

**HEALTHY EATING RESEARCH  
ROUND 3**

Awards to 19 sites on 9-1-2008, totaling \$3.94 million  
Program Director: Mary Story, PhD, RD

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**SUMMARY**

**Program Purpose:**

*Healthy Eating Research* is a national program that supports research on environmental and policy strategies to promote healthy eating among children to prevent childhood obesity, especially among low-income and racial and ethnic populations at highest risk for obesity.

**Identifying and Evaluating Food Environment Changes Improving Access to Affordable Healthy Foods in Low-Income Communities**

Brown University, Providence, RI  
Principal Investigator: Kim Gans, PhD, MPH

The goal of this research is to evaluate the Fresh to You (FTY) program, which aims to increase year-round access to affordable, high-quality, fresh fruits and vegetables for low-income families through implementation of year-round discount fruit and vegetable markets in community organizations. Specifically, this work will consist of (a) conducting process evaluations of FTY in six diverse community organizations, (b) evaluating whether FTY increases household accessibility and availability of fruits and vegetables and improves various psychosocial mediators of fruit and vegetable intake, and (c) evaluating whether FTY increases fruit and vegetable consumption among 3-13 year old children. If successful, the FTY program could represent a sustainable, replicable, community-based approach to improving fruit and vegetable intake.

**Analyzing Food and Entertainment Companies' Policies on Food Marketing to Children**

Center for Science in the Public Interest, Washington, DC  
Principal Investigator: Margo Wootan, DSc

The goal of this work is to provide an in-depth examination and comparison of industry efforts to self-regulate food and beverage marketing to children. More specifically, this macro-level analysis will: (a) analyze, compare, and contrast food and entertainment companies' policies on food marketing to children with respect to their nutrition standards, media approaches covered, and definition of child audience, (b) assess changes in companies' portfolio of products marketed to children, and (c) educate the public, health professionals, companies, and policymakers on the strength of the various policies and the magnitude of their collective impact. Researchers will develop and utilize comprehensive grading criteria, resulting in a 'food marketing report card,' to rate and rank the company policies based on the Guidelines for Responsible Food Marketing to

Children (CSPI), Dietary Guidelines for Americans, the reach of the marketing techniques, and existing research in this area. Best practices in the industry will be highlighted.

**Assessing How Agricultural Policy Can Be Changed to Help Farmers Succeed in Producing and Distributing Healthy Food to Children and Their Communities**

Farmers' Legal Action Group, Inc., St. Paul, MN

Principal Investigator: Jill E. Krueger, JD

Co-Principal Investigator: Karen Krub, JD

This project will identify laws and policies affecting production and distribution of healthier foods to local communities' schools, institutions, farmers' markets, and grocery stores. It will analyze policies that currently discourage farmers from producing and distributing healthy foods, and identify policies that could encourage farmers to produce and distribute healthy foods in a community-based system, profitably and sustainably. The study design will include: (1) outreach to farm organizations to help identify legal and policy obstacles to production of healthier food to farmers' local communities' schools, institutions, farmers' markets, and grocery stores; (2) legal research and analysis on federal agricultural laws, regulations, and policies that impede production and distribution of healthy food in the U.S.; and (3) proposed specific legal and policy solutions that would help develop a system of growing and distributing healthy and culturally appropriate food in communities, particularly low-income communities.

**Reviewing Current State Child Care Regulations Related to Healthy Eating and Developing Model Healthy Eating Regulations**

Harvard Pilgrim Health Care, Boston, MA

Principal Investigator: Jonathan Finkelstein, MD, MPH

Co-Principal Investigator: Sara Benjamin, PhD, MPH, RD

The overall goal of this project is to develop relevant, evidence-based resources to guide the creation or revision of state-level child care regulations aimed at promoting healthy eating. Investigators will systematically review and categorize data on state regulations for child-care centers and family child-care homes, and states will receive a 'report card' outlining their grade within the following categories: nutrients, overweight prevention, healthy eating environment, and adult role modeling. A model framework for state nutrition regulations will be developed and reviewed based on feedback from three expert panels. Investigators will examine the prevalence of healthy eating regulations for child-care centers and family child-care homes across states, in addition to examining patterns in state regulations by U.S. census tract regions and date of most recent update.

