Background: The prevalence of overweight and obesity in children has risen nationally in recent decades, and is exceptionally high in low-income communities of color such as South Los Angeles CA. Independently owned restaurants participating in the Salud Tiene Sabor program at ethnic foods marketplace Mercado La Paloma in South Los Angeles are responding to the childhood obesity crisis by posting calories for menu items and providing nutrition information to patrons.

Purpose: To evaluate whether menu labeling and nutrition information at point of purchase have an influence on availability of healthy food options, patron awareness of calorie information, and restaurant owners’ support of the program.

Methods: A case-study design using mixed methods included restaurant owner and stakeholder interviews, patron surveys, and environmental assessments. Data were collected using originally designed tools, and analyzed in 2009–2011.

Results: Healthy eating options were available at the Mercado La Paloma; restaurant owners and the larger community supported the Salud Tiene Sabor program; 33% of patrons reported calorie information–influenced purchase decisions.

Conclusions: Owners of independent restaurants have an important role in improving access to healthy foods in low-income, Latino communities.

In addition, this method of improving nutrition environments could have a positive effect on children’s eating habits. Parents ordering from menus with nutrition information choose meals with significantly lower calorie content for their children when compared to parents who chose from menus with no nutrition information. Parents are the nutrition gatekeepers for their children and often order for them in restaurants, or they strongly influence their children’s choices through role modeling. A study specific to the Los Angeles (LA) area found that even if only a portion of restaurant patrons made modest changes to their purchases and ordered reduced-calorie meals, it would have a substantial impact on obesity prevalence in the county.

The Office of the U.S. Surgeon General and the IOM have identified a need for nutrition information labeling on restaurant menus. Many areas around the country already have begun to require menu labeling in chain restaurants, including the cities of New York and Philadelphia, as well as King County, Washington, and the state of California. California State Bill 1420 required menu labeling in chain restaurants with 20 or more facilities as of January 2011, and federal legislation under the Health Care Reform Act will require similar menu labeling in chain restaurants nationwide.

None of these policies address small, independent restaurants, including ethnic restaurants that may offer more healthful and culturally appropriate options. For example, a study with Latinos in Southern California found that families that frequented Mexican restaurants had children with lower BMI than families that ate at chain, fast-food restaurants. There is little research on the feasibility of menu labeling in independent restaurants, and one recent project in Tacoma-Pierce County WA found substantial challenges in recruiting and implementing menu labeling in non-chain restaurants.

Mercado La Paloma

Mercado La Paloma (the Mercado) is a vibrant marketplace that serves the surrounding community and is home to restaurants, shops, social services, classes, and exhibits. The Mercado is located in a low-income, urban, multiethnic LA neighborhood that has long struggled to become a healthier place to live. Despite improvements in the local economy that can be attributed to financial assistance to introduce new retail stores and other employment development to the area, 40% of the residents earn incomes less than 100% of the federal poverty level, compared to 16.2% for LA County as a whole.

It is also an area that is racially and ethnically diverse—a majority (98.1%) of South LA residents are nonwhite (62.7% Latino, 33.4% African-American, less than 2% Asian), more than one third of residents (35%) are aged <18 years, and more than half (53%) of households with children aged <18 years are headed by single women who live below the poverty level. Latino families come to eat and congregate at the Mercado for social and cultural events. A patron survey found that 80% of those visiting the Mercado live within 5 miles, and a recent marketing survey conducted at the Mercado found that more than 60% of patrons are Latino.

Salud Tiene Sabor

A coalition of advocates, small business owners, and public health department personnel partnered in 2009 to make healthy food choices available in South LA through the implementation of a culturally relevant menu-labeling program called SmartMenu/La Salud Tiene Sabor (Salud). It was begun as a project of The California Endowment’s Healthy Eating Active Communities program in collaboration with Esperanza Community Housing Corporation and the LA County Department of Public Health. The program empowered independently owned restaurants to provide nutrition information for menu items to patrons at the point of purchase. It was also aimed at encouraging families eating at the Mercado to make healthy choices for their children.

The seven Mercado restaurants serve a range of cuisines, including Mexican, Peruvian, Middle Eastern, and Thai. All seven restaurants had their recipes professionally analyzed by a bilingual, bicultural, registered dietician who calculated the calories and additional nutrient information during an extensive process of observing menu item preparation and working with restaurant owners to document each recipe. Calorie counts were then added to each restaurant’s menu boards and every restaurant developed brochures offered at the point of purchase providing additional nutrient information including amount of fat, sodium, fiber, carbohydrate, sugar, and some vitamins and minerals. The restaurants also received guidance from the dietician on how to modify their menu items to be healthier. The Mercado has institutionalized the menu-labeling program permanently as a business policy.

