HEALTHY KIDS, HEALTHY FUTURES
YEAR ONE PILOT EVALUATION REPORT
FALL 2009

Table of Contents

I. Partner Acknowledgements

The Healthy Kids, Healthy Futures (HKHF) pilot activities were made possible by the collaboration with its community partners, **Action for Boston Community Development (ABCD) Head Start, the City of Boston's Boston Centers for Youth & Families (BCYF)** and the **Boston Public Health Commission (BPHC)** and the generous contributions of the three funding partners: **Northeastern University, Children's Hospital Boston, and the Boston Red Sox.**

This report is a formative evaluation of the Healthy Kids, Healthy Futures pilot year conducted by the Healthy Kids, Healthy Futures Evaluation Team, an inter-institutional team of evaluators, statisticians, and researchers from Northeastern University and the Children's Hospital Boston.

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II. Executive Summary

The increase in overweight and obesity among children is a serious public health concern. In Massachusetts the prevalence of overweight and obesity among school age children is approximately 17%. In Boston, where half of the residents are of diverse racial/ethnic backgrounds, data from the Action for Boston Community Development, Inc. (ABCD) Head Start indicate that half of the preschool-age population they serve are overweight or obese. Obese children and adolescents are more likely to become obese adults. Therefore, it is important to promote healthful habits at a young age. Contributors to this problem are health behaviors such as high consumption of sugar-sweetened beverages, insufficient physical activity levels and excessive television watching. Children's health behaviors are shaped at home, in child care and in the community.

Healthy Kids, Healthy Futures (HKHF) was developed to respond to the needs of Boston's parents and child care providers for hands on education delivered in a linguistically and culturally appropriate manner and a safe space for families with young children to be physically active. HKHF is an innovative community-based early childhood initiative that combines evidence-based approaches to engage early child care providers and caregivers to promote healthy eating and increased physical activity. HKHF uses evidence-based curricula with the

objective to prevent childhood obesity by supporting health promoting environments among pre-school age children living in the Fenway, Mission Hill, Jamaica Plain and Lower Roxbury communities of Boston.

HKHF partners with Action for Boston Community Development (ABCD) Head Start, the City of Boston's Boston Centers for Youth & Families (BCYF) and the Boston Public Health Commission (BPHC) to provide programming, education and training. Financial support for these activities is provided by Northeastern University, Children's Hospital Boston, and the Boston Red Sox. Four Head Start programs have been targeted for HKHF pilot work including Parker Hill/Fenway, Native American Council, Jamaica Plain and Roxbury/Lenox.

HKHF consists of two main programmatic components: (1) Nutrition and Physical Activity Promotion in Home and Child Care; and (2) Community-Based Physical Activity Promotion for Young Children and Families. The Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) curriculum is used to improve nutrition and physical activity policies and practices through informational workshops, self-assessment, and targeted technical assistance among childcare staff at the four HKHF Head Start pilot program sites. The Ways to Enhance Children's Activity and Nutrition (WE CAN!) is a caregiver wellness curriculum aimed to build skills that support caregivers of pre-school age children in making informed and healthful food choices, increasing physical activity, and reducing recreational screen time for their families at home. In the community, HKHF provides access to and promotion of physical activity through a Saturday Open Gym for children ages 3-8 and their caregivers to explore different ways to be active together. It incorporates age-appropriate activities adapted from evidence-based curricula (i.e., SPARK Early Childhood and I am Moving, I am Learning) staffed by trained Northeastern University students. Saturday Open Gym is held at the Madison Park Community Center.

HKHF accomplishments from the pilot year include the following. In *childcare*, targeted at the four Head Start pilot sites, 47 Boston-based early childhood providers were trained in nutrition and physical activity promotion using NAP SACC workshops in English and Spanish, providing 235 professional credit hours. Additionally, self-assessments and goal setting plans were completed. At *home*, 32 WE CAN! classes (8 class series with 4 classes/series) and two Supermarket Tour classes were delivered to 72 caregivers of Head Start children at the four pilot sites with high acceptability and retention. Two-thirds of caregivers came to 3 or more classes. In the *community*, nine Saturday Open Gyms were offered during the summer, which were supervised by 20 trained Northeastern University student activity leaders. Forty nine families attended one or more Saturday Open Gyms and at least 100 Boston residents were reached.

HKHF uniquely combines evidence-based approaches to successfully engage early child care providers and caregivers to promote healthy eating and increased physical activity among culturally and linguistically diverse pre-school age children. The pilot year demonstrated high acceptability of the interventions among parents and child care providers, good feasibility for implementing all components of the intervention, initial evidence of parental behavioral intentions to reduce children's consumption of high fat and high sugar foods at home, and plan more physical activity for their children, and evidence of increased awareness among Head Start staff related to promoting healthier drinking behaviors. As one of the few initiatives designed specifically for preschoolers at high risk for developing overweight and obesity, HKHF

contributes in an important way to promoting healthier eating and physical activity among this group of children. Additional efforts to further evaluate the program with a controlled research design and a larger sample size, and to examine the effects of the program as a model to address childhood obesity in greater depth are important future directions for HKHF.

III. Addressing Childhood Obesity

The facts on childhood obesity and why we need to care

A recent review of 94,000 Massachusetts school children in grades 1, 4, 7 and 11 found 17.2% were overweight and 17.5% were obese [1]. The numbers are more startling in Boston. According to the 2007 Youth Risk Behavior Survey, one-third of Boston high school students were overweight or obese, with 18.5% considered overweight and 14.5% obese. Nationally, statistics for younger children show a similar trend with one in seven low-income, preschool-aged children considered obese [2]. According to the Spring 2008 measurement data from Action for Boston Community Development, Inc. (ABCD) Head Start, nearly half of preschool-age children at the four program sites participating in the Healthy Kids, Healthy Futures (HKHF) were either overweight or obese [3].

Nationally and locally, disparities in adult and adolescent obesity rates exist where children and adults of color are disproportionately impacted by the epidemic. In Boston, Black and Latino adults and adolescents are more likely to be overweight or obese as compared to their White

counterparts. With over half of the Boston residents being people of color, the issue of obesity and its related health concerns has emerged as a key public health issue and priority for the city. [4]

Obese children and adolescents are more likely to become obese adults [5]. For this reason, it is important to promote healthful habits at a young age. The increase in obesity and overweight is leading to increases in diabetes, cardiovascular disease, and premature death in adults. For the first time in history, children today may have a shorter life span than their parents. Further, the complex health problems associated with obesity will have a significant economic impact on the U.S. health care system.

Key factors influencing childhood obesity

Nationally, studies show that consuming excessive amounts of sugar-sweetened beverages, insufficient physical activity levels and excessive television watching may lead to increased levels of obesity for children [6-8]. For young children, a look at these behaviors provides a startling portrait of the challenges we face to reverse the epidemic:

- The Feeding Infants and Toddler Study of 2002 found that 44% of toddlers nationally aged 2- 24 months had consumed either fruit drinks or carbonated soda at least once a day. [9]
- Nationally, children aged 8–18 years spent slightly more than 3 hours each day watching TV, videos, DVDs, and movies [10].

While studies show that energy imbalance may lead to increased levels of obesity, we also know our individual health behaviors are shaped by access and opportunity to health promoting environments, and where we live, learn, work and play [11]. For children, home, child care and community are the environments where most of their time is spent and that therefore can have a significant impact on their health both today and for the future.

Focus on prevention – an environmental approach

A focus on prevention is critical to ensure a future for good health and that the current trends in obesity are curbed. Starting young to support healthy habits for a lifetime is necessary. Given that home, child care and community environments can influence children's behaviors related to food intake and physical activity, creating opportunities for families to be healthy and active together in their own community, in a culturally appropriate way, is important to promote behavior change and to support healthful habits.