### **Analyzing the Effects of Food Prices and Food Advertising on Body Composition of Children**

National Bureau of Economic Research, New York, NY

Principal Investigator: Michael Grossman, PhD

Co-Principal Investigator: Erdal Tekin, PhD

The aim of this project is to provide a comprehensive investigation of the relationship between food prices and food advertising on childhood obesity using multiple data sources that span the period of the last three decades, as well as using the latest advances in technology for measuring obesity and physical fitness among children. More specifically, this work involves:

(a) developing a method for imputing children's body composition to serve as an alternative to BMI-based obesity measures and to make these measures available for social scientists who study childhood obesity using social science datasets, (b) using body composition measures to conduct a comprehensive analysis of the effects of food prices, food outlets, and fast-food restaurant advertising on television on obesity among children ages 8-18; (c) examining whether the effects of food prices and food advertising on obesity differ between adolescents from low socio-economic backgrounds and other adolescents; and (d) testing the sensitivity of these findings against previous research using BMI.

### **Evaluating the Impact of Opening a Full-Service Grocery Store in a Low-Income, Underserved Neighborhood**

PolicyLink, Oakland, CA

Principal Investigator: Victor Rubin, PhD

This study will utilize a "natural experiment" study design, examining the influence of the opening of a new full-service grocery store in a low-income, multi-ethnic neighborhood in San Francisco. The specific aims of the study include: (a) assessing the impact of the opening of this grocery store on healthy food and beverage availability in an underserved community, (b) assessing the impact of this store opening on the food purchasing and eating practices of local families living in the area within one year of the opening, and (c) assessing the community perceptions related to the advantages and/or disadvantages of a new supermarket in their community. A mixed method data collection approach will be used before and after the opening of the new store.

### **Researching Successful Strategies and Barriers for Farmers' Markets to Serve Low-Income Communities**

Project for Public Spaces, New York, NY

Principal Investigator: Stephen C. Davies, MArch

Co-Principal Investigator: Kathryn Neckerman, PhD

This project will examine strategies for implementing farmers' markets in low-income communities, as well as barriers that need to be addressed to improve the viability of markets in these areas. This research will combine case study analysis and examination of a wide array of existing data collected by Project for Public Spaces (PPS) grantees, each of whom have implemented a variety of strategies to enhance the sustainability and community impact of the market. Specifically, this study seeks to address the following research questions: (1) what

strategies are most effective in developing financially sustainable farmers' markets in low- to moderate-income communities? (2) what characteristics are most effective in attracting low-income and minority community shoppers to these markets? and (3) how does youth-oriented farmers' market programming affect orientation to healthy eating among children and families?

### **Examining Policy and Practice in Digital Marketing of Food and Beverages to Children**

Public Health Institute, Berkeley, CA

Principal Investigator: Lori Dorfman, DrPH

Co-Principal Investigator: Kathryn Montgomery, PhD

The aim of this research is to examine new digital and interactive food and beverage marketing practices, primarily targeting children and adolescents. Specifically, this study will: (a) provide a comprehensive analysis of the digital food and beverage youth marketing infrastructure, explaining new platforms, technologies, advertising techniques, and market research practices for targeting children and adolescents, (b) conduct a focused examination of the contemporary digital marketing strategies used to target African American and Latino youth, (c) develop a conceptual framework and research agenda for future studies of the impact of digital food and beverage marketing techniques on children, (d) assess the current government and industry initiatives aimed at regulating interactive marketing and develop a set of policy recommendations for addressing digital food and beverage marketing targeted at young people, and (e) create an online repository for ongoing analysis of digital food and beverage marketing.

### **Examining Higher and Lower Income Household Food Purchasing Behavior and Whether It May Be Responsible for Childhood Obesity**

Research Triangle Institute, Research Triangle Park, NC

Principal Investigator: Eric A. Finkelstein, PhD

Co-Principal Investigator: James Nonnemaker, PhD

This project will examine the extent to which household food purchasing behavior differs between higher- and lower-income households and whether these differences may be partly responsible for socioeconomic differences in childhood obesity. In addition, investigators will use econometric models of household food purchases to simulate the extent to which pricing policies, such as taxes on specific obesity-promoting foods, could effectively promote healthier food purchases. The results of this analysis will provide policy makers with additional information concerning how food price changes (via government policy or market forces) influence food expenditure and consumption patterns for higher- and lower-income households. This research will be conducted using the Nielsen Company's Homescan longitudinal dataset of household weekly at-home food expenditures, which contains detailed data on the quantity and price of specific home food purchases.

### **Evaluating the Impact of Point-of-Purchase Nutrition Information at Chain Restaurants**

Seattle-King County Department of Public Health, Seattle, WA

Principal Investigator: James Krieger, MD, MPH

Co-Principal Investigator: Brian Saelens, PhD

In March 2008, the King County Board of Health approved the second restaurant nutrition information regulation in the nation, requiring chain restaurants to provide information on calories, saturated fats, carbohydrates, and sodium on menus and calories on menu boards by January 1, 2009, and allowing for specified methods “equivalent” to menu board or menu labels. The regulation provides the opportunity to evaluate a replicable healthy eating policy through a natural experiment. Thus, the primary aim of this project is to assess the impact of point-of-purchase nutrition information at chain restaurants on awareness of nutrition information, nutrition knowledge, use of nutrition information, and food choices of customers. Secondary aims include (1) examining differences in outcomes by demographic characteristics, neighborhood characteristics, method of providing nutrition information, and type of restaurant, and (2) assessing changes in nutritional values of menu items.

