Healthy Corner Store Checkout Conversion Program Evaluation

FINAL REPORT: Executive Version
June 29th, 2017

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Submitted to:
Solano County Public Health (SPH)

Attention:
Beth Armentano
Solano Public Health
Epidemiologist
Solano County Public Health
275 Beck Ave, MS 5-240
Fairfield, CA 94533

Submitted by:
Alberto M. Ortega Hinojosa
IMPAQ International, LLC
1333 Broadway, Suite 300
Oakland, CA 94612
www.impaqint.com

Authors and Contributors:
Alberto M. Ortega Hinojosa, Project Director
Ann Middleton, Technical Lead
Jillian Botkin
Nicholas Sumnicht
Maureen Sarver

EXECUTIVE SUMMARY

Solano County Public Health (SPH), as a part of their Partnerships to Improve Community Health (PICH) CDC Grant, developed a healthy checkout initiative to increase the absolute and relative availability of healthy food and non-food items (such as personal care products) at checkout in local food retailers. SPH staff developed healthy snack criteria and overall healthy checkout benchmarks to move stores towards offering a healthier product mix. SPH then worked with community partners in low-income neighborhoods with low food retail access to identify and recruit stores that would be willing to undergo a healthy checkout makeover. From May 2016 through June 2017, seven stores participated in the healthy checkout conversions (makeovers), including one discount supermarket, one independent convenience store, four convenience/liquor stores, and one franchisee of a national convenience store chain. For additional details on the development of the initiative, see Appendix 2.3, Stakeholder Interviews.

Makeovers included:

- Cleaning the store's façade and the checkout area.
- Adding shelving and baskets for healthy food.
- Identifying & buying healthier food products and non-food products available through existing or local distributors.
- Rearranging the checkout area.
- Promoting the store through local and social

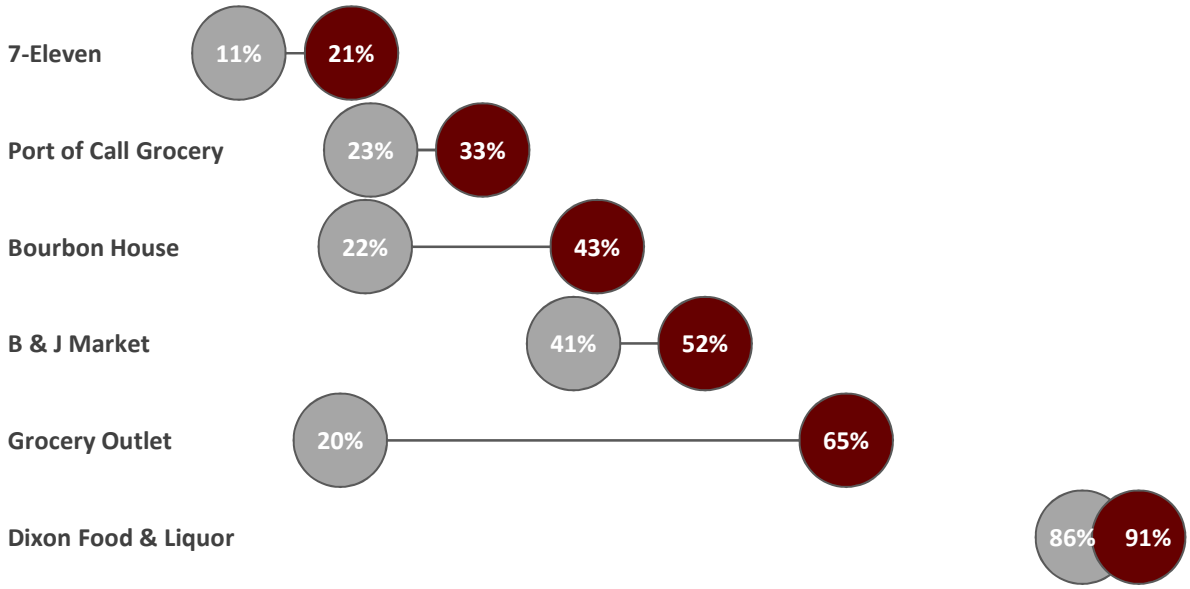
All stores were evaluated with the Center for Science in the Public Interest's (CSPI) *Checkout Facings Assessment* to determine if the number of product facings, and thus exposure to healthy and unhealthy items, changed over time. Qualitative assessments of the relative availability of healthy food, product placement, and quality information was captured through the Food Trust's *Checkout Quality Assessment*. These instruments were used prior to conversion, immediately following conversion, and (for three stores) at three and six months post-conversion. This report presents the changes documented by these assessments, and results from customer surveys and interviews with stakeholders (store owners, customers, and county employees) about the program perception and the facilitators and barriers to implementation.

