Feasibility of Voluntary Menu Labeling Among Locally Owned Restaurants

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In 2007, Tacoma-Pierce County Health Department launched a restaurant menu labeling project called SmartMenu. The objective was to recruit locally owned restaurants to voluntarily post basic nutrition information on their menus or menu boards. Participating restaurants submitted recipes to an independent contractor for nutritional analysis and agreed to post calorie, fat, carbohydrate, and sodium values on new menus within 90 days of receiving results. Vigorous recruitment efforts by the Health Department between June 2007 and September 2008 included free advertising, consultation with a Registered Dietitian, and free nutritional analysis. By the end of 2008, a total of 24 restaurants participated in the program. Significant barriers to participation included infrequent use of standardized recipes, perceived business risk of labeling, and low perceived customer demand for nutrition information. Key program elements, recruitment strategies, and costs are discussed. Results have important implications for future efforts to increase the adoption of menu labeling by locally owned and operated restaurants.

Keywords: menu labeling; nutrition analysis; nutrition policy; obesity; restaurant

Since adoption of obesity prevention as a local public health priority in 2003, the Tacoma-Pierce County Health Department has supported a robust population-based obesity prevention strategy, embracing multiple policy and systems change initiatives to increase physical activity and healthy eating. When survey data confirmed that county residents frequently dined away from home (Gizzi, 2004), we investigated several options for improving the health of these dining experiences. Out of several alternative approaches, we concluded that complete menu labeling had the best combination of feasibility and long-term impact on the food industry and community health.

Although large restaurant chains have been the most frequent target for menu labeling, we focused on locally owned and operated establishments, expecting that menu labeling decisions could be made more readily at the local level. Also, if menu labeling were to become widespread among larger chains as a result of consumer demand or regulation, smaller restaurants, with fewer resources to analyze and post nutrition information, would be disadvantaged. SmartMenu, a voluntary menu labeling program for locally owned restaurants, was launched in 2007. Program objectives included determining (a) to what extent restaurants would participate, (b) the impact of the program on consumer purchasing behavior, and (c) the costs, perceived benefits, and barriers involved.

BACKGROUND

Increased interest by public health policy makers and practitioners in labeling restaurant and fast-food menus with nutrition information has come about as a result of the continued rise in obesity rates throughout the United States. Americans consume more than a third of their daily calories from away-from-home foods (Guthrie, Lin, and Frazao, 2002) and often eat more when dining out.
than when eating at home (Zoumas-Morse, Rock, Sobo, & Neuhouser, 2001). Restaurants are exempt from the mandatory nutrition labeling requirements that are in place for packaged foods, and consumers frequently underestimate the number of calories and fat in away-from-home foods (Burton, Creyer, Kees, & Huggins, 2006). Eating out frequently, especially at fast-food restaurants, is associated with increased weight gain (Binkley, Eales, & Jekanowski, 2000; Bowman & Vinyard, 2004; Duffey, Gordon-Larson, Jacobs, Williams, & Popkin, 2007; Ma et al., 2003; Niemeier, Raynor, Lloyd-Richardson, Rogers, & Wing, 2006).

The majority of Americans would like more nutrition information to be available, and they support policies that require restaurants to post such information (Gizzi, 2005; Rudd Center for Food Policy and Obesity, 2008). The health care reform bill signed into law by President Obama includes a menu labeling provision that will require all restaurant chains with 20 or more establishments to post calorie information for all standard menu items at the point of purchase. The federal law will preempt several other state and local menu labeling regulations currently in force. The bill requires the U.S. Food and Drug Administration to propose regulations to implement the law within 1 year (Center for Science in the Public Interest, 2010).

Although not yet conclusive, some studies suggest that restaurant menu labeling can positively alter customers’ food purchase patterns when dining outside the home (Bassett et al., 2008; Chu, Frongillo, Jones, & Kaye, 2009; Harnack & French, 2008; Roberto, Larsen, Agnew, Baik, & Brownell, 2010; Tandon, Wright, Zhou, Rogers, & Christakis, 2010). Labeling may also alter food industry menu recipe formulation (Levy & Derby, 1996).

