

Healthier Food Availability, Pricing and Promotion in Stores and Restaurants in American Samoa



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A. EXECUTIVE SUMMARY

Background:

In 2010, the Pacific Islands Health Officers Association declared the US-affiliated Pacific Islands (USAPI) in a regional state of health emergency due to the epidemic of non-communicable diseases such as obesity. The causes of overweight and obesity among the American Samoans are likely due to many factors. One possible community-level predictor of obesity is the nutritionally-poor food and beverage environment of food retail venues such as supermarkets, convenience stores, and fast-food restaurants. In American Samoa (AS), there were only a handful of supermarkets or large grocery stores but many convenience stores. Furthermore, multiple studies have shown that healthier foods tend to be more expensive in food retail establishments than less healthy foods, which can deter individuals from purchasing these foods.

In January 2014, AS Governor Lolo M. Moliga established an Obesity Task Force to develop policies and strategies to combat the obesity epidemic. Via a collaboration that involved AS Department of Health (ASDOH) and the Centers for Disease Control and Prevention's Division of Nutrition, Physical Activity, and Obesity (DNPAO), and other partners, a baseline assessment of the food environment (i.e., food and beverage availability, pricing, and promotion) in retail food venues (grocery, convenience stores, and restaurants) on American Samoa was conducted as part of an Epi-Aid. ASDOH initiated the Epi-Aid request to DNPAO in March 2014. DNPAO then coordinated with CDC's Pacific Island work group to collaboratively respond to the request.

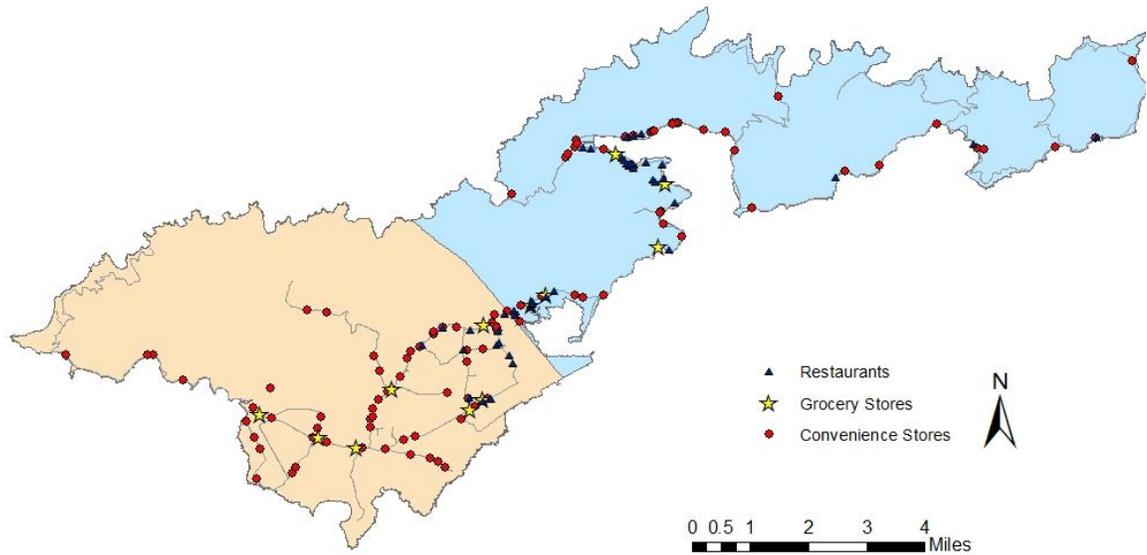
Methods

Two 2-person teams travelled separately to the East and West regions of Tutuila Island, the largest and the main island of American Samoa, to identify retail food sources by canvassing the villages using a ground-truthing approach. Data collectors canvassed the area by car and foot, visually inspecting and identifying the location and business status (i.e., in-business, out-of-business, or under renovation) of all retail food sources. A total of 12 grocery stores, 110 convenience stores, and 48 restaurants were identified. We adapted and administered a previously validated nutrition environment measures survey stores (NEMS-S) and restaurants (NEMS-R) in a geographically representative sample of 9 grocery and 61 convenient stores and 20 restaurants to assess the availability, pricing, and promotion of healthy foods. We conducted structured surveys with 12 store managers to understand barriers and facilitating factors to selling healthier foods. The data were collected from April 15 to April 24, 2014.

Healthier food items were defined as per NEMS-S (for stores), NEMS-R (for restaurants) criteria, and Nemours protocols for snack items (definitions of healthier versus regular (less healthy) also noted in Appendix A).

- **Healthier items** included fresh fruits, fresh vegetables, frozen fruits, frozen vegetables, canned fruits, canned vegetables and canned beans. (These products do not have corresponding regular items in the survey.) Healthier food items that have corresponding regular items included lean meats (e.g. $\leq 10\%$ fat ground beef), low sugar cereals ($< 7\text{g}$ sugars per serving), whole grain breads, reduced fat dairy products, and canned soup (≤ 100 kcal per serving).

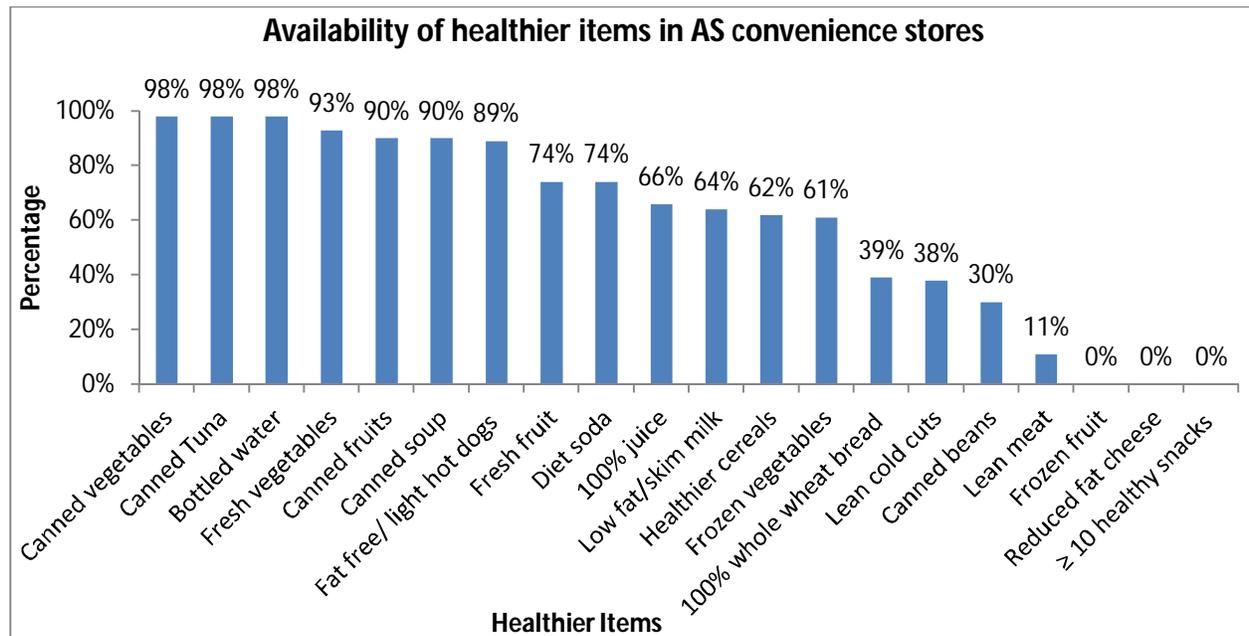
Food stores and restaurants in American Samoa[†]



Summary of Results & Conclusions

1. Some healthier food items were limited in AS convenience stores.

Almost all of the healthier food items surveyed were available in AS grocery stores. In contrast, lean meat, lean cold cuts, and whole wheat bread were available in less than 40% of convenience store.



[†] A total of 12 grocery stores, 110 convenience stores, and 48 restaurants were identified using ground-truthing method.

2. Many healthier items were more expensive than the regular (less healthy) items in AS stores.

In both AS grocery and convenience stores, several of the healthier option items were **more expensive** than the corresponding regular (less healthy) option items. These items included juice (\$1.86 for 100% juice vs. \$0.87 for juice drink in grocery stores; \$1.44 for 100% juice vs. \$1.15 for juice drink in convenience stores), bread (\$1.83 for 100% whole wheat bread vs. \$1.33 for regular in grocery stores; \$1.88 for 100% whole wheat bread vs. \$1.12 for regular in convenience store).

3. AS convenience stores that accepted WIC offered healthier items than stores that did not accept WIC.

In all categories of healthier food options, a greater number of AS convenience stores that accepted WIC had healthier options available than stores that did not accept WIC. The greatest difference in availability of particular healthier items between stores that accepted WIC and stores that did not accept WIC were fresh fruits, canned beans, whole wheat bread, lower fat milk, and healthier cereals.

4. Most AS grocery and convenience stores promoted less healthy eating.

The majority of both AS grocery and convenience stores had signs/displays that encouraged **less healthy** eating (e.g., promotional signs encouraging purchase of canned corned beef). The majority of AS grocery stores still promoted healthy eating (e.g., poster promoting bottled water) and less than 35% of AS convenience stores promoted healthy eating.

5. Although store managers reported several facilitators of offering healthier foods in stores, there were also multiple barriers that made it challenging to offer these foods in the stores.

Convenience and grocery store managers reported that customer requests or interest in having healthier food offerings, being a WIC-certified store, and regular delivery of fresh produce by local farmers were factors that made it easier to sell healthier foods in stores. However, store managers reported many barriers to offering healthier items in their stores, including the challenges of working with suppliers and the delivery process, lack of WIC-certification, and a perceived absence of consumer demand for healthier foods.

6. The majority of AS restaurants offered healthier main dish entrées while healthier side items were limited.

Among the 20 restaurants surveyed, about 70% of AS restaurants offered healthier main dish entrées. However, healthier side items such as a side of vegetables (30%) or fruit without sugar (5%) were offered in fewer restaurants.

7. Costs of healthier items were more expensive than less healthy items in AS restaurants.

Healthier entrées and side items were more expensive than the less healthy entrées and side items. Among the restaurants that offered both healthier and regular items, on average, a healthier entrée

was 9% more expensive than a less healthy entrée (\$7.47 vs. \$6.83) and a healthier side item was 15% **more** expensive than a less healthy side item (\$4.51 vs. \$3.91).

8. Few AS restaurants promoted healthier items.

Overall, approximately 25% had signs/displays that encouraged less healthy eating, while signs/displays encouraging healthy eating were non-existent.

9. There were minimal facilitators or supports to promoting healthy eating in AS restaurants.

At the time of the survey, few AS restaurants had factors that facilitated healthy eating such as providing calorie or other nutrition information, identifying healthy items with menu labeling on menus, and having menu notations that encourage healthy requests. The only exception was that more than half of the surveyed restaurants offered reduced-size portions (offered both “small” and “large” sizes) on their menus.

Potential Action Steps

A. Store-level

1) Work with store owners/managers to improve the availability of healthier foods in grocery and convenience stores.

- Encourage store managers to work with local vendors to supply healthier options (e.g., fruits and vegetables, fish).
- Develop partnerships with organizations that have experience working with wholesalers and food distributors to identify ways to improve the availability of healthier food options.
- Develop and provide educational and/or promotional materials such as stocking guidelines or other materials focused on stocking healthier foods in languages targeting non-native Samoan storeowners.
- Because stores that are WIC certified are required to provide healthier food options, this could be a strategy to increase both availability and affordability of healthier foods among WIC customers.

2) Work with store owners/managers and other partners to improve the affordability of healthier foods for consumers and store managers.

- Encourage store managers to work with local vendors to stock more affordable local options, such as local fish and vegetables to avoid high shipping costs.
- Develop partnerships with organizations that have experiences working with wholesalers and food distributors to identify ways to improve the affordability of healthier options.
- Because stores that are WIC certified are required to provide healthier food options, this could be a strategy to increase both availability and affordability of healthier foods among WIC customers.

3) Engage with store owners/managers to identify, improve visibility of, and promote healthier foods in stores.

- Increase placement of healthier foods at point-of-purchase or end-of-aisles.
- Develop and provide educational and/or promotional materials (e.g., posters, in-store and out-of-store displays, shelf-labels) identifying healthier foods.
- Provide in-store nutrition and cooking workshops.
- Identify and promote stores that provide healthier foods.

B. Restaurant-level

1) Work with store owners/managers to improve the availability of healthier foods in restaurants.

- Continue working with restaurant owners to improve availability of healthier main dish entrées and side items.
- Develop partnerships with organizations that have experience working with wholesalers and food distributors to identify ways to improve the availability of healthier food options.

2) Work with store owners/managers and other partners to improve the affordability of healthier foods for consumers and restaurant managers.

- Encourage store managers to work with local vendors to incorporate more affordable local ingredients, such as local fish and vegetables to avoid high shipping costs.
- Develop partnerships with organizations that have experiences working with wholesalers and food distributors for restaurants to learn how to improve affordability of healthier options.

3) Engage with restaurant owners/managers to promote healthier foods that they are already selling through promotion and signage.

- Develop and provide educational and/or promotional materials (e.g., in-store advertisements, discounts, menu labeling, displays) identifying healthier foods.
- Encourage restaurant owners to share their experiences about offering healthier options with other restaurant owners.

C. General

1) Identify and address the needs of community members on the benefits and preparation of healthier foods.

- Develop a needs assessment to understand community member's perceptions and beliefs surrounding the benefits and preparation of healthier foods.

2) Develop evaluation strategies that can be used to monitor the availability and affordability healthier food options in stores and restaurants.

- Conduct periodic assessment of AS NEMS survey (provided as appendix).
- Consider partnerships with local non-profit organizations and research institutions for evaluation and assessment support.

B. BACKGROUND

Poor diet and inactivity are major contributors to chronic conditions such as diabetes and obesity,^{1,2} and should be considered as a public health priority.³ In 2010, the Pacific Islands Health Officers Association declared the US-affiliated Pacific Islands (USAPI) in a regional state of health emergency due to the epidemic of non-communicable diseases in the area. American Samoa, one of the USAPI, has the highest recorded prevalence of overweight and obesity in the world with 93% of the adults overweight or obese.⁴

Although the causes of overweight and obesity among the American Samoans are likely due to many factors, one possible community-level predictor of obesity is the nutritionally-poor food and beverage environment of food retail venues such as supermarkets, convenience stores, and fast-food restaurants.⁵ Limited healthy food options on the island may have the unintended consequence of encouraging less healthy diets among American Samoans. In particular, the ‘modern diet’ pattern that includes high intake of processed foods such as potato chips, cake, and pancakes, and low intake of local foods were significantly positively associated with the prevalence of metabolic syndrome.⁶ Previous studies have shown that people living in close proximity to supermarkets or larger grocery stores have healthier diets and tend to have increased fruit and vegetable consumption, and in one study a lower rate of obesity.^{7,8} However, results varied by geographic locations and food systems.

According to an official from American Samoa (personal communication), in American Samoa (AS), there were only a handful of supermarkets or large grocery stores. For many of the villages, the nearest and often only source for groceries is a convenience store, which usually provided a limited number and variety of healthier foods. On the other hand, restaurants that sold inexpensive and large servings of nutritionally-poor foods were commonly found in urban and larger villages. Multiple studies in the continental U.S. have shown that healthier foods tended to be more expensive than less healthy foods, which can deter individuals from purchasing these foods.^{9,10} Even when physical access to healthy foods was available, it was perceived by public health practitioners that higher prices may be a more meaningful barrier to improving the nutrition and health¹¹ for AS residents.

Furthermore, imported foods were influencing the AS food system. On average, ocean freight containing imported foods arrived in AS approximately twice a month. Given the long duration of the shipments, most imported foods were processed and only limited quantity and variety of products were included.¹²

In January 2014, AS Governor Lolo M. Moliga established an Obesity Task Force to develop policies and strategies to combat the obesity epidemic. AS had limited comprehensive information on the availability, pricing, and promotion of healthful foods offered at food retail establishments on AS. To aid AS in a collaborative effort with ASDOH and the Centers for Disease Control and Prevention’s (CDC) Division of Nutrition, Physical Activity, and Obesity (DNPAO), and other partners, a baseline assessment of the food environment (i.e., food and beverage availability, pricing, and promotion) in retail food venues (grocery, convenience stores, and restaurants) on AS was conducted as part of an Epi-

Aid. An Epi-Aid^a is epidemiologic assistance to a public health problem requiring a timely response by the CDC (<http://stacks.cdc.gov/view/cdc/7601>). ASDOH initiated the Epi-Aid request to DNPAO in March 2014, DNPAO, in coordination with CDC's Pacific Island work group responded to this request. The results of the Epi-Aid are presented in this report.



