

2014

## Implementation and Evaluation of a Multidimensional Nutrition and Physical Activity Initiative Funded by a Community Health Foundation

James Pann

*Research & Evaluation Network*

Angela Yehl

*Research & Evaluation Network*

Peter Wood

*Health Foundation of South Florida*

Janisse Schoepp

*Health Foundation of South Florida*

Gabrielle Solomon

*Health Foundation of South Florida*

Follow us for additional works at: <https://scholarworks.gvsu.edu/tfr>



Part of the [Nonprofit Administration and Management Commons](#), and the [Public Affairs, Public Policy and Public Administration Commons](#)

---

### Recommended Citation

Pann, James; Yehl, Angela; Wood, Peter; Schoepp, Janisse; Solomon, Gabrielle; and Enders, Craig (2013) "Implementation and Evaluation of a Multidimensional Nutrition and Physical Activity Initiative Funded by a Community Health Foundation," *The Foundation Review*: Vol. 5: Iss. 4, Article 8.

<https://doi.org/10.9707/1944-5660.1183>

Available at: <https://scholarworks.gvsu.edu/tfr/vol5/iss4/8>

This Article is brought to you for free and open access by ScholarWorks@GVSU. It has been accepted for inclusion in The Foundation Review by an authorized editor of ScholarWorks@GVSU. For more information, please contact [scholarworks@gvsu.edu](mailto:scholarworks@gvsu.edu).

---

# Implementation and Evaluation of a Multidimensional Nutrition and Physical Activity Initiative Funded by a Community Health Foundation

## **Authors**

James Pann, Angela Yehl, Peter Wood, Janisse Schoepp, Gabrielle Solomon, and Craig Enders

# Implementation and Evaluation of a Multidimensional Nutrition and Physical Activity Initiative Funded by a Community Health Foundation

*James Pann, Ph.D., and Angela Yehl, Psy.D., Research & Evaluation Network; Peter Wood, M.P.A., Janisse Schoepp, M.P.H., and Gabrielle Solomon, M.P.H., Health Foundation of South Florida; and Craig Enders, Ph.D., Arizona State University*

*Keywords:* Foundation, program evaluation, obesity prevention, health, social-ecological model, nutrition, physical activity

## Key Points

- Poor diet and physical inactivity have been estimated to account for nearly 400,000 deaths a year in the U.S. and are contributing factors to obesity. Nearly one-third of children and two-thirds of adults are overweight or obese. Therefore, in early 2007 Health Foundation of South Florida (HFSF) embarked on a five-year responsive grant-making initiative, Healthy Eating Active Communities.
- The initiative's aim was to improve healthy eating habits and physical activity levels through two major approaches: individual-level programs grounded in an educational approach and organizational, environmental, policy, and systems-change interventions. As additional research has emerged in the field, policies and practices that create supportive environments and healthier communities have been a major focal point of this initiative.
- The project adopted a multisector orientation and expanded its partners beyond traditional health-related organizations. Moreover, several grantee organizations were funded to implement evidenced-based approaches targeting nutrition and physical activity in children and adults. As program evaluator for the initiative, Research & Evaluation Network (REN) collaborated with HFSF to develop the project logic model, guide the development of the evaluation plan, and evaluate the outcomes associated with the grantees' programs.
- This article provides a detailed overview of the

initiative and documents the collaborative process that the foundation, evaluator, and grantees undertook to initiate and maintain this effort. It provides an example of the potential for partnerships to facilitate effective program implementation in this area, utilize practical program evaluation, and promote program growth and sustainability.

## Introduction

Despite significant attention in recent years, obesity continues to be a major public health concern in the U.S., with nearly one-third of children and two-thirds of adults being overweight or obese (Flegal, Carroll, Kit, & Ogden, 2012; Ogden, Carroll, Kit, & Flegal, 2012). Obesity is associated with a range of serious health conditions such as hypertension, Type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, respiratory problems, and certain cancers (National Institutes of Health, 1998). Poor diet and physical inactivity have been estimated to account for nearly 400,000 deaths a year (Mokdad, Marks, Stroup, & Gerberding, 2004) and are contributing factors to obesity. Furthermore, racial and ethnic minority adults and those with relatively less education or financial resources tend to have the highest overall obesity rates (Wang & Beydoun, 2007).

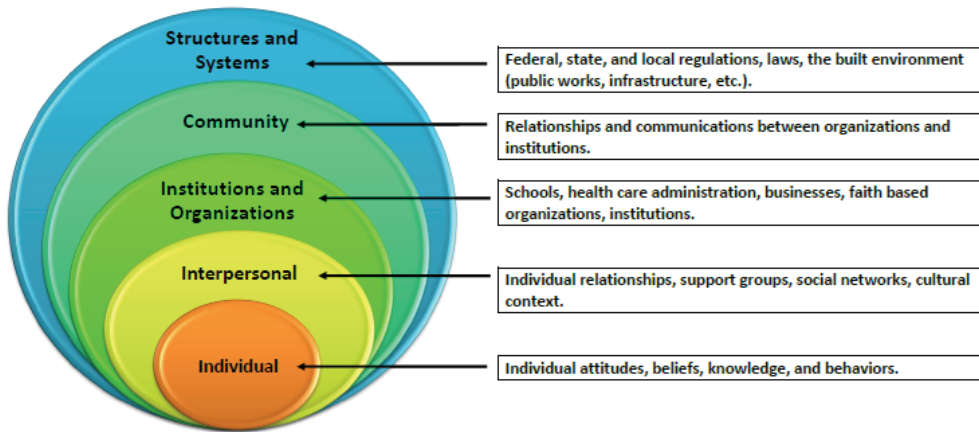
**Table 1** Healthy Eating Active Communities Characteristics and Partner Agencies