Healthy food became more available but effects were not always long-lasting

Stores showed marked decreases in the amount of unhealthy foods offered. Increases in healthful food were an important improvement for the community—almost all stores were lacking fruits and vegetables available at baseline, and after conversion all stores had a mix of fresh, dried, and canned fruits and vegetables. The baseline availability of healthy food and non-food items at checkout varied widely with 7-Eleven at the lowest end (11%) to Dixon Food and Liquor with the highest (86%). After conversions all stores made notable improvements, with Grocery Outlet showing the greatest change (**Figure E1**). Dixon Food and Liquor started with a small proportion of unhealthy checkout items at baseline due to the owner removing unhealthy items in anticipation of the makeover (prior to baseline data collection), and made an important improvement of adding a fresh fruit basket and water through the conversion. With the exception of 7-Eleven, all stores added water to the checkout area. For the three stores (Cohort 1) where 3-month and 6-month post-conversion follow-ups were measured, there were mixed results in the availability of healthy and unhealthy food items due to various factors. For example,

7-Eleven reported theft of healthy products and too much of a reduction of some of their most popular sales (cookies) so some of the improvements did not persist over the long run.

Figure E1. The percent of healthy food and non-food products at checkout increased for all stores from BASELINE to POST-CONVERSION, but baseline and change varied notably by store.*



* Bob's Liquor is not included because determining healthfulness was not possible using only the pictures. Cohort 2 stores (Port of Call Grocery, Bourbon House, and B & J Market) were still waiting on some checkout area product deliveries at the time of the post-conversion measurement, so the change presented is likely attenuated. Dixon Food & Liquor removed unhealthy products before the makeover, resulting in a high healthy product baseline.

Changes at checkout were met positively by customers and store owners

Customers and store owners reported that the conversions improved store appearances and greatly appreciated SPH's support. Additionally, the technical assistance from SPH was critical in identifying packaged food products that met the healthy nutrition criteria. Store customer surveys show that half identified that the healthfulness of the checkout area has improved since intervention, and interviewed customers stated support for the conversions. All store owners reported that at least one of the product categories that they adopted over the course of the intervention had increased sales since the conversion.

Measuring the food environment was challenging

SPH selected a diverse set of retailers for the intervention. These retailers had different shelving resources and floor space options available in the checkout area. The diversity of the products that are in arms-reach at checkout can range greatly. Piloting the new CSPI and the Food Trust (FT) instruments presented an important limitation since these tools had not been validated. For example, applying these checkout assessment instruments at various stores and various points in time revealed that even small configuration changes could change the counts of facings greatly, and direct comparisons across stores are not possible. Also, size of products is not considered, for example, a pack of gum and a barrel-size water bottle dump bin both count as one facing. The remaining report presents a case study for each of the seven participating stores.

SUMMARY OF EVALUATION METHODS AND FINDINGS

Background

With funding provided by the Centers for Disease Control and Prevention (CDC) Partnerships to Improve Community Health (PICH), Solano County Public Health (SPH) in Solano, CA, developed and implemented healthy store conversions at seven locations across the county. The goal of the conversions was to improve the overall healthfulness of items for sale immediately around the checkout area where customers may be more likely to complete impulse buys.