Unfortunately, there are many barriers that prevent parents and caregivers from incorporating healthy habits into children’s lives. Through focus groups conducted with parents and early child care providers, prior to the start of HKHF pilot activities, the HKHF evaluation team learned that many families have trouble accessing affordable, fresh fruits and vegetables in their neighborhoods and parents often lacked the knowledge needed to make healthful choices around meal preparation. Caregivers also reported that recreational opportunities in the City of Boston were limited, especially for young children, and safety and financial concerns often prohibited

families from accessing services that did exist. Parents and child care providers indicated a need for hands on education in a culturally appropriate manner and a safe space for them to be physically active with their young children. To overcome these obstacles and to encourage more healthful behaviors it is apparent that both individual and environmental approaches are necessary.

IV. Healthy Kids, Healthy Futures Overview

Background

Planning for Healthy Kids, Healthy Futures involved conversations with community organizations and residents to learn about their needs and concerns regarding childhood obesity. During 2007 and 2008 focus groups were conducted at Greater Boston YMCA Training Center and ABCD Parker Hill Fenway Head Start. Focus group participants ranged in age, race and residence with the majority living in the City of Boston. Sample findings included:

- Parent safety concerns with outside play time;
- Store and home locations, socio-economic class and transportation impact food accessibility;
- Neighborhoods determine what food and services are available; and
- Families are very low income and fresh food is expensive.

In addition, meetings were conducted with Child Care Choices of Boston, the YMCA and the Boston Public Health Commission to learn about current service delivery focused on childhood

obesity prevention in the City. These meetings helped the HKHF funding partners identify its target population and develop and program to effectively meet their needs.

What is HKHF?

Healthy Kids, Healthy Futures (HKHF) is an innovative community-based early childhood pilot initiative aimed to prevent childhood obesity by supporting health promoting early childhood environments. In an effort to create greater opportunities for wellness among Boston families and to address the disparities in the rates of childhood obesity, HKHF partners with Action for Boston Community Development Head Start and the City of Boston's, Boston Centers for Youth & Families to provide programming, education and training in neighborhoods that bear a disproportionate burden of chronic diseases such as obesity, diabetes and cardiovascular disease.

HKHF uniquely combines evidence-based approaches to engage early child care providers and caregivers to promote healthy eating and increased physical activity among pre-school age children living in the Fenway, Mission Hill, Jamaica Plain and Lower Roxbury communities of Boston. HKHF's key messages focus on reducing sugar sweetened beverages, increasing fruits and vegetables, decreasing screen time and increasing physical activity. HKHF consists of two main programmatic components:

Nutrition and Physical Activity Promotion in Home and Child Care

To support improvements in the food and physical activity environments of pre-school age children, HKHF is working with four Head Start programs in the Fenway, Lower Roxbury, Mission Hill and Jamaica Plain neighborhoods across the following four areas:

- Head Start Program Self-Assessment using the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC)
- Goal Setting and Implementation at HKHF Pilot Program Sites
- Head Start Staff Training & Professional Development at HKHF Pilot Program Sites
- Wellness Education for Caregivers of Head Start Children at HKHF Pilot Program Sites using Ways to Enhance Children's Activity and Nutrition (WE CAN!)

NAP SACC is an intervention for child care centers aimed at improving nutrition and physical activity policies and practices through informational workshops, self-assessment, and targeted technical assistance. Goals are to improve the nutritional quality of food served, the amount and quality of physical activity, staff-child interactions, and nutrition and physical activity policies at the centers [12]. Four Head Start programs, Parker Hill Fenway, Native American Council, Jamaica Plain and Roxbury Lenox Streets, are supported by a HKHF NAP SACC consultant. Along with early child care providers, caregivers of pre-school age children play an important role in promoting healthy eating and physical activity. HKHF also uses Ways to Enhance Children's Activity and Nutrition (WE CAN!) [13], a caregiver wellness curriculum developed by the National Institutes of Health, to build skills that support caregivers of pre-school age children in making informed and healthful food choices, increasing physical activity, and reducing recreational screen time for their families. During the pilot year, a series of free bi-

lingual WE CAN! classes were provided to caregivers whose children attend the four participating Head Start programs.

Community-Based Physical Activity Promotion for Young Children and Families

The HKHF Saturday Open Gym is a 90-minute, semi-structured physical activity opportunity for children ages 3-8 and their caregivers to explore different ways to be active together. The HKHF Saturday Open Gym is designed as a fun, active, creative and safe physical activity opportunity that incorporates age-appropriate activities adapted from evidence-based curricula (i.e., SPARK Early Childhood [14] and I am Moving, I am Learning [15]) and staffed by trained Northeastern University students. The HKHF Saturday Open Gym is designed to encourage young children and their families to be active together while also bringing families into Boston's community spaces. HKHF's Saturday Open Gym offers the only free, on-going program of its kind for this age group (families with children ages 3-8 years) in Boston. During the pilot year, the Saturday Open Gym program was held at the Madison Park Community Center.

HKHF Year 1 Goals and Objectives

Goal 1: To improve the capacity of early childhood providers to prevent childhood overweight and obesity among pre-school age children and their families.

Objective 1. Provide up to six workshop sessions on nutrition and physical activity for up to 100 Head Start staff, along with a self-assessment of the nutrition and physical activity environments, and the development of individually tailored goals for four Head Start sites using the NAP SACC curriculum.

Spring 2009 Accomplishments

- Trained over 47 Boston-based early childhood providers in nutrition and physical activity promotion in childcare settings, providing 235 professional credit hours.
- Delivered two series of bi-lingual All Staff Trainings using the NAP SACC curriculum materials: Series 1-Obesity, Healthy Eating & Physical Activity Promotion; Series 2-Personal Wellness & Communicating with Families.
- Completed four self-assessments and goal setting plans at four Head Start pilot sites.

Goal 2: To increase opportunities for caregivers of young children to build skills that support informed and healthful food choices, increased physical activity, and reduced recreational screen time.

Objective 2. Provide 32 physical activity and healthy eating education classes with incentives for up to 80 caregivers of pre-school aged children attending four ABCD Head Start sites using the National Institutes of Health's WE CAN! curriculum.

Spring / Fall 2009 Accomplishments

- Delivered 32 classes (8 class series with 4 classes/series) and two additional Supermarket Tour classes to 72 caregivers of Head Start children at four pilot sites with high acceptability and retention. Two-thirds of participants came to 3 or more classes.

Goal 3: To increase opportunities for young children to be physically active with their families in safe, accessible and age-appropriate settings.

Objective 3: To develop, promote, and provide up to 20 community-based Saturday Open Gym sessions that are free and accessible to young children ages 3-8 and their caregivers to engage in physical activity together.

Spring/Summer 2009 Accomplishments

- Developed Saturday Open Gym curriculum and student leader training using activities from two pre-existing programs for young children.
- Trained 20 Northeastern University students to implement the Saturday Open Gym program.
- Held nine Saturday Open Gym sessions during the summer 2009.
- Reached at least 100 Boston residents through the Saturday Open Gym program. With 49 families attending one or more Saturday Open Gyms.

