Healthy Eating Research: Building Evidence to Prevent Childhood Obesity
A Progress Report

INTRODUCTION
Healthy Eating Research: Building Evidence to Prevent Childhood Obesity is a national program of the Robert Wood Johnson Foundation (RWJF) authorized by the Board of Trustees for up to $29,920,942 from January 2005 to February 2015. The program supports studies that identify and evaluate policies and environmental approaches with strong potential to improve children’s diets, especially among lower-income and racial and ethnic groups at highest risk for obesity, targeting children and adolescents, ages 3 to 18, and their families.

In seven rounds of grantmaking between 2005 and November 2012, Healthy Eating Research has funded 112 studies totaling $17.7. Mary Story, PhD, RD, directs the program, which is housed at the University of Minnesota School of Public Health. See the Appendix for a list of people interviewed for this report.

WHAT IS HEALTHY EATING RESEARCH ABOUT?
To achieve its aim of identifying the most promising strategies likely to improve children’s diets and energy balance to reverse the nation’s levels of childhood obesity, Healthy Eating Research seeks to:

- Establish a research base for policy and environmental factors that influence healthy eating and body weight in children, as well as effective policy and environmental strategies for reversing the childhood obesity epidemic;
- Build a vibrant, multidisciplinary field of research and a diverse network of researchers; and
- Ensure that findings are communicated effectively to inform policies and guide the development of effective solutions.

The Problem of Childhood Obesity
The challenges of childhood obesity are by now familiar to scientists, policy-makers, and the general public. Nearly one-third of U.S. children and adolescents are either
overweight or obese, putting them at higher risk for multiple diseases, such as diabetes, asthma, and heart disease, according to research published in the *Journal of the American Medical Association (JAMA).*

That research also shows that while children of every race, ethnicity, and socioeconomic level are affected, the challenges are highest among some ethnic groups and people of color. For example, the *JAMA* article reported that 39 percent of Hispanic and Black children are obese or overweight, compared with 28 percent of non-Hispanic White children ages 2–19.

Data from the Centers for Disease Control and Prevention (CDC) indicate that obese children are more likely to have high blood pressure and high cholesterol than healthy weight children. They are also more likely to have sleep apnea and asthma, suffer from joint problems and musculoskeletal discomfort, and have fatty liver disease, gallstones, and heartburn.

### Research to Inform Environmental and Policy Strategies

Although the need to confront the childhood obesity epidemic at the policy and environmental levels has been recognized, the knowledge base to demonstrate what works is incomplete. “Much nutrition research is applied nutrition research about, for example, dietary intake or nutritional value of foods; or it is basic laboratory research,” says Kelly D. Brownell, PhD, co-founder and director of the Rudd Center for Food Policy and Obesity Research at Yale University. “*Healthy Eating Research* is trying to create a scientific basis for policy decisions. The idea that you can create good policy-related research is unique.”

RWJF first entered the policy and environmental arena through its work in substance abuse, according to C. Tracy Orleans, PhD, RWJF senior scientist. “It was clear we had come to the end of the line in funding only programs focused on individual change, and were ready to invest in policy and environmental approaches. Government agencies can’t cover this kind of policy or advocacy work,” she says.

---


2 Centers for Disease Control and Prevention, “Overweight and Obesity, Basics About Childhood Obesity.” Available online.

3 Kelly Brownell is also a professor of psychology and a professor of epidemiology and public health at Yale University.
Two RWJF programs in the 1990s set the stage: The *Tobacco Policy Research and Evaluation Program* (1992–1998) and the *Substance Abuse Policy Research Program* (SAPRP) (1994–2010) together supported some 360 policy-related studies, and are credited with informing changes in policies such as indoor smoking laws and tobacco taxes.

When RWJF shifted its priority to preventing childhood obesity, staff continued using the policy research model. For example, *Active Living Research*, established in 2000, identifies environmental factors and policies to increase levels of physical activity and provides policy-makers with evidence about how to create more activity-friendly communities. “*Healthy Eating Research is the daughter of SAPRP and the sister of Active Living Research,*” says Orleans.

**HOW DOES HEALTHY EATING RESEARCH WORK?**

*Healthy Eating Research* makes grants for research on policy and environmental strategies, supports issue-based working groups composed of grant recipients and others, and leads strategic communications and advocacy efforts to make information available to policy-makers, advocates, and other decision-makers.