Strategies to improve the healthfulness at checkout included:

Decreasing unhealthy food availability

Increasing healthful food availability

Increasing proportion of area dedicated to non-food items (e.g., toothpaste, lotion, cards)

Supporting and improving presentation of healthful or non-food items through additional shelving and baskets as well as general store upkeep such as cleaning and repainting.

With the support of SPH, seven stores were converted at three different periods:

(1) A pilot store, Bob's Liquor & Food in Benicia, CA during the month of May 2016.

(2) A group of three stores (Cohort 1) during September 2016, which included Grocery Outlet in Fairfield, Dixon Food and Liquor in Dixon, and 7-Eleven in Fairfield.

(3) A group of three stores (Cohort 2) during the months of May and June 2017, which included Bourbon House in Vallejo, B & J Market in Vallejo, and Port of Call Grocery in Suisun City.

Exhibit 1. Healthy snack & beverage criteria

Defining Healthy Snacks & Beverages (Summary of Criteria in SPH Instrument; Appendix 4)

Healthy snacks are defined as items with whole grains, fruit, vegetables, nuts or seeds as the first ingredient. To be considered a healthy snack, the items must also contain the following: only one serving per package with less than 200 calories, less than 230 milligrams sodium, and less than 10 grams total sugar. Fat must be less than 10% and calcium and/or fiber must be over 5% daily value.

- Snacks with fresh fruit as the first ingredient are exempt from total sugar guidelines.
- Snacks with nuts or seeds as the first ingredient are permitted to have a caloric maximum of 250 calories.
- Fresh fruits and vegetables, and items containing only nuts or seeds are exempt from nutrition guidelines.
- Healthy beverages are defined as drinks containing no natural or added sugar, and no sugar substitutes. 100% unsweetened fruit and/or vegetable juice must be limited to 8 ounces, or 6 ounces for children's juice products. Milk must be nonfat or 1% milk and is also limited to 8 ounces.

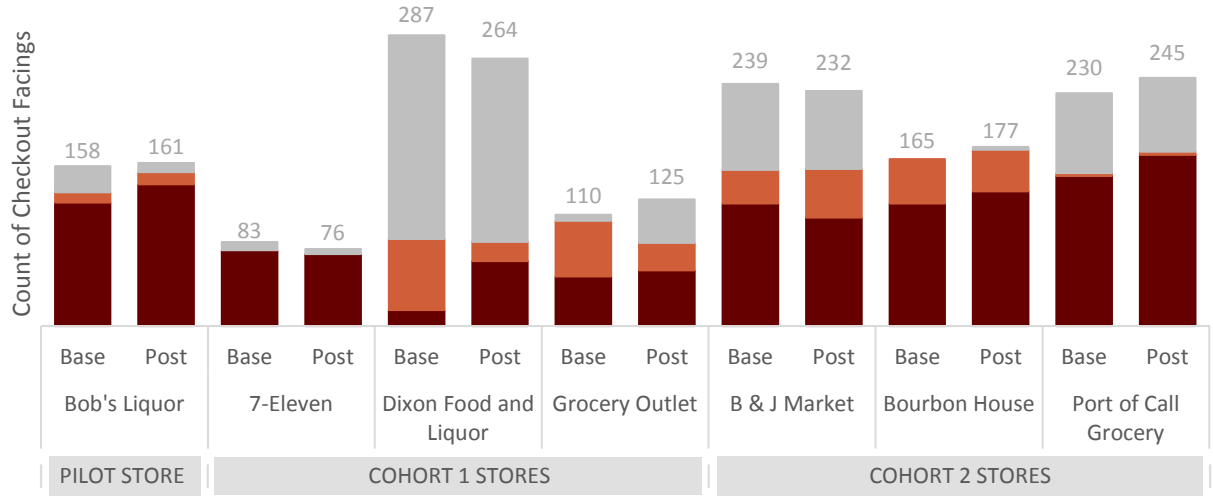
Findings

The checkout area conversions (also called "makeovers") at the seven stores showed notable improvements after the conversions which were captured through the checkout assessment tools, intercept surveys, in-depth stakeholder surveys, and direct observation. In addition to supporting the change in the checkout area products, SPH supported the general improvement of the store by cleaning the stores thoroughly, removing advertisement from windows and other locations (such as tobacco and liquor), painting when necessary, and providing equipment needed for the stocking of products (such as baskets, shelving, and refrigerated space).