Factors	Broward County	Miami-Dade County	Monroe County	Florida
Population	1,753,162	2,516,515	72,670	18,905,048
Ethnicity	25.8% Hispanic 27.4% African American	64.5% Hispanic 19.3% African American	21.0% Hispanic 6.3% African American	22.9% Hispanic 16.5% African American
Percent Overweight	15.6% of children 37.2% of adults	16.1% of children 38.1% of adults	36.9% of adults*	14.7% of children 37.8% of adults
Percent Obese	9.7% of youth 28.0% of adults	10.3% of youth 29.3% of adults	17.4% of adults*	10.3% of youth 27.2% of adults
Physical Activity (PA) Behavior <ul style="list-style-type: none"> <li>Percentage of youth not meeting recommended PA levels</li> <li>Percentage of adults not meeting vigorous PA recommendations</li> </ul>	72% of youth 66.2% of adults	73% of youth 70.8% of adults	57.3% of adults*	63.9% of youth 74.0% of adults
Nutrition Behavior <ul style="list-style-type: none"> <li>Percentage who do not consume at least 5 servings of fruits and vegetables a day</li> </ul>	77% of youth 72.4% of adults	75% of youth 76.9% of adults	75.8% of adults*	78% of youth 73.8% of adults
Partner Agencies	<ul style="list-style-type: none"> <li>Achievement and Rehabilitation Centers Inc.</li> <li>Boys &amp; Girls Club of Broward County</li> <li>Broward Education Foundation</li> <li>Cherry Blossom Learning</li> </ul>	<ul style="list-style-type: none"> <li>American Heart Association/Alliance for a Healthier Generation</li> <li>Bayfront Park Management Trust</li> <li>Belafonte TACOLCY Center</li> <li>Big Brothers Big Sisters of Greater Miami</li> <li>Carrfour Supportive Housing</li> <li>Centro Mater Child Care Services Inc.</li> <li>City of South Miami</li> <li>City of West Park</li> <li>Common Threads</li> <li>Creative Children Therapy</li> <li>Food of Life Outreach Ministries</li> <li>Miami-Dade Area Health Education Center</li> <li>Miami-Dade County Public Schools</li> <li>Miami-Dade County Parks and Recreation</li> <li>Community Health of South Florida</li> <li>The Education Fund</li> <li>Trust for Public Land</li> <li>University of Miami</li> <li>Urban Oasis</li> <li>WeCare of South Dade</li> </ul>	<ul style="list-style-type: none"> <li>Florida Keys Area Health Education Center Inc.</li> <li>Star of the Sea Foundation</li> </ul>	<ul style="list-style-type: none"> <li>Florida Impact Inc.</li> <li>MicheLee Puppets</li> </ul>

Sources: 2007 and 2010 Behavioral Risk Factor Surveillance System; 2009 Youth Risk Behavior Survey; U.S. Census Data

\* Youth data unavailable in Monroe County

Figure 1 Social Ecological Model for Obesity Prevention



Source: Centers for Disease Control and Prevention website: [http://www.cdc.gov/obesity/health\\_equity/culturalRelevance.html](http://www.cdc.gov/obesity/health_equity/culturalRelevance.html)

To address this epidemic, Health Foundation of South Florida developed a priority area in 2008 to fund organizations to enhance physical activity and nutrition in a coordinated manner. The foundation is a nonprofit grantmaking organization whose mission is to improve the health of underserved populations by supporting programs in three South Florida counties: Broward, Miami-Dade, and Monroe. The foundation serves as a channel for information gathering, convening, and collaborating on health issues impacting South Florida. Since 1993, HFSF has awarded more than \$100 million to public and nonprofit organizations to promote health and prevent disease. The foundation makes investments in four priority funding areas – Healthy Eating Active Communities (HEAC), Primary Care, Behavioral Health, and Preventive Health Measures – as well as a General Community Health Needs category. The purpose of this approach is to allow HFSF to better measure the impact of its funding.

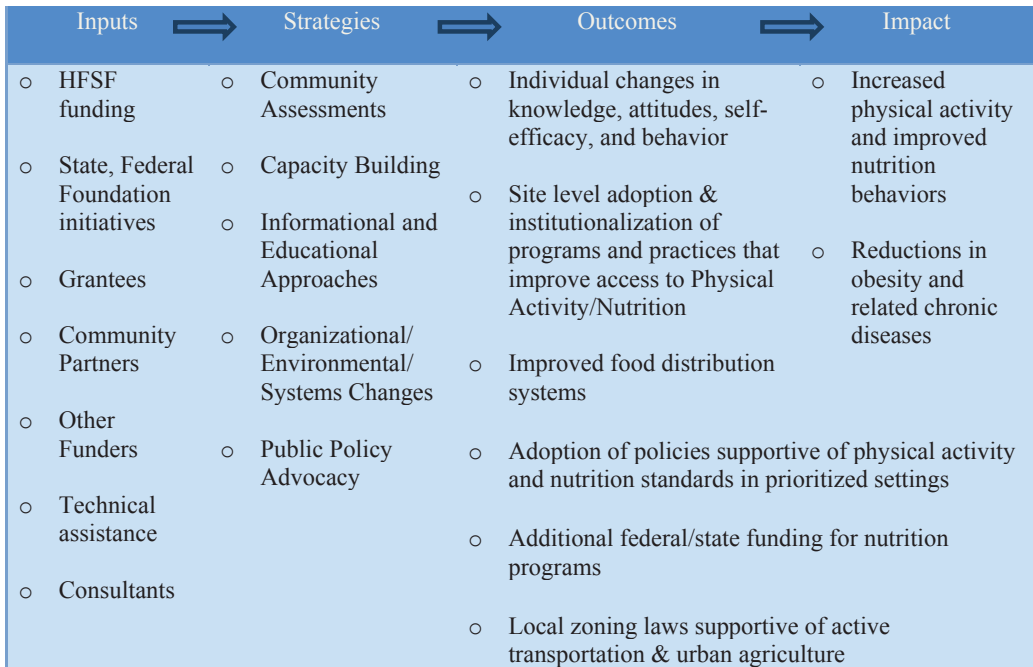
The HEAC priority area was funded for five years and then, in 2013, was renewed for an additional five years. At the inception of the project a local evaluation firm, Research & Evaluation Network, was contracted to lead the program evaluation of the initiative.

“The potential of ecologically based multilevel interventions to increase population levels of physical activity is of great public health significance” (p. 315). The Social Ecological Model, which was adopted by the Center for Disease Control and Prevention’s Nutrition and Physical Activity Program to Prevent Obesity and Other Chronic Diseases, provided a framework to HFSF for multiple levels of influence affecting obesity. These levels include individual (biological, psychological), interpersonal groups (cultural influences), organizations, communities (physical environment), and society (policy, laws, regulations) (U.S. Department of Health and Human Services, 2008; Sallis, Cervero, et al., 2006). (See Figure 1.) Therefore, HFSF was guided by a focus on not only implementing obesity prevention efforts through individual, community, and policy changes, but also by developing a comprehensive approach that integrated these levels.

