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Reducing Sodium Across the Board, a Pilot Program in Schenectady County Independent Restaurants

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Introduction

Excess sodium intake can lead to increased blood pressure (IOM DRI). High blood pressure is a major risk factor for heart disease and stroke, both of which are leading causes of death in the United States (Go AS, 2012). The average amount of sodium consumed by Americans is considerably higher than the *Dietary Guidelines for Americans* recommendations and is primarily from processed and restaurant foods (Vital Signs). In 2007 – 2008, restaurant foods contributed nearly one quarter (24.8%) of the sodium consumed in the American diet (Vital Signs). Recent national attention to sodium in foods has resulted in some large restaurant chains making commitments to reduce sodium in menu items (Darden 2012; Yum Brands 2012). Smaller, independent restaurants also present an opportunity for sodium reduction. Local health departments often have existing relationships with independent restaurant owners by virtue of the health department's food safety inspectors. Through the services of staff such as registered dietitians, nurses, and health educators, local health departments can provide restaurants with expertise and tools related to nutrition analysis, requesting nutrition information from vendors, and comparing products. Local health departments can also promote the restaurants they are working with through advertisements

in local publications such as newspapers and newsletters, and the health department website (Britt, Frandsen et al. 2011).

Restaurants are primarily in one of two forms: an independent or a chain. Independent restaurants are not associated with a national or regional name. Owners are usually involved in the day to day operations of the facility and often make menu decisions (Walker). For both chain and independent restaurants, considerations for menu development or revisions may include patron needs and desires, staff skills, capacity of the kitchen facility, availability and costs of ingredients, and nutrient content of the foods they purchase and prepare (Thomas). Menu items may be created from scratch or from prepared or partially prepared processed foods. Substantial amounts of sodium may already be part of the food items purchased by the restaurant from distributors (i.e., breaded chicken breast or soup base). Alternatively, salt may be added to food items as an ingredient. Due to their smaller size, independent restaurants may have limited resources, both in terms of money to purchase food and buying power (negotiations based on the quantity of products needed) when sourcing food, but may have more decision-making authority at the local level over what is served and how foods are prepared.

Given the impact that local health departments and independent restaurants can have on efforts to reduce sodium intake, a pilot program utilizing the Restaurant Assessment Tool and Evaluation (RATE) was implemented by Schenectady County Health Department Staff (SCHDS). Building upon their existing infrastructure, SCHDS engaged with independent restaurant owners using a facilitated discussion tool (RATE) to assess their sodium-related practices and motivation to change menu items, cooking techniques and ingredients. The goal of the pilot program was to assess efforts to reduce sodium in independent restaurants and measure changes over time within, not between, each participating restaurant.

This paper will describe the development, implementation, and findings related to utilization of a facilitated assessment tool to successfully assist independent restaurant owners in Schenectady County, New York to voluntarily implement sodium-reduction practices. Also described are other positive outcomes resulting from the pilot and suggestions for furthering sodium reduction strategies in the local community.

Methods

SCHDS searched for a validated instrument by which to measure sodium-related practices in small, independent restaurants. Finding no existing instrument, the staff drew upon their expertise as public health practitioners to devise a new instrument called the Restaurant Assessment Tool and Evaluation (RATE). The RATE consisted of 46 questions evaluating menu items, cooking techniques, and products purchased by the restaurateur. The tool was generally modeled after CDC's Community Health Assessment and Group Evaluation (CHANGE) tool, a self-assessment and action planning tool for school, health care, worksite, and community settings. (CDC, 2012) The RATE was specifically designed to assess independent restaurants and questions were organized to assess three categories: menu items (such as portion sizes or fruit and vegetable offerings), cooking techniques (such as reducing salt, measuring salt, or making sauces from scratch), and products (such as

using lower sodium ingredients or products). Each question was scored on a scale of one to five points; a score of five was the most beneficial to reducing sodium and one was the least. A “Not Applicable” category was also included to help account for differences between restaurant types. Questions were structured the same way so that positive responses (i.e., practices that the restaurant reported using to reduce sodium) received higher scores and negative responses (i.e., practices to reduce sodium that the restaurant reported not using, or not using all of the time) received lower scores. Points were tallied and translated into percentages for a maximum score of 100% in each category. Changes in score were compared within each restaurant over time to assess change in sodium reduction practices.

SCHDS worked closely with the county Environmental Health Department to identify potential participating restaurants and make the initial contact with restaurant owners. The Environmental Health Director made an initial introduction with 16 potential restaurants and SCHDS reached out to those restaurants to determine their interest in participating in the voluntary pilot program. Incentives, such as advertising and promotional materials, were discussed with the first five of the 16 restaurants recruited but were declined. Restaurateurs reported wanting to participate due to a desire to accommodate the dietary need and preferences of their customers, not due to incentives. Based on this, incentives were not offered to any other restaurants recruited to participate.