CHECKOUT HEALTHFULNESS IMPROVED POST-CONVERSION BUT PERSISTANCE WAS MIXED

As shown in Executive Summary **Figure E1**, the conversion improved the percent of healthy food and non-food items at checkouts for all stores. The baseline, and furthermore the post-conversion stocking, varied broadly by store due to differences in store type, store layout, and owner preferences. **Figure 1** shows the total number of facings at baseline and the immediate post-conversion assessments including food, beverages, and merchandise. 7-Eleven had the fewest overall checkout items both at baseline and post-conversion, with no beverages and few non-food items. On the opposite end, Dixon Food and Liquor had the most total items, including the most merchandise (such as personal care products and batteries).

Figure 1. Total facings at checkout varied little between baseline and post-conversion *within* stores, but varied broadly *between* stores and categories: FOOD, BEVERAGE, & MERCHANDISE.



In the three stores for which 3-month and 6-month follow-up assessments were collected (Cohort 1), there were mixed results with the persistence of the improvements related to stocking of healthy and unhealthy items (see **Exhibit 1** for the criteria used for "healthy"). A broad set of food, beverage, and merchandise subcategories were collected using the CSPI's Facings Assessment instrument (complete data and instrument in appendix). **Figures 2-4** summarize a subset of items for two healthy (fresh fruits and vegetables; water and non-caloric beverages) and two unhealthy (candy, cookies and cakes, and chips; sweetened beverages and energy drinks) groupings.

Figure 2. 7-Eleven improvements persisted in three food groups between baseline and 6-month follow-up, but worsened in the Sweetened Beverages & Energy Drinks grouping.

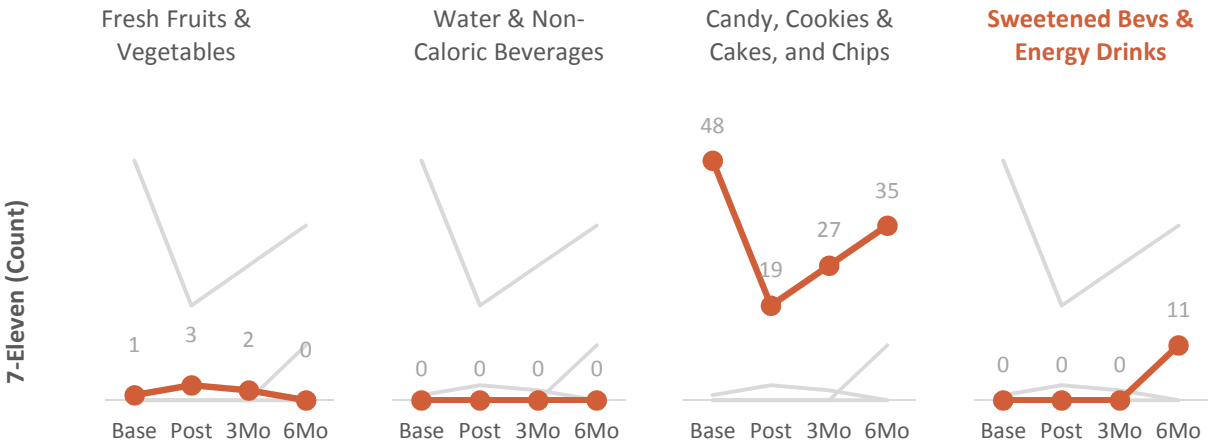


Figure 3. Dixon Food and Liquor's improvements persisted in three food groups from baseline to 6-month follow-up, but worsened in the Candy, Cookies & Cakes, and Chips grouping.