### Healthy Eating and Active Communities’ Focus

The overall goal of HEAC is to create environments that promote enhanced nutrition and increased physical activity at several levels: for individuals and families, within institutions and organizations, in communities, and through public policy. Given the influence that jobs,

Figure 2 Healthy Eating Active Community Logic Model



housing, safety, food distribution, transportation, child care, and education have on community residents, HFSF adopted a multisector approach to expand its partners beyond traditional health-related organizations. Moreover, the project's aim is to improve healthy eating habits and physical activity levels through two major approaches: individual-level programs grounded in an educational approach and organizational, environmental, policy, and systems-change interventions. This was accomplished by employing the Social Ecological Model to guide strategic funding of community programs in four key settings: early childhood, school, after-school, and community. The HEAC logic model (see Figure 2) presents key inputs, strategies, outcomes, and impacts as well as illustrates the guidance to the initiative provided by the Social Ecological Model. Collaborative partnerships established among HFSF, the evaluator, and grantees provided the foundation for this approach, ensuring agreement with key aspects of the initiative's logic model, strategic distribution of funds to meet HEAC's aims, and the appropriate measurement of outcomes.

As indicated by the Social Ecological Model of obesity, behavior and environment play a substantial role in causing obesity. Since these factors are potentially amenable they are prime areas targeted in prevention programs. According to the Robert Wood Johnson Foundation (2012), communities that have realized recent reductions in childhood obesity rates are those that took comprehensive steps to address this epidemic. A working group was assembled in August 2007 to advise the National Heart, Lung, and Blood Institute and other National Institutes of Health on important research areas in childhood obesity prevention and treatment. The group found that there was a "substantial gap" between the demand for multilevel interventions and evidence of the effectiveness of such approaches. In addition, it was recommended that further research study this type of intervention and incorporate implementation evaluation, the assessment of intervention outcomes, and cost-effectiveness analysis (National Institutes of Health, 2008).

Soon after the working group's suggestions, studies provided descriptions of multilevel approach-

*Behavior and environment play a substantial role in causing obesity. Communities that have realized recent reductions in childhood obesity rates are those that took comprehensive steps to address this epidemic.*

es to obesity funded by foundations. The Missouri Foundation for Health contracted with the Institute of Public Policy to conduct an external evaluation of the Healthy & Active Communities Initiative, a multisite, multiprogram (33 grantees) effort that used a cluster evaluation approach to assess the foundation's efforts (Bacon et al., 2009). Other studies demonstrated the activities and evaluation efforts of The California Endowment's Healthy Eating Active Communities Initiative, another multisector collaborative approach to foster communitywide obesity prevention (Samuels et al., 2010; Cheadle et al., 2010).

There is a dearth of literature, however, that delineates the working relationship among key project stakeholders, an important element of this type of initiative. The collaborative process that HFSE, the evaluator, and grantees undertook to initiate and sustain HEAC is reviewed below. A representative sample of projects that were funded is also described to illustrate how the Social Ecological Model was used by HEAC to address obesity in a multifaceted manner.

### **Grantees**

A wide variety of organizations were funded by HEAC to implement evidence-based and promising approaches that targeted nutrition and physical activity in children and adults. HEAC grantees were typically funded for one to two years, although large-system projects were sometimes supported for a longer time. From December

2008 to May 2012, \$2.89 million was awarded to 46 organizations for projects aimed at increasing opportunities for physical activity and healthful eating in child care centers, schools, after-school program sites, and communities. Specifically, \$457,640 was awarded to four early child care setting grantees; \$1.1 million was awarded to 10 organizations for school-based prevention and intervention efforts; \$376,250 went to 11 after-school grantees; and \$951,836 was awarded at the community level to a total of 21 grantees. (Table 1 also provides an overview of the communities served by HEAC as well as the partner agencies.)

To illustrate HEAC's aims and reach, descriptions of four programs reflecting each of the four target settings are provided below. Program descriptions depict the multiple levels of influence affecting healthy lifestyle preferences, as indicated by the Social Ecological Model.

#### *Early Childhood Education: Centro Mater Child Care Services*

Centro Mater Child Care Services provides quality services to disadvantaged children, offering developmentally appropriate experiences while empowering and strengthening families. The agency implemented the Physical Activity Preschool Initiative at preschool sites to increase the engagement of children aged three to five in moderate-to-vigorous physical activity utilizing the Sports, Play, and Active Recreation for Kids, Early Childhood (SPARK EC) program. SPARK EC is implemented by teachers in the early-childhood setting and provides children with high-activity, enjoyable exercise that develops social and motor development. It was used at all five of its sites in lower-income neighborhoods in Miami-Dade County during the school year and summer. The program resulted in the training of 60 preschool staff in the use of SPARK EC with approximately 550 children. In addition, materials and SPARK EC workbooks were acquired so that the project could be implemented effectively at the sites. Teacher physical-activity knowledge as well as moderate and vigorous physical-activity levels during structured playtime were assessed before and during program implementation by the evaluator using the System for Observing Fit-



ness Instruction Time (McKenzie, Sallis, & Nader, 1991).

#### *School-Based: Broward Education Foundation*

The Broward Education Foundation's Garden Delights: Team Up for Healthy Choices program was funded to implement an integrated nutrition program in 10 public schools in Broward County. Based on a successful program in Miami-Dade County that was also supported by HFSF, the program served 10 public Title 1 schools in Broward County, the nation's sixth-largest school district. The program, which teaches students nutrition and plant science through a "seed to table" curriculum, aims to provide students with the knowledge, skills, and environment required to change their nutritional attitudes and behavior. Furthermore, by training teachers to deliver the program it is posited that they will become advocates for nutritional literacy. The long-term goal of the project is to reduce childhood obesity by changing the eating habits of youth, increasing their awareness of nutrition and healthy lifestyles, and engaging their families to practice healthy nutrition.

Students plant, maintain, and harvest "edible" gardens over the course of the school year. Families are engaged in the project by receiving healthy recipes and produce from the gardens. Finally, teachers are trained in a developmentally appropriate curriculum that is experiential. Ten schools have integrated school gardens over a two-year period, with more than 1,200 students participating. The program assessed improvements in student nutritional knowledge, attitudes, and behavior; teacher nutritional knowledge; and parent nutritional behavior using pre-test and post-test assessments at the beginning and end of the academic years.

#### *After-School: Boys & Girls Clubs of Broward County*

The Boys & Girls Clubs of Broward County (BGCBC) implemented the Nutrition Education Program in after-school and summer camp settings to improve the diets of students and staff. The organization used Coordinated Approach to Child Health (CATCH), an evidence-based

program (Nader et al., 1999), at 11 of its clubs in Broward County and provided monthly Lunch and Learn nutrition workshops to staff.

Using the CATCH curriculum, members participated in activities that provided a basis for understanding nutrition in a fun and engaging way. To implement the curriculum, BGCBC's healthy-eating trainer and physical education coordinators were trained by CATCH officials on administering the program in an after-school setting. The healthy-eating trainer then oversaw a youth aide at each club who assisted with the program during the school year and summer. Other activities that were part of the program included:

- education of members about the components of a healthy diet through hands-on projects, games, and group activities using the CATCH curriculum;
- maintenance of a healthy club environment by implementing free, healthy snack and supper programs for all children each school day and Saturday and changing vending machine options to healthier choices; and
- use of visuals created by students and the healthy-eating trainer to continuously market and reinforce the lessons that were taught during the program.