Twelve restaurants agreed to participate in the pilot. Of these, 7 were Greek diners and 5 others served barbeque, West Indian, Moroccan, Mexican or Tavern-style foods; their seating capacity ranged from 50 to 200 people.

Initial Assessment:

Each participating restaurant took part in an initial assessment conducted by SCHDS that lasted 45–60 minutes. The assessment included a facilitated discussion to provide background on the RATE and its components (Table 1). The initial assessment was conducted by 2–3 SCHDS to compare the consistency of scoring. Though no formal reliability analysis was completed, scoring was generally consistent among different raters. Restaurateurs were asked to respond to questions in each of the three categories and based on the responses a score was generated for the menu, cooking techniques, and products. For each question that did not receive the maximum score of five, SCHDS asked the restaurateur if they would consider making a change and their response was noted on the RATE. During the assessment, SCHDS also answered questions about strategies that could be used to reduce sodium and made suggestions for restaurant owners to consider. Restaurateurs were provided an evaluation feedback summary via either mail or during a face to face visit approximately 6–8 weeks following the assessments. The feedback summary (Figure 1) provided specific suggestions about strategies that could be implemented to reduce sodium, noted current practices that were strengths, and included notations made during the initial interview about the restaurant owner’s willingness to reduce sodium in each category.

After initial assessments of five participating restaurants, SCHDS met to discuss their experiences using the RATE and impressions about whether the questions could be further refined to reflect the particular environment of an independent restaurant. Based on these discussions, the team revised the RATE by eliminating strategies with little or

no impact on menu items (e.g., rinsing canned products); rephrasing questions to assure clarity and consistency throughout the assessment; and reordering questions to facilitate flow of discussion. Though changes were made in the RATE, the assessment remained essentially the same in content. The scoring was adjusted when strategies were eliminated to be consistent with the scoring in future RATE assessments. Similar changes were made following the last seven initial assessments.

Follow-up Assessment:

The follow-up occurred six months following the initial assessment and analyzed changes that occurred during that time period. Restaurateurs again responded to the RATE questions and a new score was generated based on relevant changes that were reported. Reported changes in sodium reduction practices related to the menu (i.e., if a greater amount of lower sodium items were offered), cooking techniques (i.e., if cooking practices were modified such as reducing or eliminating added salt and/or soup base from a recipe), and the type of products purchased by the restaurant (i.e., the purchase of more lower sodium products by the restaurant) were compared between baseline and follow up to assess changes to reported practices. Scores were then compared to each restaurant's initial assessment to determine the percent change in that category. In addition, SCHDS conducted a count of all entrée and side items on participating restaurants' menus. Any entrée or side item affected by the reported changes was counted and divided by the total number of entrees to determine the total percentage of the menu impacted by the reported changes. An evaluation feedback form was again provided by SCHDS after the completion of the follow-up visit. The second feedback report showed a numeric score from each of the two RATE assessments and a calculated difference between the scores. Since the RATE tool had been revised, however, the scores provided a general impression of improvement rather than a precise count.

Results

Of the 16 independent restaurants initially contacted about participation in the pilot program, 12 participated in the RATE. The primary reason that a restaurant declined participation was time constraints. Twelve restaurants completed initial assessments and 11 restaurants participated in a follow-up assessment conducted approximately six months after the initial assessment. One restaurant from the initial assessment was not included in a second assessment at the discretion of the SCHDS since the restaurant reported having already implemented the recommended sodium-reducing strategies during the initial assessment. After receiving feedback from SCHDS regarding the initial assessments, the majority of restaurant owners reported a willingness to improve in areas where they scored lower than the maximum score of five during the initial assessment. The follow up assessment found that, of the items that restaurateurs were willing to consider changing, the majority of changes were made to the menu category and cooking techniques category. Even though restaurateurs reported willingness to make changes to the product category, little change was reported at follow up.

All 11 restaurants showed improvement in the cooking category; 9 improved in the menu category; and 7 improved in the product category (data not shown). Common strategies that

were used to reduce sodium included: 1) using or switching to a lower sodium soup base; 2) using lower sodium products in combination with regular products (e.g., lower sodium and regular tomato sauce combined); 3) reducing the use of added salt; and 4) offering more healthful side items such as salads, fruit, and cooked vegetables. Menu analysis conducted by the SCHDS suggested that reported sodium reduction strategies may have impacted approximately 25% of the restaurant menu items (menu items affected by reported changes were counted and divided by the total number of items to determine the total percentage of the menu impacted).