**Healthy Eating Research Grants**

Grants to support policy-relevant, solution-oriented research are the core of *Healthy Eating Research*. “What *Healthy Eating Research* chooses to fund are things that are or will soon become important policy issues. The research provides the scientific base for decisions,” says the Rudd Center’s Brownell.

Program Director Story explains the strategy for identifying timely topics. “What we need to fund doesn’t come from the researchers. It comes from the advocates, policy-makers, and decision-makers. Researchers want to know the kind of evidence people need, and they go about getting it. For example, people inside school systems tell us what kind of information they need to take to superintendents about food in their schools. The researchers we fund know how to get them that evidence.”

Examples of funded research include:

- The presence and effects of small corner stores in lower-income neighborhoods on children’s food intake

---

4 The *Tobacco Policy Research and Evaluation Program* supported policy research aimed at helping public policy-makers adopt policies to reduce tobacco use, especially among children and youth. See *Program Results Report.*

5 The *Substance Abuse Policy Research Program* funds projects that identify and assess policies to reduce the harm caused by substance abuse. See *Program Results Report.*

6 For more information about *Active Living Research*, see *Program Results Report.*
● The nutritional content of food and snacks served in child-care centers and homes, and Head Start centers

● The effects of opening a full-service grocery store in a lower-income, underserved neighborhood

● The impact of providing caloric information about sugar-sweetened beverages on purchases among lower-income Black adolescents

● How mandatory menu labeling affects the nutritional quality of restaurant offerings

● How retail stores market and promote food to children

● How school vending machine policies influence rural adolescent beverage consumption

“It is challenging to demonstrate that people’s environments actually influence what they eat,” says Shiriki Kumanyika, PhD, MPH, chair of Healthy Eating Research senior program advisory panel.⁷ “The outcomes of Healthy Eating Research studies are not always body mass index (BMI) levels, and appropriately so. If the goal is to influence the food environment, then the outcome you measure is the environment.”

A summary of all grants is available from the database page of the Healthy Eating Research website.

**Annual Round Grants**

Each year since 2005, the Healthy Eating Research national program office has solicited “rigorous, solution-oriented proposals from investigators representing diverse disciplines and backgrounds” for its annual round of grants. Most funding is allocated to studies addressing RWJF’s four nutrition-related policy priority areas:⁸

● Ensure that all foods and beverages served and sold in schools meet or exceed the most recent *Dietary Guidelines for Americans*

● Use pricing strategies—particularly incentives but also disincentives—to promote the purchase of healthier foods

● Reduce youths’ exposure to the marketing of unhealthy foods through regulation, policy, and effective industry self-regulation

---

⁷ Shiriki Kumanyika is professor of epidemiology at the University of Pennsylvania Perelman School of Medicine and chair of the African American Collaborative Obesity Research Network (AACORN).

⁸ RWJF also has two priority areas related to physical activity. These are: increase the time, intensity, and duration of physical activity during the school day and out-of-school programs; and increase physical activity by improving the built environment in communities. For more information about all six priority areas, see the RWJF website.
• Increase access to and purchase of high-quality, affordable foods through new or improved grocery stores and healthier corner stores and bodegas

The program now awards about 10 annual round grants per year.

**Rapid-Response Grants**

In 2008, *Active Living Research* and *Healthy Eating Research* released a joint call for proposals for “rapid-response” grants—that is, time-sensitive natural experiments—opportunistic studies on emerging or anticipated changes in food-related policies or environments that could be conducted only during a short window of opportunity and were needed to inform policy debates for local, state, or national action. *Healthy Eating Research* subsequently included rapid-response grants in its 2010 and 2011 calls for proposals.

As of 2012, *Healthy Eating Research* no longer has the rapid-response grant category. Instead, it has moved toward approaching *all* grants as funding timely research to inform important policy debates. The program also now uses a rapid turn-around for review and a shortened funding cycle. “When we started, we gave grants for up to $400,000 for studies lasting up to three years. Now, we feel there is so much interest in these issues that we can’t wait that long,” says Story.

In 2012, these grants are for up to $170,000 each and run for a maximum of 18 months. Decisions on brief proposals are made within two weeks of the submission deadline. “For every proposal we review, we ask ‘What difference will this make?’” Story explains.