### **Studying and Documenting Industry Self-Regulation Strengths and Weaknesses in Addressing Food Marketing Practices that Contribute to Childhood Obesity**

Tobacco Law Center, Inc., St. Paul, MN

Principal Investigator: Julie Ralston Aoki, JD

Co-Principal Investigator: Elizabeth Moore, PhD

This project will examine the strengths and weaknesses of self-regulation in addressing food marketing practices that contribute to childhood obesity. Investigators will document the impact and effectiveness of the Children’s Advertising Review Unit (“CARU”) (the principal mechanism for self-regulation in this area) and the Children’s Food and Beverage Advertising Initiative (“Initiative”) (a recent development involving pledges by 13 major food marketers governing how they market products to children, and what products are marketed). The specific aims of this research include: 1) providing a legal analysis of how CARU regulates food marketing to children under 12; and 2) evaluating the quality of the Initiative pledges from legal, marketing and public policy perspectives by comparing the marketing commitments made in the pledges, and CARU’s standards, with other self-regulatory policies and best practices standards. The overall goal of this work is to develop recommendations to assist these groups in developing more effective approaches to promote healthy eating and prevent childhood obesity.

### **Analyzing the Financial Impact of Selling Healthy Versus Unhealthy Foods on a Small Store in a Low-Income Neighborhood**

Tulane University, New Orleans, LA

Principal Investigator: Thomas Farley, MD, MPH

To better understand how to improve healthy food access in low-income neighborhoods, the aim of this study is to examine financial incentives around selling specific types of food. Specifically, this research will: (a) analyze the financial benefits of selling healthy and unhealthy food items from the perspective of a small food store business in a low-income neighborhood, and (b) evaluate the impact of increasing the in-store accessibility or promotion of healthy items and

reducing the accessibility or promotion of unhealthy items on store sales and profits. In addition to advancing our scientific knowledge in this area, this work will also serve to inform government programs, one of which is currently in development in city of New Orleans, aimed at providing financial incentives to food stores that sell healthy food in underserved areas.

### **Analyzing the Nature and Extent of Food Advertising During Children’s Programming on Spanish Language Television**

University of Arizona, Tucson, AZ

Principal Investigator: Dale Kunkel, PhD

Co-Principal Investigator: Dana Mastro, PhD

The primary goal of this study is to evaluate the nutritional quality of the foods advertised on children’s programs on Spanish-language broadcast and cable channels, and to compare it to English-language channels. The study will examine a wide range of descriptive measures that include product type, persuasive theme/appeal, use of mascots, celebrities, licensed characters, contests, premiums, and Web site promotions. Thus, in addition to examining the food products (and nutritional quality of these products) advertised to children on Spanish language television stations, it will also identify the persuasive tactics that are used to influence child-viewers in food marketing directed to children on Spanish language television stations and establish how these tactics differ across food products of varying nutritional value. Furthermore, the study will examine the extent to which industry self-regulatory pledges from the nation’s leading food companies have been fulfilled, with data comparing these assessments for English-language and Spanish-language channels.

### **Studying the Relationship Between Perceived and Objective Food Environments, Dietary Intake, and Weight Status in Latino Families**

University of Illinois at Chicago, Chicago, IL

Principal Investigator: Angela Odoms-Young, PhD

Co-Principal Investigator: Marian Fitzgibbon, PhD

This study will examine associations between neighborhood food environments, dietary intake and weight status among Latino families with preschool-age children. The specific aims of this work are to: (a) identify individual, familial and environmental predictors of perceived neighborhood food environments among Latino parents, (b) examine the association between parents’ neighborhood perceptions and children’s dietary intake and weight status, (c) evaluate food acquisition behaviors as a potential mediator of the relationship between perceived neighborhood food environments and children’s dietary intake; and (d) evaluate if perceived neighborhood food environments mediate and/or moderate effects of a family/school-based intervention on changes in dietary intake and weight status. The proposed study builds on a recently NIH-funded overweight prevention trial, the ‘Family Based Obesity Prevention in Latino Families’ study (FBOP), using baseline and post-intervention data from FBOP and adding measures of the perceived and objective food environments and activity space.