East District of AS

C. METHODS

Sample

Tutuila Island is the main island of AS (58 square miles; AS total land, 77 square miles) with over 95% of total AS population residing on it. A comprehensive list of retail food establishments was developed using a ground-truthing approach in the spring of 2014. Two teams consisting of 2 people travelled separately to the East and West Districts of Tutuila Island and identified any food stores and restaurants by canvassing the villages, visually inspecting and identifying the location and business status (i.e., in-business, out-of-business, or under renovation) of all retail food sources^b. A handheld Garmin GPS unit

^a At the request of state or local health authorities (and with the concurrence of the appropriate state officials), CDC issues EPI-AIDs to assist by responding to state and local authorities when there are urgent public health problems requiring predominantly epidemiologic methodology. The focus of EPI-AIDs is to make practical recommendations and (or) institute actions to mitigate the public health problem.

^b There are 35 villages in East District and 27 villages in West District, Nu'uuli village crosses over both Districts and to avoid duplication, Nu'uuli was classified under East District

was used to capture coordinates of the food stores and restaurants. A total of 12 supermarkets/grocery stores, 110 convenience stores, and 48 restaurants were identified (Map 1).

Once a comprehensive lists of stores and restaurants were established, geographically representative samples of stores and restaurants were selected to conduct the nutrition environment assessments. When creating the samples for the stores, we accounted for geographic variability of the number of stores in the villages and locations of stores in villages. For example, if a village had 5-10 stores, a sample of 4 stores were selected; if a village had 2-4 stores, a sample of 2 stores were selected; if a village had 1 store, then that store was included in the assessment. Among all stores assessed in AS, 9 were supermarket/grocery stores and 61 were convenience stores. At least 1 grocery store was assessed when available in each village. For the restaurant samples, we selected 10 restaurants in each District, resulting in a total of 20 restaurants.

Definition of stores

The North American Industry Classification System (NAICS) code definitions were used to define grocery stores^c and convenience stores^d (<http://www.census.gov/mrts/www/naicsdef.html>). Further, to account for the unique geographical circumstances, stores with more than two cash registers were classified as grocery stores, and stores with only one cash register were classified as convenience stores.^e

Definition of restaurants

The NAICS code definitions were used to define sit-down restaurants and limited-service restaurants, which included fast food and take-out only restaurants.¹³ Sit-down restaurants are restaurants that offer full table service by wait staff, who takes your order at the table. Fast food restaurants are characterized by minimal service and by food that is supplied quickly after ordering. Food purchased may or may not be eaten quickly as well. Food is commonly cooked in bulk in advance and kept hot, or reheated to order. Take-out only restaurants are restaurants that serve similar foods to fast food restaurants but do not have tables and/or chairs.

Size of villages

The population size of villages was determined from the 2010 U.S. census data. We identified a total of 62 villages on Tutuila Island, the population ranging from 8 in Maloata to 7,945 in Tafuna.¹⁴ Based on the distribution of the population per village, we classified the villages as large if the population was ≥ 1000 and as small if the village population was < 1000 .

^c 44511 Grocery Stores: This industry comprises establishments generally known as supermarkets and grocery stores primarily engaged in retailing a general line of food, such as canned and frozen foods; fresh fruits and vegetables; and fresh and prepared meats, fish, and poultry. Included in this industry are delicatessen-type establishments primarily engaged in retailing a general line of food.

^d 44512 Convenience Stores: This industry comprises establishments known as convenience stores or food marts (except those with fuel pumps) primarily engaged in retailing a limited line of goods that generally includes milk, bread, soda, and snacks.

^e NEMS-S development and evaluation study conducted in Atlanta, GA showed that two thirds of grocery stores had three or more cash registers while convenience stores had one or two (Glanz K et al. Nutrition Environment Measures Survey in Stores (NEMS-S): Development and Evaluation). However, two cash registers were used as a cut point to determine grocery stores for the current assessment in AS to account for cultural variability.

Tools

American Samoa Nutrition Environment Measurement Surveys

The team adapted validated observational tools (Nutrition Environment Measures Survey or NEMS^f in stores (NEMS-S) and restaurants (NEMS-R)) to assess availability, pricing, and promotion of healthier and less healthier food offerings. Healthier food items were defined as per NEMS-S (for stores), NEMS-R (for restaurants) criteria, and Nemours protocols for snack items.^g When the food item was not available in those sources (e.g., canned vegetables), we used definitions provided on the Dietary Guidelines for Americans for 2010 (definitions of healthier versus regular or less healthy also noted in Appendix A). Here are a few examples.

- **Healthier items** included fresh fruits, fresh vegetables, frozen fruits, frozen vegetables, canned fruits, canned vegetables and canned beans (note that these products do not have corresponding regular items). Healthier food items that have corresponding regular items included lean meats (e.g. $\leq 10\%$ fat ground beef), low sugar cereals ($< 7\text{g}$ sugars per serving), whole grain breads, reduced fat dairy products, and canned soup (≤ 100 kcal per serving).
- **Healthier beverages** were defined as zero calorie sodas, 100% fruit juice, and low-fat or skim milk.

For the NEMS-S survey, the CDC worked with the ASDOH and dieticians from AS Community College Children's Healthy Living (CHL) project to identify popular foods consumed in AS and traditional and local Samoan foods. The CDC and ASDOH then collaboratively determined which of these foods were considered healthier or less healthy. Subsequently, these foods were integrated throughout the NEMS-S survey, with the healthier foods compared to a regular (less healthy) option. For example, a healthier item that was popular among American Samoans was canned tuna, which was compared to canned corned beef, a less healthy canned meat item also popular among American Samoans. Traditional and local AS foods that were also incorporated into the NEMS-S which were considered healthier included papaya, taro, locally grown vegetables such as string beans (i.e., local beans) and Chinese cabbage (i.e., bok choy). In addition, fresh fish and coconut were included as healthier food items that correspond to regular meats and coconut cream.

When counting the number of available healthier and less healthy snacks in the stores, we only accounted for non-refrigerated snacks to reduce burden on the data collectors. The Nemours Healthy Vending Guide (<http://www.cspinet.org/new/pdf/HealthyVendingGuide.pdf>) was used to identify what constituted healthier and less healthy. Below are all non-refrigerated food items included in the classification.

- **Healthier:** Items meant to be eaten almost anytime, including low-fat/fat-free popcorn, whole grain cereal or cereal bars, whole grain crackers, rice cakes, soy crisps, and fruit cup in fruit juice.

^f The NEMS criteria and the papers describing the validity of the NEMS tools/protocols can be found at <http://www.med.upenn.edu/nems/about.shtml>.

^g Healthy Vending Guide Nemours protocol available at: <http://www.cspinet.org/new/pdf/HealthyVendingGuide.pdf>.

- **Somewhat healthier:** Items meant to be eaten only sometimes, including baked chips, animal crackers, graham crackers, cereal, nuts, seeds, peanut butter crackers, 100-calorie snack packs, fruit cup in light syrup, low-fat granola bar, trail mix, and dried fruit.
- **Least healthy:** Items meant to be eaten only once-in-a-while, including candy, candy bars, cookies, pies, doughnuts, pastries, muffins, pop tarts, buttered popcorn, chips, snack mix, cheese-flavored crackers, and fruit cups in heavy syrup.

For the NEMS-R survey, only a few minor modifications were made to beverage specific information. For example, we added questions regarding free refills (e.g., Do signs/table tents/displays promote free refills on sugary drinks? If yes, do you have to ask restaurant staff for refills? If yes, is this a one-time refill only?) and pricing information for soda by sizes (e.g., small, medium, large, and extra-large). NEMS-R classification was used when identifying healthier menu items symbol (NEMS-R menu item classification available in Appendix A). When nutrition information was not available, we recorded the number of entrees self-identified as “*light fare*,” “*light*,” “*heart healthy*,” and “*healthy*,” which were sometimes designated with a small heart symbol. As a part of field testing, four raters reviewed three restaurant menus and identified healthier items independently since many restaurants did not have healthier entrees identified in their menu. We then compared the results and discussed reasons why we selected those items as healthier options. In most cases, menu options using healthier cooking methods such as steaming, broiling, boiling, or grilling were considered as healthier options. For example, steamed vegetables with rice would be considered healthier vs. sweet and sour pork with fried rice as well as a grilled chicken sandwich would be considered healthier vs. a bacon cheese hamburger. Remaining NEMS-R surveys were conducted independently.

To enhance inter-rater reliability and to ensure that the adapted NEMS-S survey appropriately captured availability of AS foods in the stores, a subset of surveys was completed by four raters simultaneously on the first day of data collection and served as a field test of the survey. Results were compared and data collection approaches were improved and incorporated into the survey and the protocol. For example, counting the total number of available canned items was time-intensive and was shortened to capture these items using three categories: < 5, 5-14, and 15+. Breadfruit was also removed from the NEMS-S survey since most breadfruit was not purchased in a store but was obtained from their own trees or their neighbors.

Store Manager Survey

Store manager surveys were conducted to assess general store characteristics, food distribution mechanisms for certain healthful food items, attitudes and perceptions about offering healthier food options within stores, and facilitators and barriers to offering healthier foods in stores. The survey tool was adapted from the previously conducted Epi-Aid in the Navajo Nation^h and previously fielded interview guide to understand vendor perspectives on selling healthier foods.¹⁵

^h Healthful Nutrition of Foods in Stores on Navajo Nation: Availability, Pricing, and Promotion (in response to Epi-Aid request) report is available upon request. Please contact Dr. Gayathri Kumar (wiz3@cdc.gov).

In-Person Training and Sharing of Preliminary Results

A half-day in-person training was conducted with DOH staff and health inspectors, community health clinic nurses, and members from the AS Community College Children's Healthy Living. The purpose of the training was to help members of these groups conduct similar assessments in the future when needed (e.g., following program implementation or intervention). The training covered the purpose of the assessment, how to use the survey tools, and how to conduct the assessments in the field. Overall, a total of 15 people attended the training session.

Data Collection

American Samoa Nutrition Environment Measurement Survey

Store

Verbal approval was obtained from all grocery and convenience store managers/staff in stores to conduct store assessments and store manager surveys.

Information was collected on availability, size and pricing of fresh fruits and vegetables, canned items, meat, hot dogs, beverages including milk and water, cereals, eggs, cold cuts, and cheese. The surveyor selected the lowest priced brand of the item and note the price and size in case multiple options of an item existed (e.g., Springfield™ vs. Dole™ canned pineappleⁱ). NEMS definitions were used for the number of varieties.^j Additionally, information on the store in general (e.g., if the store accepted Women, Infants, and children (WIC) or AS Nutrition Assistance Program (ASNAP)), promotion and placement of healthier or less healthy foods, and store on-the-go fast food section sections were also collected.

Restaurant

Verbal approval to conduct the restaurant assessment was obtained from all restaurant managers/staff.

Information was collected on the total number of choices of main dishes/entrées, healthier entrées, main dish salads, healthier salads, low-fat or fat-free salad dressings, healthier side dishes such as fruits and vegetables, and both healthier (e.g., diet sodas, 100% fruit juice) and less healthy (e.g., sugar-sweetened) beverages (definitions of healthier versus less healthy were defined in the NEMS-S protocol and also noted in Appendix A). Pricing information was obtained for the least expensive healthier and less healthy main entrées and side items. For the beverages, the surveyor selected the smallest sized healthy

ⁱ CDC does not endorse any products but is merely providing examples of what products were found in AS.

^j When counting the varieties of healthier items, the NEMS-S definition¹ was used. In the case of fresh fruits and vegetables, the number of varieties would be determined by different types. For example, a pack of sliced watermelon and a whole watermelon would count as one type of fruit. In all other cases, the number of varieties would be determined by different brands and types, but do not include different sizes of the same brand. For example, the number of varieties of 100% whole wheat bread included both different brands and types (e.g., 100% whole wheat, 100% honey whole wheat, etc) but did not include different sizes of the same brand (16 oz. and 32 oz. of 100% whole wheat bread from brand A would not count as two types). Detailed NEMS-S definitions can be found in the protocol available at http://www.med.upenn.edu/nems/docs/NEMS_S_Detailed.pdf

and less healthy beverages and noted the price and size. Typically, availability and pricing information were obtained using menus (e.g., take-out menu, menu boards) and surveyors would query restaurant staff when needed information was not available. Additional information on the restaurant in general (e.g., parking availability), promotion of healthy and less healthy eating (e.g., ‘Do signs/table tents/displays encourage healthy eating?’), facilitators to healthy eating at restaurants (e.g., availability of nutrition information or identification of healthier items on menus with labels), barriers to healthy eating (e.g., large portion sizes encouraged), and general pricing information (e.g., sum of individual items compared to combo meal) were also collected.

Store Manager Survey

Verbal approval was obtained from all store managers who participated in the survey.

Overall, a total of 12 total store manager surveys were conducted from grocery (n=5) and convenience (n=7) stores in AS. Stores in which the store manager surveys were conducted were a convenience sample selected from the 70 stores. Managers were selected to ensure that the following characteristics were represented: East and West Districts, grocery and convenience stores, and store owners’ race/ethnicity. It was important to have a good representation of store owners’ race/ethnicity because a large proportion of store owners were non-Samoans (e.g., Koreans and Chinese immigrants). When possible, Korean immigrant store owners were interviewed by the Korean-speaking EIS officer.

GPS Coordinates and Store Maps

GPS coordinates were obtained for all stores and restaurants on AS during the field assessment. In the field, a handheld Garmin GPS system was used to capture coordinates of stores and restaurants.

Using the GPS coordinates and ArcGIS 10 (ArcMap) mapping software, comprehensive maps of all known grocery stores, convenience stores, and restaurants were created. Three separate maps were developed (Section E): 1) All AS food stores and restaurants, 2) AS grocery and convenience stores by village size, and 3) AS restaurants by village size.

Data management and Statistical Analysis

Data were collected via a paper-and-pencil survey and then entered into a data entry template using Epi-Info 7 software (<http://wwwn.cdc.gov/epiinfo/7/>). Data entry quality checks were performed on all entries. The error rate was < 1%. Descriptive analyses, including frequencies, percentages and means were performed with Statistical Analysis Software, version 9.3 (SAS Institute, Cary, North Carolina).

D. RESULTS

American Samoa Nutrition Environment Measurement Survey in Stores

1. What were the characteristics of the sampled stores in American Samoa?

There were 122 total numbers of food stores, with 12 grocery stores and 110 convenience stores in AS (Table 1). Of the grocery stores, seven were located in the West District and five in the East District. Of the convenience stores, 66 were located in the West District and 44 in the East District. For the restaurants we sampled, we identified 20 located in the West District and 28 in the East District (Map 1).

Among the sampled grocery stores (n=9), all accepted AS NAP benefits and 67% accepted WIC benefits (Table 1). Among the sampled convenience stores in AS (n=61), 77% accepted ASNAP benefits and 28% accepted WIC benefits. The entire sample of stores that accepted WIC also accepted ASNAP.

Map 1. Food stores and restaurants in American Samoa

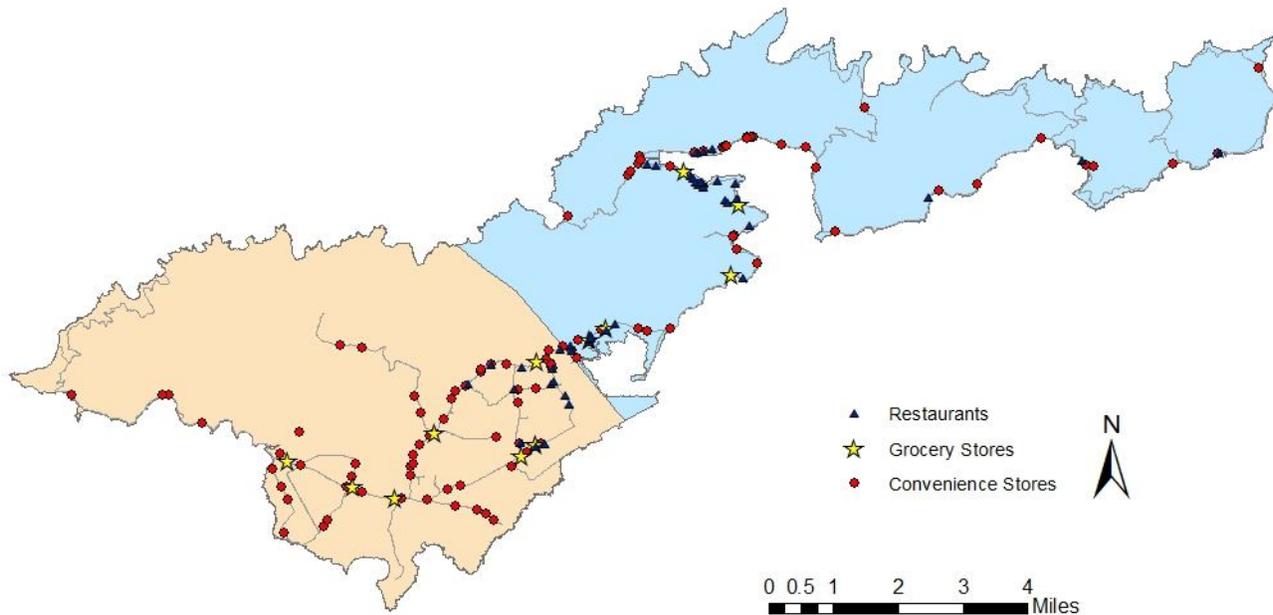


Table 1: Number of retail food venues in American Samoa, total and sampled

	All of American Samoa	Sampled stores in American Samoa	Sample stores that accept WIC*	Sampled stores that accept ASNAP
Grocery stores^a	12	9	6	9
Convenience stores^b	110	61	17	47

*All of the sample stores that accept WIC also accepted AS NAP.