The program served approximately 2,000 children. The grantee and evaluator tracked student nutritional knowledge, attitudes, and behavior outcomes as well as teacher nutritional self-efficacy and behavior using pre-test and post-test assessments at the beginning and end of the project's academic years.

#### *Community: Trust for Public Land*

Trust for Public Land (TPL) is a national non-profit organization that works to conserve land for people to enjoy as parks, gardens, greenways, and other natural places. As a matching grant with Miami-Dade County parks, HFSF funded the installation in three parks of Fitness Zones, easy-to-use outdoor gyms consisting of durable exercise equipment for strength training and aerobic exercise. When installed in public settings, Fitness Zones can provide new exercise opportunities to



*The evaluator was included early on in project planning and there was close collaboration on the development of the logic model to guide the HEAC initiative toward the desired impact of increased physical activity and improved nutrition to reduce obesity and related chronic diseases in the target communities.*

large numbers of people. This model is based on TPL's experience installing Fitness Zones in Los Angeles.

The evaluator used the System for Observing Physical Activity and Recreation in Communities (SOPARC) observational instrument to assess changes in park use as well as moderate to vigorous physical activity among park users. An assessment was conducted prior to the installation of the Fitness Zones and two assessments were completed after they were operational.

### **Program Logic Model**

The evaluator was included early on in project planning and there was close collaboration on the development of the logic model to guide the HEAC initiative toward the desired impact of increased physical activity and improved nutrition to reduce obesity and related chronic diseases in the target communities. (See Figure 2.) Cooperation between HFSF and the evaluator helped ensure that a comprehensive approach was implemented in a manner consistent with the Social Ecological Model.

Discussions surrounding the logic model at this initial stage allowed for greater clarity and agreement among stakeholders in HEAC's purpose,

including strategies, appropriate settings, associated outcomes, and long-term impact. In this way, the logic model laid the foundation for the identification of the types of grantees and projects HEAC would be interested in funding. It guided the evaluation, thereby mitigating the risks of funding programs with incompatible outcomes, insufficient reach to accomplish HEAC's goals, and duplication of services. Furthermore, the evaluator's role in assisting funded programs in the identification and assessment of outcomes allowed for continuous feedback to inform HEAC's logic model and efforts.

Finally, having a logic model grounded in the Social Ecological Model helped guide the initiative to fund a highly diverse range of projects, carried out in multiple settings and addressing the myriad factors associated with obesity. According to the CDC, schools are prime settings for enhancing the availability of healthier food and beverage options for children (Khan et al., 2009). Other key locations include after-school programs, child care centers, community recreational facilities, and municipal buildings and facilities. To enhance physical activity and create "active living" communities, multilevel interventions were targeted using a transdisciplinary approach, which incorporated nontraditional health organizations (Sallis, Cervero, et al., 2006). Moreover, projects such as farmers markets were funded to expand their reach and community parks were equipped with fitness equipment.

### *HEAC Grantee Selection Process*

Using HEAC's logic model and the settings noted above as a framework, organizations were identified for funding using HFSF's established grant-award process. A web-based submission process was used to facilitate an efficient grant application procedure. For HEAC the foundation accepted preliminary applications twice per year, which facilitated the prescreening of potential applicants. HFSF provided a timeline of the application process on its website and publicized the funding opportunities through a variety of channels.

Preliminary proposals were submitted to HFSF and reviewed internally for their compatibil-

ity with HEAC. Applicants whose preliminary proposals were approved were invited to submit a full proposal. During the development of their full proposals, organizations were encouraged to work with HFSF and the evaluator to review and obtain feedback on proposed strategies, HEAC-desired outcomes, and appropriate assessment tools. HFSF also met with the applicants during the funding cycles to assist them in this process. Then, the full proposals were scored by one to two external reviewers from local universities and health and human service organizations, who were identified by HFSF based on their expertise with related programming. The scoring rubric elicited feedback about the proposals' strengths, weaknesses, and any missing information. HEAC staff then held site visits with each applicant, providing an opportunity to learn more about the proposed projects and address reviewer comments. A grant committee reviewed proposals and the reviewer feedback, and voted on a funding recommendation. Finally, the HFSF board of directors made a decision on funding each project.

#### *Identification of Outcome Measures*

During the initial phase of the project, the evaluator conducted a comprehensive literature review to identify measures to assess the outcome objectives identified in the HEAC logic model. Instruments that assessed individual outcomes as well as site and environmental outcomes were included. The evaluator and HFSF intended to provide grantees with a list of suggested outcome measures to ease the instrument selection and ensure that outcomes were measured in the best way possible. Also, the compilation of instruments helped grantees develop their proposals by being readily able to identify measures that were appropriate given their project and participant characteristics.

Several factors were considered in determining which instruments would be recommended for use by grantees, including reliability and validity, age range, number of items, time to complete, and areas assessed. Only measures that were available at no cost were included.<sup>1</sup> It should be noted

*Having a logic model grounded in the Social Ecological Model helped guide the initiative to fund a highly diverse range of projects, carried out in multiple settings and addressing the myriad factors associated with obesity.*

that grantees occasionally used instruments not included in this database if deemed appropriate (e.g., they were psychometrically sound and developed specifically for the program or were mandated by another funder). For nutrition and physical-activity knowledge, most often measures had to be developed by the evaluator with input from the grantee so that the instrument matched closely the curriculum employed by the program. (Table 2 provides a sample of the instruments commonly used to assess HEAC programs.)