Once the federal law goes into effect, only restaurant chains with 20 or more establishments nationwide will be required to post menu nutrition information. If there are demonstrable health benefits to labeling, then it is important to understand the feasibility of nutrition labeling among locally owned restaurant establishments so all consumers may reap these benefits.

**STRATEGIES**

The following sections provide information about activities conducted during each phase of the SmartMenu Program. As part of the program evaluation, we conducted key informant interviews with managers or owners from six participating SmartMenu restaurants and three non-participating restaurants to better understand the perceived benefits and barriers to their participation. Results of the interviews are included in the description of each phase as appropriate. Changes in consumer purchasing behavior reflected in sales data and customer surveys are addressed in a separate publication (Pulos & Leng, 2010).

**Restaurant Recruitment**

A partnership with Health Department food inspectors was critical to recruitment. The food inspection and permitting program contains an up-to-date database of all 3,200 food establishments licensed and regulated by the department, including 600 restaurants that are independently owned and operated in the county. Individual food inspectors are assigned specific restaurants and have a long-term and largely positive relationship with owners, managers, and staff. Food inspectors regularly assisted SmartMenu staff to identify and approach potential participants. Restaurants were also recruited through a newsletter distributed quarterly by the food inspectors to all licensed restaurants; direct mail promotional materials, newspaper ads, cold calls, and site visits to 180 establishments considered by SmartMenu staff or food inspectors to be favorably disposed to the program; and the health department website. The service was also offered to food establishments seeking new business permits through the restaurant licensing and inspection program. Recruitment occurred between June 2007 and September 2008. A total of 24 locally owned and operated restaurants participated in the program by the end of 2008.

Prospective participants met with Health Department staff, learned about the SmartMenu Program, and signed a letter of agreement which acknowledged that they...
would receive free nutrition analysis and advertising in exchange for their recipe information and for posting labeled menus within 90 days of receiving their nutrition analysis. This agreement was not considered a legally binding contract by the Health Department and there were no enforcement provisions. Table 1 displays selected characteristics of the participating restaurants.

Subsequent key informant interview results indicated that motivating factors for participating restaurants included free advertising, free nutritional analysis, desire to highlight the practice of serving healthy food, anticipated future menu labeling policy, positive view of menu labeling, friend and family influences, and customer suggestions. Reservations noted by participating restaurants included potential negative impact on sales.

Reservations from nonparticipating restaurants (factors for not participating) included business risk (including customer privacy issues), interference with the dining experience, the possibility of people spending less by ordering less food to lower calories), and time investment (including concerns that investment of restaurant staff time to collect standardized recipes would not result in an economic return on that investment). Nonparticipating restaurants made several suggestions about how the Health Department could work with restaurants to overcome these barriers. Suggestions included the following: allow a separate brochure/menu for nutrition information; provide technical assistance to “lighten” menu items instead of requiring menu labeling; and provide clear information up-front about future intentions of the Health Department for adopting local menu labeling policy.

**Standardizing Recipes**

The nutrition analysis software that was used (ESHA Research Food Processor SQL) required recipe information in a standardized format. Most participating restaurants did not use standardized recipes and, in some cases, recipes were not written. SmartMenu staff assisted participants as necessary with recording menu items into a standardized recipe format suitable for software analysis. Our intent was to analyze the entire menu, not including daily specials or beverages.

This was a time-consuming process, both for the restaurant owner and for Health Department staff. In most cases, staff assisted in translating restaurant cooking practices into standardized recipes through on-site consultation. Scheduling these on-site visits had to be accomplished when managers or staff could fit it in during less busy business hours, leading to complex scheduling challenges and long delays before analysis could be completed.