V. Year One Evaluation: Methods and Key Findings

The HKHF formative evaluation involved the collection of qualitative and quantitative data from multiple informants across the two main program components: Nutrition and Physical Activity Promotion in Home and Child Care and Community-Based Physical Activity Promotion for Young Children and Families. This section of the evaluation report describes findings from these two program components and the Healthy Kids, Healthy Futures multi-institutional partnership.

i. Nutrition and Physical Activity Promotion in Home and Child Care

a. Head Start Program Self-Assessment

Methods

In February 2009, a meeting with the ABCD Head Start Director of Evaluation took place to coordinate the Nutrition and Physical Activity Self-Assessment in Child Care (NAPSACC) component. The NAP SACC 6-page survey instrument assessing 14 key areas in nutrition and physical activity, was completed by all ABCD Head Start programs, including the four HKHF pilot program sites, by March 2009 (Appendix B, Fig. 1). All Head Start programs were asked to complete the NAP SACC self-assessment with a group that included staff from Education, Mental Health, Kitchen, and Family Involvement. Methods for completing the NAP SACC self-assessment tool across the four HKHF pilot program sites varied by program and are described below.

Native American Council- The Native American Council Head Start is the smallest of the four HKHF pilot programs with one classroom. At this site, the Program Director filled out the NAP SACC survey with a mix of in and out of classroom observations.

Jamaica Plain Head Start-The Program Director had the Education Supervisors at the program convene two different groups of teachers to complete the self-assessment collectively. One self-assessment was compiled using the two groups responses.

Parker Hill Fenway- The Program Director convened a team that included staff from Family Involvement, Education Supervisor, and Mental Health to complete the self-assessment.

Roxbury Lenox Street- The Program Director identified staff to work in groups and complete the self-assessment by classroom (*N=4*). Individual classroom self-assessments were compiled and analyzed for the overall program.

Findings

Below are the key findings from the NAP SACC across the four participating Head Start HKHF pilot program sites.

Limiting Unhealthy Food Choices
All four ABCD Head Start programs reported that: (1) fried potatoes, (2) high-fat meats (hot dogs) and (3) sugary drinks were offered less than once per week, rarely or never and all reported that there were no vending/soda machines on site. Three indicated that: (1) fried chicken/fish and (2) sweets and salty snacks (cookies, chips) were offered less than once per week or never. Two of the four sites reported that vegetables were rarely or never prepared with fats, margarine or butter.

Promoting Healthy Food Choices
All four sites reported that: (1) fruit was offered two or more times per day; (2) milk served to young children was usually 1% low fat; and (3) drinking water outside is easily visible or available on request. Three sites indicated that: (1) vegetables (not including French fries) were offered once a day, (2) high-fiber, whole-grain foods were offered 2-4 times per week, and (3) beans and lean meats were offered 1-2 times per week. Two sites reported that vegetables other than potatoes were offered 3-4 times per week.

Eating Behaviors – Staff and Children
Three of the four pilot program sites reported that children are encouraged by staff to try new or less favorite foods and that staff: (1) join children at the table for meals; (2) consume the same food and drinks as children; and (3) talk informally with children about trying/enjoying healthy foods frequently. In addition, three sites indicated that food is rarely or never used to encourage positive behavior. Two sites reported that children are asked "all of the time" if they are: (1) full before staff remove half-eaten meals; and (2) still hungry before staff serve more food.

Nutrition Education and Policies
Three of the four pilot program sites reported that: (1) posters or books about healthy food are in every classroom/common area; and (2) a written policy on nutrition is available and followed. Two sites indicated that: (1) nutrition training opportunities are provided to staff once a year; (2) nutrition education is provided for children through a standardized curriculum once a week or more; and (3) nutrition education opportunities (i.e., workshops) are provided to parents once a year.

Exercise and Physical Activity
All four pilot program sites reported that: (1) 45-90 minutes of active playtime is provided to all children daily; (2) staff often encourage children to be active and join students in active play; (3) TV and videos are "rarely or never" used; (4) excluding meal time, children are rarely seated for more than 30 minutes at a time; and (5) physical education is provided for children through a standardized curriculum. Three sites responded that: (1) outdoor active play is provided for all children once a day; and (2) teacher-led physical activity is provided to all children two or more times per day. Two sites reported that staff training opportunities in physical activity are provided at least two times per year and that a policy on physical activity is written, available and followed. With respect to the physical environment, two sites reported that: (1) outdoor play space includes plenty of open running space, but no track for wheeled toys; and (2) indoor play space is available for all activities, including running.

b. Goal Setting and Implementation at Head Start HKHF Pilot Program Sites

Methods

Following completion of the self-assessments, HKHF staff in partnership with ABCD Head Start Central Nutrition staff held four, two-hour on-site meetings with each of the four participating sites to: a) discuss NAP SACC results, b) set program goals related to one or more key NAP SACC areas identified lower than best practice and c) develop a program action plan to achieve these goals. The Program Director, Education Supervisor, and Mental Health Supervisors at each site were in attendance at each of the meetings. Two months later a progress meeting attended by staff from all four sites was convened to allow staff at the sites to share challenges and achievements related to their goals. In attendance were the HKHF Project Manager, the ABCD Nutrition Central Coordinator, Program Directors from the Parker Hill Fenway and Native American Council program sites, and the Education Supervisors from Jamaica Plain and Roxbury Lenox Street program sites. In addition to the progress meeting, HKHF staff provided on-going support for all sites related to goal implementation with follow-up phone calls, monthly email updates, and on-site meetings.

Findings

Each Head Start site chose one or more NAP SACC area goals that focused on nutrition and physical activity/exercise. Table 1 presents the goal(s) selected by each site (see Appendix A).

Two Head Start programs selected goals related to nutrition education and feeding practices and one chose supporting healthy eating and nutrition policy. None of the sites selected nutrition

goals dealing with specific foods or types of foods. A similar pattern of goal choices was evident regarding the goals related to physical activity and exercise, where two sites chose goals related to physical activity education for staff, children and families and physical activity policy. Only one site selected a specific goal related to active play and inactive time. In the Fall 2009, HKHF staff will follow up with the four Program Directors at the participating sites to examine the extent to which each site was able to achieve its goals and to identify factors that facilitated and impeded goal attainment (Appendix B, Fig. 2).

c. Head Start Staff Training and Professional Development at HKHF Pilot Program Sites

Methods

HKHF contracted with the BPHC's Chronic Disease Prevention and Control Division to provide two series of all staff trainings for the four participating Head Start program sites using the modules provided in the NAP SACC intervention toolkit. The staff trainings were conducted using the following NAP SACC modules:

Module 1: Childhood Obesity
Module 2: Nutrition for Young Children
Module 3: Physical Activity for Young Children
Module 4: Personal Health and Wellness for Staff
Module 5: Working With Families to Promote Healthy Weight Behaviors

Series 1 of the NAP SACC All Staff Training covered NAP SACC modules 1, 2, and 3 and was three hours in length. Series 2 covered modules 4 and 5 and was two hours in length. Trainings were offered in both English and Spanish. The English language trainings were led by a licensed nutritionist from the BPHC and HKHF staff. The Spanish language trainings were led primarily by HKHF staff. Participating staff received a total of five professional development hours for attending both All Staff trainings, three hours for attending Series 1 and two hours for attending Series 2.

To evaluate the NAP SACC All Staff training efforts, an evaluation survey was administered to participants at the end of each training. The NAP SACC training evaluation tool was provided to attending staff to fill out after each of the training series (Appendix B, Fig.3).

To obtain more in depth feedback from staff who attended one or both of the trainings, a focus group was also conducted. The HKHF Project Manager worked with the Head Start Program Director from each of the four HKHF pilot program sites to select three to four staff per site to attend the one hour focus group. Focus group participants were given a gift card and provided with lunch for their time. The focus group was conducted by staff from the Children's Hospital Boston Office of Child Advocacy.