Efforts were made to make the collection and management of project data as straightforward as possible given that grantees had varying levels of experience with program evaluation. At the initiation of the project the evaluator developed a web-based system to capture individual outcome data that was entered directly into the system by the grantee or imported. The system facilitated communication between the evaluator and the grantee with respect to the individual-level data that was collected for the project. About four years into the HEAC initiative, a more functional web-based system was developed for grantees; for example, the application had the capacity to email survey web links to participants and provide greater control over staff access to collected data. The application resided on a HIPAA-compliant cloud host and included additional security features to protect participant data.<sup>2</sup> Grantee feedback was used to improve the system and make it more user-friendly, and the evaluator

<sup>1</sup> See [http://hfsf.org/healthy\\_lifestyle\\_evaluation\\_tools.aspx](http://hfsf.org/healthy_lifestyle_evaluation_tools.aspx)

<sup>2</sup> See <http://evalplace.com>

**Table 2** Sample of Evaluation Instruments Utilized for the Healthy Eating Active Communities Initiative

Instrument Name	Target Population	Constructs Assessed	Reference
Godin-Shephard Physical Activity Survey	5th grade to adult	Physical activity behavior	Coleman, Friedman, & Burright, 1998; Sallis et al., 1993
Fruit and Vegetable Inventory	Adults	Nutrition self-efficacy, nutrition attitudes, nutrition behavior	Townsend & Kaiser, 2005
Multistage 20 Meter Shuttle Run (PACER Test)	2nd grade and above	Physical fitness	Lightburne, 2008
Parent Survey of Child Eating and Activity Habits	Ages 2-12, parent report	Nutrition behavior, physical activity	Raynor, Jelalian, Vivier, Hart, & Wing, 2009
Pizza Please Questionnaire	2nd grade and above (elementary school age)	Nutrition knowledge, nutrition behavior	Powers, Struempfer, Guarino, & Parmer, 2005
School Physical Activity and Nutrition (SPAN)	Elementary (4th grade and above), middle and high school (8th and 11th grade and above)	Nutrition knowledge, nutrition attitudes, nutrition behavior, physical activity, body mass index	Thiagarajah et al, 2006; Hoelscher, Day, Kelder, & Ward, 2003
Self-Efficacy Survey – Eating Fruits & Vegetables	4th grade and above	Nutrition self-efficacy (for eating)	Baranowski et al., 2000
Self-Efficacy Survey – Eating, Asking, Preparing Fruits & Vegetables	4th grade and above	Nutrition self-efficacy (for eating, requesting, and preparing)	Reynolds et al., 2002
System for Observing Fitness Instruction Time (SOFIT)	Children in physical education classes	Physical activity and physical education lesson context and teacher behavior	McKenzie, Sallis, & Nader, 1991
System for Observing Play and Recreation in Communities (SOPARC)	Children and adults at parks	Physical activity, park use, activity modes and types	McKenzie et al., 2005
Standard 7-Item Fruit and Vegetable Screener	Adults	Nutrition behavior	Thompson et al., 2000

was available via email and telephone to assist program staff.

When grantees were not able to use the web-based data-collection system for the administration of outcome instruments to project participants, the evaluator typically created scannable paper versions. Participants were able to "bubble" in their demographic information and responses and the evaluator scanned the results into an electronic database. Blank pre-tests were generated for participants to complete and post-tests had demographic information pre-populated based on the pre-tests completed, making the data-collection process easier for the grantees. Management of data can be challenging in multi-level, multicomponent evaluations; the web-based system and scannable paper forms minimized the amount of time devoted to data entry and kept data in one location (i.e., a secure computer server) allowing for easy access and analysis. In addition, the availability of data enabled continuous feedback on programmatic outcomes with relatively short turnaround time for the reporting of findings.

The evaluator identified practical and conceptual challenges associated with the use of frequently used metrics to benchmark change on individual level outcomes – for example, arbitrarily set outcome objectives such as, "80 percent of participants improved nutrition attitudes." HEAC promoted an innovative approach for the individual-level outcome objective wording and metric used by the grantees, resulting in a process for measuring change that was easy to communicate, straightforward to interpret, and grounded in the research literature.<sup>3</sup>

### Work Plan and Outcome Measurement Matrix

Except for a few grantees that had their own contracted evaluator, the HEAC evaluator worked with grantees to determine appropriate outcomes that were aligned with expected HEAC proj-

*Management of data can be challenging in multilevel, multicomponent evaluations; the web-based system and scannable paper forms minimized the amount of time devoted to data entry and kept data in one location (i.e., a secure computer server) allowing for easy access and analysis.*

ect outcomes. Specifically, organizations were required to develop a Work Plan and Outcome Measurement Matrix, which is similar to a logic model and includes outcome objectives, outcome instruments, process objectives, and activities. The matrix allows for a visual presentation of project-related activities as well as the process and outcome objectives that will be tracked and used to measure the success of the program. (See Table 3.)

The early collaboration between evaluator and grantees enabled a seamless alignment between project outcomes and HEAC-initiative outcomes identified within each priority setting. Grantees and the evaluator regularly reported back to HFSF on the Work Plan and Outcome Measurement Matrix to ensure mutual understanding of intended outcomes and "fit" within HEAC's overall goals.

The HEAC evaluation activities, related specifically to grantee-evaluator interactions, are shown in Table 4. Several strategies were used to ensure ongoing communication among HFSF, grantees, and the evaluator. There were regular meetings between HFSF and REN to stay apprised of grantee progress as well as the status of the overall initiative, revisit the HEAC logic model, discuss newly funded projects, and address project-related challenges and evaluation recommendations. Since REN provided technical assistance to

<sup>3</sup> The technical aspects of this are beyond the scope of this article. A video presentation of this approach, which used a percent change metric grounded in the statistical concept of effect size, is available at <http://www.evalnetwork.com/percentmetric>.

**Table 3** Sample Work Plan and Outcome Measurement Matrix

<b>Organization:</b> Centro Mater Child Care Services Inc. (CMCCS)			
<b>Project Title:</b> Physical Activity Preschool Initiative (PAPI)			
<b>Goal:</b> To improve the physical activity of preschool children			
<b>Outcome Objectives (Why)</b>	<b>Outcome Measurement (Evidence)</b>	<b>Process Objectives (What)</b>	<b>Activities (How)</b>
<ol style="list-style-type: none"> <li>Physical activity knowledge of teachers: 38% of below-average cases at pre-test will score above pre-test average at post-test.</li> <li>100% (5 of 5) of program sites will engage participants in moderate to vigorous physical activity a minimum of 50% of session time.</li> <li>100% of CMCCS sites will adopt this policy: All children in early child care program ages 2-5 will participate in at least 60 minutes of appropriate physical activity every day; 30 minutes will be moderate or vigorous physical activity.</li> </ol>	<ol style="list-style-type: none"> <li>SPARK knowledge assessment will be administered to preschool teachers before and after trainings by project coordinator.</li> <li>SOFIT assessment instrument will be administered after program is established to determine moderate and vigorous physical activity levels. SOFIT will be conducted by evaluator in February 2011 and December 2011.</li> <li>To determine if new policy is implemented, site directors will be interviewed and asked to provide evidence of policy change by evaluator.</li> </ol>	<ol style="list-style-type: none"> <li>Signed contract with SPARK.</li> <li>2 1-day trainings with 30 staff at each training, 60 staff in total comp.</li> <li>60 completed sets of SPARK knowledge pre-tests and post-tests.</li> <li>SPARK coordinator employed with agency.</li> <li>20 manuals and 5 sets of program equipment acquired.</li> <li>SPARK implemented at 5 sites for a half-hour each day, 5 days per week, with 550 children.</li> <li>Policy manual changed and update communicated via memo to staff and parents.</li> <li>SOFIT assessments completed (each with 2 observations) at 5 sites in February 2011 and December 2011.</li> </ol>	<ol style="list-style-type: none"> <li>Contract with SPARK for trainings.</li> <li>Conduct 2 SPARK EC trainings for staff prior to implementation.</li> <li>The coordinator will administer the SPARK knowledge pre-tests and post-tests.</li> <li>Hire SPARK coordinator.</li> <li>Purchase SPARK EC materials and manuals.</li> <li>Implement SPARK EC at sites.</li> <li>Site directors and executive director implement policy change and share with staff and parents.</li> <li>REN to conduct SOFIT observations during February 2011 and December 2011.</li> </ol>