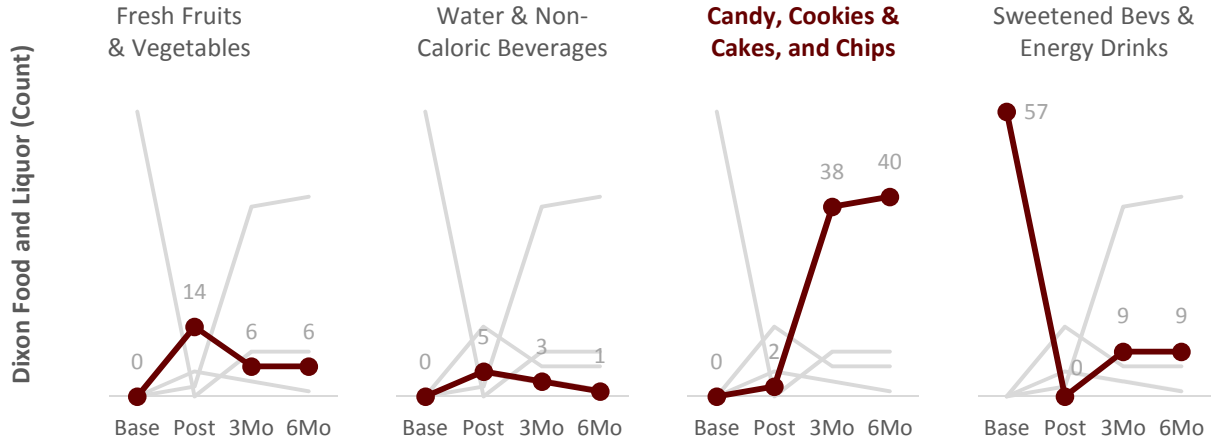


Figure 4. Grocery Outlet's improvements persisted for all groupings between baseline and 6-month follow-up.

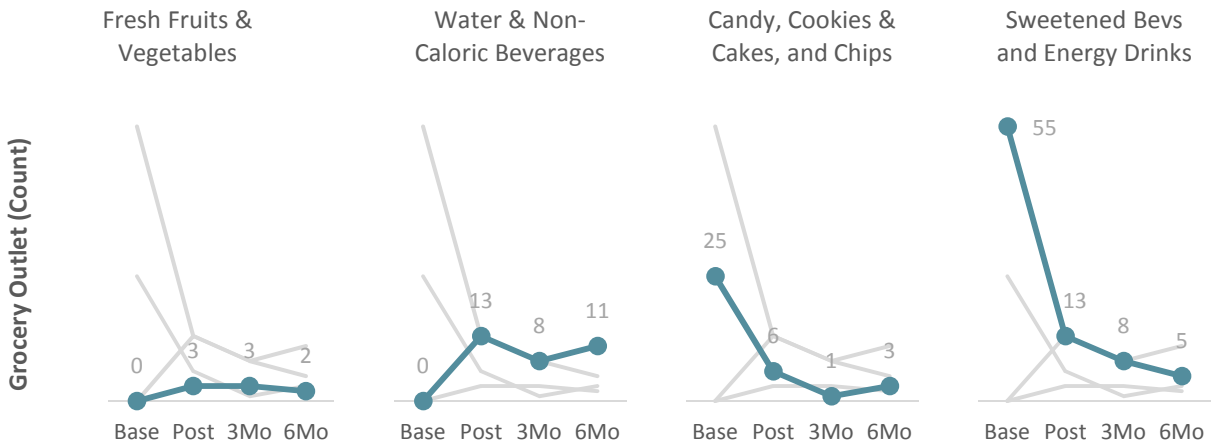
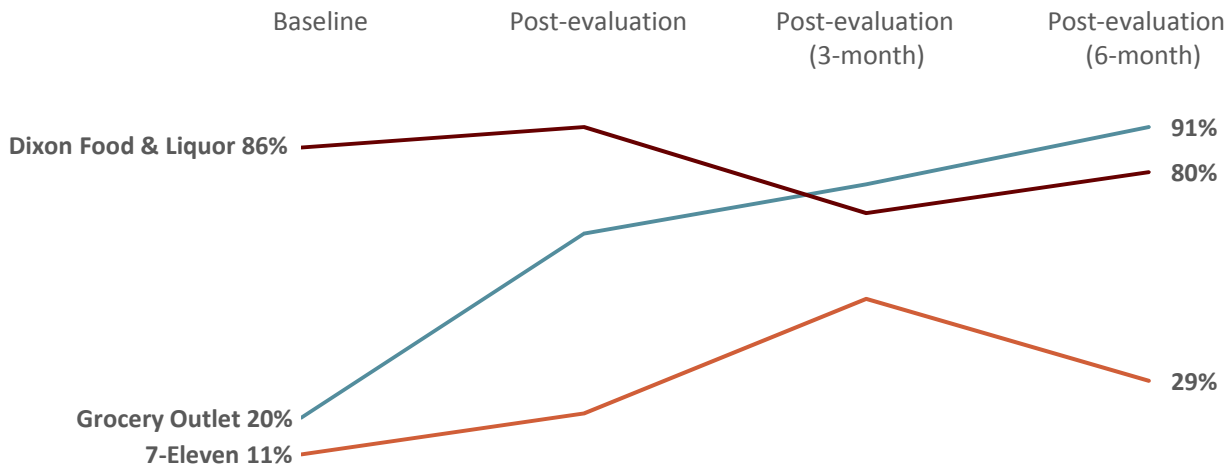