Karen M. Kaphingst, MPH, the program’s deputy director, notes that RWJF’s *Substance Abuse Policy Research Program* and *Active Living Research* program “taught us the same thing. They found their small, focused grants often yielded big policy impact and got greater attention.”

**New Connections Grants Through Healthy Eating Research**

*Healthy Eating Research* also makes grants in collaboration with RWJF’s national program, *New Connections: Increasing Diversity of RWJF Programming*. *New Connections* supports new investigators—currently defined as those who received their doctorate or terminal degree in the past 10 years—from groups that have been historically disadvantaged or underrepresented in research, such as ethnic or racial minorities, people from lower-income communities, or people who were the first in their family to graduate from college. For more information, read the Progress Report on *New Connections*.

*New Connections* investigators funded through *Healthy Eating Research* are considered grantees of both of these RWJF national programs and have access to a wealth of professional development opportunities offered through the programs, including formal
mentoring, training, annual meetings and conferences, professional networks, and technical assistance.

*Healthy Eating Research* awards an average of two *New Connections* grants per year. Grants are for up to $100,000 each and run from 12 to 18 months. Decisions on brief proposals are made within two weeks of the submission deadline.

**Working Groups**

*Healthy Eating Research* working groups help build the field of policy-focused researchers focused on healthy eating and maximize the impact of their work. The program has supported 13 working groups since its inception. “We borrowed this from NIH [National Institutes of Health], which had organized working groups focused on tobacco use,” says Orleans. “When building a field, it is critical to make room for working groups. You are a pioneer, so you need to look at others in order to get agreement on common templates and maximize learning.”

From the start, “Tracy [Orleans] saw the need to bring people together and create common measures,” says Story. For example, “During our first year, we made a lot of grants related to schools, and Congress was focusing on schools. So, a group of our school-focused researchers got together to develop common measures of school wellness policies. Those measures are now being used across the country, and anyone can access them to evaluate a school’s policies.”

Adds Program Evaluator Seth Emont, “That [the working groups] is where I think the brilliance happens. Those ‘aha’ moments happen in the working groups. You have groups of researchers working on emerging areas and brainstorming approaches.”

Each working group is multidisciplinary and focused on a specific and timely topic. The groups were originally limited to *Healthy Eating Research* investigators, but as the problem of childhood obesity became more prominent, *Healthy Eating Research* opened them to other funders and researchers. This strategy was undertaken to promote collaboration in the field and reduce the duplication of efforts. In recent years, working groups have been developed and operated jointly with CDC’s Nutrition and Obesity Policy Research Network (NOPREN); which currently facilitates four of the working groups listed below.

*Healthy Eating Research* was active in eight working groups in 2012:

- **Corner Stores**, which looks at the small food store environment. (See the profile of Joel Gittelsohn, MS, PhD, who formed this group, for more information.)

---

9 Seth Emont, PhD, MS, is the principal at White Mountain Research Associates in Danbury, New Hampshire.
• **Early Care and Education**, which focuses on improving the health of young children through improved research and practice related to out-of-home care settings. This group is currently being developed by RWJF and the CDC. *Healthy Eating Research* serves as the coordinating body.
  
• **Food Access**, which studies financing initiatives designed to promote healthy foods.
  
• **Food Marketing Workgroup**, which is dedicated to eliminating harmful food marketing—particularly marketing aimed at those who are most vulnerable to obesity and other nutrition-related diseases—by actively identifying, investigating, and advocating changes to marketing practices that undermine health. This group is supported by RWJF and is co-facilitated by Margo Wootan, DSc, of the Center for Science in the Public Interest and Lori Dorfman, DrPH, of the Public Health Institute.
  
And four workgroups facilitated by the CDC’s NOPREN, and based at the Harvard Prevention Research Center (PRC). The main contact is Angie Cradock, ScD.
  
• **Food Policy Councils**, which focus on researching and assessing the work of food policy councils (FPCs), related to increasing access to healthy food and beverage options.
  
• **Policy Impact Working Group**, which focuses on researching and enhancing the channels of communication between nutrition and obesity researchers and policy-makers.
  
• **Rural Food Access**, which focuses on policies and economic issues related to rural food access.
  