**Nutrient Analysis**

A Registered Dietitian (RD) experienced in the use of the software was contracted to analyze each menu item for calories, fat, carbohydrates, and sodium content. Even with an experienced RD performing the analysis, there were challenges to this phase of the project. For the software to provide accurate results the recipes had to be very specific. For example, if “chicken breast” was specified in the recipe it was important to know whether it was a skinless breast and how much it weighed. With respect to marinades, the restaurant was required to provide not only the marinade recipe itself, but also an estimate of the amount of the marinade that was absorbed into the marinated food. In many cases, Health Department staff, the contracted RD, and the restaurant owners were all involved in trying to provide accurate information to allow the analysis to proceed. Between the lack of standardized recipes and the very specific requirements of the software, multiple conversations were often required for the same menu items.

To create additional value for the participating restaurants, nutrition facts labels were generated in a standard format for every menu item. These labels looked just like

<table>
<thead>
<tr>
<th>Restaurant Size</th>
<th>Number</th>
<th>Number of Menu Items</th>
<th>Type of Food Served (number of restaurants serving food type)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25 seats</td>
<td>11</td>
<td>14-62</td>
<td>Pizza (2), deli, café (2), diner (2), ready-made meals for purchase to cook at home (3), convenience store serving ready-made food (2)</td>
</tr>
<tr>
<td>26-74 seats</td>
<td>6</td>
<td>24-108</td>
<td>Café, Thai, pub, Italian, “American” food restaurant, Mexican Pub (2), “bar and grill” restaurant, diner (4)</td>
</tr>
<tr>
<td>≥75 seats</td>
<td>7</td>
<td>50-180</td>
<td></td>
</tr>
</tbody>
</table>

*Average number of menu items per restaurant = 75.
those seen on grocery store items and contained much more information than what participants were asked to post on their new menus. Many restaurants anticipated sharing the nutrition facts labels with customers, and they were also a user-friendly and familiar way of conveying the information to the restaurant owner, chef, and staff. Unfortunately, creating labels was not a standard part of the software reporting system and required much more time to create than we anticipated.

**Posting New Menus**

In addition to nutrition information, the analysis report included examples of labeled menus to assist restaurant staff to list calories, fat, carbohydrate, and sodium information on their menus or menu boards. Several choices were provided for how to display the nutrition information. Most participants selected to use the calories/fat/sodium/carbohydrates numbers with slashes in between (e.g., 750/9/900/30), with a descriptive key at the bottom of the menu.

Health Department staff met with participating restaurants when their analysis became available to explain the results and to answer any questions. Restaurants were asked to launch their newly labeled menus within 3 months of receiving the report. Representatives from the local food industry, who regularly participate on a food advisory board for the Health Department, had indicated that this was a reasonable request given the typical frequency of restaurant menu revisions.

Key informant interviews indicated that all participating restaurants increased their awareness of the menu’s nutritional content and experienced a “shock” after seeing the analysis report. As a result, some restaurants later reported making changes to their menus, such as adding healthy menu options and offering alternative recipe ingredients and smaller portion sizes. When SmartMenu staff was advised of these changes, the altered menu items were reanalyzed. Since menu reformulation was not a primary target of the program, the evaluation was unable to quantify this impact.

**Recognizing Participants**

Once participating establishments posted their new menus, the Health Department provided free promotion through ads placed in community newsletters, the local daily newspaper, the weekly business newspaper, and on the Health Department website. Each restaurant was also provided with a plaque, window clings, pens, and buttons to advertise their participation.

**Program Costs**

At an average cost per restaurant of $3,700 for menu analysis alone, SmartMenu was a resource-intensive project. Table 2 displays estimated program costs. The cost of menu analysis for each restaurant depended on the number and complexity of menu items, ranging from a low of $1,500 to a high of $8,400.

The most costly step was staff time followed by the analysis itself. The most time-consuming step was recipe collection and standardization. The average duration of the entire process, from the signing of the participation agreement to the posting of a new menu was 8 months.