The Salud Logic Model depicted in Figure 1 shows the primary intervention components of the Salud program as well as the anticipated intermediate and long-term outcomes of the intervention. The Salud program aimed to increase availability of healthier foods and raise patron awareness of calories at the Mercado. The evaluation team hypothesized that the restaurant owners would support the program, that other small restaurants in the area would adopt the program model, and that patrons would be aware of the healthier eating options available at the Mercado. In the longer term, improvements in the food environment and increased nutrition awareness among
patrons are expected to lead residents to purchase healthier items when dining out and result in replication of the Salud model in other venues, ultimately contributing to a reduction in the community’s high obesity prevalence.

The Public Health Institute (PHI); Samuels & Associates (S&A); Esperanza Community Housing Corporation (Esperanza); and Healthy Eating Active Communities (HEAC) partnered to evaluate the Salud Tiene Sabor program model in other venues, ultimately contributing to a reduction in the community’s high obesity prevalence.

**Methods**

The Salud evaluation assessed the influence of the Salud program on the Mercado nutrition environment, consumers’ purchase intention, vendor practices and sales, and replication by other venues. The mixed-method, participatory evaluation included environmental assessments, patron awareness surveys, vendor interviews, and stakeholder interviews. The Salud program was fully implemented in April 2009, and all data were collected and analyzed from the second half of 2009 until 2011. The study design was reviewed by the Public Health Institute’s IRB and was granted exempt status.

The Salud Evaluation Advisory Committee provided ongoing expert guidance on the Salud evaluation design, implementation, and reporting. The committee also provided input on and approved the evaluation tools and methodology used by the study team. The committee was a professionally and ethnically diverse group that included Mercado restaurant owners and promotoras, as well as representatives from policy/advocacy organizations, foundations, academia, and community-based organizations.

**Food and Beverage Environmental Assessment**

The Food and Beverage Environmental Assessment documented the description, variety, calorie content, and cost of the menu items in each restaurant (the latter not reported here). The assessment tool was based on previous food and beverage environmental assessment tools used by the evaluation team, but has not been tested for reliability. The assessment was designed to capture the variety and items listed on the menu and the calorie totals, which was the focus of the Salud program, rather than various additional factors frequently collected with the NEMS-R tool. All environmental assessments were conducted in April 2010.

**Restaurant Owner Interviews**

Experienced interviewers performed all Restaurant Owner Interviews in person in conjunction with the Food and Beverage Environmental Assessment in April 2010. Five interviews were conducted in Spanish, two in English. The interviews explored the benefits and challenges experienced by restaurant owners in implementing the Salud program. They also looked at customer response to the changes, effect of the changes on the restaurant costs and profits, resources and support needed to maintain the changes, and advice to other small-restaurant owners about adopting the Salud model. Example questions included What changes have you made to the foods and beverages you sell in your restaurant through the Smart Menu program? and What have the greatest challenges and benefits been in making these changes?

**Patron Awareness Survey**

Promotoras (community health workers) from Esperanza were trained in a day-long workshop with the evaluation team to conduct the Patron Awareness Interview with 60 adult Mercado patrons. Interview participants needed to be aged ≥18 years, speak.

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**Figure 1. Salud logic model**

Dept., Department; HEAC, Healthy Eating Active Communities; LA, Los Angeles; PH, public health
English or Spanish, and have purchased food or beverages at any of the Mercado restaurants. The 21-item interview guide, designed by the evaluation team, assessed menu-labeling awareness among patrons, attitudes toward menu labeling and healthy food, and influence of calorie information on meal selection at the Mercado. The interview also assessed demographic variables such as age, gender, languages spoken, and ZIP code of residence.

Survey respondents received a $5 incentive following completion of the survey. Twenty-nine interviews were completed throughout the Mercado in Spanish and 31 in English on different times during weekdays in February 2010. The promotoras did not document refusals, so no information is available to calculate a response rate.

**Stakeholder Interviews**

Trained interviewers conducted 10 confidential telephone stakeholder interviews during Summer 2010 with Mercado customers, local elected officials, and representatives from businesses, community-based organizations, healthcare, public health, and governmental agencies. The interview guide explored changes made at the Mercado La Paloma through the Salud program, barriers to making these changes, and opportunities to expand and replicate the program.

