CO interviews revealed universal identification of the CO's role in offering more healthful items to state employees with the end goal of improving the employee's overall health. Though the COs perceived the effectiveness in reaching these guidelines to be minimal or insignificant, several acknowledged the long-term commitment required for improving consumer food purchasing behavior. Regarding clarity of the guidelines and perceptions of compliance, the CO reported mixed responses which varied from confidence in the clarity of guidelines and perceived observance, to acknowledgment of additional steps moving forward. All COs believe they are fully observing the guidelines, yet none are completely. This may reflect the lack of clear understanding about the guidelines. The COs referenced success stories during the implementation of the Guidelines, including expansions of healthier items offered (i.e. low-sodium options and fresh product) and execution of behavioral economic strategies (i.e. placement). Overarching barriers to implementation included reported increases in food cost, a perception of insufficient communication and support from some stakeholders, and availability of compliant food products and product information (i.e. nutrition information). Facilitators included internal and external support, positive response from customers, and personal motivation expressed by COs. Of note, there appeared to be differences in the impact of the guidelines depending upon the size of the venue. Moving forward, additional technical support and resources are needed to support COs in the implementation process.

The specific roles and amount of time to spend on implementation of the guidelines varies by WWC, and some expressed ambiguity about their specific roles. Additionally, they did not universally believe that the guidelines are clear and need more training about when and where they apply.

Some WWC observed more positive changes in healthy food offerings in their agency cafeterias than others and almost all WWC expressed frustration when talking about the lack of progress made in changing vending machine contents to healthier snack and beverage items. Some are unsure of their role in this specific work since they do not control the vending machines and often times do not know where all of them are located.

WWC talked about the need for more support and for cross-agency and peer-to-peer sharing about successes and different approaches taken by agencies of similar size in implementing the guidelines. WWCs also talked about a desire for data to track progress and better monitoring systems.

Agency leads interviewed represented a variety of positions and roles related to implementation of the guidelines. It is clear that they rely heavily on the WWC to implement the guidelines but realize that they have varied time to spend and capacity to do this work. They also cited a lack of resources and competing priorities.

Most ALs talked about successes that include increased efforts to bring healthy food to meetings and agency events and an increase in cafeteria offerings of healthy options. As with the WWC, ALs expressed frustration with the lack of change in vending machine contents.

ALs cited the need for more training-including training for employees regarding nutrition and wellness and a need for more information sharing across agencies regarding what approaches have been successful in implementing the guidelines. They noted that the different workforces among agencies present challenges because they have different preferences and desires, and emphasize that small steps and a long-term commitment are needed to see sustainable success in changing the overall food environment across agencies.

Most agency leads talked about the need for data showing progress made along the way in implementing the guidelines and a need for specific accountability steps.

Limitations

There were a few limitations to this evaluation. First, all data was collected one day at each location (cafeterias, vending machines and micro-markets), so information captured is a snapshot in time and may not accurately represent each environment between the baseline and the mid-implementation evaluation. For example, popcorn was not considered a whole grain during the baseline evaluation, but was considered a whole grain at mid-implementation, due to lack of standardized and well-defined criteria at baseline but emerging clarification at mid-implementation

While this assessment provides an accurate depiction of micro-markets, there were a few limitations to the data collection. First, photographs were captured of micro-markets on one day only so if items were not fully stocked the photos may not accurately reflect what is available on most days. These same photographs were compared against items sold over an

entire month, so if considerably fewer items were present that day it may appear that far more of these items were sold than present.

Finally, assessment of some criteria depended on self-report, without the opportunity for verification.

Recommendations

Cafeteria:

- 1) Clarify criteria. This can include clearer definitions for operators, assuring consistency in definitions throughout, and/or re-wording of criteria.
- 2) Investigate the criteria that were not met in either assessment, and identify ways to address them. Some of the criteria may not be realistic for cafeterias to implement, or may not help achieve the goals as intended by the Executive Order.
- 3) Develop customized implementation plans with cafeteria operators
- 4) Offer financial incentives for cafeteria operators to try new foods/menu items-for example, some kind of protection against revenue loss while new items are piloted

Micro-Markets and Vending:

- 5) Increase the breadth of data collection for micro-markets and vending machines to capture additional information regarding product availability, stock dates, sales trends, and consumer purchasing behavior. This may be facilitated by further collaborating with vendors to share valuable insights and purchase and price data, and increasing data collection time periods.
- 6) Finalize micro-market criteria and work with vendors to provide technical assistance
- 7) Continue working with food suppliers to communicate demand for healthier products.