**Table 4** Evaluation Activities by Stage of Project

Stage	Evaluator Activities
Full Proposal Submission	<ol style="list-style-type: none"> <li>1. REN and the grantee meet in person or via teleconference to review the grant-proposal draft, including the proposed Work Plan and Outcome Matrix and outcome measures.</li> <li>2. REN provides specific outcome-related feedback and delineates its role in the project if it is funded.</li> </ol>
Post-award/ Implementation	<ol style="list-style-type: none"> <li>1. HFSF forwards to REN the proposal and Work Plan and Outcome Measurement Matrix that was submitted by the grantee along with HFSF comments and suggestions.</li> <li>2. The grantee, evaluator, and foundation collaboratively work to finalize the Work Plan and Outcome Matrix and selected outcome measures.</li> <li>3. When appropriate, REN: (a) provides the grantee with access to and training in the use of the initiative's web-based system used to facilitate the tracking of participant level outcome data, (b) generates paper versions of the participant-level outcome measures, and (c) administers site-level or environmental assessments at grantee locations.</li> <li>4. The grantee provides REN with a schedule and/or notifies REN when paper or web-based pre-test and post-test outcome measures are needed and the number of participants that will be tested. Web-based outcome measures can be administered to participants via email or at the grantee's location.</li> <li>5. REN generates and provides electronic or paper outcome measures to the grantee by the required dates for pre-test and post-test administration.</li> <li>6. REN coordinates with the grantee around the scheduling of any required site-level or environmental assessments, to be conducted by REN.</li> <li>7. The grantee administers the pre-test and post-test outcome measures and ensures that they are correctly completed by program participants. REN arranges for pickup or delivery of paper outcome measures once they are completed.</li> <li>8. REN imports paper outcome measures data into the web-based system. The grantee reviews imported participant outcome data in the web-based system.</li> <li>9. REN conducts the statistical analysis of the outcome data and provides the grantee with a report of the findings for each 6-month grant period. The reports are reviewed in person or via teleconference. Reports are utilized by the grantee to address the outcome-related items in the 6-month and 12-month project reports submitted by the grantee to the HFSF.</li> <li>10. Prior to submitting a report to the HFSF, the grantee sends it to REN for approval to ensure that the outcomes section is properly completed. REN meets with the grantee at least every 3 months to review the status of the evaluation and to determine if changes to the evaluation plan are needed.</li> </ol>

HFSF = Health Foundation of South Florida; REN = Research & Evaluation Network



grantees for the identification and measurement of project outcomes, the evaluator was able to work as a liaison between the foundation and individual grantees and provide input related to the grantees' contribution toward HEAC's goals. Evaluation was effectively used to guide decision-making through lessons learned and recommendations. Moreover, establishing the evaluator-grantee relationship during the pre-award phase reduced the amount of time at post-award spent on revising outputs, outcomes, and evaluation tools. With this strategy in place, grantees were able to hit the ground running at the beginning of the contract period. Grantees that did not have working relationships with program evaluators obtained support for the development and implementation of their evaluation plans directly from the HEAC initiative evaluator.

Technical assistance provided by the evaluator to the grantees helped to ensure adherence to evaluation timelines and accurate reporting to HFSE. It was helpful for grantees to have their project reports reviewed by the evaluator for errors and feedback before they were submitted to HFSE. Grantees were debriefed by HEAC staff after projects were completed. In relation to the evaluation, grantees have indicated the importance of regular feedback, open channels of communication, easy-to-use outcome instruments, and expeditious feedback on data analysis.

### Impact and Sustainability

Initial findings suggest that foundations can have a more powerful impact on factors related to obesity when they work with multiple constituencies on organizational, systemic, and policy changes. The HEAC team recommends a concerted effort on this front to adopt a long-term vision while also focusing on more measurable short- and mid-term outcomes. Policies and practices that give rise to healthy environments must be identified, advocated for, and enacted within organizations and throughout communities. While HFSE still makes programmatic investments, it prioritizes projects where grantees make a commitment to institutionalize programs after funding has expired.

To assist with the institutionalization of programs in organizations and local communities, HFSE has also invested in train-the-trainer models to ensure access to technical assistance and training opportunities. Building local capacity to provide ongoing training is important given high staff turnover at many settings. To sustain HEAC-related investments, the focus shifted to organizational, system, environmental, and policy changes, which show promise in creating long-term change.

Another key lesson learned has been that unless there is an infrastructure to support policy implementation and enforcement, sustainability will remain a challenge across settings. Therefore, future evaluation efforts need to focus on assessing if system or policy changes, once adopted, are implemented as intended. (See Table 5.)

### Conclusions

Community-based, multilevel obesity prevention and intervention efforts grounded in the Social Ecological Model have been shown to benefit individuals and communities, although the literature is still in its infancy (Bacon et al., 2009; Samuels et al., 2010; Cheadle et al., 2010). This article sheds light on HEAC, a multilevel responsive grantmaking initiative, with the aim of improving healthy eating habits and physical activity levels in South Florida. A description of programs funded under the initiative provides insight into how the various levels identified by the Social Ecological Model for obesity prevention can be addressed. Furthermore, the collaborative process that HFSE, the evaluator, and grantees undertook to initiate and sustain the project is highlighted. An understanding of this process can benefit foundations intending to fund similar multilevel, multicomponent interventions. Future research related to this initiative will include an examination of individual outcome results as well as possible mediating and moderating variables.