^a Store with more than one cash register

^b Store with one cash register

2. Were healthier food items available in American Samoa stores?

Grocery stores

In general, nearly all grocery stores sampled offered many of the healthier food options assessed on the survey (Table 2). All grocery stores assessed offered fresh fruit, fresh vegetables, canned fruit, canned vegetables, canned tuna, canned soup, canned beans, diet soda, 100% juice, bottled water, low fat/skim milk, healthier cereals, and 100% whole wheat bread. Fat free/light hot dogs (89%), lean cold cuts (78%), frozen vegetables (78%), frozen fruits (22%), reduced fat cheese (22%), greater than 10 healthier snacks (22%) and lean meat (44%) were offered in fewer grocery stores.

Convenience stores

In comparison to grocery stores, fewer convenience stores sampled offered healthier food options assessed on the survey (Table 2). Only fresh vegetables, canned fruits, canned vegetables, canned tuna, canned soup, fat free/light hot dogs, bottled water were offered in greater than 85% of convenience stores sampled. Fresh fruit (74%), diet soda (74%), 100% juice (66%), low fat/skim milk (64%), healthier cereals (62%), frozen vegetables (61%), 100% whole wheat bread (39%), and lean cold cuts (38%) were offered in fewer convenience stores. None of the sampled convenience stores offered frozen fruit, reduced fat cheese, and greater than 10 healthier snacks (Table 2).

When comparing the availability of healthier items versus regular (less healthy) items in convenience stores (Table 3), diet soda (74%), 100% juice (66%), 100% whole wheat bread (39%), and lean cold cuts (38%) were available in fewer stores than were regular (less healthy) items. Only canned soup and light hot dogs were more available in the convenience stores than the regular (less healthy) items.

Table 2: Availability of healthier items* in American Samoa Grocery and Convenience Stores

	Grocery stores ^a (n=9)	Convenience stores ^b (n=61)
	%	%
Fresh fruit	100	74
Frozen fruit	22	0
Fresh vegetables	100	93
Frozen vegetables	78	61
Canned fruits	100	90
Canned vegetables	100	98
Canned beans	100	30
Canned tuna	100	98
Canned soup	100	90
Lean meat	44	11
Fat free/ light hot dogs	89	89
Diet soda	100	74
100% juice	100	66
Bottled water	100	98
Low fat/skim milk	100	64
Healthier cereals	100	62
100% whole wheat bread	100	39
Lean cold cuts	78	38
Reduced fat cheese	22	0
≥ 10 healthier snacks	22	0

^a Store with more than one cash register; ^b Store with one cash register

*Please refer to the Appendix A for definitions of the healthier items.

Table 3: Comparison of availability of healthier* and regular (less healthy) items in American Samoa convenience stores.

	Convenience stores ^a (n=61)	
	Healthier** item availability	Regular item availability
	%	%
Canned meats (Tuna vs. corned beef)	98	98
Canned soup	90	77
Meat (Lean vs. standard)	0	74
Hot Dogs (Fat-free or light vs. regular)	89	69
Soda (Diet vs. regular)	74	98
Juice (100% juice vs. juice drink)	66	93
Cereals (Less sugar vs. sugared)	62	95
Bread (100% whole wheat vs. white)	39	80
Cold cuts (Lean vs. regular)	38	49
Cheese (Reduced fat vs. regular)	0	79

^a Store with one cash register

* Please refer to the Appendix for definitions of the healthier items

Convenience stores by the size of villages

In general, of the convenience stores sampled in large villages, there was greater availability of healthier items assessed (Table 4) than convenience stores in small villages. More convenience stores in large villages (82%) had any fresh fruit than in small villages (63%) while most convenience stores in both large villages (94%) and small villages (93%) had any fresh vegetables. However, variety of vegetables varied by village size. More convenience stores in large villages (68%) offered more than 5 types of fresh vegetables than in small villages (48%). Further, frozen vegetables were available in fewer convenience stores in large villages (53%) compared to small villages (70%). In contrast, more than 4 types of fresh fruits were low in both villages (26% in large villages vs. 19% in small villages).

Table 4: Availability of healthier items in American Samoa convenience stores, by the size of village

	Large villages ^a (n=34)	Small villages ^b (n=27)
	%	
Fresh fruit	82	63
≥ 4 types of fruits	26	19
Frozen fruit	0	0
Fresh vegetables	94	93
≥ 5 types of vegetables	68	48
Frozen vegetables	53	70
Canned fruit	94	85
Canned vegetables	100	96
Canned beans	35	22
Canned tuna	97	100
Canned soup	88	93
Fish	76	56
Lean meat	15	7
Fat free/ light hot dogs	91	85
Diet soda	74	74
100% juice	71	59
Bottled water	97	100
Low fat/skim milk	65	63
Healthier cereals	65	59
100% whole wheat bread	44	33
Lean cold cuts	41	33
Reduced fat cheese	0	0
≥ 10 healthier snacks	0	0

^a Villages > 1000 residents; ^b Villages ≤1000 residents

* Please refer to the Appendix for definitions of the healthier items

3. Did American Samoa stores offer several varieties of healthier items?

When counting the varieties of healthier items, the NEMS-S definition^k was used. In the case of fresh fruits and vegetables, the number of varieties would be determined by different types. For example, a pack of sliced watermelon and a whole watermelon would count as one type of fruit. In all other cases, the number of varieties would be determined by different brands and types, but did not include different sizes of the same brand. For example, the number of varieties of 100% whole wheat bread included both different brands and types (e.g., 100% whole wheat, 100% honey whole wheat, etc) but did not include different sizes of the same brand (16 oz. and 32 oz. of 100% whole wheat bread from brand A would not count as two types).

Grocery stores vs. Convenience stores

The percentage of stores that had ≥ 5 varieties of healthier item, with exception of lean meat and whole wheat bread (≥ 3 varieties cut point used^l), were calculated and used to characterize the variety of healthier food items in the stores (Table 5). In comparison to the grocery stores, convenience stores did not offer as many varieties of healthier food options in **all** food categories. Certain categories of healthier food options where the discrepancy of varieties offered in grocery stores and convenience stores were more than double include:

- Fresh fruit, 67% with ≥ 5 varieties in grocery store vs. 13% for convenience store
- Canned fruit, 33% vs. 7%
- Canned vegetable, 89% vs. 31%
- Healthier cereals, 67% vs. 11%

4. How did the pricing of healthier items compare to regular (less healthy) items in American Samoa?

Healthier vs. Regular items within American Samoa stores

When comparing the prices of healthier items to their corresponding regular (less healthy) items, prices were determined based on the following method: overall average was calculated using price per ounce for each product (both healthier and regular or less healthy item) and then the average price/oz was multiplied by the most commonly found size of the item on AS. For example, the mean price/oz for 100% whole wheat bread was \$0.1144 while white bread was \$0.0831. The most commonly found size for bread was 16oz. We then calculated price for a 16oz 100% whole wheat bread (16oz * \$0.1144/oz =1.83) and a 16oz white bread (16oz * \$0.0831/oz =1.33).

^k Detailed NEMS-S definitions can be found in the protocol available at http://www.med.upenn.edu/nems/docs/NEMS_S_Detailed.pdf

^l Cut point ≥ 3 for lean meats and whole wheat bread was chosen based on NEMS-S scoring system.

Table 5: Percentage of American Samoa grocery and convenience stores that have greater than 5 (or 3 depending on the item) varieties of selected healthier items*

	Grocery store ^a (n=9)	Convenience store ^b (n=61)
≥5 varieties of selected healthier items		
Fresh fruit	67	13
Fresh vegetables	100	66
Canned fruit	33	7
Canned vegetables	89	31
Canned vegetable <200mg of sodium	11	0
Canned beans	22	0
Healthier canned meats ^c	100	95
Healthier cereals	67	11
Canned soup	78	28
Healthier beverage	33	28
Low calorie beverage	0	0
Table 5 continued.		
	Grocery store ^a (n=9)	Convenience store ^b (n=61)
≥3^d varieties of selected healthier items		
Lean meat	11	2
Whole wheat bread	22	0

* Please refer to the Appendix A for definitions of the healthier items

^a Store with more than one cash register

^b Store with one cash register

^c Examples of healthier canned meats include tuna, sardines, salmon, chicken (white meat only) and mackerel – all of which must be served in water and must not have added ingredients, seasoned, flavored, or served in oil.

^d Cut point ≥3 for lean meats and whole wheat bread was chosen based on NEMS-S scoring system.

For grocery store pricing comparison, both versions of the same healthier and regular item had to be offered in at least two stores to be included in the analysis. For example, if 9 grocery stores offered white bread but only 7 offered 100% whole wheat bread, only 7 were included in the analysis. Due to high variation of prices between grocery stores, we limited comparison to grocery stores that offered both healthier and regular items. For convenience stores, all available convenience stores were kept in the analysis because sensitivity analysis (limiting the analytic sample to stores that offer both healthier and regular items) showed little to no difference in the pricing information among the stores.

Grocery stores

Among grocery stores surveyed, the healthier items were generally less expensive than regular items. The healthier items that were **more expensive** than the corresponding regular (less healthy) items included juice and bread (Figure 2).

The average price of 16 oz. 100% juice was \$1.86 compared to \$0.87 of 16 oz. juice drink. The average price of 16 oz. whole wheat bread was \$1.83 compared to \$1.33 of 16 oz. white bread.

Convenience stores

For convenience stores in AS, the healthier items that were **more expensive** than the corresponding regular option items included hot dogs, juice, cereal, and bread (Figure 3).

The average price of 12 oz. light hot dog was \$1.29 per pound compared to \$1.22 of 12 oz. regular hot dog. The average price of 16 oz. 100% juice was \$1.44 compared to \$1.15 of 16 oz. juice drink. The average price of 12 oz. healthier cereal was \$4.65 compared to \$4.49 of 12 oz. regular cereal. The average price of 16 oz. whole wheat bread was \$1.88 compared to \$1.12 for 16 oz. white bread.

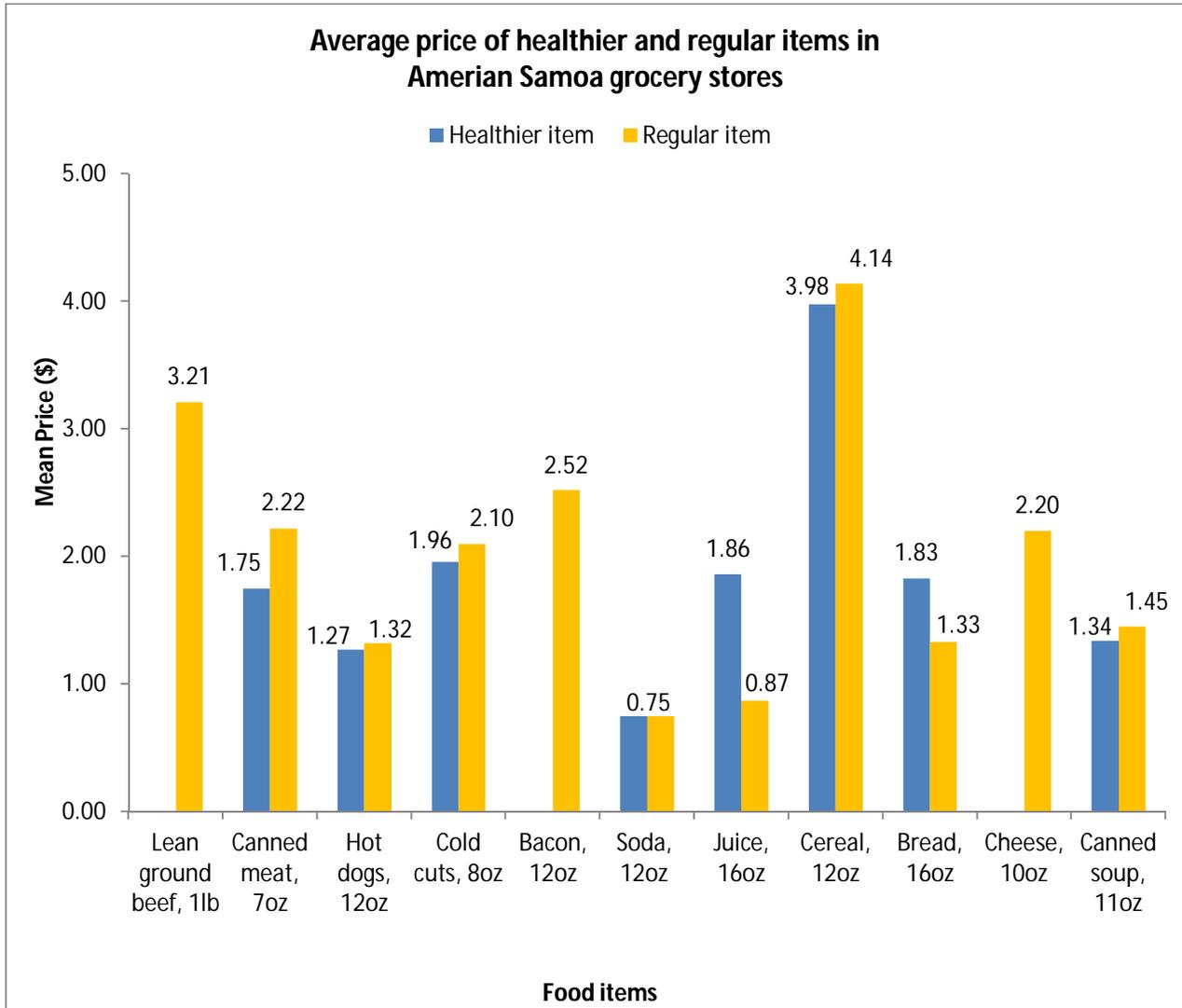


Figure 2. Average price of healthier and regular option items among grocery stores on American Samoa

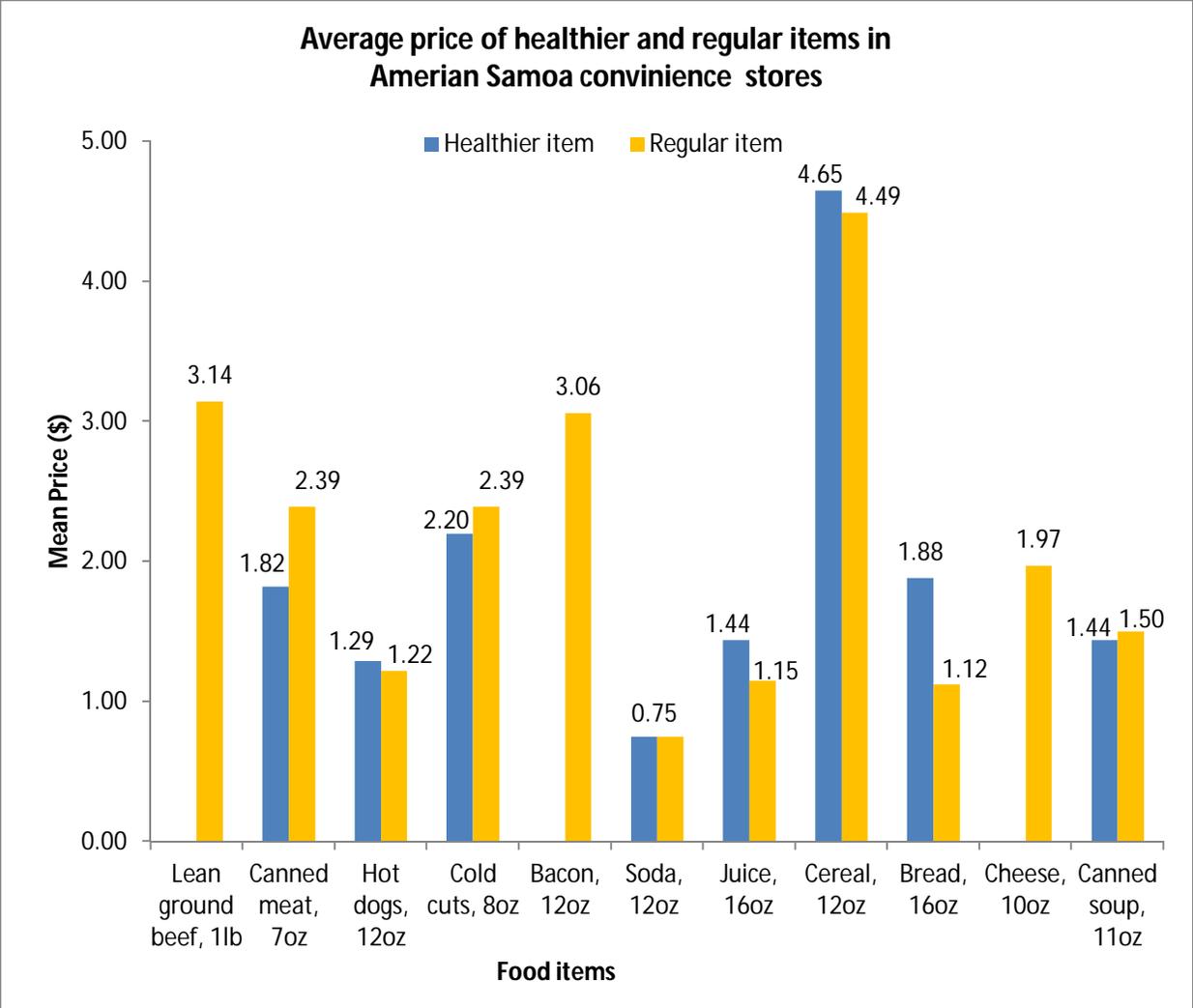


Figure 3. Average price of healthier and regular option items among convenience stores on American Samoa.