• **Water Working Group**, which focuses on policies and economic issues regarding free and safe drinking water access.
  
The newest working group, Early Care and Education (ECE), was co-created by RWJF and the CDC in spring 2012 and brings RWJF’s *Healthy Eating Research* and *Active Living Research* programs together with CDC’s nutrition (NOPREN) and physical activity (PAPRN) research networks.10 *Healthy Eating Research* coordinates the ECE working group. “This working group is the first one we have been involved in that looks specifically at both physical activity and nutrition,” says Kaphingst. “It also includes young children ages 0–2, which brings us into new territory, as we have been focusing on children and adolescents ages 3–18.”

**Healthy Eating Research Communications**

Prabhu Ponkshe, principal at Health Matrix, Inc., consults with the national program office and funded researchers on getting their messages to policy-makers. “This includes

---

10 PAPRN stands for Physical Activity Policy Research Network. See the PAPRN website.
not only how we explain individual research findings, but also how we explain the overall body of knowledge that is being generated,” he said.

Kaphingst knows that Healthy Eating Research is ultimately about informing policies, not about research for its own sake. “We start with the end in mind. The expectation for our program has always been about policy.”

**Evaluation**

Emont directed an evaluation of Healthy Eating Research from 2006 to 2011. Evaluators created tracking indicators, surveyed grant recipients and national program staff annually, and conducted social network analyses each year to document the growth of networks in the field over time.

**WHAT HAS HAPPENED SO FAR?**

Healthy Eating Research has made 112 research grants totaling $18.3 million as of October 2012: 77 annual round grants, 10 New Connections grants and 25 Rapid-Response grants; 84 have closed and 28 are active as of the end of October 2012. Some 80 percent of these grants focus specifically on the most vulnerable groups targeted by RWJF.

**An Emerging Field**

Emont’s evaluation report notes that a new field has been created and that much credit belongs to Healthy Eating Research, which “legitimized this field of research and is responsible, in part, for driving demand for this type of research at the national level.”

Brownell agrees. “They have defined the most important questions and leveraged their money to multiply their influence in creating the science.”

Emont’s social network analysis concludes that Healthy Eating Research has also expanded the network of professionals engaged in this type of research. Emont notes, “That was a goal, and our evaluation documented that they helped build the field by expanding the professional network of people who received grants. And, they did this for both policy and research networks.”

The evaluators also reported that “Healthy Eating Research has influenced research and career trajectories of many of its grantees, sharpening their policy and methodological skills in this area.”

---

11 A social network analysis is the mapping of social relationships and connections among groups of individuals.
As a result, says Penn’s Kumanyika, “There has been an explosion of activity in this area. People are energized.”

According to Emont, the $15.4 million awarded by Healthy Eating Research from 2005 to 2010 leveraged $26.1 million in outside sources. For every $1 received from Healthy Eating Research, researchers raised an additional $1.70 in other grant funding.

Researchers have opportunities to build networks and collaborate via annual grantee researcher conferences and periodic issue-specific conferences and workshops convened by the national program office, often in conjunction with other funders and professional associations. The Healthy Eating Research national program office has attracted additional support and sponsorship from other funders and programs for these convenings. Examples of special meetings and conferences include:

- RWJF and NIH conference, “Defining a Research Agenda for Healthy Weight Through Child Care Settings,” 2011 (six co-sponsors)
- “WIC Food Package Evaluation Symposium,” 2010 (three co-sponsors)
- “Food Systems and Public Health: Linkages to Achieve Healthier Diets and Healthier Communities,” 2009 (nine co-sponsors)
- “Wingspread Conference on Childhood Obesity, Healthy Eating, and Agriculture Policy,” 2007 (five co-sponsors)

**A Growing Evidence Base**

“The program has brought scientific rigor to the research and established an initial evidence base demonstrating important connections between the food environment and childhood obesity,” says Emont.