Restaurant owners reported a lack of time to read information, develop a sodium reduction plan, and implement strategies on their own as barriers to reducing sodium. They indicated that a facilitated discussion with health department staff appealed to them and provided momentum to make sodium reduction changes. SCHDS found that the RATE provided a useful structure to facilitate discussions between SCHDS and independent restaurant owners and to track changes made by the restaurants to their sodium-related practices. The RATE process also provided restaurant owners with new information about sodium in food and potential sodium-reduction strategies. For example, some participants expressed surprise when learning about the common sources of sodium such as bread. The tool also offered a convenient way to provide suggested strategies for improving sodium reduction.

An unexpected result of the RATE was that it allowed for SCHDS to routinely provide technical assistance and share expertise with restaurant owners, by providing nutrition assessments and other assistance. During the pilot, SCHDS educated restaurant owners about ways to obtain nutrition information from their food distributors. In turn, restaurant owners reported contacting their distributors for nutrition information to compare different products. SCHDS believed that this ongoing exchange of information and their support of the restaurant owners further strengthened the existing relationships.

Restaurateurs reported that changes in menu and cooking technique categories were feasible to implement, typically without incurring increased costs. However, restaurateurs reported changes in the product category were more difficult to achieve and sustain due to flavor profile concerns, cost concerns, and lack of availability of lower sodium products in the current commercial food market. Many lower sodium products were reported as being only available through special ordering. Restaurateurs reported that lower sodium products often did not have the same flavor profile as the product currently being used. Keeping the flavor profile consistent to meet their customer's flavor expectations was reported as more important to the restaurateur than the cost of the product.

Discussion

The RATE demonstrates that independent restaurant owners can be motivated to reduce the level of sodium in the foods they serve and can be amenable to a facilitated tool to assess changes in sodium reduction practices over time. The RATE also provided an opportunity for health department staff and restaurant owners to develop personal relationships through ongoing discussions and technical assistance. Such relationships may also have provided additional support for sodium reduction in the restaurants. In the process of conducting

the RATE, SCHDS queried restaurant owners about their willingness to implement changes and then recorded these intentions. This aspect of the RATE may have provided further motivation to the restaurant owners who also understood that a follow-up assessment would be conducted at a future time.

Restaurant owners reported concern that consumers would equate lower salt with lower taste. Due to this perception, restaurants did not advertise that they were lowering the sodium content in the menu items; however, they reported little to no adverse customer response to the changes they implemented. This finding provides support for consumer acceptance of lower sodium menu offerings. An unanticipated benefit of the pilot program was increased offerings of salads, vegetables, and fruit as side dishes.

During the pilot, several restaurant owners reported that they talked with their distributors about lower sodium products and noted that many lower-sodium products are not offered in the larger sizes needed for commercial kitchens. Some restaurant owners also considered strategies to strengthen purchasing power and increase demand such as by bringing together multiple restaurants. Changes by manufacturers and distributors to increase the availability of lower sodium items in larger sizes may facilitate the purchase and use of these products by smaller, independent restaurants. In addition, the lack of a universal measuring standard makes it difficult to compare the nutrient content of similar products and choose lower sodium options, such as a deli turkey labeled in ounces compared to deli turkey labeled per 100 grams.

Limitations of the RATE include its lack of reliability and validity testing. However, both the restaurant owners and SCHDS found the RATE to be useful in facilitating productive discussions and motivating positive change. Although staff time was required to administer the assessment, compile results, and provide feedback to restaurant owners, SCHDS reported the time spent with restaurant owners increased their understanding of the independent restaurant environment and further strengthened their relationships with restaurant owners. RATE is also limited by its design as a self-reported measure that could under- or over-estimate the changes in sodium reduction practices. During the pilot test, some of the questions in the tool were refined to improve clarity, but the RATE questions may still not adequately capture and quantify reductions in sodium. For example, one question asked during both the initial and follow up assessments was “To what extent does the restaurant measure salt while cooking?” Measuring salt, however, does not indicate whether the restaurant actually reduced their use of added salt. In addition, each question was weighted the same on the five point scale, a scale that does not reflect that some changes may have a greater impact than others on sodium reduction. Finally, restaurant owners were reluctant to share sales data making it difficult for SCHDS to gauge how menu changes might be related to changes in purchasing decisions by the customer.

Despite its limitations, the RATE may be useful for other jurisdictions exploring ways to work with independent restaurants. A potential option to further leverage the benefits of the RATE would be to use it with established organizations, such as restaurant buying cooperatives. It may also be useful as a tool in food safety courses or other educational applications where an organized set of questions and strategies can influence the perceptions

and practices of those who select, prepare, and serve food. As part of a public health strategy to reduce the negative aspects of excess sodium intake, a multi-level approach may hold the greatest potential for positive change. Using the RATE motivated independent restaurant owners to change their practices and be part of such positive change.