Findings

NAP SACC All Staff Training Evaluation Surveys (N=71)

While 66.2%, (*n* = 47) of the total sample of 71 staff members attended both training series, 24 staff members attended only one series (i.e., 15 attended Series1 and 9 attended Series 2). Because not every participant attended both training series, data are presented separately for each training series in Table 2 (Appendix A). For both training series, most participants agreed that the: (1) training topics were important and interesting; (2) training objectives were clear; (3) the information provided would be useful; and (4) trainings were well organized and taught effectively. Almost all participants agreed that the presenter used helpful visual aids and handouts. Almost all agreed that the training will be useful to them personally and that the topics covered were important. Finally, the majority of the participants indicated they would be interested in a follow-up session on the topics covered.

NAP SACC Focus Group (N=11)

Memorable Program Messages & Subsequent Behavior Change
Focus group participants were asked to recall memorable messages and ideas that they were able to be put into practice at the Head Start sites as a result of the NAP SACC All Staff Training Series. Frequent themes recalled included: (a) reduced sugar consumption, particularly in beverages; (b) increased awareness of portion sizes when eating and nutrition information when purchasing food; and (c) ideas to encourage increased vegetable consumption. Interestingly, respondents identified many more memorable program messages and reported more behavior change related to improved nutrition relative to increased physical activity. Selected quotes from focus group participants are illustrated below.

Food Purchasing & Preparation, Portion Size/Labels
"I learned how to cook healthy; personally I lost weight."

"The [thumbs up] brochure is helpful. It tells me how to find food that has higher…and lower calories [for my son and myself]."

[The] thumbs up and down brochure [is] extremely helpful…I take it when I go shopping…I exercise more and eat healthy…[and] I tell parents the things I learned."

"[The program] helped [me] to cut calories and decrease portion size[s]."

"I look at calories and what to eat."

"I not only eat healthier myself, but also told my parents and they apply that information to prepare food for their grandchildren."

Sugar and SSBs
"[I] used to drink soda…but after learning how much sugar it has I stopped."

"I learned that honey equals sugar and calories so I stopped taking honey with tea…I tried to tell parents to have tea without sugar because that also helps to appreciate the real taste of tea…We share information from the workshop with the parents and others."

Exercise
"I take long walks and exercise more."

"[The program] helped me to start exercising."

Classroom-level Changes
Head Start staff members were asked what, if any, changes they were able to make in the classroom as a result of the NAP SACC All Staff Training Series. Overall, focus group participants reported changes related to helping children drink healthier beverages (i.e., more water and fat free milk) and eat appropriate portion sizes. Quotes illustrating these two themes are described below. Head Start staff members were asked if they thought a policy on water drinking would be helpful. They replied that this was not necessary.

Healthier Drinks
"[I] replaced coffee, tea, [and] juice with water when I have parent meetings in the classroom."

"[The] children in my class drink more water, [and] parents [are] satisfied since they saw the [Delicious Drinks] book."

"[We] talked about yellow urine and drinking more water to make it clear. Kids themselves are learning that drinking water makes it clear."

"[We] got lollipops juices out"

"At the second workshop [copies of the Delicious Drinks book] were given out…we sent those home with children…Children now want more water and parents now come back and tell me that the children want more water and eat healthy."

"[We went] from red (whole) to yellow (skim) milk. Kids tell [their] parents to buy the yellow milk."

Portion sizes

"[I] put pictures of portion sizes on plates so kids know the amount that needs to be filled and [that they do] not need [an] extra portion."

"[I've] given a print out of portion sizes to [children to] take home"

"I got smaller plates at home…[I] noticed that at school kids are starting to lose weight and I have also lost weight."

Ideas for Future Changes

Head Start staff also provided suggestions of resources that they would consider helpful in their attempts to improve their efforts to promote healthier eating and increased physical activity among themselves, their families and their students. These ideas are bulleted below:

- Having handouts for parents.
- Having the workshop once a year to reinforce the things staff learned.
- Having a gym for staff to exercise.
- Shopping at the supermarket and showing how to buy healthy food.
- Providing more information about different foods like soy milk and artificial sweeteners, and discussing the potential problems when using these products.
- Having cooking classes for providers.
- Handing out healthful recipes.

d. Wellness Education for Caregivers of Head Start Children at HKHF Pilot Program Sites

To support caregivers of Head Start children in making informed and healthful choices for themselves and their families, HKHF used the National Institutes of Health's (NIH), Ways to Enhance Children's Activity and Nutrition (WE CAN!) curriculum. The curriculum consists of four, 90-minute participatory class sessions covering the following topics: Overview and Why Overweight is an Important Health Issue, Energy Balance, Strategies for Reducing Energy In, and Strategies to Improve Energy Out. All WE CAN! classes were led by health and nutrition professionals of color trained through the BPHC. To schedule the WE CAN! series, HKHF staff worked with the Head Start Program Directors from each of the four pilot program sites to determine the days and times that worked best for their programs' caregivers. Three cycles (i.e., 4 class sessions/cycle) of WE CAN! classes were offered to caregivers of Head Start children at three of the four HKHF pilot sites. Given the small size of the Native American Council Head Start, WE CAN! classes were not scheduled at this program site and instead caregivers of children from this program were invited to join WE CAN! classes scheduled at other program sites. To facilitate caregivers' transportation to attend WE CAN! classes at other sites, transportation vouchers were made available.

One Head Start staff member was designated from each of the four pilot programs to assist the HKHF Project Manager in caregiver recruitment. As part of registration for a WE CAN! class series, interested caregivers were given an informed consent form and an NIH-developed

participant survey prior to the first class. In cases where WE CAN! class participants did not complete the informed consent and survey prior to the class, HKHF staff and WE CAN! facilitators provided the materials during the first class session and allowed time for in class completion.

Seven WE CAN! class series were held in the mornings and one series was held in the evening. Healthy snacks were provided at each class. WE CAN! participants who attended all four classes in the spring received a pair of Boston Red Sox tickets. All participants attending one or more of the four WE CAN! classes in a given series, including the last class, received a certificate of completion and a $20 gift card to a local grocery store.

Cycle 1 and 2 WE CAN! classes took place in the spring 2009, Cycle 3 took place in fall 2009 at the following HKHF pilot program sites:

Roxbury Lenox Head Start- This program has two sites, therefore two separate WE CAN! class series were offered, one at each site during Cycle 1 only. WE CAN! classes at this site were in English and held in the morning after drop-off time.

Parker Hill Fenway Head Start- Three WE CAN! series were held at this site, one class series for each Cycle was held. For Cycle 1 and 3, classes were held in English and scheduled in the morning after drop-off time. Cycle 2 was held in English with simultaneous Spanish interpretation provided.

Jamaica Plain Head Start- Three WE CAN! class series were offered at this site, one series for each cycle. All Cycles were conducted in Spanish, Cycle 1 and 3 classes were scheduled in the morning after drop-off and Cycle 2 classes were scheduled in the early evening before pick-up.

To evaluate the WE CAN! classes, an NIH-developed participant survey called "Tell Us What You Think!" was administered in Spanish and English to caregivers before the first WE CAN! class and a second time at the end of the last WE CAN! class. The survey was used pre and post WE CAN! class delivery to assess what information caregivers already had and what changes were observed after taking the WE CAN! class. The 5-page survey assesses knowledge, attitudes and behaviors related to fruit and vegetable intake, daily physical activity, screen time and demographic information (Appendix B, Fig. 4).