Figure 2 shows that 7-Eleven made improvements in providing fresh fruits and vegetables at check out immediately after conversion, which were no longer present at the 6-month follow-up. 7-Eleven did not provide water and non-caloric beverages as part of their conversion strategy, and while there was an initial reduction from 48 to 19 items of the candy, cookies & cakes, and chips grouping, by the last follow-up, more than half of the reductions were back at checkout. Additionally, sweetened beverages and energy drinks, which were not present at baseline, were introduced later. The interview with the store owner revealed that many of the later post-conversion changes were due to trouble with theft of the healthy products and steep loss of sales caused by moving the cookies from the checkout area during the initial conversion. Still, as can be seen from **Figure 5**, the overall percent of products at check out which are healthy improved from 11% at baseline to 29% at the 6-month follow-up.

Dixon Food and Liquors main improvements were around making fruits and vegetables available at checkout. The owner stated in his interview that he was seeing additional traffic due to the healthy items he introduced after conversion and that customers had made positive comments on the changes. Additionally, a prominent barrel-size, iced dump bin for bottled water was added. Notably (see **Figure 3**), one of the main impacts of the conversion was the reduction of sweetened beverages and energy drinks from 57 at baseline to none post-conversion and only nine at the 6-month follow-up. The overall percent of products at checkout which are healthy went down slightly for Dixon Food and Liquors (**Figure 5**), but still remains at the high proportion of 80% of facings. The reduction is largely due to the increase of 40 facings of candy (shown in the **Figure 3** candy, cookies & cakes, and chips grouping) and 24 facings of gum and mints (not shown—see appendix for detailed table).

Figure 5. Percent of healthy products at checkout.