Grocery stores vs. Convenience stores

When comparing the prices of healthier items between grocery stores and convenience stores, most items were **more expensive** in convenience stores, with the exception of 100% fruit juice (\$1.86 in grocery store vs. \$1.44 in convenience store). However, when comparing the prices of regular items between grocery stores and conveniences stores, several items were **less expensive** in convenience stores in comparison to grocery stores (Figures 2 and 3). These items included:

- White bread (16 oz.), \$1.33 in grocery stores vs. \$1.12 in convenience stores
- Regular sliced cheese (10 oz.), \$2.20 vs. \$1.97
- Regular hot dogs (12oz.), \$1.32 vs. \$1.22
- Standard ground beef (1 lb.), \$3.21 vs. \$3.14

The healthier item with the greatest price difference (+ \$0.68) between grocery and convenience stores was cereal, followed by cold cuts (+ \$0.24).

- Healthier cereal (12 oz.), \$3.98 in grocery stores vs. \$4.65 in convenience stores
- Cold cuts (8 oz.), \$1.96 vs. \$2.20

Convenience store by size of village

Between large and small villages, healthier items were **less expensive** in convenience stores located in large villages than small villages, with exception of canned tuna (\$1.84 vs. 1.79 in small villages). However, some regular (less healthy) items were **less expensive** in convenience store located in small villages compared to large villages. These items included:

- Regular cold cuts, \$2.50 in large village vs. \$2.22
- Juice drink, \$1.27 in large village vs. \$1.18
- Cereal, \$4.51 in large village vs. \$4.47

In large village convenience stores, some healthier items were less expensive than regular (less healthy) items, such as canned meats (\$1.84 for tuna vs. \$2.38 for corned beef), and cold cuts (\$2.13 for lean vs. \$2.50 for regular).

In small village convenience stores, some healthier items were **more expensive** than regular (less healthy) items, such as juice (\$1.57 for 100% juice vs. \$1.18 for juice drink), cold cuts (\$2.31 for lean vs. \$2.22 for regular) (Table 6).

5. Did American Samoa stores that accepted WIC offered more items that are healthier than stores that did not accept WIC?

Among all the AS stores assessed, 23 (38%) stores accepted WIC benefits (Table 7). Of the stores that accepted WIC, 6 were grocery stores (26%). Regarding grocery stores, regardless of WIC-approved status, availability of selected food items were all available, except for 100% fruit juice in WIC-approved grocery stores. We verified with the two storeowners and they reported that the 100% fruits juice in WIC-approved grocery stores were out of stock at the time of the assessment. In all categories of healthier food options, a greater number of WIC approved convenience stores had healthier options available than non-WIC approved stores. The greatest difference in availability of a particular healthier item between WIC approved and non-WIC approved convenience stores included whole wheat bread (94% for WIC approved store vs. 18% for non-WIC approved), low sugar cereal (94% vs. 50%), low fat or skim milk (94% vs. 52%), canned beans (53% vs. 20%) and fresh fruits (100% vs. 64%).



WIC Approved section in a convenience store

Table 6: Average price of healthier* and regular food items in convenience stores by size of villages

Food item	Large village ^a (n=34)		Small village ^b (n=27)	
	Healthier item	Regular item	Healthier item	Regular item
Canned meat, 7oz (Tuna vs. Corned beef)	\$1.84 <i>n</i> =33	\$2.38 <i>n</i> =33	\$1.79 <i>n</i> =27	\$2.40 <i>n</i> =27
Canned soup, 11oz	\$1.39 <i>n</i> =30	\$1.50 <i>n</i> =25	\$1.51 <i>n</i> =25	\$1.50 <i>n</i> =21
Lean ground beef (Price/lb)	-	\$3.07 <i>n</i> =27	-	\$3.24 <i>n</i> =18
Hot dogs, 12oz (Light vs. regular)	\$1.25 <i>n</i> =31	\$1.21 <i>n</i> =25	\$1.35 <i>n</i> =23	\$1.25 <i>n</i> =17
Soda, 12oz (Diet Cola vs. Cola)	\$0.75 <i>n</i> =25	\$0.75 <i>n</i> =33	\$0.75 <i>n</i> =20	\$0.75 <i>n</i> =27
Juice, 16oz (100% juice vs. juice drink)	\$1.34 <i>n</i> =24	\$1.27 <i>n</i> =33	\$1.57 <i>n</i> =17	\$1.18 <i>n</i> =25
Cereal, 12oz (non-sugared vs. sugared)	\$4.63 <i>n</i> =22	\$4.51 <i>n</i> =34	\$4.68 <i>n</i> =16	\$4.47 <i>n</i> =24
Bread 16oz (100% whole wheat vs. white)	\$1.87 <i>n</i> =15	\$1.06 <i>n</i> =29	\$1.89 <i>n</i> =10	\$1.21 <i>n</i> =22
Cold cuts, 8oz (Lean vs. regular)	\$2.13 <i>n</i> =14	\$2.50 <i>n</i> =18	\$2.31 <i>n</i> =8	\$2.22 <i>n</i> =12
Bacon, 12oz (Turkey bacon vs. regular)	-	\$2.97 <i>n</i> =20	-	\$3.16 <i>n</i> =18
Cheese, 10oz (Reduced fat vs. regular)	-	\$1.83 <i>n</i> =26	-	\$2.15 <i>n</i> =20

*Please refer to the Appendix A for definitions of the healthier items.

^a Villages > 1000 residents

^b Villages ≤ 1000 residents

Table 7: Percentage of healthier food offerings in American Samoa stores that either accepted or did not accept WIC*§

	Accepted WIC (%)		Did not accept WIC (%)	
	Grocery store ^a n=6	Convenience store ^b n=17	Grocery store ^a n=3	Convenience store ^b n=44
Fresh fruits	100	100	100	64
Fresh vegetables	100	100	100	91
Canned fruit	100	94	100	89
Canned vegetables	100	94	100	100
Canned beans	100	53	100	20
Canned tuna	100	100	100	98
100% Juice	67	71	100	60
Low fat or skim milk	100	94	100	52
Cereal	100	94	100	50
Whole wheat bread	100	94	100	18
Eggs	100	94	100	93
Cheese	100	100	100	70

*Please refer to the Appendix A for definitions of the healthier items.

§Following items are on the American Samoa WIC program authorized food list but not assessed in NEMS-S: Infant formula, baby cereal, baby fruits & vegetables, baby meat, unprocessed whole grains (e.g., brown rice), hot cereal, dry legumes, and peanut butter.

^aStore with more than one cash register

^b Store with one cash register

6. Where were healthier items placed in American Samoa stores?

In general, fewer stores placed healthier items at high profile areas (i.e., point-of-purchase or end-of-aisles) than less healthy items (Table 8). In fact, all grocery stores and nearly all convenience stores placed less healthy items at point-of-purchase and end-of-aisles. With respect to healthier item placement, more grocery stores placed healthier items at point-of-purchase (33% vs. 18% for convenience stores) than convenience stores. For both grocery and convenience stores, the majority of the stores had a lower proportion (<33%) of healthier items compared to less healthy items at the end of the aisles (89% for grocery stores and 98% for convenience stores).

Table 8: Percentage of American Samoa stores that promoted healthier items*

	Grocery stores ^a (n=9) %	Convenience stores ^b (n=61) %
Placement		
Healthier items present at point-of-purchase	33	18
Healthier items present at end-of-aisles	56	16
Less healthy items present at point-of-purchase	100	95
Less healthy items present at end-of-aisles	100	93
Proportion of healthier items compared to less healthy items available at end-of-aisles		
<33%	89	98
33-66%	11	2
>67%	0	0
Promotion		
Stores that promote locally grown items	0	0
Stores that identify locally grown items	11	8
Stores that identify organic items	11	0
Stores that encourage healthy eating through displays	78	34
Stores that encourage less healthy eating through displays	87	89

*Please refer to the Appendix A for definitions of the healthier items.

^a Store with more than one cash register

^b Store with one cash register

7. Were healthier, local or organic foods promoted in American Samoa stores?

Overall, few stores promoted healthier, local or organic foods using signs or labels (Table 8). A greater number of grocery stores had displays that encouraged healthy eating (e.g., a poster promoting bottled water; 78% vs. 34% for convenience stores). One grocery store (11%) and 5 convenience stores (8%) identified locally grown items but none of them promoted those items. The same grocery store (11%) identified organic items while no convenience stores did so. On the other hand, the majority of both AS grocery and convenience stores had signs/displays that encouraged less healthy eating (e.g., promotional signs encouraging purchase of canned corned beef; 89% for grocery stores vs. 87% for convenience stores).



Identification of locally grown string beans



A convenience store with displays that encouraged *less* healthy eating

8. Were traditional American Samoa foods available in stores?

Among the traditional healthier AS foods that were assessed, fresh/frozen fish (e.g., reef fish, mahi mahi, sword fish) were the most commonly offered local food in the stores. Other commonly consumed traditional healthier foods, such as bananas, papayas, coconut, and taro, were offered at fewer stores. Regarding less healthy traditional foods, we found that coconut cream was commonly found in the stores. (Table 9).

Table 9: Traditional American Samoa foods

	Grocery stores ^a n=9 %	Convenience stores ^b n=61	All stores n=70
Healthier			
Bananas	11	5	6
Papayas	11	2	3
Coconut	11	3	4
Taro	33	18	14
Fish (fresh/frozen)	100	67	71
Less healthy			
Coconut cream	100	85	61

^a Store with more than one cash register

^b Store with one cash register



Taro and green bananas in a grocery store

American Samoa Nutrition Environment Measurement Survey in Restaurants

9. What were the characteristics of the sampled restaurants in American Samoa?

There were approximately 48 total restaurants in AS, 28 were located in the East District and 20 in the West District. Of the surveyed restaurants (n=20), 50% were sit down restaurants, 45% were fast food restaurants, and one take-out only restaurant (5%). The majority of the data were obtained through site visit (100%) and menu review (90%). Only one restaurant, McDonalds™, was open 24 hours. Regarding access, 15% had a drive-thru window available and 95% had parking onsite with seating availability (Table 10).



A fast food restaurant in East District

Table 10: Features of sampled restaurant sites, n=20

Characteristic	%
Restaurant type	
Fast food	45
Take-out only	5
Sit down	50
Data source*	
Site visit	100
Internet	0
Menu	90
Interview	5
Hours of operation	
Open 24 hours	5
Access	
Drive-thru window	15
Parking onsite	95
Seating availability	95

*Surveyors were asked to mark all that apply.

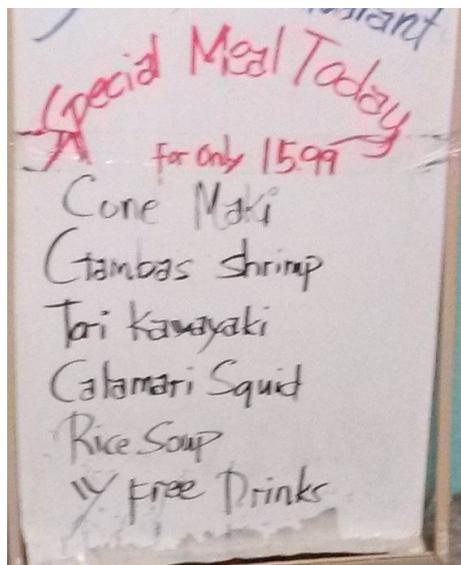
10. Were healthier items promoted in American Samoa restaurants?

Overall, few restaurants had any form of promotion (e.g., displays) or menu labels (e.g., identification with logos) (Table 11). However, promotion regarding less healthy eating was available in a few restaurants while healthy eating was not found on the day surveyed. For example, displays encouraging less healthy eating (e.g., ‘Delicious coconut pie for dessert for \$1.00’) were present in 25% of surveyed restaurants and 15% of restaurants had displays encouraging overeating (e.g., ‘All you can eat’). One restaurant promoted locally grown items and their menu identified locally grown items with labels.

Table 11: Percentage of promotion in American Samoa restaurants, n=20

Characteristic	%
Promotion	
Local/regional or state grown/produced items are promoted	5
Menus identify local/regional or state grown/produced items with icons or labels	5
Healthier menu items are highlighted	0
Healthy eating encouraged through displays	0
Less healthy eating encouraged through displays	25
Overeating encouraged through displays*	15
Free refills for sugary drinks are promoted	5
Free refills for diet drinks are promoted	0

* All-you-can eat, super-size



A sign promoting free drinks

11. Were healthier items available in American Samoa restaurants?

Among the 20 restaurants surveyed, about 70% of restaurants offered healthier main dish entrées, 25% offered healthier main dish salads with only 5% (one restaurant) offering low-fat or fat free salad dressings. Healthy side items were offered in fewer restaurants. That is, healthy side vegetables (i.e., cooked without sauce and not fried) were offered in 30% of surveyed restaurants, 100% whole wheat bread was offered in 10%, and a side of fruits without sugar was offered only in one restaurant. With respect to beverages, both healthy and less healthy options were available. The most commonly found healthy beverage options were bottled water (100%) and diet soda (85%) (Table 12).

Table 12: Prevalence of healthier and less healthy options* in American Samoa restaurants, n=20

Characteristics	%
Entrees	
Healthy main dish entree available	70
Healthy main dish salad available	25
Low-fat or fat free salad dressings available	5
Side items	
Fruits without sugar available	5
Healthy vegetables (no sauce, not fried) available	30
100% wheat or whole grain bread available	10
Beverages	
Healthy or low calorie beverage available	100
Diet soda	85
100% fruit juice	30
Low-fat or skim milk, unflavored	5
Water	100
Iced tea or other sugar-sweetened beverages available	100
Soda	95
Juice-flavored drink	60
Flavored milk	0

* Please refer to the Appendix A for definitions of the healthier items.

12. How many options of healthier items were available in American Samoa restaurants?

Among the restaurants that offered healthier entrees (14 out of 20), on average, restaurants had 5.6 healthy entrees out of 46 total entrees. A total of 5 restaurants offered main dish salads (3.2 types), and 2 were healthy main dish salads. All surveyed restaurants offered both healthier and sweet beverages, and in general, there was more variety for sweet beverages (7 types) compared to healthy beverages (2 types) (Table 13). Further, only one restaurant offered healthy salad dressing (i.e., low-fat or fat free) and only one type was available. Regarding side vegetables and fruits, a total of 6

restaurants offered 1.2 types of side vegetables (cooked without fat, served without sauces) and one restaurant offered one type of side fruit.

Table 13: The mean number available for healthier options* in American Samoa restaurants when the option is available, n=20

	Mean number available	Number of restaurants offering item
Main dish	46.0	14
Healthy main dish	5.6	14
Main dish salad	3.2	5
Healthy main dish salad	2.0	5
Healthy beverage	2	20

* Please refer to the Appendix A for definitions of the healthier items.

** Absolute value provided in place of mean because only one restaurant offered the items.

13. How did the prices of healthier items compare to less healthy items?

When comparing the prices of healthier items to their corresponding regular (less healthy) items, we limited the number of restaurants that offered both healthier and regular options to make a fair comparison. For example, if a small fast food restaurant only served regular items for a low price that could bias the mean of total regular item prices.

Regarding entrees and side items, healthier items were more expensive than less healthy items (Table 14). On average, a healthy entrée was 9% more expensive than a less healthy entrée (\$7.47 vs. \$6.83) and a healthy side item was 15% more expensive than a less healthy side item (\$4.51 vs. \$3.91).

Among all beverage options, bottled water (17 oz.) was most affordable (\$1.30) followed by small regular soda (12oz) and diet soda (12 oz.) for \$1.50 and \$1.54, respectively.

14. What were the facilitators and barriers to offering healthier items in sampled American Samoa restaurants?

Overall, facilitating factors to healthy eating were rare in AS, with the exception of reduced-size portions offered on menus which were available in 55% of restaurants (Table 15). This facilitating factor was commonly seen in Chinese restaurants where entrées had medium and large options. In terms of barriers to healthy eating, unhealthy items were present at point-of-purchase (e.g., individually packed dessert available by the cash register) in 55% of AS restaurants and large portion sizes were encouraged (e.g., family meal deal included free appetizer and dessert) in 35% of AS restaurants.