Two focus groups with caregivers who participated in WE CAN! classes were also conducted. The purpose of the caregiver focus groups was to understand key programmatic messages that participants retained, to obtain participant feedback on ways to improve the class, and to gather ideas to improve participant recruitment strategies. More specifically the focus groups sought to understand participants': (a) experiences related to attempted behavior change; (b) beliefs about what worked, what didn't and ways to improve the program in the future; and (c) suggestions for increasing caregiver participation in the future. Focus group respondents included 30, English (n = 12) and Spanish (n = 18) speaking caregivers. One of the caregiver focus groups was conducted in English and the other was conducted in Spanish, by a native Spanish-speaking facilitator.

Findings

WE CAN! Energize Our Families: Caregiver Survey (N=72)

Of the 64 caregivers for whom gender data were available, nearly all (92.2%, *n* = 59) were female. Caregivers' mean age (*n* = 56) was 35.94 years (*S.D.* = 10.86); ages ranged from 21 to 56 years. Table 3 (Appendix A) provides demographic data on participating caregivers, including the frequency distribution of caregivers by Head Start location.

WE CAN! Class Attendance and Participation in Other Health-Related Nutrition/Physical Activity Classes

Nearly all parents who signed up for the WE CAN! classes (93.1% *n* = 67) attended at least one class while 5 attended none. Nearly two-thirds (65.3%, *n* = 47) attended three or more classes. More than half the parents (56.9%, *n* = 41) attended the WE CAN! Classes offered in Spanish while 43.1% (*n* = 31) attended the English versions. Of the 36 parents who answered this question (*n* = 36), more than two-thirds (69.4%, *n* = 25) attended other health-related nutrition or physical activity classes *either* before or after the WE CAN! classes offered intervention.

The Relationship Between Head Start Program Site and: (1) WE CAN! Class Attendance and (2) Completion of Both Pre- and Post-Intervention Surveys

A total of 35 caregivers completed both the pre- and post-intervention questionnaires, representing 48.6% of the 72 caregivers participating in the WE CAN! at the three program sites. In order to identify significant differences in WE CAN! class attendance and completion of both pre- and post-intervention surveys based on Head Start program site, Chi-Square analyses were conducted using SPSS Procedure CROSSTABS. Head Start program site represented the independent variable; Class attendance (coded 'yes' or 'no') and completion of both pre- and post-surveys (coded in the same way) were the dependent variables in each analysis. Use of this statistical procedure is appropriate when the variables to be examined are categorical, or discrete. Results of these analyses found no significant relationship between site and either WE CAN! class attendance ($p > .05$) or completion of both pre- and post surveys ($p > .05$). This means that the number of caregivers who attended WE CAN! classes and completed both surveys did not differ across the three sites.

The Relationship Between Class Attendance and Completion of Both Pre- and Post-Intervention Surveys

We then addressed the question of whether there was a significant association between attendance at any class and completion of both pre- and post-intervention surveys. Because "class attendance" and "completed both surveys" were both dichotomous variables, a nominal x nominal analysis was conducted using CROSSTABS and a contingency coefficient (*cc)* for a two-by-two table was requested. Results revealed a significant association between completion of both pre- and post-intervention surveys and class attendance *(cc. = 0.26, p=.024).*

A follow-up analysis tested the association between completion of both pre- and post-surveys and the *number* of classes caregivers attended and found a significant relationship between completion and having attended *at least four of the five classes (cc.= 0.66, p =.000).* Of the 35 caregivers who completed both, (82.9%, *n* = 29) attended four or more classes; of the 37 who did not complete both, only 17.1% (*n* = 6) attended four or more classes. This means that

completion of both pre- and post-intervention surveys was significantly associated not only with any class attendance but with the number attended: Those attending at least four classes were more than three times as likely to have completed both pre- and post- surveys as those who did not.

The Relationship Between Class Language, Class Attendance and Completion of Both Pre- and Post-Intervention Questionnaires

In order to identify significant differences in WE CAN! class attendance and completion of both pre- and post-intervention surveys based on whether classes were conducted in English or Spanish, the same Chi-Square analyses were conducted. Class language (English or Spanish) represented the independent variable; Class attendance (coded "yes" or "no") and completion of both surveys (also coded "yes" or "no") represented the dependent variables in each analysis. No significant association was found between Class language and either (a) Class attendance ($p >$ .05); or (b) completion of both pre- and post surveys ($p >$ .05). This means that the number of caregivers attending WE CAN! classes and completing both surveys did not differ based on the language in which the classes were offered.

Examining Changes in Nutrition/Physical Activity-related Behaviors from Pre- to Post-Intervention

Paired-samples t-tests were performed to identify significant changes ($\alpha = .05$) in caregivers' likelihood of engaging in healthy nutrition and exercise-related behaviors from pre- to post-intervention. Their responses to Likert-scaled statements ("...likely to do in next 30 days...") at pre- and post-intervention were the members of each pair of means tested. Scores ranged from 1 ("very unlikely") to 5 ("very likely"). Changes in the positive direction reflected caregivers' *increased* likelihood of engaging in a healthy nutrition/exercise-related behavior; changes in the negative direction reflect their *decreased* likelihood of doing so. Results of these t-tests are shown Table 4.

Table 4 shows that scores on the following nutrition-related items increased significantly from pre- to post-intervention (Bonferroni-adjusted $\alpha = p < .05$): (1) reducing high-fat/sugar foods in the next 30 days; (b) talking about healthy foods with family in the next 30 days; and (c) switching to smaller portions in the next 30 days. A trend *($p = .07$)* was identified for the item about including reduced fat/fat-free foods at meals in the next 30 days.

Scores on one exercise/physical activity item increased from pre- to post-intervention: Helping my child plan physical activities with his/her friends in the next 30 days (Bonferroni-adjusted $\alpha = p < .05$). Cohen's *d* (effect size) was calculated on all t-tests for which $p <= .10$. Cohen's *d* is shown next to each item on the Caregivers' Survey for which such a *p* value was obtained.

Head Start Caregiver Focus Groups (N=30)

Memorable Program Messages & Subsequent Behavior Change

Caregivers who attended the WE CAN! classes were asked to recall memorable program messages and ideas that they were able to be put into practice as a result of the program. Frequent themes recalled included: (a) reduced sugar consumption, particularly in beverages; (b) increased awareness of portion sizes when eating and nutrition information when purchasing food; and (c) ideas to encourage increased vegetable consumption. Interestingly, respondents

identified many more memorable program messages and reported more behavior change related to improved nutrition relative to increased physical activity. Selected caregiver quotes from focus group participants are illustrated below.

Food Purchasing & Preparation, Portion Size/Labels

"I learned what are the right portions…I teach my child to try the food first to know if he is going to like it, and then [I] decide the portion he [will have]."

"[I am] more aware of labels at the supermarket."

"I need to take more time while grocery shopping to read labels and purchase foods based on nutritional value."

Sugar and SSBs

"Drinking soda…my family does not like to drink natural water. The only way for them to drink something is if it's soda, so I have to buy juice for the kids otherwise they won't drink anything. I can try to convince them but nobody pays attention. But I do have diabetes and I have to drink natural water."

"I have an overweight kid, and I eliminated everything that contained sugar, soda and I look for products with fiber and no sugar."

"I learned that is better to not have any [junk food] at home…so now I avoid having candy or anything at the reach of the kids."

"Thank God for this class. I didn't realize the stuff I was eating had all of this sugar and fat.

Vegetables

"I learned how to mix vegetables with other foods so is easier for my daughter to accept it."

"When I eat with the [kids] I give the example saying how good my vegetables are, and that makes them curious and they want to try them."

"My son is very picky about eating vegetables, so I blend the vegetables in the spaghetti sauce. I took that idea from the workshop."

"At home my daughter doesn't like vegetables but now I mix them with other food and she likes them."