**Data Analysis**

Analyses of the data collected through the Food and Beverage Environmental Assessment and Patron Survey were conducted using SPSS. The IOM high school food and beverage standards and the Los Angeles Worksite food standards were used to establish meaningful categories. Descriptive statistics, means, and frequencies were produced to summarize the data. Interviews were transcribed and analyzed for themes and key findings, which were identified based on respondents’ answers to the questions (i.e., via a grounded theory approach). To analyze stakeholder interviews, responses to questions were organized in a Microsoft Access database. The data were then analyzed by identifying themes and key findings.

**Results**

**Food and Beverage Environmental Assessment**

The menu boards at the Mercado are well lit, colorful, and attractive and include photos of some menu items. The calorie information on the menu boards included all items that came with each order. For example, a chicken entrée served with a side of rice included rice in the calories posted on the menu. The caloric-content information was easiest to read on those menu boards that had fewer items and large lettering. Entrees were an average of 455 calories per item and side dishes were an average of 279 calories per item. Forty-two percent of entrees and 41% of side dishes met the IOM food and beverage standards and Los Angeles Worksite food standards, which recommend a maximum of 400 calories per entrée and 200 calories per side dish (Table 1).

**Restaurant Owner Interviews**

Restaurant owners embraced changes made through Salud, including providing calorie and nutrition information. Although they were not required to change menu items, six of the seven vendors surveyed reported that they did so voluntarily. They reported adopting healthier cooking methods such as using whole instead of refried beans, using more vegetables, and reducing the sugar in beverages. Two restaurant owners reported changing their own eating habits and promoting healthy eating choices to their customers. Most said they would recommend these changes to other small, independent restaurant owners, and five vendors reported no notable change in costs or profits. Three observed that fruits and vegetables are more expensive than other ingredients, but two reported increased profits because of providing smaller portion sizes.

**Patron Awareness Survey**

The Patron Survey found that 65% of patrons saw calorie information on the menu boards when ordering. Of these, nearly 46% reported that their purchases were influenced by the calorie information. Sixty-seven percent of patrons strongly agreed that consumers have the right to know the nutrition content of restaurant meals, and 93% would like to see nutrition information when they order at restaurants. Forty-eight percent said they eat out at restaurants three or more times per week (Table 2).

### Table 1. Analysis of calorie content of foods sold at Mercado La Paloma

<table>
<thead>
<tr>
<th>Item category</th>
<th>Calorie targeta</th>
<th># analyzed</th>
<th>Calorie range</th>
<th>Average calories</th>
<th>% below target threshold (# of items)</th>
<th>% above target threshold (# of items)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beverages</td>
<td>n/a</td>
<td>96</td>
<td>5–780</td>
<td>241</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Entreesa</td>
<td>≤400</td>
<td>347</td>
<td>110–1490</td>
<td>455</td>
<td>42 (147)</td>
<td>58 (200)</td>
</tr>
<tr>
<td>Side dishes/appetizers</td>
<td>≤200</td>
<td>114</td>
<td>20–760</td>
<td>279</td>
<td>41 (47)</td>
<td>59 (67)</td>
</tr>
<tr>
<td>Dessert</td>
<td>n/a</td>
<td>64</td>
<td>20–570</td>
<td>175</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

*Includes all items served with an ordered entrée

n/a, not applicable
Stakeholder Interviews
Stakeholder interviewees noted that calorie boards and nutrition information made available through the Salud program were contributing to a healthy eating environment at the Mercado. Stakeholder interviewees viewed the Salud Program as an innovative and successful model for providing healthy eating options in South LA. They commented on the need to support these pioneering small-restaurant owners in sustaining the changes they had made.

Discussion
In communities such as South LA, where healthy food options are limited, a variety of strategies are needed to improve the food environment. Small-business owners have an important role to play in increasing access to healthy food options for families. Restaurant owners who participated in the Salud project voluntarily addressed Latino childhood obesity by modifying their menus, posting calories on their menu boards, and providing additional nutrition information to customers in a location frequented by Latino families.

As with tobacco control (restaurant owners recognized that smokefree environments would not damage their profits, and this had an influence on eliminating tobacco use in restaurants), small-restaurant owners who reported no perceived losses in profits due to menu labeling establish a precedent for other small-restaurant owners to enact similar menu-labeling policies and practices. Because the federal law applies only to chain restaurants with 20 or more locations, the Salud program establishes a model for restaurants that are not covered by the statute, but still wish to make nutrient information accessible.