His analysis found that the number of publications related to obesity, healthy eating, and food policy and environment increased from about 60 in 2005 to about 220 in 2010. The analysis also found that the number of citations of Healthy Eating Research publications rose from 36 in 2008 to 374 in 2010. Publications included peer-reviewed articles, special journal issues, commissioned papers, research briefs, and more. A complete bibliography and short summaries of selected studies are available on the Publications and Research Results sections of the Healthy Eating Research website.
Healthy Eating Research investigators also developed 29 measurement tools as of 2011, which are being widely used by school districts, researchers, health departments, and others. These include:

- The School Wellness Assessment Tool
- Grading criteria for a food marketing report card to rate and rank industry policies on marketing to children
- A beverage and snack questionnaire that measures consumption of soft drinks, salty snacks, sweets, milk, and fruits and vegetables at and away from school
- A common environmental assessment tool to measure the availability of healthy food in small stores in four urban areas (created by the Corner Stores Working Group)

“Healthy Eating Research contributed a lot in measuring and formalizing the questions,” says Kumanyika. “You have to know how to figure out whether a change in a school lunch program worked. To do that, you have to figure out ways to know whether something happened—what to look for—and then find ways to measure those specific indicators well enough to see if changes occurred.”

See the Research Tools section of the Healthy Eating Research website for more information about measurement tools created through the program.

**Early Influences on Policy Debates**

The Rudd Center’s Brownell says “there is great contact between policy-makers and Healthy Eating Research. Mary [Story] has a lot of interaction with policy-makers and is a very visible presence. Then, if you add the interaction the grantees have with policy-makers, it is a lot. They are nailing all of the components.”

Brownell recalls a case in point. “Researchers here at Rudd received a Healthy Eating Research grant to analyze the foods served to children in pre-school settings, and used their findings to develop a template specifying the foods children should receive. The Partnership for Healthier America\(^\text{12}\) connected us with Bright Horizons, a large nationwide child care provider, which revamped its food policies accordingly.”

The high level of policy-focused energy is evident in the growth in the number of meetings with policy-makers and other activities related to informing or enforcing policy or practice. The evaluators reported that investigators funded by Healthy Eating Researchers had 32 meetings with policy-makers in 2012, compared to five in 2007.

\(^{12}\) The Partnership for Healthier America (ahealthieramerica.org) is a Washington-based nonprofit organization that works with the private sector to solve the childhood obesity crisis.
The research has also turned up some interesting policy links. For example, Ponkshe says, “We have a better understanding of the impact of some government programs like SNAP [Supplemental Nutrition Assistance Program] on obesity. We more clearly see the connection between farm policy, U.S. Department of Agriculture policies, and childhood obesity.”

Story and Healthy Eating Research received one of the CDC’s prestigious Pioneering Innovation Awards for Applied Obesity Research presented at the May 2012 CDC-sponsored Weight of the Nation Conference in Washington. The awards showcase “innovative practice that achieves maximum reach, impact, and improvements in health outcomes through environmental, economic, social or cultural shifts which establish healthy eating and active living as social norms.”

CHALLENGES FOR THE FUTURE

RWJF has authorized Healthy Eating Research through February 2015. The program will continue to make annual round and New Connections grants, develop and deepen its networks, and disseminate study findings through journals, commissioned research products such as reviews and briefs, web-based and social media, and presentations.

The people interviewed for this reported indicated that Healthy Eating Research faced no significant challenges in terms of managing workload or guiding the research. A few of them indicated, however, that some larger, external challenges, described below, will warrant continued attention.

A Difficult Political Environment

Nutrition policy has been caught-up in an increasingly contentious political environment. “A challenge has been the polarization of the country in terms of policy and debates,” says Ponkshe. “If you talk to people from different perspectives, they appreciate the warm and fuzzy aspects of the problem, but the politics and polarization show up in the details.”

The food and beverage industry is a powerful economic and political presence in all facets of the nutrition policy debates. “The major big-level challenge we face is ‘How do we work with industry? Can we work with industry?’” says Deputy Director Kaphingst. “Intelligent people disagree about this.”

Securing Additional Resources

In reauthorizing the program, RWJF noted the risk that “cutbacks in federal research funding will limit the extent to which the CDC, NIH, and the U.S. Department of Agriculture can replace RWJF’s pivotal funding role. Healthy Eating Research will continue its previously successful efforts to generate government support.”
“Right now we are focused on our three-year plan,” says Story. “We hope we can get other funders interested in this area.”