Salt

"The message about the quantity of salt in the food is the one that impacted me the most and the best solution is to not buy that food at all."

Caregivers as Health Ambassadors

Caregivers reported that it was important for them to share information they learned in the WE CAN! classes with others who play important food provision roles in the lives of their children (i.e., parents, grandparents, aunts and uncles) and others close to them. Below are several quotes from caregivers who participated in the WE CAN! classes.

> "In case family members can't make it, it is our responsibility to share the information at home."
>
> "[I shared information] with the grandfather of my kids because he always gives them candy and soda."
>
> "[I shared information] with my brother because he will soon be a father for the first time."
>
> "[I shared information] with my sister and friends, but it is better if they come and get the information themselves."
>
> "[I shared information] with the granduncle of my son, he always gives him candy."

Increasing Participation

Caregivers made numerous suggestions to help improve program participation in the future. Ideas included: (1) Making reminder phone calls the day before and the morning of the session; (2) receiving calls from other parents (this is done at church programs); (3) having parents serve as ambassadors to the program; (4) allowing parents to bring a friend even if they don't have children enrolled in Head Start; (5) having more interpreters for parents; (6) holding some classes in the supermarket; and (7) posting flyers, including in the street so other parents know where to find the workshops. Caregivers identified language as a barrier for some parents' participation. Another reported that English comprehension while information is being translated into another language can be difficult. Head Start staff who participated in the NAP SACC All Staff Training Focus Group also provided suggestions to improve caregiver participation. Interestingly, both caregivers and Head Start staff suggested holding at least one of the workshops in a supermarket to demonstrate how healthier foods can be purchased affordably. Head Start staff also suggested offering the workshops at varying times.

Improving the Program in the Future

Caregivers had numerous ideas to improve the program in the future. These included having one or more interactive group sessions with their children, breaking up the workshops into shorter, more frequent sessions, providing more ideas about physical activity and more opportunities to be physically active during the workshop. Specific caregivers' ideas provided are bulleted below.

- Giving more ideas and information to parents, such as ideas about food and how to be creative with it.
- Having a group session with kids would be helpful to educate kids on portion control.
- Making a parent-child group interactive, so the parents aren't just sitting there.
- Allowing kids to leave their classroom to participate in a workshop with their parents.

- Shortening the length of the classes (2 hours is a long time for one class; 45-minute sessions may be better).
- Holding classes more often but for a shorter time.
- Providing more information on:
  - Exercising in the house
  - Portion control
  - Activities to do instead of watching TV
  - Suggestions on things to do after dinner
  - Activities during summer and after-school (e.g., what do you do when kids are too young for camp; limiting TV time to one hour is difficult; providing more information on the library).
- Working out and stretching during the class – incorporate exercise into the workshop.
- Providing information on more affordable places to eat…not some expensive healthy place.
- Being more sensitive to vegetarian diets.
- Getting tips about how to deal with the different diets for different members of the family.
- Having bilingual workshop facilitators.
- Being able to take the workshop even if we are not part of Head Start.
- Having the facilitators give ideas not just based on what they like to eat.
- Having all of the information in Spanish.
- Have a cooking class at the end of the program.

ii. Community-Based Physical Activity Promotion for Young Children and Families

a. Saturday Open Gym Student Orientation Training

Methods

Northeastern University student volunteers were recruited through peers in the classes of the Open Gym Graduate Student Coordinators from the Department of Health Sciences, Clinical Exercise Physiology and College of Applied Educational Psychology, students in the Department of Physical Therapy, and on campus outreach through tabling at various Northeastern University on-campus venues. The HKHF Project Manager, HKHF Project Investigators, and Open Gym Graduate Student Coordinators developed the Open Gym Student Orientation Training (Appendix C, Fig. 1). The 6-hour Open Gym Student Orientation Training was conducted at the Saturday Open Gym site location at the BCYF Madison Park Community Center. All attending students were asked to complete and return two feedback forms at the end of the training session (Appendix B, Fig. 5).

Findings

Students serving as volunteers for the Open Gym were asked to rate the success of their training on seven goals, including an understanding of their volunteer role and of the Open Gym structure (N=20). Results, based on responses to seven Likert-scale items, are presented in Table 5 (Appendix A).

All student volunteers rated the training as "excellent" (80%), "very good" (15%) or "adequate" (5%) in helping them understand their role as an HKHF volunteer. Nearly two-thirds (65%) rated the training as "excellent" in helping them understand how to engage families and children in physical activity together; with the remaining 35% rated the training as "very good" (15%), "adequate" (15%) or "somewhat adequate" (5%). Finally, 60% rated the training as "excellent" in helping them understand the open gym structure with the remaining 40% rating the training as either "very good" (20%) or "adequate" (20%).

Weekly communication and on-going support for student volunteers was managed by the Graduate Student Open Gym Student Volunteer Coordinators through the program's Blackboard website. Using this venue student volunteers received weekly reminders, had access to all of the program orientation materials and received weekly assignments for the Saturday Open Gym.

b. Saturday Open Gym Family Participation

Methods

A variety of methods were used to recruit families to attend the Saturday Open Gym with directed efforts in the neighboring communities in closest proximity to the Madison Park Community Center. A team of Northeastern University student volunteers and HKHF staff handed out about 150 and flyers to individuals with young children at three major transit hubs, the Dudley Station bus depot and the Roxbury Crossing and Ruggles T stations. Phone calls were made to local child care centers and libraries with follow up flyer drop off to these sites. Local businesses in closest proximity to the Madison Park Community Center also received flyers. HKHF staff also worked with a number of family service organizations including Child Care Choices of Boston, the Boston Public Health Commission, Countdown to Kindergarten and the Boston Centers for Youth and Families (BCYF) to disseminate information. Flyers were also distributed at each of the four participating Head Start pilot program sites (Appendix C, Fig. 2).

Families attending Open Gym were asked to complete a liability waiver and complete a brief questionnaire to provide their name, contact information and the name of their child(ren) (Appendix C, Fig.3). Each week Northeastern University student volunteers recorded the number of new and returning families. In addition to recording Open Gym attendance, caregivers were asked to voluntarily complete a one-page feedback survey in either English or Spanish. The feedback survey was provided on-site at the sign-in table for all new families attending the Saturday Open Gym sessions at the Madison Park Community Center. (Appendix B, Fig. 6). To encourage families to return to the Saturday Open Gym program on subsequent weeks one of the Graduate Student Open Gym Coordinators made weekly reminder phone calls and sent emails to caregivers.

Findings

HKHF Saturday Open Gym Attendance (N=49)

A series of nine Open Gyms were completed during the summer 2009. Originally scheduled as 10 weeks for the summer 2009 pilot, one week of the HKHF Saturday Open Gym was cancelled due to a large scale event at the community center. Of the nine sessions held, a total of 49 families with an estimated total of at least 128 adult caregivers and children between the ages of 2-10 years participated in the Saturday Open Gym component of HKHF. Average weekly attendance for the Saturday Open Gym was 20 families (range = 12-30 families). Of the 49 families who attended the Saturday Open Gym, almost half, 47% attended five or more of the Saturday Open Gyms and 16% came to all nine sessions of the Saturday Open Gym. Nearly three-quarters of attending Saturday Open Gym families (71%) came to between 1-4 sessions. Of the 49 participating families, at least 12 were identified as having had their child in an ABCD Head Start program.

With the exception of Weeks 1 & Week 6, all weekly Saturday Open Gyms had at least one new family attend (see Tables 6 and 7 in Appendix A).