Collaboration/Communication:

- 8) Offer additional technical assistance and resources. For example, provide cafeteria operators with lists of items that meet the nutrition guidelines
- 9) Share best-practices and success stories between agencies.
- 10) Improve or continue to expand opportunities to build relationships between key stakeholders (i.e. WWCs to WWCs, WWCs to vendors, WWCs to CO's and CO's to vendors).
- 11) Develop opportunities to widely celebrate and communicate successes of implementation of healthy nutrition guidelines across agencies

Customers

- 12) Capture customer feedback about food available in agencies the guidelines.
- 13) Explore reasons for use of vending vs. micro-market vs. cafeteria
- 14) Encourage vendors and cafeteria operators to include taste tests and other vendor-sponsored activities to support vending

Works Cited

References

1. Division of Nutrition, Physical Activity and Obesity. National Center for Chronic Disease Prevention and Health Promotion. Centers for Disease Control and Prevention. *Washington State Nutrition, Physical Activity, and Obesity Profile*. September 2015. Available online at <http://www.cdc.gov/nccdphp/dnpao/state-local-programs/profiles/pdfs/washington-state-profile.pdf>
2. National Institutes of Health. *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report*. 1998. Available online at http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.htm.
3. Finkelstein, EA, Trogon, JG, Cohen, JW, and Dietz, W. Annual medical spending attributable to obesity: Payer- and service-specific estimates. *Health Affairs* 2009; 28(5): w822-w831.
4. Institute of Medicine of the National Academies. *Bridging the evidence gap in obesity prevention: A framework to inform decision making*. Washington DC: National Academies Press; 2010.
5. Kumanyika SK, Obarzanek E, Stettler N, et al. Population-based prevention of obesity: the need for comprehensive promotion of healthful eating, physical activity, and energy balance: a scientific statement from American Heart Association Council on Epidemiology and Prevention, Interdisciplinary Committee for Prevention (formerly the expert panel on population and prevention science). *Circulation*. Jul 22 2008;118(4):428-464.
6. United States Department of Health and Human Services, United States Department of Agriculture. *Dietary guidelines for Americans, 2010*. 7th ed. Washington, D.C.: Government Printing Office; 2010.
7. United States Centers for Disease Control and Prevention, United States Department of Health and Human Services. Health and Sustainability Guidelines for Federal Concessions and Vending Operations; <http://www.cdc.gov/chronicdisease/resources/guidelines/food-service-guidelines.htm>.
8. Childhood Obesity Prevention Coalition. Governor Inslee Takes Major Step to Support Health of State Employees Washington to Become First State to Ensure Access to Healthy Food in State Facilities. November, 2013. Available online at <http://copcwa.org/wp-content/uploads/2013/11/Inslee-EO-Press-Release-FINAL1.pdf>

9. State of Washington. *Executive Order 13-06: Improving the Health and Productivity of State Employees and Access to Healthy Foods in State Facilities*. In: Washington So, ed. Vol Washington State Executive Order 13-06 2013.
10. Office of Healthy Communities. Washington State Department of Health. *Healthy Nutrition Guidelines: Implementation Guide for Agencies, Sites, and Vendors*. February 2014. Available online at <http://www.doh.wa.gov/Portals/1/Documents/Pubs/340-224-HealthyNutritionGuidelines.pdf>.
11. U.S. General Services Administration. "Health and Sustainability Guidelines for Federal Concessions and Vending Operations." Accessed online at http://www.gsa.gov/portal/mediaId/239667/fileName/guidelines_for_federal_concessions_and_vending_operations_corrected_version.action
12. Centers for Disease Control and Prevention. Healthy Hospital Food and Beverage Environmental Scan. Accessed online at <http://www.cdc.gov/obesity/hospital-toolkit/pdf/healthy-hospital-food-and-beverage-environment-scan.pdf>

Appendices

Please contact UW Center for Public Health Nutrition for Appendices.