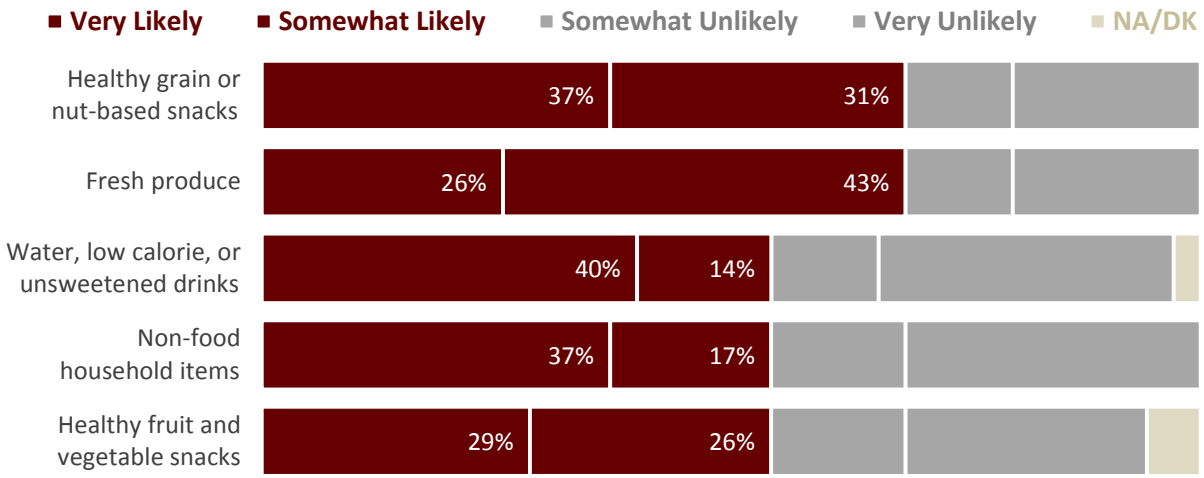


Grocery Outlet made the largest improvement based on the percent of healthy products at checkout, increasing steadily at each assessment from 20% at baseline to 91% at the 6-moth follow-up (**Figure 5**). **Figure 4** shows the combined increase in healthy food and beverage availability and a reduction in unhealthy food and beverages. The main limitation of the conversion at Grocery Outlet was that it has multiple checkouts and only one was converted.

CUSTOMERS WERE SUPPORTIVE OF THE CONVERSION

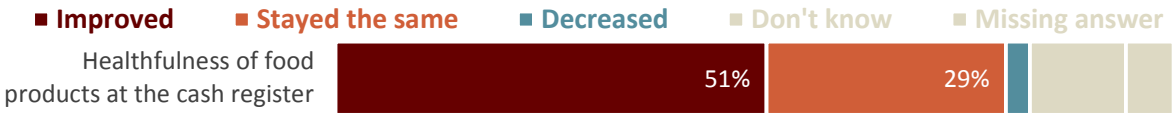
At the 3-month follow-up, researchers conducted 35 intercept interviews with shoppers leaving the Cohort 1 stores. Interviewers asked the respondents about their likelihood to purchase the five healthy food categories targeted in the conversion process. The results are shown in **Figure 6**. Two-thirds of respondents were "Very" or "Somewhat Likely" to purchase healthy grain/nut-based snacks or fresh produce at the store of focus (focal store). Water, non-food household items (such as toiletries) and healthy fruit and vegetable snacks were less likely to be purchased, but were still viable products for approximately half of the shoppers interviewed. In follow-up probes, respondents noted that they were less likely to purchase non-food items at the focal store because they perceived prices for these items as more expensive than other retailers where they can buy these items in bulk or in larger sizes. The food category that was "Very Likely" to be purchased by the most respondents was "Water, Low calorie, or Unsweetened Drinks".

Figure 6. Likelihood of purchasing product at focal store



Intercept surveys also included questions about changes in the checkout area product mix. Over half of respondents felt that the healthfulness of food products improved over the past three months (**Figure 7**).

Figure 7. Perception of healthfulness of products at the register



STORE OWNER PERCEPTIONS WERE OVERWHELMINGLY POSITIVE

Store owners appreciated the general improvements at the store as well as the publicity that came with the conversion. Owners were very pleased with the guidance and help provided by SPH—across all seven stores, they noted that SPH staff provided the level of support needed for a successful store makeover, and some stated they would be interested in working on future initiatives with SPH. Owners provided mixed feedback with respect to their perception of clients'

An intercept survey to be collected at Cohort 1 stores to inform the implementation of the Cohort 2 conversion.

(1) An in-depth interview instrument and protocol to obtain implementation feedback from store owners for Cohort 1, Cohort 2, and Pilot stores.

(2) An in-depth interview instrument and protocol to obtain implementation feedback from stakeholders and implementation partners for Cohort 1 and Pilot stores.

(3) An in-depth interview instrument and protocol to obtain implementation feedback from customers at the Pilot store.