HKHF Saturday Open Gym Caregiver Survey (N=19)

Caregivers who attended the Saturday Open Gym with their children (or grandchildren) were asked to rate their overall experience as well as certain aspects of the program. Results, based on responses to closed-end questions, are presented in Table 8 along with neighborhood and demographic data (Appendix A).

All caregivers reported having enjoyed the program. They reported that they would recommend the program to others and would return to the same location for Saturday Open Gym. All caregivers *(n = 19)* indicated that both they and their children would play the games they learned at the Saturday Open Gym in the future. These included 'ball and scoop', dodge ball and hula hoop. The following are quotes from caregivers related to their Saturday Open Gym experience:

> "[I] liked the participation of parents."
>
> "[It was a] great opportunity for kids and adults."
>
> "It keeps my energetic child active."
>
> "You can be around different nationalities and learn from them."
>
> "It's a safe and free place for physical activity."
>
> "We feel like family"
>
> "It's excellent for parents and their kids."

c. Saturday Open Gym Wellness Resources

Methods

As way to enhance the Saturday Open Gym experience for families while connecting them to essential services and resources, the Saturday Open Gym hosted one Community Resource Day as well as four community-based fitness experts with backgrounds in personal training, yoga, Zumba, kick-boxing and Latin dance to serve as guest instructors.

Findings

For the Community Resource Day at the Saturday Open Gym, the following eight community based organizations attended and provided information and resources to families related to asthma prevention, childhood injury prevention, early literacy and enrichment, pre- and post natal care:

- Boston Public Health Commission Healthy Baby, Healthy Child
- Children's Hospital Boston Community Asthma Prevention Program
- Children's Hospital Boston Childhood Injury Prevention Program
- Criterion Early Intervention
- Countdown to Kindergarten
- Childcare Choices of Boston
- Kool Smiles
- Neighborhood Health Plan

iii. Healthy Kids, Healthy Futures Partnerships

a. Overview of Healthy Kids, Healthy Futures Partnerships and Unique Partner Assets

HKHF resulted from partnerships among six institutions in Boston, MA: (a) Northeastern University; (b) Children's Hospital-Boston; (c) the Boston Red Sox; (d) Action for Boston Community Development (ABCD) Inc. - Head Start Programs; (e) Boston Centers for Youth & Families (BCYF); and (f) the Boston Public Health Commission (BPHC). Capitalizing on the assets of each of these institutions, each partner contributed in unique ways to the success of the HKHF pilot initiative. Below each partner and their unique assets are described.

Northeastern University
Founded in 1898, Northeastern University is a private research university located in the heart of Boston, and a leader in interdisciplinary research, urban engagement, and the integration of classroom learning with real-world experience. Northeastern's signature cooperative education

program, one of the largest and most innovative in the world, is ranked among the best in the nation by *U.S. News & World Report*.

As part of this partnership, Northeastern University provided office space, administrative oversight and support for the Program Manager and project operations. The program manager was the key person in the project responsible for the delivery of the nutrition and physical activity curricula, assessment and evaluation of program operations through pre and post-testing surveys, scheduling and logistics for participants and partners, IRB paperwork and management. In addition, Northeastern provided support for the development of a memorandum of understanding between partners and Action for Boston Community Development (ABCD) Inc. and Boston Centers for Youth & Families (BCYF) partners; recruited, trained and supervised Northeastern students to run Saturday Open Gym Sessions; provided faculty expertise for the design, implementation and evaluation of the various program components, and in particular the open gym curriculum and equipment. In addition, Northeastern faculty attended project-related meetings with partners and staff; provided outreach and promotional support for materials development; and coordinated with appropriate university representatives around project deadlines, materials development, and financial and in-kind support.

Children's Hospital Boston

Children's Hospital Boston is home to the world's largest research enterprise based at a pediatric medical center. Since 1869, clinicians and scientists at Children's have set the pace in pediatric research, identifying treatments and therapies for many debilitating diseases, including those of adulthood.

As part of this partnership, Children's Hospital Boston identified a project liaison to provide input on program design, implementation and evaluation; facilitated relationships with local Head Start centers, provided ongoing feedback on project roll out; attended project related meetings with partners and staff; provided outreach and promotional support for materials development; and coordinated with appropriate Children's Hospital Boston representatives around project deadlines, materials development, and financial and in-kind support.

The Boston Red Sox

A Boston and New England institution since the organization's inception in 1901, the Boston Red Sox and its players are currently involved in numerous charitable organizations throughout New England. The goal of this participation and activity is to harness the passion of Red Sox fans and transform this energy into a vehicle for positive change in the community. Each year the Red Sox donate to over 4,500 organizations throughout New England.

Action for Boston Community Development (ABCD) Inc. - Head Start Programs

Since its inception in 1962, ABCD has remained devoted to its mission of promoting self-help for low-income people and neighborhoods. ABCD empowers disadvantaged people by providing them with the tools to overcome poverty, live with dignity, and achieve their full potential. It emphasizes education, skilled job-training and asset development. ABCD operates the citywide Head Start program in Boston, providing crucial early childhood development to low-income families. Parents are active participants in Head Start, approving staff and budgets, and

reviewing policies and development plans. ABCD's Head Start programs serve more than 2,400 pre-kindergarten children throughout Boston.

As part of this partnership, ABCD provided the sites at the following Head Start Programs:
Parker Hill Fenway Head Start
Jamaica Plain Head Start
Roxbury Lenox Street Head Start
Native American Council Head Start

In addition, ABCD identified an on-site liaison for the program, identified program staff to participate in workshops sessions, assisted with logistics for focus groups, referred families to the workshops, contacted families weekly to remind them of upcoming workshop sessions, completed self-assessments of the nutrition and physical activity environments at each site, provided space for weekly workshop sessions, made space available for program training, assisted Northeastern University staff with family communication, and participated in regular meetings held at each site.

Boston Centers for Youth & Families (BCYF)
The mission of BCYF is to enhance the quality of life for Boston's residents by supporting children, youth and families through a wide range of programs and services. Since July 2002, BCYF has functioned as the City's youth and human services headquarters, combining the services once provided by Boston Community Centers, the Boston After School Initiative, the Mayor's Office of Community Partnerships, and the Recreation Division of the City's Parks & Recreation Department under one roof.

As part of this partnership, BCYF identified an on-site program liaison, provided space for the Saturday Open Gym component including on site space for equipment storage, coordinated scheduling and logistics with the Project Manager, facilitated a media campaign, and participated in regular meetings.

Boston Public Health Commission (BPHC)
The BPHC mission is to protect, preserve and promote the health and well-being of Boston residents, particularly those who are most vulnerable. The Commission works with academic medical centers, community health centers, federal and state agencies and a broad spectrum of community agencies and leaders to plan urban health policy, conduct research related to the health of the city’s neighborhoods and provide residents with access to health promotion and disease prevention.