Health Department staff did not track their time on SmartMenu hour for hour. The estimates for staff time are based on allocations of their time in Health Department

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**TABLE 2**  
Summary of SmartMenu Program Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrient analysis</td>
<td>Two year contract included analysis software ($700), nutrient analysis by Registered Dietitian@$75/hr., consultation with staff and restaurants, and analysis reports.</td>
<td>$140,350*</td>
</tr>
<tr>
<td>Promotion</td>
<td>Marketing and training print materials, mailings, newspaper ads, and incentives for restaurants</td>
<td>$24,357</td>
</tr>
<tr>
<td>Staff</td>
<td>Part-time efforts from seven staff members, including a program manager, one Registered Dietitian, and five health educators. Included program and materials development, recruitment efforts, initial meetings and ongoing consultation with restaurants, support to translate recipes into standardized form for analysis, and evaluation, including key informant interviews.</td>
<td>$192,645</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$357,352</strong></td>
</tr>
</tbody>
</table>

*Average cost per restaurant of menu analysis alone = $3,762. Average cost per recipe = $50.00.
work plans and estimates based on staff weekly work calendars. Other costs, such as the analysis, paid advertising, mailing, etc. are based on contract documents and billing receipts.

**DISCUSSION**

**Recruitment**

Just 24 of about 600 locally owned restaurants in Pierce County participated in SmartMenu. Because of our widespread recruitment efforts using print, electronic, and in-person communication methods, we are confident that most restaurants at least knew about the program. Although we were uncertain what would prompt restaurants to participate, we clearly overestimated the value that restaurants would place on the nutrition analysis as a motivator for signing on to the program. Key informant interviews confirmed that participating restaurants represented “innovators” or “early adopters” in the Diffusion of Innovation model (Rogers, 1995). The owners and managers of participating restaurants reported strong beliefs in the health of their menu items, a desire to know the nutritional values of their offerings, and were, for the most part, confident that their customers would value the information. Some anticipated that regulations would be coming soon and wanted to “get ahead of the curve.”

**Recipes**

The challenge for locally owned restaurant owners who are not using standardized recipes to participate in this program cannot be overstated. The process of creating a recipe with the degree of specificity needed for accurate analysis by nutrition software requires a high degree of motivation and perseverance. Even with a professional RD conducting the analysis and another RD working directly with restaurant owners and staff, this was a demanding, costly, and time-consuming process. Health Department staff often had to remind participants of the need for this information, assist them to collect it where feasible, and be considerate of their limited time.

**Nutrition Analysis**

Conducting menu analysis using nutritional analysis software can be expensive and requires significant technical expertise to obtain accurate results. Based on our experience, even if the cost of software were to be dramatically reduced, it would be challenging for most local restaurant owners to carry out analysis without assistance. In addition, every time a new menu item is added, further analysis would be required. We do not know how frequently locally owned establishments add new menu items or change the formulation of existing items, but each change would bring with it additional costs. Without support for analysis, it is difficult to know for how long the nutrition information on menus would remain accurate and up-to-date.

**Labeling Menus**

Eighteen of the 24 participants have posted their information on new menus. One participating restaurant has gone out of business and 5 restaurants received their analysis but have not posted it to new menus. Although the issue of there not being enough room on menus to include nutrition information has been raised by restaurants in other settings, it was not reported as a significant barrier by our participants. If a more space-intensive labeling practice had been used instead of the calories/fat/sodium/carbohydrates method described above, we might have faced more challenges achieving adoption of the new menus.

**Conclusions**

As the second largest local public health jurisdiction in Washington State, serving a population of 800,000 with an agency budget of $41 million in fiscal year 2008, we had more resources to conduct this type of project than the average local public health jurisdiction. We may have been able to dedicate additional resources to the project if menu labeling was our only initiative related to obesity prevention, but it was only one, albeit the largest, of several important efforts related to this issue. To the extent that our experience with SmartMenu is generalizable, there are significant barriers for even the most motivated independent restaurant owners and managers to post nutrition information on their menus. The most significant barrier is the need for standardized recipes to conduct analysis. Even if nutrition analysis software and the expertise to use it were made freely available, most restaurants would first have to translate all of their menu items into standardized formats. This requires a significant commitment on the part of the restaurant owner or manager.

