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## Developing a Cookbook with Lifestyle Tips: A Community-Engaged Approach to Promoting Diet-Related Cancer Prevention Guidelines

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### Abstract

Supplementing nutrition education with skills-building activities may enhance community awareness of diet-related cancer prevention guidelines. To develop a cookbook with lifestyle tips, recipes were solicited from the National Black Leadership Initiative on Cancer (NBLIC) community coalitions and dietary intake advice from participants in the Educational Program to Increase Colorectal Cancer Screening (EPICS). With guidance from a chef and registered dietitian, recipes were tested, assessed, and transformed; lifestyle advice was obtained from focus groups. The cookbook with lifestyle tips, named “Down Home Healthy Living (DHHL) 2.0,” was distributed in print form to 2,500 EPICS participants and shared electronically through websites and social media.

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## Objective

Food consumption is influenced by various interacting factors, including group processes [1]. Supplementing traditional nutrition education with experiential, skills-building activities (e.g., recipe modification, and cookbook development) can enhance awareness of diet-related cancer prevention guidelines (D-RCPGs). The objective of this study was to document the development of a cookbook of healthy recipes with lifestyle tips to promote awareness of D-RCPG in African American communities. This article describes a community-engaged process for transforming main dishes, side dishes, snacks, and desserts into healthier options and for presenting advice on dietary and physical activity in print and electronic versions of a cookbook.

## Methods

This mixed-method study was completed in three phases from 2013–2015. Figure 1 illustrates the timeline with milestones for recipe collection, testing, and refinement of the DHHL 2.0 Cookbook. The Institutional Review Board of Georgia Regents University approved this study. In Phase 1, community coalitions implementing EPICS, a 5-year, cluster randomized control trial conducted in 18 US communities, were invited to submit recipes [2].

During Phase 2, recipes were transformed, refined, and prepared by a chef with input from a registered dietitian. The process included a nutrition lecture, a cooking demonstration, and a taste test. The dietitian discussed the D-RCPGs in the lecture, which was followed by a cooking demonstration of selected, modified recipes. Tasting samples were distributed, and participants completed a sensory evaluation of the appearance, taste, texture, aroma, and overall acceptability of the dishes. Using a Likert scale, participants were asked to rate each dish from 1 (unattractive; flavor did not appeal to me; inappropriate texture; unappetizing aroma; unacceptable) to 5 (extremely attractive; tasted great; great texture; smelled good; extremely acceptable). Comments of the raters were considered, recipes were revised and finalized, and nutritional analyses were completed using ESHA Food Processor SQL Version 10.5.2, Nutrition and Fitness Software (ESHA Research, Salem Oregon) [3].

For the final phase, four focus group discussions among EPICS participants in Miami, Chicago, Philadelphia, and Los Angeles were conducted to ensure acceptability of messages related to lifestyle (diet and physical activity).

An interview guide, developed for conducting the discussions, was tested for length, clarity, and organization. Discussions were digitally recorded, transcribed verbatim, manually coded, summarized, and analyzed using Qualitative Content Analysis [4]. NVIVO 10 [5] computer-assisted qualitative data analysis software was used to facilitate the coding process (i.e., determining the degree of agreement/disagreement across themes and calculating inter-rater reliability scores).

## Results

Eighteen NBLIC community coalitions submitted 40 recipes to the EPICS Coordinating Center. These were reviewed for originality, cultural appropriateness, and acceptability for the cookbook. A team, including EPICS researchers and staff, met with a chef and a registered dietitian to review recipes. Eight were excluded due to: 1) similarity to other submissions (e.g., multiple chicken dishes); 2) lack of adherence to D-RCPGs (e.g., smoked barbeque pork ribs); or 3) poor fit with other submissions (e.g., high calorie desserts). The remaining recipes (n=32) were modified to reduce total energy, fat, and saturated fat; increase fiber and micronutrient content; replace refined grains with whole grains; and improve nutritional quality (e.g., limit sugar and salt content).

Thirty-six African American men and women, ages 22–86, participated in a 2-hour nutrition education, cooking demonstration, and taste-test of eight transformed recipes. Table 1 includes a summary evaluation of the tested dishes. Most participants (74%) rated dishes as 5 on appearance (extremely attractive); taste (tasted great); texture (great texture); aroma (smelled good); and overall acceptability (extremely acceptable). However, Green Beans & Potato Salad with Dill-Lemon Aioli was rated 2 – 3 as unappetizing, off flavor, off texture, unappetizing aroma, and moderately acceptable. Recipes with overall acceptability of 4 or 5 were included in the cookbook.