Table 14: Average prices of healthier and less healthy items* in American Samoa restaurants

Food Item	Average Price/Item	Number of restaurants offering item
Entrée (n=15)		
Healthier	\$7.47	14
Less Healthy	\$6.83	14
Side item^a (n=6)		
Healthier	\$4.51	6
Less Healthy	\$3.91	6
Healthier or low calorie beverage		
Water (17 oz.)	\$1.30	20
Diet soda (12 oz.)	\$1.54	17
100% fruit juice (16 oz.)	\$2.07	6
Low-fat or skim milk, unflavored	-	-
Iced tea or other sugar-sweetened beverages		
Soda (small, 12 oz.)	\$1.50	19
Soda (medium, 16 oz.)	\$2.10	4
Soda (large, 20 oz.)	\$2.86	3
Juice-flavored drink	\$2.02	12
Flavored milk	-	-

* Please refer to the Appendix A for definitions of the healthier items.

Table 15: Prevalence of American Samoa restaurants with facilitators or barriers to healthy eating, n=20

Characteristic	%
Facilitators	
Calorie information is available	5
Other nutrition information is available (sodium, fat)	5
Healthier items* are identified on the menu with labels or icons	5
Menu labels or icons are defined	5
Menu notations encourage healthy requests	5
Reduced-size portions are offered on menu	55
Barriers	
Large portion sizes are encouraged	35
Menu notations discourage special requests	5
All-you-can-eat or “unlimited trips”	5
Unhealthy items* are present at point-of-purchase	55

* Please refer to the Appendix A for definitions of the healthier items.

Store Manager Survey

General Characteristics

A total of 12 store manager surveys were conducted; 7 were convenience stores and 5 were grocery stores. Presented in Table 16 are the general characteristics of the sampled stores (discussed in Methods) for the store manager surveys.

Everyone identified the beginning of the month as their busiest time (100%) and attributed this increase in customers due to the distribution of WIC and food stamps (75%). Some interviewees also cited paycheck schedules (25%) as the reason for increased sales at the start of the month.

Table 16: General store characteristics from the store manager survey

Characteristics	N (%)
Store Type	
Convenience Store	7(58%)
Grocery Store	5(42%)
Interviewee Characteristics	
Sole owner	2 (17%)
Partner (co-owner)	0 (0%)
Manager	10 (83%)
Busiest Time of Month	
Early in the month	12 (100%)
Middle of the month	0 (0%)
End of the month	0 (0%)
Same throughout the month	0 (0%)

Healthier item suppliers for stores

Regarding the healthier food suppliers for stocking in stores, both grocery and convenience stores showed similar patterns (Table 17). Healthier items were acquired through a general distributor (e.g., wholesaler) that often offered direct store delivery, if delivery standards were met (e.g., a wholesaler offered free delivery upon purchase of \$500). Only one convenience store self-supplied fresh fruit and only one grocery store self-supplied 100% whole wheat bread. Of note, the 100% whole wheat bread was produced by a single bakery that delivered to all stores. Furthermore, some fresh vegetables were provided by local farmers. Interviewees shared that most local farmers were Chinese immigrants and they delivered fresh vegetables periodically.

Table 17: Source of Healthier* Items for Convenience and Grocery Stores

Product	Self-supply	General Distributor/ Wholesale	Direct store delivery	Other (e.g., farms, local agriculture, community gardens)	Item not available
Convenience Stores (n=7)					
Fresh fruit	1	7	5	3	0
Frozen fruit	0	1	0	0	6
Canned, unsweetened fruit	0	7	4	0	0
Fresh vegetables, except breadfruit	0	7	4	7	0
Frozen vegetables	0	6	1	0	1
Canned, plain vegetables	0	7	3	0	0
100% Whole wheat bread	0	1	7	0	0
Low fat milk ($\leq 2\%$)	0	7	3	0	0
Grocery Stores (n=5)					
Fresh fruit	0	5	2	0	0
Frozen fruit	0	2	0	0	3
Canned, unsweetened fruit	0	5	2	0	0
Fresh vegetables, except breadfruit	0	4	1	4	0
Frozen vegetables	0	4	0	0	1
Canned, plain vegetables	0	5	0	0	0
100% Whole wheat bread	1	1	5	0	0
Low fat milk ($\leq 2\%$)	0	5	0	0	0

*See Appendix for definition of healthier items

Attitudes and perceptions about offering healthier items in stores

Shown in Tables 18 are store owners/managers' attitudes and perceptions on the healthier items they offered. On a scale of 1 to 5 with 5 being strongly agree and 1 being strongly disagree, convenience store-based respondents agreed that on average the food sold in their stores was healthy (3.86 out of 5) and that the produce in their stores was of high quality (4.71 out of 5). In contrast, grocery store owners did not feel that the food sold in their stores was healthy (2.80 out of 5), and that the quality of produce sold in their stores was of moderate quality (3.40 out of 5).

There was also a difference between convenience and grocery stores about the variety and availability of low-fat products (3.29 and 2.20 out of 5, respectively). While convenience store owners reported that offering more healthy foods would positively influence customer purchases (3.43 out of 5), grocery store owners did not feel confident that an increase in healthier options in stores would result in healthier customer purchases (2.80 out of 5). However, both grocery and convenience store managers agreed that they should play a role in increasing the availability of healthier options, and all were interested in offering healthier foods in their stores.

Table 18: Attitudes and Perceptions of Convenience and Grocery Store Owners about Offering Healthier* Foods

Response	Mean ** (Std.Dev)	Median
Convenience Store (n=7)		
On average, I feel the food sold in my store is healthy.	3.86(1.35)	4.00
The fresh produce sold in my store is of high quality.	4.71(0.49)	5.00
There is a large selection of fruits and vegetables in my store.	4.00(1.00)	4.00
The low-fat products sold in my stores are of high quality.	3.57(1.13)	4.00
There is a large selection of low-fat products in my store.	3.29(1.25)	4.00
My customers look for healthier foods in stores.	3.14(0.90)	3.00
If I stock more healthy foods in my store, my customers will purchase healthy foods.	3.43(1.13)	4.00
I should play a role in increasing the availability of healthy foods in this neighborhood.	4.00(0.00)	4.00
	N(%)	
I would be interested in offering more healthy foods	7(100%)	
Grocery Store (n=5)		
On average, I feel the food sold in my store is healthy.	2.80(1.48)	3.00
The fresh produce sold in my store is of high quality.	3.40(1.52)	4.00
There is a large selection of fruits and vegetables in my store.	3.80(1.64)	5.00
The low-fat products sold in my stores are of high quality.	3.40(2.20)	5.00
There is a large selection of low-fat products in my store.	2.20(1.30)	2.00
My customers look for healthier foods in stores.	2.40(1.14)	2.00
If I stock more healthy foods in my store, my customers will purchase healthy foods.	2.80(1.10)	2.00
I should play a role in increasing the availability of healthy foods in this neighborhood.	3.60(1.52)	4.00
	N(%)	
I would be interested in offering more healthy foods	5(100%)	

*See Appendix for definition of healthier items

**Scoring used Liker scale, 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, and 5=strongly agree.

Overall, sampled convenience and grocery store managers perceived that the healthier foods they carried offered average or lower-than-average profits. Perceived profits were slightly lower across all categories in convenience stores, despite the store managers' high opinions of the quality and availability of their healthier items. Fresh vegetables were the one category that was reported more profitable in convenience stores than in grocery stores. Grocery stores reported above-average profit for low-fat milk (3.40 out of 5); all other categories were average or lower-than-average (Table 19).

Table 19: Perceived Profit from Selling Healthier* Foods in Convenience and Grocery Stores

Food Category	Mean** (Std.Dev)	Median
Convenience Stores (n=7)		
Fresh fruit	2.29(1.11)	2.00
Frozen fruit	<i>a</i>	<i>a</i>
Canned, unsweetened fruit	2.14(0.90)	2.00
Fresh vegetables, except breadfruit	2.71(0.95)	3.00
Frozen vegetables	2.20(1.10)	3.00
Canned, plain vegetables	2.29(1.00)	3.00
Whole grain/whole wheat bread	2.29(1.70)	1.00
Low fat milk ($\leq 2\%$)	2.71(1.50)	3.00
Grocery Store (n=5)		
Fresh fruit	2.40(0.90)	3.00
Frozen fruit	<i>a</i>	<i>a</i>
Canned, unsweetened fruit	2.60(1.14)	3.00
Fresh vegetables, except breadfruit	2.20(1.10)	3.00
Frozen vegetables	3.00(0.82)	3.00
Canned, plain vegetables	2.80(0.84)	3.00
Whole grain/whole wheat bread	2.60(1.14)	3.00
Low fat milk ($\leq 2\%$)	3.40(1.52)	4.00

*See Appendix for definition of healthier items

** Scoring used Liker scale, 1=very little, 2=lower than average, 3=average, 4=above average, and 5=best of all foods.

^a Not reported because only available in 1 store

Factors that make it easy or more attractive to sell healthier foods

Store owners cited three primary factors that facilitated the sales of healthier food items. Demand for healthier foods was the most common factor reported by both convenience and grocery store managers, and store managers described customers interested in healthy eating, asking for healthier food options (e.g. spinach, kale), and increasing healthy behaviors (e.g. drinking water instead of soda, eating more fiber to aid constipation). Convenience store managers reported that WIC certification was another sales facilitator because it allowed customers to both spend more money and also taught consumers about healthy foods. Lastly, local farmers and the produce they supplied to stores was another common facilitator. The farmers delivered local vegetables to the stores in order to meet customer demand, and they also replaced produce that sold or spoiled on a regular basis.

‘Villagers love local veggies; locals also love fish but in the West side it’s difficult to get them because most fishing docks are in the East side.’

~ One store manager’s perspective of factors that facilitate selling healthy foods.

‘Farmers will exchange veggies that were not sold and spoiled to new ones’

~ One store manager’s perspective of factors that facilitate selling healthy foods.

Barriers to offering healthier foods in the stores

Barriers to selling healthier foods were present on both supply and demand sides and across store types. Store owners often discussed difficulties with suppliers, restocking, and delivery. For example, suppliers set minimum orders for healthier options that were often too high for store owners to meet. Healthier foods were delivered less often (once or twice a month), which in turn created difficulty in restocking healthier options once they ran out. Higher prices, potentially due in part to compensate for freight shipping costs, for healthier foods were also cited as a barrier, as well as produce spoiling and becoming unsellable. Convenience stores that were not WIC-certified also cited that as a barrier contributing to selling healthier foods. On the demand side, store owners most frequently reported a lack of consumer desire for healthier foods for a variety of reasons. These included higher costs for healthier foods, disliking the taste of healthier foods, and an unwillingness to try foods that were unfamiliar. One store manager described how customers bought the foods and brands that had been available in stores longest, even when newer options of the same food type were available and cheaper.

‘I applied before but had a problem and it was hard to re-apply. I am considering trying and applying again. People will not buy with their own money.’

~ One convenience store manager discussing barriers to WIC-certification and offering healthier foods.

‘Once it is out its out -- no way to restock. There are several items that will not be delivered despite an order request.’

~ One convenience store manager discussing barriers to offering healthy foods.

‘We charge \$10 for a bag of kale and 90% (\$9 out of \$10) is due to air freight shipping cost. Some healthier foods are very expensive and they go bad quickly.’

~ One grocery store manager discussing barriers to offering healthy foods.

Feasible store changes to sell foods that are healthier

The primary changes that store owners described as realistic opportunities to increase sales of healthier foods were increasing in-store promotion, educating customers and staff, and getting WIC certification status. Owners suggested various forms of promotional activities, including putting up ads for healthier options, improving stock placement (i.e. point-of-sale and end-of-aisle), and offering taste-tests. Owners also described ways that they could educate consumers, for example through cooking demonstrations or training their cashiers about healthier foods to serve as a resource to customers looking for healthier options. Lastly, owners of stores that were not WIC-certified cited getting their WIC-certification as a realistic change that would increase the healthier options available in their store.

‘We could increase visibility of healthier foods by improving placement of fresh produce at the front of the store but customers may be skeptical if food is not refrigerated.’

~ One store manager’s response to how stores can change to sell more healthy food.

‘Nothing much -- we sell what people want. People have to change.’

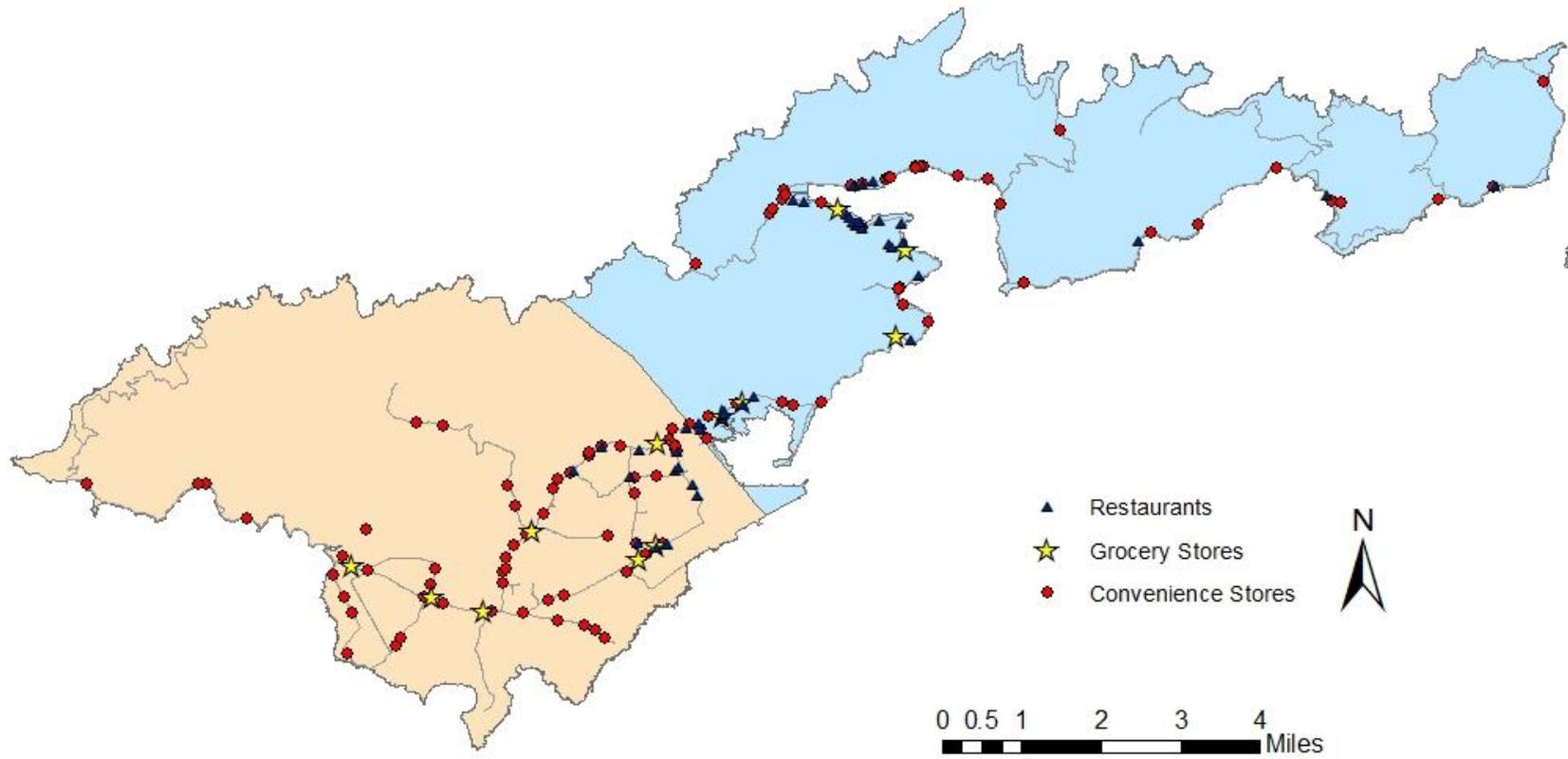
~ One store manager’s response to how stores can change to sell more healthy food.