**Executing the Advocacy Strategy**

Communicating with policy-makers in order to inform their thinking necessarily involves some level of advocacy, but RWJF (and all private foundations) has rules strictly prohibiting use of its funds for lobbying activities. Emont said stakeholders interviewed or surveyed for the *Healthy Eating Research* evaluation indicated that “the program could do a better job of tying research outcomes to advocacy.” However, he acknowledged the challenge of doing so when receiving RWJF funds.

In January 2013, RWJF expects to launch an advocacy initiative focused on its six nutrition and physical activity priority areas. Brownell anticipates an impact on both *Healthy Eating Research* and his own Rudd Center. Once RWJF announces the advocacy strategy, he says, “I suspect that groups like *Healthy Eating Research* and ours will get connected tightly to the advocacy people.”

Adds Kaphingst, “We know RWJF is moving more into advocacy, and we look forward to working within the Foundation’s framework to make additional and stronger connections with the advocacy community.”

Advocacy plays an important role in setting the research agenda as well. “If there is a strong advocacy component, you surface the resistance, and that itself becomes a topic for study,” says Ponkshe. “For example, when New York City passed a clean indoor air bill after a lot of advocacy work, we saw where the resistance came from: bars, restaurants, etc. We then said ‘Why don’t we take a look at what happens to bars and restaurants after the law?’ So, RWJF funded studies to do that.”

Brownell agrees. “Advocates do surface the resistance. When there are hearings about a soda tax, the soda industry packs the room with their truck drivers in uniform saying ‘Don’t take our jobs.’ So, *Healthy Eating Research* funded a study to model the economic effect of a soda tax on jobs. We look forward to those findings.”

---

*Prepared by: Mary Nakashian*  
*Reviewed by: Karyn Feiden and Molly McKaughan*  
*Program Officer: C. Tracy Orleans*  
*Program Area: Childhood Obesity*  
*Program ID# HER*  
*Program Director: Mary Story (612) 626-8801; story001@umn.edu*  
*Evaluator: Seth Emont (603) 768-5933; semont@myfairpoint.net*

---

13 Tentatively called the National Policy and Legal Analysis Network to Prevent Childhood Obesity
APPENDIX

People Interviewed for This Report

Kelly D. Brownell, PhD
Professor of Psychology
Professor of Epidemiology and Public Health
Co-Founder and Director
Rudd Center for Food Policy and Obesity Research
Yale University
New Haven, Conn.

Seth Emont, PhD, MS
Principal
White Mountain Research Associates
Danbury, N.H.

Karen M. Kaphingst, MPH
Deputy Director, Healthy Eating Research
University of Minnesota School of Public Health
Minneapolis, Minn.

Shiriki Kumanyika, PhD, MPH
Chair, Senior Program Advisory Panel
Healthy Eating Research
Chair, African American Collaborative Obesity Research Network (AACORN)
Professor of Epidemiology
Senior Scholar, Center for Clinical Epidemiology & Biostatistics
Associate Dean for Health Promotion and Disease Prevention
University of Pennsylvania Perelman School of Medicine

C. Tracy Orleans, PhD
Senior Program Officer/Senior Scientist
Robert Wood Johnson Foundation
Princeton, N.J.

Prabhu Ponkshe, MA, LLB
Principal
Health Matrix, Inc.
McLean, Va.

Mary T. Story, PhD, RD
Director, Healthy Eating Research
Professor, Division of Epidemiology and Community Health
Senior Associate Dean of Academic and Student Affairs
University of Minnesota School of Public Health
Adjunct Professor, Department of Pediatrics
University of Minnesota School of Medicine
Minneapolis, Minn.
PROFILE LIST

Profiles of the following Healthy Eating Research investigators are posted on the RWJF website:

- Joel Gittelsohn, PhD, MS (November 2012): Changing Food Offerings in Baltimore's Small Stores: The Baltimore Healthy Eating Zones Study
- Kenneth Hecht, LLB (May 2011): Addressing Childhood Obesity by Studying Preschool Children
- Sara E. Benjamin Neelon, PhD, MPH, RD (July 2011): Studying State Regulations for Healthy Eating and Physical Activity
- Marlene B. Schwartz, PhD (March 2011): Improving Nutrition and Physical Activity Policies in Schools
- Mary Story, PhD (December 2007): Exploring Environmental and Policy Strategies to Promote Healthy Eating Among Children