**Table 5** Health Eating Active Communities Midcourse Reach and Progress by Setting

Setting	Organizational, System, Environmental, and Policy Outcomes	Reach	Organizational, System, Environmental, and Policy Progress to Date
<p><i>Child Care Centers</i></p> <p>Goal: Increase healthy eating and physical-activity engagement of children ages 2-5 in child care centers.</p>	<p>Site-level adoption and institutionalization of evidence-based or promising programs and practices that enhance nutrition and physical activity</p> <p>Adoption and implementation of nutrition, physical activity, and TV screen-time standards</p>	<p>5,967 participants in 176 centers (through direct HFSF funding)</p> <p>1,500 centers (with additional federal funding)</p>	<ul style="list-style-type: none"> <li>Implemented an evidence-based family nutrition program for Hispanic families (2 centers)</li> <li>Implemented the SPARK curriculum, an evidence-based physical-activity program that increases engagement of children in moderate-to-vigorous physical activity (5 centers)</li> <li>Implemented gardens at centers that serve as teaching tools for children (20 centers)</li> <li>Provided technical assistance and resources for the adoption of nutrition, physical-activity, and TV screen-time standards (150 centers)</li> <li>Secured additional federal funding supporting the adoption of nutrition, physical-activity, and TV screen-time standards in 2 counties (1,500 centers)</li> </ul>
<p><i>Schools</i></p> <p>Goal: Increase healthy eating and physical activity during the school day.</p>	<p>Site-level adoption and institutionalization of programs and practices that enhance access to physical-activity opportunities and healthy eating</p> <p>Improvement and enhancements to school district wellness policies</p>	<p>3 school districts, 505,000 students</p>	<ul style="list-style-type: none"> <li>Implemented SPARK Physical Education (PE) Program, an evidence-based program aimed at increasing engagement of children in moderate to vigorous physical activity during PE time (40 schools)</li> <li>Implemented OrganWise, an evidence-based nutrition program (21 schools)</li> <li>Implemented an innovative puppetry show to educate children on healthy lifestyle behaviors (145 schools)</li> <li>Established school gardens, which are used as part of an integrated nutrition curriculum (35 schools)</li> <li>Increased participation of schools in the National School Lunch Program (11 schools)</li> <li>Adopted food and beverage standards by Miami-Dade County School District Wellness Policies, impacting over 300,000 students</li> <li>Adopted policy allowing food raised in school gardens to be used in school cafeteria menu (1 school district)</li> <li>Secured federal funding supporting policy, system, and environmental change in 2 of the 3 school districts</li> </ul>
<p><i>After-school</i></p> <p>Goal: Increase healthy eating and physical activity in after-school programs.</p>	<p>Site-level adoption and institutionalization of programs and practices that increase physical activity and improve nutrition</p>	<p>24,024 participants, 203 sites</p>	<ul style="list-style-type: none"> <li>Implemented SPARK After-School Program, an evidence-based physical-activity program (130 sites)</li> <li>Trained 3 after-school staff to become SPARK master trainers</li> <li>Increased number of after-school programs participating in the After-School Snack and Meal Program (40 programs)</li> </ul>
<p><i>Community</i></p> <p>Goal: Increase children's and families' access to healthy foods and physical-activity opportunities in their communities/neighborhoods.</p>	<p>Increased access to healthy foods and improved food distribution systems (e.g., farmers markets, community gardens, food banks)</p> <p>Increased access to physical activity (e.g., park enhancements, fitness zones, walking trails)</p>	<p>38,219 individuals across 3 counties have increased access to healthy food and physical-activity opportunities</p>	<ul style="list-style-type: none"> <li>Improved parks and established fitness zones ("outdoor gyms"), in particular underserved communities</li> <li>Improved walkability and support for all modes of transportation, adopted complete-streets policies</li> <li>Improved organizational capacity of food banks to access and distribute more fresh fruits and vegetables</li> <li>Created a food distribution center that includes an organic farm, farmers market, commercial kitchen, and community garden</li> <li>Established community gardens throughout 2 counties</li> <li>Established farmers markets in underserved communities, assisted in equipping markets with electronic benefit transfer terminals and becoming SNAP-approved</li> </ul>

## References

- BACON, C., COSTA, D., HUGHES, D., JOHNSON, E., NICHOLSON-CROTTY, J. & VALENTINE, D. (2009). *The Healthy & Active Communities initiative: Conclusions from a three year evaluation*. Available online at [http://ipp.missouri.edu/files/ipp/attachments/the\\_healthy\\_and\\_active\\_communities\\_initiative\\_-\\_conclusions\\_from\\_a\\_three\\_year\\_evaluation.pdf](http://ipp.missouri.edu/files/ipp/attachments/the_healthy_and_active_communities_initiative_-_conclusions_from_a_three_year_evaluation.pdf)
- BARANOWSKI, T., DAVIS, M., RESNICOW, K., BARANOWSKI, J., DOYLE, C., LIN, L. S., ET AL. (2000). Gimme 5 fruits and vegetables for fun and health: Outcome evaluation. *Health Education & Behavior*, 27(1), 96-111.
- CAWLEY, J., & MEYERHOEFER, C. (2012). The medical care costs of obesity: An instrumental variables approach. *Journal of Health Economics*, 31(1), 219-230.
- CHEADLE, A., SAMUELS, S. E., RAUZON, S., YOSHIDA, S. C., SCHWARTZ, P. M., BOYLE, M., ET AL. (2010). Approaches to measuring the extent and impact of environmental change in three California community-level obesity prevention initiatives. *American Journal of Public Health*, 100(11), 2129-2136.
- COLEMAN, C. A., FRIEDMAN, A. G., & BURRIGHT, R. G. (1998). The relationship of daily stress and health-related behaviors to adolescents' cholesterol levels. *Adolescence*, 33(130), 447-461.
- FLEGAL, K. M., CARROLL, M. D., KIT, B. K., & OGDEN, C. L. (2012). Prevalence of obesity and trends in the distribution of body mass index among US adults, 1999-2010. *Journal of the American Medical Association*, 307(5), 491-497.
- GO, A. S., MOZAFFARIAN, D., ROGER, V. L., BENJAMIN, E. J., BERRY, J. D., BORDEN, W. B., ET AL. (2013). Heart disease and stroke statistics – 2013 update: A report from the American Heart Association. *Circulation*, 127, e6-e245.
- HOELSCHER, D. M., DAY, R. S., KELDER, S. H., & WARD, J. L. (2003). Reproducibility and validity of the secondary level School-Based Nutrition Monitoring student questionnaire. *Journal of the American Dietetic Association*, 103(2), 186-194.
- JOHNS HOPKINS CENTER FOR A LIVABLE FUTURE. (2007). *Perspectives on childhood obesity prevention: Recommendations from public health research and practice*. Available online at [http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/research/clf\\_publications/pub\\_rep\\_desc/childhood\\_obesity.html](http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/research/clf_publications/pub_rep_desc/childhood_obesity.html)
- KHAN, L. K., SOBUSH, K., KEENER, D., GOODMAN, K., LOWRY, A., KAKIETEK, J., ET AL. (2009). Recommended community strategies and measurements to prevent obesity in the United States. *MMWR: Recommendations and Reports*, 58(RR07), 1-26.
- LIGHTBURNE, J. (2008). Validation of the Progressive Aerobic Cardiovascular Endurance Run (PACER) test for children 7-13 years old. *Medicine and Science in Sports & Exercise*, 40(5) Supplement, S463.
- MCKENZIE, T. L., SALLIS, J. F., & NADER, P. R. (1991). Sofit: System for observing fitness instruction time. *Journal of Teaching in Physical Education*, 11, 195-205.
- MOKDAD, A. H., MARKS, J. S., STROUP, D. F., & GERBERDING, J. L. (2004). Actual causes of death in the United States, 2000. *Journal of the American Medical Association*, 291(10), 1238-1245.
- NADER, P. R., STONE, E. J., LYTLE, L. A., PERRY, C. L., OSGANIAN, S. K., KELDER, S., ET AL. (1999). Three-year maintenance of improved diet and physical activity. *Archives of Pediatrics & Adolescent Medicine*, 153(7), 695-714.
- NATIONAL INSTITUTES OF HEALTH. (2012). *What causes overweight and obesity?* Available online at <http://www.nhlbi.nih.gov/health/health-topics/topics/obe/causes.html>
- NATIONAL INSTITUTES OF HEALTH. (2008). *Working group report on future research directions in childhood obesity prevention and treatment*. Available online at <http://www.nhlbi.nih.gov/meetings/workshops/child-obesity/>
- NATIONAL INSTITUTES OF HEALTH. (1998). *Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults: The evidence report*. Available online at [www.nhlbi.nih.gov/guidelines/obesity/ob\\_gdlns.pdf](http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf)
- OGDEN, C. L., CARROLL, M. D., KIT, B. K., & FLEGAL, K. M. (2012). Prevalence of obesity and trends in body mass index among US children and adolescents, 1999-2010. *Journal of the American Medical Association*, 307(5), 483-490.
- ROBERT WOOD JOHNSON FOUNDATION. (2012, September). *Declining childhood obesity rates – where are we seeing the most progress?* Available online at [http://www.rwjf.org/content/dam/farm/reports/issue\\_briefs/2012/rwjf401163](http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2012/rwjf401163)