Conclusion

Opportunity exists to lower sodium in independent restaurants. A facilitated assessment such as the RATE can provide a useful platform for public health practitioners to engage in discussions with independent restaurant owners and encourage sodium reduction through changes in menu offerings, cooking techniques, and purchasing and product availability changes. The RATE process also provided opportunities to build and strengthen relationships between public health practitioners and restaurateurs that may help sustain the positive changes made. Although independent restaurant owners can contribute to an improved nutrition environment by offering lower-sodium items, food service operations can also potentially benefit from systems-level changes impacting the availability of lower-sodium ingredients by changes in food formulation and distribution systems.

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Restaurant Name: Sample Restaurant

Date:

Strengths

- Cooks primarily with fresh foods
- Uses minimally processed foods
- Accommodates the dietary needs and preferences of customers whenever possible
- Cooks primarily from scratch
- Offers smaller portion sizes regularly on the menu
- Always serves salad dressing on the side
- Consistently does not add salt during the cooking process

Restaurant Overall Sodium Savvy Score:

Increase in lower sodium options on the menu:

Opportunities for Improvement

Menu

Sodium Savvy Menu Score:

- Always serve salad dressing on the side (using a 2 oz. cup). *Gives the consumer the choice of how much dressing to use. A typical salad dressing contains more than 300 mg of sodium per 2 tablespoons.*
- Increase the variety of fresh or frozen fruits and vegetables offered as side dishes *Fruits and vegetables are naturally low in sodium.*

Additional Comments:

- Seasons recipes primarily with herbs and spices
- Consistently measures soup base and salt during cooking
- Has explored ways to reduce sodium in menu items
- Has asked the food representative about the availability of lower-sodium product(s)
- Has tried a lower-sodium product(s)
- Has purchased a lower-sodium product(s)

Initial: 61%

Reassessment:

Initial: 64%

Reassessment:

- Decrease the number of entrées that come with bacon and/or cheese automatically. *Bacon and cheese are high-sodium ingredients. One slice of bacon or cheese typically contains around 200 mg of sodium.*
- Consider offering several entrées in a smaller portion. *Decreasing portion size reduces the amount of sodium in an entrée.*

Cooking Techniques Sodium Savvy Cooking Score: Initial: 71%
Reassessment:

Measure salt and soup base when cooking. 1 teaspoon of salt contains 2,300 mg of sodium. ¼ cup of salt contains 27,600 mg of sodium! Measuring salt can increase your awareness about the amount of sodium you are adding to a recipe.

Reduce the amount of soup base used when cooking. 1 teaspoon of regular soup base typically contains more than 1000 mg of sodium. ¼ cup of soup base typically contains more than 12,000 mg of sodium! Measuring soup base can increase your awareness about the amount of sodium you are adding to a recipe.

Consider using a lower-sodium or sodium-free soup base in combination with a regular base when cooking. ¾ teaspoon regular soup base = 760 mg of sodium per 1

cup prepared soup. If you replace 30% of the regular soup base with low sodium soup base (½ teaspoon regular base + ¼ teaspoon low-sodium base), the sodium will drop to 550 mg per 1 cup prepared soup.

Consider preparing vegetable side dishes without added butter products or salt. Butter or butter products can add up to 100 mg of sodium per tablespoon.

Additional Comments: See the analysis of the tomato sauce. If you eliminate the table salt, you will lower the sodium by 15%. The cooking wine has a considerable amount of sodium, so you probably do not need the table salt. Try cutting the salt gradually, perhaps by 1 tablespoon at first, then eventually eliminating it completely.

Products Sodium Savvy Product Score: Initial: 51%
Reassessment:

Consider asking your distributor or purchasing group about the availability of these lower-sodium items. Sodium targets are provided below.

Turkey (560 mg or less per 5 oz. serving)

Ham (under 700 mg per 3 oz. serving)

Bacon (less than 150 mg per slice)

Sausage (less than 400 mg per 2 oz. serving)

Hot Dogs (Less than 480 mg per hot dog)

Cheese (Less than 170 mg per 1 oz. serving)

Soup base (Less than 200 mg per ¾ teaspoon or 1 cup prepared soup)

Additional Comments:

Figure 1.
Feedback summary

Table 1:

Schenectady County Restaurant Assessment Tool and Evaluation Categories

Category	Definition	Examples	# of Questions	Total Possible Points
Menu	What lower sodium options are available to customers on the menu?	Offering smaller portions, automatically serving salad dressing on the side, offering substitution of salad or vegetables for French Fries	6	30
Cooking Techniques	How are recipes made? What ingredients are used? What methods are used for cooking (i.e., frying, broiling, etc.)?	Reducing added salt in a recipe, reducing soup base in a recipe, making recipes from scratch	16	80
Products	What products are purchased by the restaurant? Are any products labeled lower sodium? Are any products naturally low in sodium?	Using lower sodium products such as meats and soup bases, avoiding the use of canned vegetables, avoiding the use of commercially pre-prepared items	24	120

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