### **Examining the Financial Impact of a la Carte Foods in Kansas Public Schools**

University of Kansas Medical Center, Kansas City, KS

Principal Investigator: Nicole Nollen, PhD

Co-Principal Investigator: Kim Kimminau, PhD

This project will characterize demographic and financial differences in the dependence on a la carte food sales among school food service programs. Specifically, the aims of this research are to: (a) classify and describe school districts according to their level of a la carte dependence, (b) explore key financial and demographic characteristics that distinguish low, moderate and heavy a la carte dependent districts, and (c) develop a comparative cost-analysis report that food service staff and policymakers can use to inform efforts to reduce, eliminate, or improve the nutritional quality of a la carte offerings. This project will consist of secondary data analysis of the 2008 Annual Financial Report for School Nutrition Programs and Wellness Policy Report provided to the Kansas State Department of Education by all 295 Kansas school districts. The findings from this work will be communicated to districts through a comparative cost-analysis report and to state stakeholders through issue briefs and invited testimonies.

### **Evaluating Two Meal Service Strategies for Moderating Energy Intake of Preschool-Aged Children**

University of Minnesota, Minneapolis, MN

Principal Investigator: Lisa Harnack, DrPH, MPH, RD

Co-Principal Investigator: Simone French, PhD

This research will evaluate the influence of two low-cost approaches to serving meals in child care programs on children's dietary intake. Specifically, a randomized crossover design experiment will be conducted to examine whether serving fruits and non-starchy vegetables in advance of other menu items at lunch may increase children's fruit and vegetable consumption and moderate energy intake. Also, the study will determine whether pre-plating meals is a useful strategy for promoting fruit and vegetable consumption and moderating energy intake in comparison with family style meal service. If found to be effective in promoting healthier dietary intake, these food service approaches could have broad public health impact because of the relative ease with which each may be implemented.

### **Investigating Access to Affordable Healthy Foods Among Rural Low-Income Children in Maine**

University of Southern Maine, Portland, ME

Principal Investigator: David Hartley, PhD, MHA

Co-Principal Investigator: Kimberley Fox, MPA

The goal of this study is to examine how food environments influence rural childhood obesity rates and food choices, in order to ultimately help policymakers find effective rural policy interventions. Specifically, this research will investigate the community-based healthy food environment (defined as food access, cost and quality for healthy foods such as fruits and vegetables, low-fat food items and whole grain products) in rural low-income Maine communities with high rates of obesity to: 1) incorporate the food environment into a conceptual model for rural childhood obesity; 2) assess how food environments affect eating behaviors and

obesity of rural children enrolled in Medicaid/ SCHIP (MaineCare); 3) develop and adapt measures for assessing rural food environments and healthy eating by low-income rural children, and 4) identify policies and programs suitable for improving food environments in rural communities. In addition, qualitative methods will be used with children and their parents to explore barriers and supports to healthy eating.

### **Evaluating the Effects of State Interventions to Combat Childhood Obesity through Decreasing Soft Drink Consumption**

Yale University, New Haven, CT

Principal Investigator: Jason Fletcher, PhD

Co-Principal Investigator: David Frisvold, PhD

The aim of this work is to evaluate the effects of two soft drink policies (soft drink taxes and restricting vending machine access in schools) on child and adolescent soft drink consumption and body weight. Investigators will use a ‘natural experiment’ design by leveraging state and time variation in these soft drink policies combined with three large, nationally representative datasets that contain information on state of residence, soft drink consumption, body mass index (BMI), and a rich set of socio-demographic variables. These econometric analyses will focus specifically on influences among at-risk populations, including individuals in low income communities and racial/ethnic minorities.

### **Developing and Testing Experimental Methods for Increasing Public Support for Policies Regulating Food Marketing to Children**

Yale University School of Medicine, New Haven, CT

Principal Investigator: Colleen Barry, PhD, MPP

Co-Principal Investigator: Mark Schlesinger, PhD

Through this research, investigators will develop and test experimental methods for increasing public support for policies regulating food marketing to children. The significance of this project lies in its potential for identifying persuasive appeals (referred to as message frames) to enhance public support for childhood obesity prevention policies. Examples of such message framing have been crucial in changing attitudes in other policy domains and may be important for obesity prevention initiatives. Specifically, this project will consist of a series of small-scale experiments to: (a) identify message frames (i.e., cognitive frames, emotional primes, frame/prime combinations) that significantly increase support for policies regulating food marketing to children, (b) refine and field the most effective message frames combining cognitive and emotional appeals, and (c) assess subgroup differences in these message frames. Experiments will be conducted using samples from a web-based panel that is representative of the U.S. population, with over-sampling of minority and low-income households at highest risk for obesity.