Exhibit 2. Evaluation methodologies and timing

	2016					2017					
Instrument (Source)	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1. Product Interest Customer Intercept (SPH, FT)	Cohort 1 (SPH)									Cohort 2 (SPH)	
2. Checkout Facings Assessment (CSPI)		Cohort 1 Baseline / Outcome (FT)			Cohort 1 3-month follow-up (IMPAQ)			Cohort 1 6-month follow-up (IMPAQ)		Cohort 2* & Pilot† Baseline / Outcome (IMPAQ)	
3. Checkout Qualitative Assessment (FT)											
4. Customer Perceived Impact Intercept (IMPAQ)					Cohort 1 (IMPAQ)						
5. Store Owner Interviews (IMPAQ)					Cohort 1 (IMPAQ)					Cohort 2 & Pilot (IMPAQ)	
6. Stakeholder Interviews (IMPAQ)						Cohort 1 (IMPAQ)					Pilot (IMPAQ)
7. Customer Interviews (IMPAQ)											Pilot (IMPAQ)

* Baseline data collection for one store was performed by SPH due to timing.

† The Pilot store baseline and outcome data collection were based on photos taken by SPH.

IMPAQ carried on with the data collection begun by the Food Trust for Cohort 1 at the 3-month and 6-month follow-ups, respectively, in December 2016 and March 2017 using CSPI's and the Food Trust's instruments and following the Food Trust's protocol to provide consistency in data collection. For Cohort 2, IMPAQ collected the baseline and first follow-up (outcome) data collection using these same instruments (SPH assisted with baseline data collection for the last store of Cohort 2).

Limitations

The evaluation of the stores had several limitations due to the staggered timing of contracts with the multiple evaluating partners and alignment with the conversion dates. Because of this, the Pilot store stocking assessments were based on limited pictures from baseline and post-conversion; Cohort 1 baseline and first follow-up were collected by different evaluators than the 3-month and 6-month follow-ups; and Cohort 2 did not have 3-month and 6-month follow-up

measures. Additionally, due to the limited resources available, intercept survey sample size was small (35) and based on a convenience sample so that only descriptive statistics were possible. Finally, the instruments used were new and have not been validated. The instruments also focus on quantity and variety of facings and do not account for product size (a pack of gum, a basket of fruit, and a large water dump bin each receive the same weight of counting as just one facing) which misses some observed improvements.

Addressing limitations

For consistency in the data collection using CSPI's environmental scan instruments for the checkout area between staff, across stores, and across data collection by the Food Trust, SPH and IMPAQ, IMPAQ staff observed the following protocol. Two staff filled out each instrument independently and subsequently discussed any differences to reconcile the data collection into a uniform final assessment. For Cohort 1 stores 3- and 6-month follow-up data collection, IMPAQ consulted with SPH staff on any ambiguities to confirm how the Food Trust had defined the checkout area during their baseline and first follow-up post-conversion, as well as how the Food Trust had counted and categorized any items where there was room for more than one interpretation. All decisions on circumstances with ambiguity were documented so that the data collection could be repeated. Additionally, quantitative instruments were supplemented with in-depth-interviews of a broad spectrum of stakeholders, and pictures were taken of all measured areas at every data collection period for reference. This documentation is included in the Appendix with the specific instruments to which it applies.

Appendices

The complete findings from Exhibit 2 instruments 2-7 as well as the instruments used for the evaluation can be found in the Appendix. Appendix 1 section 1.1 describes the Pilot store conversion evaluation including store-specific changes in facings, changes in quality, store owner perceptions, and customer perceptions. Appendix 1 section 1.2 summarizes the key stakeholder feedback one year post-conversion on their intervention experiences, supports, barriers, and plans for the future. Appendix 2 section 2.1 describes store-specific changes in facings, changes in quality, and store owner perceptions. Appendix 2 also describes the results of intercept surveys conducted with shoppers at the Cohort 1 stores, three months post-conversion in section 2.2 and finally, section 2.3 describes key stakeholder feedback three months post-conversions on their intervention experiences, supports, barriers, and plans for the future. Appendix 3 describes store-specific changes in facings, changes in quality, and store owner perceptions. The remaining appendices include the instruments and supporting documents used for the evaluation.

* *Appendices can be found in the complete version of the evaluation report.*