Four focus groups (n = 43; mean age: 57.32 years; standard deviation [SD]: 7.91; range: 35–75 years old) were completed in Miami, Chicago, Philadelphia, and Los Angeles. Themes emerging from content analysis converged into the following categories: 1) practical guidance on measuring ingredients; 2) best ways to prepare healthy meals; 3) health benefits of fruits and vegetables; and 4) recommendations for physical activity. The cookbook with lifestyle tips, “Down Home Healthy Living 2.0,” was distributed in print form to 2,500 EPICS participants and was shared electronically through websites and social media [6].

## Discussion

Cookbooks and nutritional education resources have been developed and utilized as part of health promotion efforts in diverse communities [7,8]. Relatively few cookbooks and related dietary resources, however, have been developed using community-based participatory approaches. Resources that are culturally appropriate and tailored to the target audience are more likely to be disseminated and widely used.

Consumers are frequently bombarded by the news media, television cooking shows, food blogs, word-of-mouth, and other channels with confusing and contradictory information about nutrition and food choices [9,10]. As a result, consumers may be confused about wise food selections or be left with the impression that everything we eat causes cancer or other chronic illnesses [11]. Carefully developed cookbooks and related educational resources can serve as useful sources of information for consumers seeking to lower their risk of chronic illness by adopting or maintaining a nutritious diet. The National Institute of Health Division of Nutrition Research Coordination has highlighted the need for additional research on how best to deliver nutritional education in diverse communities [12].

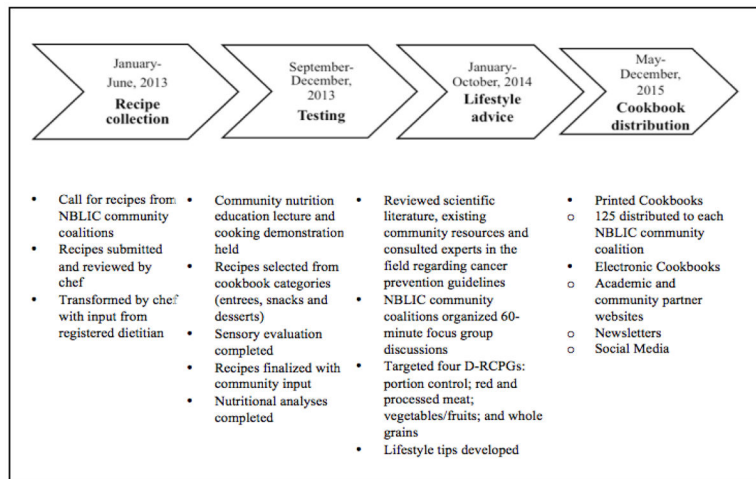
The Institute of Medicine (IOM) and other groups have provided readily accessible information to nonscientists to enable people to reduce their risk of diet-related chronic illnesses, including common forms of cancer [1]. The IOM's Eat for Life report provides practical recommendations on what foods to eat and useful information on how to read food labels while shopping, cooking (e.g., how to turn a high-fat dish into a low-fat dish), and eating out (e.g., how to read a menu with nutrition in mind) [1]. Other sources of evidence-based information about diet and nutrition include the Centers for Disease Control and Prevention, the U.S. Department of Agriculture, the American Cancer Society, the American Heart Association, the American Diabetes Association, and the World Health Organization.

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**Figure 1.**  
DHHL 2.0 Timeline with Milestones

Table 1

DHHL 2.0 Recipe Sensory Evaluation.

Recipe	Appearance	Taste	Texture	Smell	Acceptability	Comments
Turkey Sausage, Kale & White Bean Soup	5	5	5	4	5	"Excellent soup with good flavor" "Seasoned well, didn't miss the salt"
Green Beans & Potato Salad with Dill-Lemon Aioli	2	3	2	3	3	"Weird combination" "Potatoes and green beans not a good mix?"
Pan-Seared Balsamic Chicken	5	4	4	5	5	"Delicious, wanted more" "Balsamic a bit strong"
Baked Parmesan & Herb Crusted Tilapia	5	5	4	5	5	"Nice"
Wokky Greens	5	4	3	5	4	"Great flavor" "Not tender enough"
Dirty Rice	5	4	4	5	4	"Tasty" "Too much for a side dish"
Whole Wheat & Honey Cornbread	5	4	5	4	5	"Smells great"
Peach Crisps Cups	5	5	5	4	5	"Very good and healthy"