The evaluation findings demonstrated that options meeting dietary guidelines established by the IOM and Los Angeles County Worksite standards are available at the Mercado. IOM and Los Angeles County Worksite standards recommend that entrees contain no more than 400 calories per serving, and that side dishes, snacks, or appetizers contain no more than 200 calories per serving. Nearly half of the side dishes, snacks, and appetizers offered at the Mercado now meet these standards.

About one third of patrons reported that calorie information influenced their decisions at the point of purchase. The Salud evaluation’s findings on purchase intention were consistent with a similar evaluation of a menu-labeling effort in Tacoma-Pierce County WA, which found that 71% of patrons noticed nutrition information and more than half of them chose a healthier option as a result.18

Limitations
This case study had several limitations. The patron awareness of calorie information and resulting influence on purchases was self-reported and conducted as an interview by promotoras, which may have introduced some self-presentation bias. The Salud evaluation team was not able to assess patrons’ actual purchases or what they purchased for their children within the scope of the evaluation. Because the evaluation was conducted after the menu changes occurred, the team was unable to collect baseline data on menu content and nutrition environment in the Mercado prior to implementation of Salud, or comparison data on patron purchases and beliefs in order to capture true impact.

The assessment tool designed and used by the evaluation team did not include inter-rater reliability, although the same two individuals conducted all assess-

Table 2. Survey responses of restaurant patrons at Mercado La Paloma (n=60)

<table>
<thead>
<tr>
<th>Survey question</th>
<th>Yes (% (n))</th>
<th>No (% (n))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noticed calorie information</td>
<td>65 (39)</td>
<td>35 (21)</td>
</tr>
<tr>
<td>If noticed calorie information, influenced purchase</td>
<td>46 (18)</td>
<td>54 (21)</td>
</tr>
<tr>
<td>Would like to see nutrition information at restaurants</td>
<td>93 (56)</td>
<td>7 (4)</td>
</tr>
<tr>
<td>Consumers have a right to know nutrition content of restaurant meals</td>
<td>10 (6)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Frequency of eating out at restaurants</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers have a right to know nutrition content of restaurant meals</td>
<td>10 (6)</td>
<td>0 (0)</td>
<td>2 (1)</td>
<td>12 (7)</td>
<td>76 (46)</td>
</tr>
<tr>
<td>Frequency of eating out at restaurants</td>
<td>7 (4)</td>
<td>25 (15)</td>
<td>20 (12)</td>
<td>23 (14)</td>
<td>25 (15)</td>
</tr>
</tbody>
</table>
ments together. Additionally, the process the registered dietician conducted in order to document and analyze the menu items was time-intensive and may not be easily replicable in other small establishments. Long-term evaluation is needed to document the sustainability of changes made by the Mercado restaurants and their impact on patron purchases.

Economic Viability of Menu-Labeling Programs
With support, most notably from Esperanza Community Housing, the Mercado restaurant owners succeeded in implementing the Salud program. The success of Salud has encouraged a taqueria and a corner store in South LA to initiate their own menu-labeling programs modeled on Salud. Small-business owners’ profit margins are often small and are especially vulnerable to economic fluctuations. The financial feasibility of modifying menus and adopting menu labeling will be a major consideration for other small restaurants. They may need financial support and other resources or incentives to aid them in these efforts. The Mercado restaurant owners’ experiences making these changes while remaining economically viable are invaluable to other restaurant owners who might consider menu labeling. In order to facilitate the dissemination of lessons learned, the Salud program developed a web-based toolkit (menulabel.com) for restaurant owners and other stakeholders interested in learning more about the Salud project or replicating its model.

Legislation Effects
Findings from the evaluation have the potential to inform and advance policy action that would incentivize independently owned restaurants to offer nutrition information and provide healthy foods in low-income communities at high risk for obesity. As the California state menu-labeling legislation is fully implemented and federal menu-labeling legislation goes into effect in 2012 in chain restaurants, independent restaurants may be affected as menu labeling becomes the norm. Restaurant patrons may become accustomed to menu labeling once they see it at chain restaurants, and in order to stay competitive, independent restaurant owners may also need to provide nutrition information. Additionally, state or national menu-labeling legislation may eventually be required in all restaurants and/or other venues where food is served, such as schools or adult and child care centers.

Conclusion
The Salud program establishes a model for non-chain restaurants to play an active role in making lower-calorie, nutritious foods available in partnership with communities. Further research is needed to build the evidence for how such interventions may help prevent obesity among Latino children in the long-term.

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Dr. Sarah Samuels passed away on March 29, 2012.

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