West District of AS

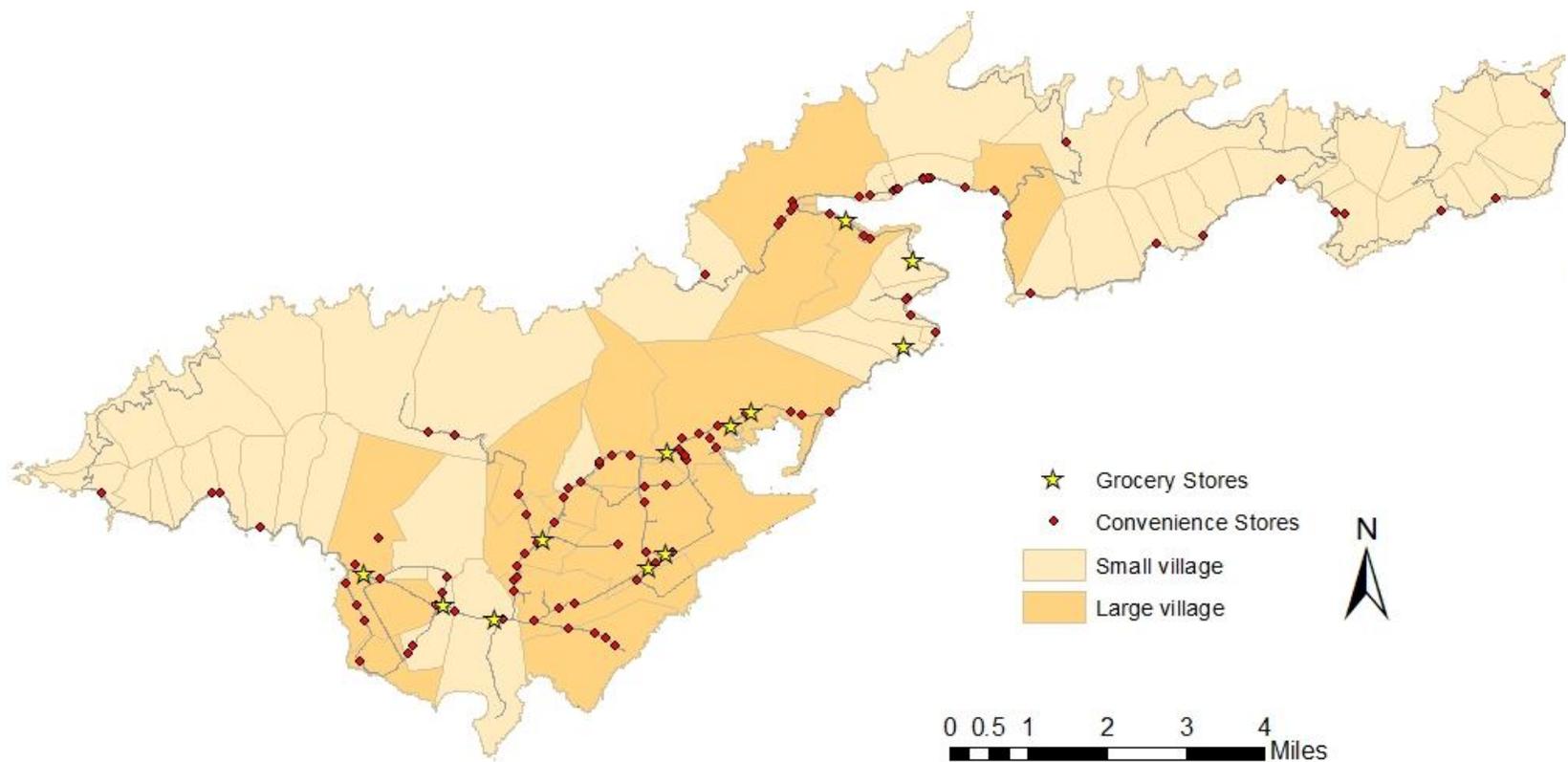
E. MAPS

Map 1. Food stores and restaurants in American Samoa *



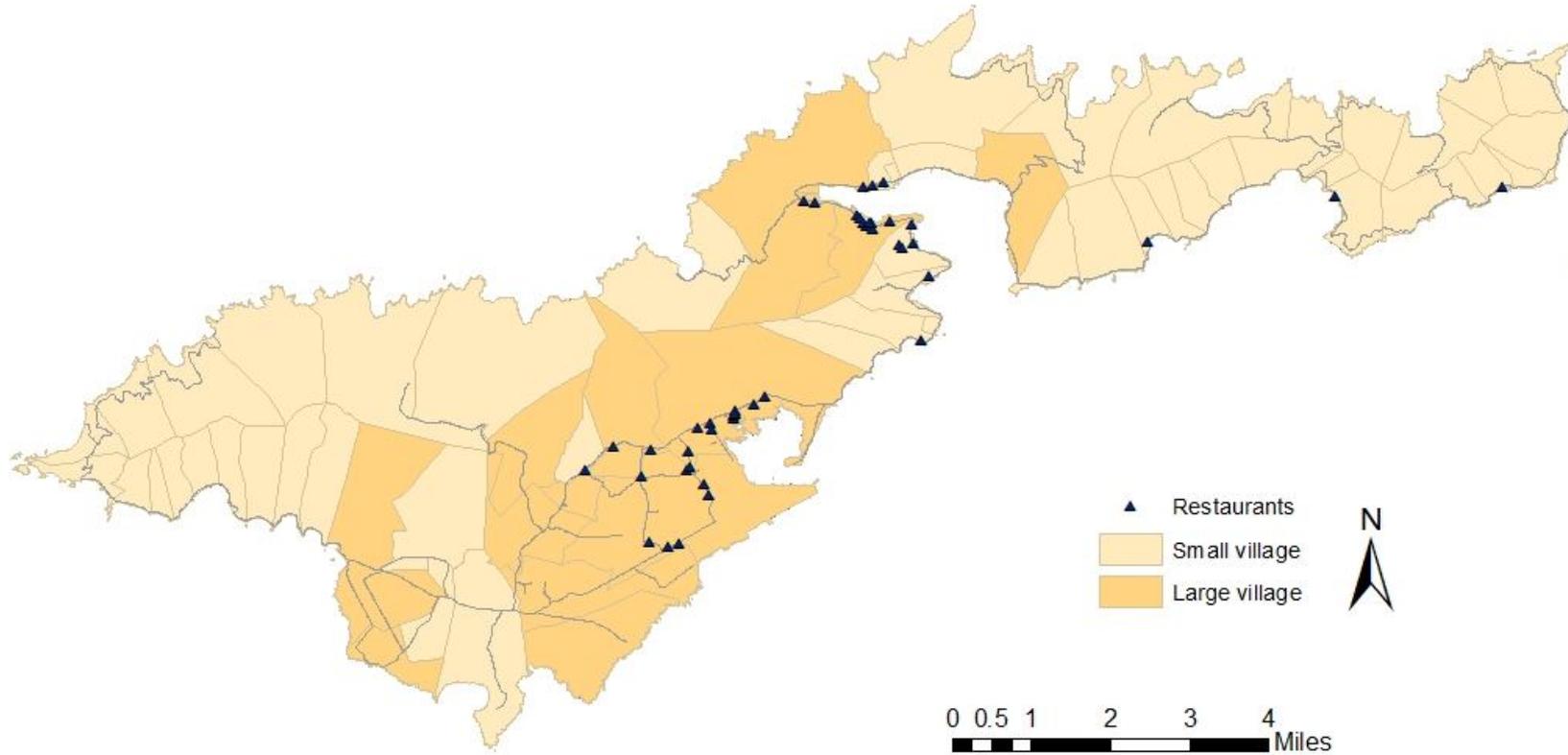
* A total of 12 grocery stores, 110 convenience stores, and 48 restaurants were identified using ground-truthing method.

Map 2. Grocery stores and convenience stores in American Samoa by village size[§]



[§] A total of 12 grocery stores, 110 convenience stores were identified using ground-truthing method. Village size was defined by population ≤ 1000 as small village and 1000+ as large village.

Map 3. Restaurants in American Samoa by village size[†]



[†] A total of 48 restaurants were identified using ground-truthing method. Village size was defined by population ≤ 1000 as small village and 1000+ as large village.

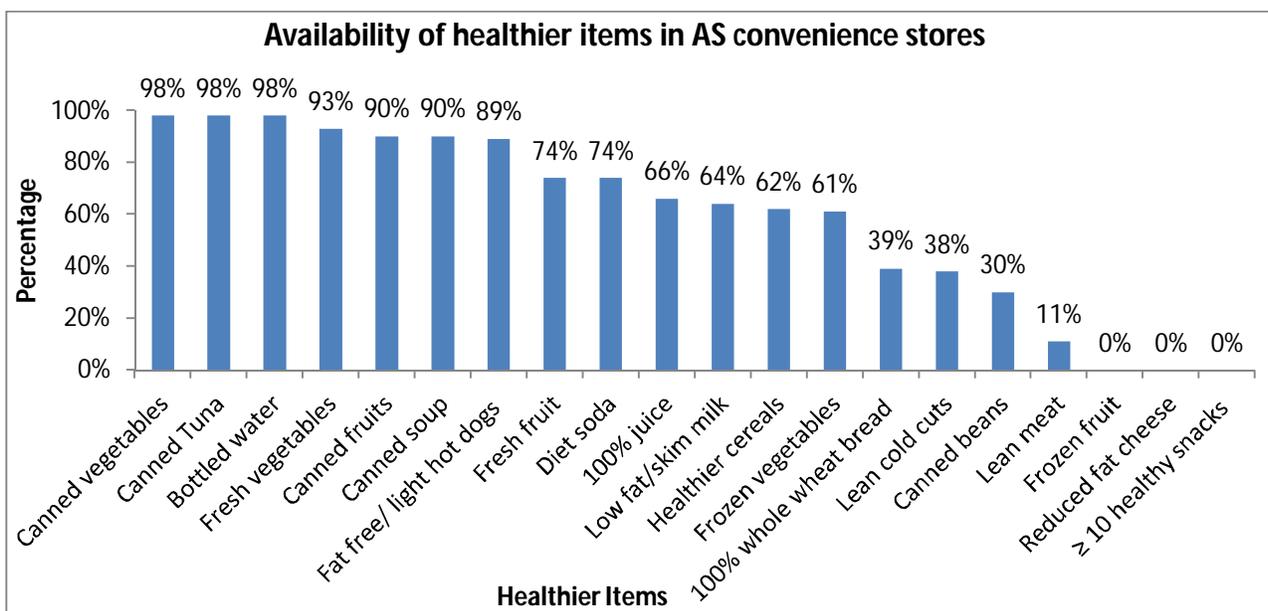
F. LIMITATIONS

This assessment was subject to several limitations. First, our sampling strategy was not entirely random. However, our sample was geographical representative and captured information from remote villages. Second, our master list of stores and restaurants may have been incomplete; we might have missed stores in remote villages without roads or restaurants without storefronts. Third, due to limited time and resources, this assessment only included Tutuila Island. However, for a more complete picture of the food environment of AS, ASDOH can use the same tools and methodology to conduct the assessment in Manu’a Island, the second most populated island of AS. Fourth, although the tool captured many of the healthier items available in stores, some items such as dried legumes and brown rice were not captured. The NEMS tools used in this assessment can be modified to incorporate additional items as deemed necessary in the future assessments. Fifth, certain types of traditional foods such as papayas and bananas were often sold on the side of main roads, and were not captured. Future assessments can identify local pop-up vendors to generate a complete picture of food availability. Sixth, although we modified NEMS survey protocols that described in detail how to use the survey tool, and a formal day of training on the survey tool was held, there were still some minor discrepancies in how different surveyors used the survey tool. For example, surveyors needed clarifications about which food item to choose when faced with multiple brand options of the same item. However, these discrepancies were mostly resolved during the field test of the survey and consensus among all primary surveyors was reached. Lastly, there is potential for social desirability bias among store managers.

G. CONCLUSIONS AND SUMMARY

1. Some healthier food items were limited in AS convenience stores.

Almost all of the healthier food items surveyed were available in AS grocery stores. In contrast, lean meat, lean cold cuts, and whole wheat bread were available in less than 40% of convenience store.



2. Many healthier items were more expensive than the regular (less healthy) items in AS stores.

In both AS grocery and convenience stores, several of the healthier option items were **more expensive** than the corresponding regular (less healthy) option items. These items included juice (\$1.86 for 100% juice vs. \$0.87 for juice drink in grocery stores; \$1.44 for 100% juice vs. \$1.15 for juice drink in convenience stores), bread (\$1.83 for 100% whole wheat bread vs. \$1.33 for regular in grocery stores; \$1.88 for 100% whole wheat bread vs. \$1.12 for regular in convenience store).

3. AS convenience stores that accepted WIC offered healthier items than stores that did not accept WIC.

In all categories of healthier food options, a greater number of AS convenience stores that accepted WIC had healthier options available than stores that did not accept WIC. The greatest difference in availability of particular healthier items between stores that accepted WIC and stores that did not accept WIC were fresh fruits, canned beans, whole wheat bread, lower fat milk, and healthier cereals.

4. Most AS grocery and convenience stores promoted less healthy eating.

The majority of both AS grocery and convenience stores had signs/displays that encouraged **less healthy** eating (e.g., promotional signs encouraging purchase of canned corned beef). The majority of AS grocery stores still promoted healthy eating (e.g., poster promoting bottled water) and less than 35% of AS convenience stores promoted healthy eating.

5. Although store managers reported several facilitators of offering healthier foods in stores, there were also multiple barriers that made it challenging to offer these foods in the stores.

Convenience and grocery store managers reported that customer requests or interest in having healthier food offerings, being a WIC-certified store, and regular delivery of fresh produce by local farmers were factors that made it easier to sell healthier foods in stores. However, store managers reported many barriers to offering healthier items in their stores, including the challenges of working with suppliers and the delivery process, lack of WIC-certification, and a perceived absence of consumer demand for healthier foods.

6. The majority of AS restaurants offered healthier main dish entrées while healthier side items were limited.

Among the 20 restaurants surveyed, about 70% of AS restaurants offered healthier main dish entrées. However, healthier side items such as a side of vegetables (30%) or fruit without sugar (5%) were offered in fewer restaurants.

7. Costs of healthier items were more expensive than less healthy items in AS restaurants.

Healthier entrées and side items were more expensive than the less healthy entrées and side items. Among the restaurants that offered both healthier and regular items, on average, a healthier entrée

was 9% more expensive than a less healthy entrée (\$7.47 vs. \$6.83) and a healthier side item was 15% **more** expensive than a less healthy side item (\$4.51 vs. \$3.91).

8. Few AS restaurants promoted healthier items.

Overall, approximately 25% had signs/displays that encouraged less healthy eating, while signs/displays encouraging healthy eating were non-existent.

9. There were minimal facilitators or supports to promoting healthy eating in AS restaurants.

At the time of the survey, few AS restaurants had factors that facilitated healthy eating such as providing calorie or other nutrition information, identifying healthy items with menu labeling on menus, and having menu notations that encourage healthy requests. The only exception was that more than half of the surveyed restaurants offered reduced-size portions (offered both “small” and “large” sizes) on their menus.

H. ADDITIONAL INFORMATION NEEDS

The results presented in this report offer a detailed description of the supply of foods available in AS.

- In order to put these findings into context, further investigation of consumer perspectives is warranted to elucidate demand-side concerns for healthful foods in AS, particularly, 1) barriers and facilitators for purchasing healthier items; 2) customers’ consumption patterns; and 3) customers’ demand for healthful foods.
- The WIC certification approval process was reported as a burden for store owners, and exploration of this as a potential barrier may be warranted.
- To adequately compare pricing of items assessed, further pricing information on commonly found brands, as well as profit margins for products accounting for shipping costs, may need to be obtained, as information provided from this study may be inadequate to make further recommendations about pricing in this area.
- Explore pricing structure (i.e., why many healthier items in convenience stores are more expensive than grocery stores) could provide insight into understanding of the food system in AS.
- Additional data are needed to explore ways to improve affordability of healthier foods, specific to AS restaurants

I. POTENTIAL ACTION ITEMS

The following information is intended for ASDOH and the AS Obesity Task Force and includes potential strategies that could be considered to improve availability, affordability and promotion of healthier foods in stores.

A. Store-level

1) Work with store owners/managers to improve the availability of healthier foods in grocery and convenience stores.

Potential strategies

- Encourage store managers to work with local vendors to supply healthier options (e.g., fruits and vegetables, fish).
- Develop partnerships with organizations that have experience working with wholesalers and food distributors to identify ways to improve the availability of healthier food options.
- Develop and provide educational and/or promotional materials such as stocking guidelines or other materials focused on stocking healthier foods in languages targeting non-native Samoan storeowners.
- Because stores that are WIC certified are required to provide healthier food options, this could be a strategy to increase both availability and affordability of healthier foods among WIC customers.

Resources

- *Providing Fresh Produce in Small Food stores: Distribution Challenges & Solutions for Healthy Food Retail^m* which provides approaches to bringing in a variety of fresh produce in convenience stores, such as developing Farm-to-Store Initiatives.

2) Work with store owners/managers and other partners to improve the affordability of healthier foods for consumers and store managers.

Potential strategies

- Identify strategies to increase the affordability of healthier foods for consumers (demand) and store owners/managers (supply).
- Encourage store managers to work with local vendors to stock more affordable local options, such as local fish and vegetables to avoid high shipping costs.
- Develop partnerships with organizations that have experiences working with wholesalers and food distributors.
- Because stores that are WIC certified are required to provide healthier food options, this could be a strategy to increase both availability and affordability of healthier foods among WIC customers.

Resources

- Baltimore Healthy Retail Rewards program available at <http://healthystores.org/projects/bmore-healthy-retail-rewards/> - which is a study involving 24 small stores in low-income areas of Baltimore City and 3 wholesalers that

^m Providing Fresh Produce in Small Food Stores available at http://changelabsolutions.org/sites/default/files/Fresh-Produce-Distribution-Small-Food-Stores_FINAL_20140131.pdf

serve these stores to evaluate the effectiveness of in-store pricing strategies of healthier foods.