- POWERS, A. R., STRUEMLER, B. J., GUARINO, A., & PARMER, S. A. (2005). Effects of nutrition and education program on the dietary behavior and nutrition knowledge of second-grade and third-grade students. *Journal of School Health, 75*(4), 129-133.
- RAYNOR, H. A., JELALIAN, E., VIVIER, P. M., HART, C. N., & WING, R. R. (2009). Parent-reported eating and leisure-time activity selection patterns related to energy balance in preschool and school-aged children. *Journal of Nutrition Education & Behavior, 41*(1), 19-26.
- REYNOLDS, K. D., YAROCH, A. L., FRANKLIN, F. A., & MALOY, J. (2002). Testing mediating variables in a school-based nutrition intervention program. *Health Psychology, 21*(1), 51-60.
- SALLIS, J. F., BUONO, M. J., ROBY, J. J., MICALÉ, F. G., & NELSON, J. A. (1993). Seven-day recall and other physical activity self-reports in children and adolescents. *Medicine and Science in Sports Exercise, 25*, 99-108.
- SALLIS, J. F., CERVERO, R. B., ASCHER, W., HENDERSON, K. A., KRAFT, M. K., & KERR, J. (2006). An ecological approach to creating active living communities. *Annual Review of Public Health, 27*, 297-322.
- SAMUELS, S. E., CRAYPO, L., BOYLE, M., CRAWFORD, P., YANCEY, A., & FLORES, G. (2010). The California Endowment's Healthy Eating Active Communities (HEAC) program: A midpoint review. *American Journal of Public Health, 100*(11), 2124-2128.
- THIAGARAJAH, K., BAI, Y., LO, K., LEONE, A., SHERTZER, J. A., HOELSCHER, D. M., ET AL. (2006). Assessing validity of food behavior questions from the School Physical Activity and Nutrition Questionnaire. In, *Conference proceeding from the 39th Annual Meeting of the Society for Nutrition Education*, 15-18.
- THOMPSON, F. E., KIPNIS, V., SUBAR, A. F., KREBS-SMITH, S. M., KAHLE, L. L., MIDTHUNE, D., ET AL. (2000). Evaluation of 2 brief instruments and a food-frequency questionnaire to estimate daily number of servings of fruit and vegetables. *American Journal of Clinical Nutrition, 77*, 1503-1510.
- THORPE, K. E., FLORENCE, C. S. HOWARD, D. H., & JOSKI, P. (2004). The impact of obesity on rising medical spending. *Health Affairs, W4*, 480-486.
- TOWNSEND, M. S., & KAISER, L. L. (2005). Development of an evaluation tool to assess psychosocial indicators of fruit and vegetable intake for two federal programs. *Journal of Nutrition Education & Research, 37*, 170-184.
- U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES. (2008). Prevent obesity and other chronic diseases: CDC's state-based nutrition and physical activity program. Available online at <http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/health/Health/nutrition/nutrition%20program%20staff/preventobesitya.htm>
- WANG, Y. & BEYDOUN, M. A. (2007). The obesity epidemic in the United States-gender, age, socioeconomic, racial/ethnic, and geographic characteristics: A systematic review and meta-regression analysis. *Epidemiologic Reviews, 29*, 6-28.
- James Pann, Ph.D.**, is chief science officer with the Research & Evaluation Network and a program professor at the Abraham S. Fischler School of Education at Nova Southeastern University. Correspondence concerning this article should be addressed to James Pann, Research & Evaluation Network, 8772 SW 61st Avenue, Pinecrest, FL 33143 (email: [jpenn@evalnetwork.com](mailto:jpenn@evalnetwork.com)).
- Angela Yehl, Psy.D.**, is senior research associate with Research & Evaluation Network and an assistant professor at Nova Southeastern University in the Institute for the Study of Human Service, Health, and Justice.
- Peter Wood, M.P.A.**, is vice president of programs and community investments at the Health Foundation of South Florida.
- Janisse Schoepp, M.P.H.**, is senior program officer and director of research and policy at Health Foundation of South Florida.
- Gabrielle Solomon, M.P.H.**, is a research and program associate at Health Foundation of South Florida.
- Craig Enders, Ph.D.**, is a professor in the Department of Psychology at Arizona State University.