As far as we could determine, SmartMenu was a unique effort. We were unable to identify another program that has made such a concerted attempt to partner with locally owned restaurants to provide nutrition information on menus and to defray the anticipated costs involved in doing so.

When drawing conclusions from this project, it is important to consider where menu labeling policies and
practices reside on a continuum of rapidly changing public and food industry expectations. Restaurant menu nutrition labeling is a relatively recent national phenomenon and it is as yet unclear the magnitude and direction of its impacts. With the passage of federal menu labeling legislation, many restaurant chains will soon begin posting nutrition information on menus. Once this practice becomes the norm for restaurant chains and for customers to expect it, the ripple effect could begin to shape the way local restaurants and their customers interact as well. More local restaurants may wonder whether they can gain a competitive edge by posting nutrition values. Menu analysis and labeling may become a routine part of a new restaurant’s business plan. Restaurants that remain unregulated but that wish to respond to changing customer demand may reformulate some or all of their menu items to be “healthier.” Current nutritional analysis may become more widely available and less costly to carry out. More local restaurants may see the business benefits of using standardized recipes.

It is entirely possible that such trends, and the consumer and business expectations that accompany them, may reduce or eliminate some of the barriers that we encountered in this project. Therefore, it would be presumptive to make claims about how other agencies should behave in the future. On the other hand, it should be clear from these results that at the time of this project, there were significant barriers to widespread adoption of menu labeling by locally owned restaurant operators. This was a small project in only one county but the issues that arose are likely to be similar for locally owned and operated restaurants across the country.

**Recommendations**

**Understand the impact of federal menu labeling on unregulated local restaurants.** Following are a few critical questions that, if addressed, could affect future local menu labeling efforts: Will widespread posting of nutrition information among the larger chains result in increased customer expectations for nutrition information at locally owned restaurants? Alternatively, will the “value meal” segment of consumers gravitate toward local “unlabeled” restaurants so as not to be reminded of their dietary “transgressions”? Will local restaurants and smaller chains forego the substantial costs of standardizing their menus and conducting nutritional analysis and, instead, choose to reformulate their menus to be “healthier” and use that in their marketing? Research into these and other promoting or restraining forces for menu labeling would help inform local planning and the efficient use of scarce public health resources.

**Consider cost-saving methods to promote voluntary menu labeling.** For anyone considering a partnership with locally owned restaurants to promote voluntary menu labeling, there are lessons learned from the SmartMenu project that could increase their likelihood for success. A focus on restaurant owners who are highly motivated, who already use standardized recipes, and who are willing to share in program costs would allow for greater reach and sustainability. The use of students or para-professionals might lead to cost savings on the labor side, though finding appropriate expertise to use the software presents a challenge. Other potential cost-saving methods might be to attempt to provide assistance to restaurants in group sessions rather than one-on-one, with the main challenge being how to support managers and staff who have limited time to participate. Participants liked the nutrition facts labels but it was not essential to the program and could be eliminated from a future effort to save money. In addition to small, independent single establishments, there are many restaurant chains with fewer than the 20 establishments that may make suitable partners. Also, consider offering new restaurants support for labeling at the point of licensure, or supplementing support for menu analysis and labeling with training on menu reformulation and portion size. This would provide a wider range of alternatives for restaurants to improve the health of the away-from-home dining experience. The new federal law has brought with it greater clarity about at least a part of the future of menu labeling and, with it, new opportunities for partnerships. With growing support of policy makers, the public, and the food industry for nutrition menu labeling, motivation of locally owned restaurants to form partnerships to address these issues is likely to increase.

**REFERENCES**