3) **Engage with store owners/managers to identify, improve visibility of, and promote healthier foods in stores.**

Potential strategies

- Increase placement of healthier foods at point-of-purchase or end-of-aisles.
- Develop and provide educational and/or promotional materials (e.g., posters, in-store and out-of-store displays, shelf-labels) identifying healthier foods.
- Provide in-store nutrition and cooking workshops.
- Identify stores that provide healthier foods.
 - Healthier food store certification programs could be considered.

Resources

- *Health on the Shelf: A Guide to Healthy Small Food Retailer Certification Programs*ⁿ which provides additional information on encouraging store owners/managers to stock healthier foods.

Other resources

- *Incentives for Change: Rewarding Healthy Improvements to Small Food Stores*^o which provides examples to encourage store owners/managers to stock and sell healthier foods.
- *Republic of the Marshall Islands Healthy Stores Project* used several communication strategies for health communication, including radio announcements, newspaper ads in-store shelf labels, cooking demonstrations, and posters/flyers.^p Such efforts demonstrated boost in demand for better foods in Marshall Islands.^q

B. Restaurant-level

1) **Work with store owners/managers to improve the availability of healthier foods in restaurants.**

Potential strategies

- Continue working with restaurant owners to improve availability of healthier main dish entrées and side items.

ⁿ Health on the Shelf: A Guide to Healthy Small Food Retailer Certification Programs available at http://changelabsolutions.org/sites/default/files/Health_on_the_Shelf_FINAL_20130322-web_0.pdf

^oIncentives for Change available at: http://changelabsolutions.org/sites/default/files/Incentives-for-Change-Small-Food-Stores_FINAL_20140131_2.pdf

^p More information on Republic of the Marshall Islands healthy Stores Project available at <http://healthystores.org/projects/archive/republic-of-the-marshall-islands-healthy-stores-project/>

^q News article entitled “Healthy Stores’ Program Boosts Demand for Better Food in Marshall Islands” available at: <http://www.newswise.com/articles/healthy-stores-program-boosts-demand-for-better-food-in-marshall-islands>

- Develop partnerships with organizations that have experience working with wholesalers and food distributors to identify ways to improve the availability of healthier food options.

Resources

- *Suggested Practices for a Healthier Restaurant*^f contains suggestions for a restaurant to become healthier such as offering three meals (or 10 percent of items) listed on the regular menu and two children’s meals (or 25% of children’s menu) that meet Healthier Restaurant Meal Guidelines.

2) Work with store owners/managers and other partners to improve the affordability of healthier foods for consumers and restaurant managers.

Potential strategies

- Encourage store managers to work with local vendors to incorporate more affordable local ingredients, such as local fish and vegetables to avoid high shipping costs.
- Develop partnerships with organizations that have experiences working with wholesalers and food distributors that specifically work with restaurants.

3) Engage with restaurant owners/managers to promote healthier foods that they are already selling through promotion and signage.

Potential strategies

- Develop and provide educational and/or promotional materials (e.g., in-store advertisements, discounts, menu labeling, displays) identifying healthier foods.
- Encourage restaurant owners to share their experiences about offering healthier options with other restaurant owners.

Resources

- *San Antonio’s Healthy Menu Initiative ¡Por Vida!*^g identified menu items that met nutritional guidelines with a statement, “A better choice For Life!” AS-specific messages could be developed to identify and promote healthier foods in AS restaurants.

C. General

1) Identify and address the needs of community members on the benefits and preparation of healthier foods.

Potential strategy

- Develop a needs assessment to understand community member’s perceptions and beliefs surrounding the benefits and preparation of healthier foods.

^f *How to make restaurants healthy* available at: <http://www.rand.org/health/feature/restaurant-performance-standards.html>

^gSan Antonio’s Healthy Menu Initiative information available at <http://www.porvidasa.com/>

2) Develop evaluation strategies that can be used to monitor the availability of healthier food in stores and restaurants.

Potential strategies

- Conduct periodic assessment of AS NEMS survey (provided as appendix).
- Consider partnerships with local non-profit organizations and research institutions for evaluation and assessment support.

Resources

- *Healthy Food in Harford: Evaluating Changes to the Local Food Environment*^t provides potential evaluation strategies to use NEMS-S tool to track availability of each healthier items and the Healthy Corner Store Score as an evaluation strategy.
- *Performance Standards for Restaurants*^u provides Healthy Restaurant Guidelines that can be measured for evaluation purposes.

^t Healthy Food in Harford: Evaluating Changes to the Local Food Environment available at http://www.publichealth.uconn.edu/assets/healthymarket_finalrpt_oct2010.pdf

^u Performance Standards for Restaurants available at: http://www.rand.org/content/dam/rand/pubs/conf_proceedings/CF300/CF313/RAND_CF313.pdf

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Disclaimer: The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention

K. APPENDIX

A. Terminology

Healthier was defined as per NEMS-S (for stores) and NEMS-R (for restaurants) criteria or Nemours protocols, and when those were not available (e.g., canned vegetables), on the Dietary Guidelines for Americans for 2010. The NEMS criteria and the papers describing the validity of the NEMS tools/protocols can be found at <http://www.med.upenn.edu/nems/about.shtml>. The Nemours tools/protocols can be found at <http://www.cspinet.org/new/pdf/HealthyVendingGuide.pdf>.

1) Foods:

Healthier items

- a. **Fresh fruits:** Examples include bananas, papayas, oranges, apples, and coconut.
- b. **Fresh vegetables:** Examples include taro, string beans, carrots, Chinese cabbage, and eggplants.
- c. **Frozen fruits:** Examples include frozen strawberries.
- d. **Frozen vegetables:** Examples include frozen mixed vegetables.
- e. **Canned fruits:** Examples include pineapples, peaches, and pears.
- f. **Canned vegetables:** Examples include green beans, corn, and peas.
- g. **Canned beans:** Examples include pinto beans, and black beans.

Healthier items with Corresponding Regular Counterparts

Meats: Lean versus standard

- a. **Lean ground beef:** $\geq 90\%$ lean, $\leq 10\%$ fat
- b. **Standard ground beef:** $\leq 80\%$ lean, $\geq 20\%$ fat
- c. **Lean pork:** Examples include pork chops and pork loin cuts/roasts
- d. **Standard pork:** Examples include ribs, shoulder/blade roast/steaks (e.g., Boston Butt), fat/salt pork, bacon, pork belly, neck bones, feet, most ground pork and sausages (unless otherwise labeled)
- e. **Lean chicken:** Nearly all chicken is considered lean with **the skin is removed, with the exception of chicken wings**
- f. **Lean turkey:** Nearly all turkey is considered lean

Hot dogs:

- a. **Healthier:**
 - **Fat-free hot dogs:** 0 g fat/serving
 - **Light hot dogs:** ≤ 9 g fat/serving
- b. **Regular:** ≥ 10 g fat/serving

Cereals:

- a. **Healthier:** < 7 g sugar per serving
- b. **Regular:** ≥ 7 g sugar per serving

Bread:

- a. **Healthier:** 100% whole wheat bread, whole grain bread
- b. **Regular:** Enriched/refined white bread

Lean cold cuts: Lean cold cuts include ham, chicken, and turkey.

Reduced fat cheese: Examples include part-skim mozzarella or 2% milk cheese.

Canned soup: Any type <100kcal/serving

Snacks: (<http://www.cspinet.org/new/pdf/HealthyVendingGuide.pdf>)

- a. **Healthier:** Items meant to be eaten almost anytime, including low-fat/fat-free popcorn, whole grain cereal or cereal bars, whole grain crackers, rice cakes, soy crisps, fruit cup in fruit juice, low-sodium jerky, fruits or low-fat/fat-free yogurt.
- b. **Somewhat healthier:** Items meant to be eaten only sometimes, including baked chips, animal crackers, graham crackers, cereal, nuts, seeds, peanut butter crackers, 100-calorie snack packs, fruit cup in light syrup, low-fat granola bar, trail mix, and dried fruit
- c. **Least healthy:** Items meant to be eaten only once-in-a-while, including candy, candy bars, cookies, pies, doughnuts, pastries, muffins, pop tarts, buttered popcorn, chips, snack mix, cheese-flavored crackers, and fruit cups in heavy syrup

2) Beverages:

Healthier beverages: Includes low-calorie beverages as defined above and 100% fruit juice or vegetable juice.

- **Low-fat milk:** Milk with ≤1% fat content (includes 1% milk, and 0%/nonfat/skim milk)
- **Diet soda:** Any soda that was labeled as having 0 calories per serving (i.e., sweetened with non-nutritive sweeteners commonly called artificial sweeteners)
- **100% fruit juice:** Natural fruit juice with no added sugars. Container must say 100% fruit juice (e.g., Minute Maid 100% orange juice)
- **Low calorie beverage:** Any beverages without added sugars. Calories are ≤ 10 cal/8 oz.
- **Bottled water**

Regular beverages:

- **Sugar-sweetened beverage:** Any beverage containing added sugars. Examples include regular sodas, fruit ads/drinks, sweetened teas/coffee drinks, and sports/energy drinks. Calories are typically > 10cal/8 oz.

- **Juice drink:** Fruit-flavored drink that is not 100% pure juice with added sweeteners such as sugars (e.g., Minute Maid Fruit Punch)

3) **Menu items:**

If nutrition information is available:

a. **Entrees (except burgers and sandwiches)** that meet **all three** of the following criteria:

a) \leq 800 calories

b) \leq 30% of calories from fat (see % Fat Chart)

c) If saturated fat data are available, then check to see if the items that meet the total fat criterion also have \leq 10% of calories from saturated fat (see % Fat Chart).

2. A la carte **burgers and sandwiches** that meet **all three** of the following criteria:

a) \leq 650 calories

b) \leq 30% of calories from fat (see % Fat Chart)

c) If saturated fat data are available, then check to see if the items that meet the total fat criterion also have \leq 10% of calories from saturated fat.

If nutrition information is **not** available:

Record the number of entrees identified as “*light fare*,” “*light*,” “*heart healthy*,” “*healthy*,” sometimes designated with a small heart symbol. If a menu does not have any healthy options, write “0” in the # box.

4) **General:**

WIC: The Special Supplemental Nutrition Program for Women, Infants and Children. This federal program serves to safeguard the health of low-income pregnant, postpartum, and breastfeeding women, infants, and children up to the age of 5 who are at nutritional risk by providing nutritious foods to supplement diet as information on healthy eating including breastfeeding promotion and support.

ASNAP: American Samoa Nutrition Assistance Program (formerly the Food Stamp Program). This federal program offers nutrition assistance to eligible, low income elderly and/or disabled, and provides economic benefits to communities.

Local/Regional: Grown in American Samoa

Organic: Foods produced using methods that do not involve modern synthetic inputs (e.g. irradiation, additives, genetically modified organisms, or chemical additives)

Promotion: Suggestive selling of particular items, typically by signage or displays (e.g., “fresh and tasty salads available!” or “try our delicious homemade apple pie”)

B. Modified surveys

1) American Samoa Nutrition Environment Survey – Stores (NEMS-S)

Form Approved
OMB No. 0920-0008
Exp. Date 07/31/2014

**American Samoa Nutrition Environment Survey
STORES**

- Grocery Store/Supermarket
- Convenience Store
- Other _____

Rater ID:

Store ID: -

Store Name: _____

GPS Coordinates: Latitude _____, Longitude _____

Number of cash registers: (include pharmacy and customer service registers)

Site Visit:

Date: ____/____/____

Month Day Year

Comments: _____

Public reporting burden of this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information including suggestions for reducing this burden to CDC/ATSDR Reports Clearance Officer, 1600 Clifton Road NE, MS E-11 Atlanta, Georgia 30333; ATTN: PRA (0920-0008)

**American Samoa Nutrition Environment Survey
Store Measure #1: FRUITS & VEGETABLES**

Store ID: - Date: / / Rater ID:
Month / Day / Year

Produce	Available		Price	Unit #	Quality	
	Yes	No			A	UA

Comments: _____

A. FRUITS

Choose the loose version AND lowest price type of the fruit/vegetable first.

- | | | | | | | | | | |
|----------------------------------|-----------------------|-----------------------|---------------------------|----------------------|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Bananas | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Papayas | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Oranges | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. Apples | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. Coconut | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. _____ | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. # of varieties of fresh fruit | <input type="text"/> | | | | | | | | |

8. Are fruits available in more than one section of the store (e.g., aisle and at cash register)? Yes No

Frozen Fruit Yes No N/A Oz/bag Price/bag

(choose least expensive variety)

9. _____ Yes No N/A Oz/bag \$.

B. VEGETABLES

- | | | | | | | | | | |
|--|-----------------------|-----------------------|---------------------------|----------------------|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Taro | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. String beans | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Carrots | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. Chinese cabbage
(include Napa cabbage or Bok Choy) | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. _____ | <input type="radio"/> | <input type="radio"/> | \$ <input type="text"/> . | <input type="text"/> | <input type="checkbox"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. # of varieties of fresh vegetables | <input type="text"/> | | | | | | | | |

Frozen Vegetables Yes No N/A Oz/bag Price/bag

(choose least expensive variety)

7. _____ Yes No N/A Oz/bag \$.

American Samoa Nutrition Environment Survey
Store Measure #2 & 3: CANNED ITEMS/TRADITIONAL AMERICAN SAMOAN FOODS

Store ID: - Date: / / Rater ID:
Month / Day / Year

Item	Available			Oz/can	Price/can
	Yes	No	N/A		

Comments: _____

A. CANNED FRUIT (in natural juice or water; choose least expensive variety)

Record type of canned fruit

1. _____ \$.
2. # of varieties of canned fruit (in natural juice or water) < 5 5 - 14 15 +

B. CANNED VEGETABLES (water/without sauce; choose least expensive variety)

Record type of canned vegetable

1. _____ \$.
2. # of varieties of canned vegetables (in water/without sauce) < 5 5 - 14 15 +
3. # of varieties that meet low sodium criteria ()
 (<200 mg/serving)

C. CANNED BEANS (choose least expensive variety)

Record type of canned beans

1. _____ \$.
2. # of varieties of canned beans < 5 5 - 14 15 +

D. CANNED MEAT (ex: tuna, chicken, salmon, sardines)

Healthier Option: (see protocol definitions)

- | | | | | | | |
|---------------------------|-----------------------|-----------------------|----------------------|----|----------------------|----------------------|
| 1. Tuna (in water or oil) | <input type="radio"/> | <input type="radio"/> | <input type="text"/> | \$ | <input type="text"/> | <input type="text"/> |
| 2. Sardines | <input type="radio"/> | <input type="radio"/> | <input type="text"/> | \$ | <input type="text"/> | <input type="text"/> |
| 3. Mackerel | <input type="radio"/> | <input type="radio"/> | <input type="text"/> | \$ | <input type="text"/> | <input type="text"/> |

Alternate Items: (record type of canned meat)

4. \$.

Regular Option:

5. Corned beef \$.

Alternate Items: (record type of canned meat)

6. \$.

7. # of varieties of healthy canned meats < 5 5 - 14 15 +

American Samoa Nutrition Environment Survey
Store Measure #2 & 3: CANNED ITEMS/TRADITIONAL AMERICAN SAMOAN FOODS

Store ID: Date: / / Rater ID:

Month / Day / Year

Item	Available			Oz/can	Price/can
	Yes	No	N/A		

E. CANNED SOUP

Healthier Option (see protocol definition):

1. Healthy canned soup (<100 kcal/serving) \$
 (least expensive variety)

Regular Option:

2. Regular canned soup \$

3. # of varieties of healthy canned soups
 4. # of varieties that meet low sodium criteria (<500 mg/serving)

F. OTHER TRADITIONAL AMERICAN SAMOAN FOODS

Is fish available in the store? Available Yes No Price \$ (lb/piece; Circle one)
 (frozen or fresh)

	Available		Oz/can	Price/can
	Yes	No		
1. Coconut cream	<input type="radio"/>	<input type="radio"/>	<input type="text"/> <input type="text"/>	\$ <input type="text"/> <input type="text"/> <input type="text"/>

Other traditional foods not listed in this survey:

Comments: _____

**American Samoa Nutrition Environment Survey
Store Measure #4 & 5: MEAT & HOT DOG**

Store ID: - Date: / / Rater ID:
Month / Day / Year

Item	Available			Price/lb	Comments
	Yes	No	N/A		

(lowest price brand)

A. MEAT (least expensive variety)

Healthier Option: $\geq 90\%$ lean, $\leq 10\%$ fat

1. Lean ground beef Yes No N/A \$.
 % fat

Alternate Items: ($\leq 10\%$ fat) (record type of meat)

2. Other _____ Yes No N/A \$.
 % fat

3. # of varieties of lean meat (beef/turkey/chicken/pork) 0 1 2 3 4 5 6+

Regular Option: 80% lean, 20% fat

4. Standard ground beef Yes No N/A \$.
 % fat

Alternate Items: ($> 10\%$ fat) (record type of meat)

2. Other _____ Yes No N/A \$.
 % fat

B. HOT DOG

Item	Available		Oz/pkg	Price/pkg
	Yes	No		

Healthier Option: ($\leq 9\text{g}$ fat, fat-free: 0g fat, light: turkey/beef/pork)
(least expensive brand)

1. Fat-free Wieners or Light
 Yes No \$.

Regular Option: ($\geq 10\text{g}$ fat)

2. Regular Wieners (turkey/beef/pork)
 Yes No \$.

**American Samoa Nutrition Environment Survey
Store Measure #7 & 8: CEREALS/BREAD**

Store ID: - Date: // Rater ID:
Month / Day / Year

Item	Available			Size (ounces)	Price	Comments
	Yes	No	N/A			

(lowest price)

Comments: _____

A. COLD CEREALS

Healthier Option: (Whole grain < 7 g sugar per serving)
(record brand name; choose least expensive brand)

- \$.
- Are healthier, travel size cereal boxes available? \$.
- # of varieties of healthier cereals #

Regular Options: (≥ 7 g of sugar per serving)
(record brand name)

- \$.
- Are regular, travel size cereal boxes available? \$.

B. BREAD

Healthier option: 100% whole wheat/grain bread
(least expensive brand)

- 100% whole wheat bread \$.
- # of varieties of 100% whole wheat breads (all brands) #

Regular option: Bread made with refined flour

- White bread \$.

**American Samoa Nutrition Environment Survey
Store Measure #9: MISCELLANEOUS**

Store ID: - Date: / / Rater ID:
Month / Day / Year

Item	Available			Oz/pkg	Price/pkg	Comments
	Yes	No	N/A			

Comments: _____

A. EGGS
(least expensive brand)

1. Eggs, dozen size carton Any brand \$.

B. COLD CUT MEATS & BACON

Healthier option:

1. Lean cold cuts . \$.
2. Turkey bacon . \$.

Regular option:

3. Regular cold cuts . \$.
4. Bacon . \$.

C. CHEESE

Healthier option:

1. Reduced fat, pre-sliced . \$.
2. Reduced fat, block . \$.

Regular option:

3. Regular, pre-sliced . \$.
4. Regular, block . \$.

D. SNACKS

1. # of varieties of healthy (Go) snacks < 10 11- 20 21 +
2. # of varieties of less healthy (Whoa) snacks < 10 11- 20 21 +

American Samoa Nutrition Environment Survey
Store Measure #10: GENERAL INFORMATION/PLACEMENT/PROMOTION

Store ID: - Date: / / Rater ID:
 Month / Day / Year

Comments: _____

General Information:

- Does the store demonstrate that it accepts NAP? yes no
 Does the store demonstrate that it accepts WIC? yes no
 Does the store have signs that identify WIC-approved foods? yes no

Placement: (refer to protocol)

1. Are healthy items present at point-of-purchase? yes no
 (healthy items have minimal or no added fat, sugars, sweeteners. Ex: fresh or dried fruits and vegetables, whole grain snacks (≥ 2 g fiber/ serving), nuts and seeds (without sugar or honey roasted), no-fat and low fat milk products, water, or 100% juice)
2. Are healthy items present at the end of the aisles in the store? yes no
3. Are less healthy items present at point-of-purchase? yes no
 (less healthy items include alcoholic beverages, soft drinks and other SSB, sweet desserts/candy, sugared cereals, chips (>3 g fat/oz) and other salty snacks, fried foods, foods high in sugar and fat)
4. Are less healthy items present at the end of the aisles in the store? yes no
5. What is the proportion of healthy items compared to less healthy items available at the end of the aisles in the store?
 $< 33\%$ $33-66\%$ $> 67\%$

Promotion:

1. Do signs/displays *promote* local/regional/state grown/produced items? yes no
2. Do signs/displays *identify* local/regional/state grown/produced items? yes no
3. Do signs/displays *identify* organic items? yes no
4. Do signs/displays encourage healthy eating? yes no
 Number of displays _____
5. Do signs/displays encourage less healthy eating? yes no
 Number of displays _____

Salad Bar/Snack shop:

1. Does the store feature a salad bar? yes no
2. Does the store feature a snack shop/prepared hot foods area? yes no
 (ex: a separate area with sandwiches/items meant for immediate consumption?)
- a. Does the store snack shop sell **healthy** items? (e.g., turkey or grilled chicken sandwich/wrap, entrée salads, baked chicken, etc.) yes no
- i. What is the price of the least expensive healthy entrée? \$.
- b. Does the store snack shop label any items as healthy? yes no
- c. Does the store snack shop have nutrition information available? yes no
- d. Does the store snack shop sell **less healthy** fast food items (e.g., chicken wings, nachos, hot dogs etc.)? yes no
- i. What is the price of the least expensive less healthy entrée? \$.

2) **American Samoa Nutrition Environment Survey – Restaurants (NEMS-R)**

Form Approved
OMB No. 0920-0008
Exp. Date 07/31/2014

**American Samoa Nutrition Environment Survey
RESTAURANTS**

Restaurant Type:

- Sit-down (order from waiter while sitting at table)
- Fast Food (order at counter then sit down)
- Take-out (order at counter then limited seating)
- Other: _____

Rater ID:

Restaurant ID:

Restaurant Name: _____

Site Visit:

Date: ____/____/____

Month Day Year

GPS Coordinates: Latitude _____, **Longitude** _____

Comments: _____

Public reporting burden of this collection of information is estimated to average 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information including suggestions for reducing this burden to CDC/ATSDR Reports Clearance Officer, 1600 Clifton Road NE, MS E-11 Atlanta, Georgia 30333; ATTN: PRA (0920-0008)

**American Samoa Nutrition Environment Survey
RESTAURANT MEASURE #2: PROMOTION**

Restaurant ID: - Rater ID:

<u>Promotion</u>	Select One	Comments
1) a. Do signs/table tents/displays highlight healthy menu or shop options?	<input type="radio"/> yes <input type="radio"/> no	_____
b. Do signs/table tents/displays encourage healthy eating ?	<input type="radio"/> yes <input type="radio"/> no	
c. Do signs/table tents/displays encourage unhealthy eating?	<input type="radio"/> yes <input type="radio"/> no	
d. Do signs/table tents/displays encourage overeating (all-you-can-eat, super-size,	<input type="radio"/> yes <input type="radio"/> no	
e. Do signs/table tents/displays promote free refills on <u>sugary</u> drinks? If yes, do you have to ask restaurant staff for refills or can you refill yourself?	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> yes <input type="radio"/> no	
If yes, is this a one time refill only?	<input type="radio"/> yes <input type="radio"/> no	
f. Do signs/table tents/displays promote free refills on <u>diet</u> drinks?	<input type="radio"/> yes <input type="radio"/> no	
g. Do signs/table tents/displays <u>promote</u> local/regional/or state grown/produced items?	<input type="radio"/> yes <input type="radio"/> no	
h. Do menus <u>identify</u> local/regional/or state grown/produced items with icons or labels?	<input type="radio"/> yes <input type="radio"/> no	
i. Other? _____	<input type="radio"/> yes <input type="radio"/> no	

**American Samoa Nutrition Environment Survey
RESTAURANT MEASURE#3—MENU REVIEW**

Restaurant ID: -

Rater ID:

Menu Review

Select One

Choices (#)

Price

Comments

2) Main Dishes/Entrees:

a. Total # Main Dishes/Entrees

yes no

#

b. Healthy Options

yes no

#

c. Price of the least expensive **healthy** entrée

\$.

d. Price of the least expensive **less healthy** entrée

\$.

3) Main dish salads:

a. Total # Main dish salads

yes no

#

b. Healthy Options

yes no

#

c. Low-fat or fat free salad dressings

yes no

#

4) Restaurant has a salad bar?

yes no

5) Side Items

a. Fruit (without sugar)

yes no

#

b. Healthy Vegetables (without sauce & not fried)

yes no

#

c. Price of the least expensive **healthy** side item

\$.

d. Price of the least expensive **less healthy** side item

\$.

6) 100% wheat or whole grain bread available?

yes no Unknown

**American Samoa Nutrition Environment Survey
RESTAURANT MEASURE#3—MENU REVIEW**

Restaurant ID: -

Rater ID:

Menu Review (continued)

	Select One	Choices (#)	Price	Size
7) Healthy or low calorie beverage available?	<input type="radio"/> yes <input type="radio"/> no	# <input type="text"/> <input type="text"/>		
a. Diet soda	<input type="radio"/> yes <input type="radio"/> no	(smallest size)	\$ <input type="text"/> <input type="text"/> .	<input type="text"/> <input type="text"/> Bottle/Cup size <input type="text"/> <input type="text"/> oz/ml
b. 100% fruit juice	<input type="radio"/> yes <input type="radio"/> no	(smallest size)	\$ <input type="text"/> <input type="text"/> .	<input type="text"/> <input type="text"/> Bottle/Cup size <input type="text"/> <input type="text"/> oz/ml
c. 1% Low-fat, non-fat/skim (cow), unflavored	<input type="radio"/> yes <input type="radio"/> no	(smallest size)	\$ <input type="text"/> <input type="text"/> .	<input type="text"/> <input type="text"/> Bottle/Cup size <input type="text"/> <input type="text"/> oz/ml
d. Water	<input type="radio"/> yes <input type="radio"/> no	(smallest size)	\$ <input type="text"/> <input type="text"/> .	<input type="text"/> <input type="text"/> Bottle/Cup size <input type="text"/> <input type="text"/> oz/ml
e. Other: _____	<input type="radio"/> yes <input type="radio"/> no			
8) Iced tea or other sugar sweetened beverages available?	<input type="radio"/> yes <input type="radio"/> no	# <input type="text"/> <input type="text"/>		
a. Soda	<input type="radio"/> yes <input type="radio"/> no	Small	\$ <input type="text"/> <input type="text"/> .	<input type="text"/> <input type="text"/> Bottle/Cup <input type="text"/> <input type="text"/> oz/ml
		Medium	\$ <input type="text"/> <input type="text"/> .	<input type="text"/> <input type="text"/> Bottle/Cup <input type="text"/> <input type="text"/> oz/ml
		Large	\$ <input type="text"/> <input type="text"/> .	<input type="text"/> <input type="text"/> Bottle/Cup <input type="text"/> <input type="text"/> oz/ml
		Extra large	\$ <input type="text"/> <input type="text"/> .	<input type="text"/> <input type="text"/> Bottle/Cup <input type="text"/> <input type="text"/> oz/ml
b. Juice-flavored drink (not 100% juice)	<input type="radio"/> yes <input type="radio"/> no	(smallest size)	\$ <input type="text"/> <input type="text"/> .	<input type="text"/> <input type="text"/> Bottle/Cup size <input type="text"/> <input type="text"/> oz/ml
c. Flavored milk (cow)	<input type="radio"/> yes <input type="radio"/> no	(smallest size)	\$ <input type="text"/> <input type="text"/> .	<input type="text"/> <input type="text"/> Bottle/Cup size <input type="text"/> <input type="text"/> oz/ml
d. Other: _____	<input type="radio"/> yes <input type="radio"/> no			
9. Do restaurants charge extra for a cup of tap water?	<input type="radio"/> yes <input type="radio"/> no			
If yes, by how much?			\$ <input type="text"/> . <input type="text"/> <input type="text"/>	

**American Samoa Nutrition Environment Survey
RESTAURANT MEASURE #4—FACILLITATORS/BARRIERS**

Restaurant ID: - Rater ID:

Facilitators/Barriers

	Select One	Comments
9) Facilitators		
a. Nutrition information (ex: paper or posted menu)		
Is calorie information available?	<input type="radio"/> yes <input type="radio"/> no	
Is other nutrition information available (e.g., sodium or fat)	<input type="radio"/> yes <input type="radio"/> no	
b. Healthy items identified on menu with labels/icons?		
If yes, does the menu identify what makes the item "healthy"?	<input type="radio"/> yes <input type="radio"/> no	
c. Menu notations that encourage healthy requests (ex: whole wheat bread available upon request)		
d. Reduced-size portions offered on menu	<input type="radio"/> yes <input type="radio"/> no	
e. Other? _____	<input type="radio"/> yes <input type="radio"/> no	
10) Barriers		
a. Large portion sizes encouraged? (ex: Super-size items on menu)		
	<input type="radio"/> yes <input type="radio"/> no	
b. Menu notations that discourage special requests (ex: <i>No substitutions</i> or charge for substitutions)		
	<input type="radio"/> yes <input type="radio"/> no	
c. All-you-can-eat or "Unlimited trips"		
	<input type="radio"/> yes <input type="radio"/> no	
d. Are any unhealthy items present at point-of-purchase? (ex: next to register)		
	<input type="radio"/> yes <input type="radio"/> no	
e. Other? _____		
	<input type="radio"/> yes <input type="radio"/> no	

American Samoa Nutrition Environment Survey
RESTAURANT MEASURES #5—PRICING

Restaurant ID: -

Rater ID:

Pricing

11) Pricing

a. Sum of individual items compared to combo meal?

- more less
 same NA

b. Healthy entrees compared to regular ones (see Q2 above)?

- more less
 same NA

c. Smaller portion compared to regular portion

- more less
 same NA

d. Charged for shared entrée?

- yes no

e. Other? _____

- more less
 same NA

3) American Samoa Store Manager Survey

Form Approved
OMB No. 0920-0008
Exp. Date 07/31/2014

Store Manager Survey

A. Store Characteristics

1. What is your affiliation to the store?
 - a. Sole Owner
 - b. Partner (co-owner)
 - c. Manager/Non-owner
 - d. Other _____

2. When is it busiest in your store?
 - a. Early in the month
 - b. Middle of the month
 - c. End of the month
 - d. Same throughout the month (skip question 5)

3. Why do you think it is busier at this time of the month?
 - a. Paychecks
 - b. Transportation
 - c. Stocking awareness
 - d. WIC/Food stamps distributed
 - e. Other _____

4. Where do you generally obtain foods for your store?

Product	Self-supply/ Cash and Carry (Cost-U-Less)	General Distributor	Direct store delivery	Other (e.g., farms, local agriculture, community gardens)	Item not available
a. Fresh fruit					
b. Frozen fruit					
c. Canned, unsweetened fruit					
d. Fresh vegetables, except breadfruit					
e. Frozen vegetables					
f. Canned, plain vegetables					
g. 100% Whole grain/whole wheat bread					
h. Low fat milk ($\leq 2\%$)					

Public reporting burden of this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information including suggestions for reducing this burden to CDC/ATSDR Reports Clearance Officer; 1600 Clifton Road NE, MS E-11 Atlanta, Georgia 30333; ATTN: PRA (0920-0008)

B. Attitudes and Perceptions about Offering Healthier Foods in Stores

Now let's move on to questions about selling healthy foods in your store. When we say "healthy foods," I am talking about fruits and vegetables, whole grains (rice/bread), low-fat dairy products, and unprocessed foods. *Please mark whether you agree or disagree, where 1 means that you strongly disagree and 5 means you strongly agree.*

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
5. On average, I feel the food sold in my store is healthy.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
6. The fresh produce sold in my store is of high quality.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
7. There is a large selection of fruits and vegetables in my store.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
8. The low-fat products sold in my stores are of high quality.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
9. There is a large selection of low-fat products in my store.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
10. My customers look for healthier foods in stores.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
11. If I stock more healthy foods in my store, my customers will purchase healthy foods.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
12. I should play a role in increasing the availability of healthy foods in this neighborhood.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
13. Would you be interested in offering more healthy foods?	a. Yes b. No If No, why not? _____ _____ _____				

C. Supports and Barriers to Stocking Healthy Foods

14. The next question is about profit. *For each of the following products, please choose a number from 1 to 5, where 1 means that you make very little profit on this product and 5 means you make the highest profit on the product.*

Generally speaking, how much profit do you make from selling ...

	Very little	Lower than average	Average	Above average	Best of all foods	Not offered
a. Fresh fruit	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₈₈
b. Frozen fruit	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₈₈
c. Canned, unsweetened fruit	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₈₈
d. Fresh vegetables, except breadfruit	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₈₈
e. Frozen vegetables	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₈₈
f. Canned, plain vegetables	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₈₈
g. Whole grain/whole wheat bread	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₈₈
h. Low fat milk ($\leq 2\%$)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₈₈

15. What are factors that make it easy to sell healthy foods in your store?

(e.g., customers ask for them, high profit, easy to find suppliers who sell healthy foods, being a WIC-certified store, suppliers offer product at a quantity I can handle, customers view my store as a healthy store, customers interested in health, advertising or placement of healthy foods in stores, in-store cooking demonstrations with healthy foods, etc.)

16. What are barriers for selling healthy foods in your store? That is, if you do not offer a variety of healthy foods, what are the reasons for not doing so?

(e.g., customers do not like these products or think them too expensive, spoils quickly, low profits from product, refrigeration needed, electricity for refrigeration is expensive, burdensome on staff time and resources, suppliers are hard to find or don't allow small purchases or do not take back expired or spoiled product, product decisions not made at the store level, other equipment needed, limited retail space etc.)

17. What major changes could you realistically do to sell more healthy foods in your store?

(e.g., add equipment such as refrigeration, change to new suppliers who have affordable healthy foods participate in WIC that authorizes healthy food groups, stock less junk food, etc.)

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