As part of this partnership, BPHC identified a project liaison from the Division of Chronic Disease Prevention and Control to provide expertise in the delivery of the nutrition and physical activity curricula used for the program, input for the education workshop sessions and evaluation materials, and to participate in regular meetings.

b. Community Partners' Perspective of the HKHF Pilot Initiative

Methods

To obtain information from institutional partners related to the HKHF pilot, a survey was sent electronically to the following nine key informant partners: four ABCD Program Directors, ABCD Head Start Nutrition Central Coordinator, ABCD Head Start Nutrition Central Nutritionist, ABCD Head Start Vice President, Boston Centers for Youth and Families Community Center Director, Boston Centers for Youth & Families Director for Program Services and Executive Director. Key informant partners were given a period of one week to complete and return the survey. The Children's Hospital Boston HKHF liaison sent the survey electronically to all key informant partners and the Healthy Kids, Healthy Futures Project Manager made follow up reminder phone calls to all key informant partners before the deadline date. (Appendix B, Fig. 7)

Findings

Institutional Partner Key Informant Survey (N=6)

Quantitative and qualitative process, outcomes and satisfaction data were collected from six key informant partners from Jamaica Plain, Parker Hill Fenway, Roxbury Lenox Street, ABCD Central, Native American Head Start and Boston Centers for Youth & Families-Madison Park *(N=6)*. Respondents were asked to evaluate their satisfaction with: (1) HKHF project elements; (2) meetings, trainings and decision-making within HKHF; and (3) outcomes and results achieved by HKHF. They were also asked to select one or more areas (Program Expertise, Leadership, Staffing, Community Perspective/Expertise) in which they felt they contributed to HKHF. Quantitative results, based on responses to Likert-scaled items and other forced-choice questions, are presented below along with qualitative results, based on open-ended questions and comments.

Most important accomplishments of the HKHF Pilot Project

- Convening the message on how healthy nutrition impacts children's future.
- Teaching easy strategies on eating good nutritious food on a low budget.
- Teaching easy strategies on staying physically active.
- Providing resources to parents that would give them access to healthy food and physical activity.
- Recognizing the importance of team approach to address this major issue.
- Establishing healthy habits as a prevention strategy.
- Helping motivate parents to become involved in the process.
- Reinforcing the providers about the importance of 1 hour of daily physical activity.
- Having so many families turn out on the first day of Saturday Open Gym and maintaining continuous their continued involvement.

Ways that HKHF has advanced organizational goals

ABCD Head Start (n=5)

- Addressing the importance of good health and nutrition.
- Emphasizing the importance of working as a family and the role each family member plays in children's lives.
- Educating parents and staff in healthy nutrition and exercise practices.
- Helping parents to find a safe place to exercise with their children through Open Gym.
- Training teachers to teach children and families about healthy lifestyle choices.
- Addressing staff concerns and thus helping to achieve its primary goal.
- Developing and implementing a creative program that emphasized the importance of what we do and have been doing

Boston Centers for Youth & Families (n=1)

- Community centers don't really deal with the ages that the Open Gym program is serving unless we are doing activities for older siblings and then the younger ones come along. The program answers the needs of parents with young children.

Satisfaction with HKHF pilot initiative

All six key informant partners (100%) reported being either "mostly" or "very" satisfied with all aspects of the HKHF project that were assessed:

- Clarity of goals/objectives
- Cultural sensitivity
- Overall partnership functioning
- Communication with and among HKHF staff
- Partners and funding partners
- NAP SACC Head Start All Staff Trainings
- WE CAN! wellness workshops for caregivers of Head Start children
- Saturday Open Gym

Satisfaction with meetings, trainings and decision-making

All six key informant partners strongly agreed that HKHF meetings are productive, all HKHF partners are encouraged to voice their opinion, and there is trust among HKHF partners. All partners either "mostly" or "strongly" agreed that:

- All HKHF partners have input into decisions
- HKHF activities provide wellness resources for families and staff
- Meetings, trainings, workshops and Saturday Open Gym programs are well-organized
- HKHF has accomplished a lot in the past 6 months
- It was clear when and how to give input
- The decision-making process was clear

Satisfaction with outcomes and results

All six key informants either "mostly" or "strongly" agreed that:

- New partnerships have been generated by the HKHF project
- HKHF has offered new wellness resources to our staff and families;

- HKHF has increased networking among the partners around obesity prevention and wellness.

Five of the six partners (83.3%) either "mostly" or "strongly" agreed that:

- My organization's knowledge of and capacity to develop strategies to address early childhood obesity has increased.

Lastly, half either "mostly" or "strongly" agreed that their organization's connection to the community has increased as a result of HKHF.

Contributions to the HKHF Project

All six key informants felt they contributed "Community Perspective/Expertise" to HKHF. Four out of six (66.7%) chose "Leadership" as their area of contribution; three (50%) indicated "Program Expertise" while two (33.3%) selected "Staffing." (The total exceeds 100% since five of the six respondents chose more than one area, and at least one selected all four areas). Key informants also recommended a number of other organizations for HKHF to collaborate with.

Recommendations for Improvement

NAP SACC All Staff Trainings

- Highlight to staff that their personal belief about nutrition does impact how they communicate those messages to children and their families.
- Demonstrate physical exercise/games to be done both in classrooms and outside.

Wellness workshops for caregivers of ABCD Head Start children

- Provide more hands on activities for families in the form of cooking activities and physical activity.
- Provide suggestions regarding purchasing healthy food on a budget.

Saturday Open Gym

- Coordinate with caregiver WE CAN! classes so caregivers can practice as they are learning and be able to ask questions or convey concerns/challenges they may be having.
- Continue as long as possible, in more sites around Boston if possible.
- Offer the program several days a week, maybe Fridays, because parents still have to figure out what to do with their children other days of the week too.
- Provide support from Northeastern University Open Gym student volunteers to mentor youth in the Madison Park Youth Program, assist with homework help specifically math, and provide guidance regarding applying to college, SAT preparation, etc.

Technical Assistance provided through Self-Assessments

- None

Overall HKHF program structure

- Be able to ask questions or convey concerns/challenges

Additional Comments

"I believe any program is as great as its staff, and the Project Manager was really wonderful from beginning to end. She kept everyone informed at all times. Very organized and focused. She is very accommodating and respectful of everyone's time, yet always offered to assist in any way possible. Sensitive to people's culture and welcoming to new ideas."

"Excellent project, absolutely needed, very capable project leader – well organized, knowledgeable, considerate of time constraints of programs, enthusiastic!"

"I'm looking forward to the coming school year and seeing the program continue! I believe that the contribution of HKHF is great and that given on an ongoing basis has the potential to make a big difference in the lives of our families!"

c. HKHF Collaborations Beyond Program Implementation

In addition to program implementation, HKHF has been able to support two inter-institutional working teams to support communication and outreach efforts as well as this pilot evaluation. Important collaborations with other community-based organizations and institutions have also been developed. See below for a list of HKHF team members and key accomplishments.

HKHF Media and Communications

- Team members - Jaime Crespo, Children's Hospital Boston; Renata Nyul, Jenny Eriksen, Northeastern University; Mike Olano, Boston Red Sox; Susan Kooperstein, Action for Boston Community Development, Inc.; Diane Joyce, Boston Centers for Youth & Families
- Logo development, banner, t-shirts and signage design
- April 15th press event & outlet coverage- The Banner, La Semana, El Mundo, El Planeta, Revista Hispana, WHDH 7 Centro program, Tu Boston web publication, other local television news stations
- Children's Hospital Boston and NEU website coverage
- Video montage & script development for July 10th pre-game ceremony

HKHF Evaluation

- Team members - Jessica Hoffman, Carmen Sceppa, Marilyn Ahl, Northeastern University; Urmi Bhaumik, Christine Healey, Children's Hospital Boston; Tara Agrawal, Healthy Kids, Healthy Futures
- Developed HKHF Draft Goals, Objectives and Logic Model
- Developed and conducted three focus groups (N=30)
- Developed and conducted Key Informant Survey (N=5)
- Wrote a Preliminary Findings Report and Focus Group Summary

Presentations & Events by HKHF Staff

- Childcare Choices of Boston, Family Resource Day, May 2009
- ABCD Head Start, Living Well Task Force, May 2009
- Sport in Society Power of Sport Summit, Northeastern University, June 2009
- Community Nursing Program, Summer Session II, Northeastern University, July 2009
- Northeastern University's Urban Research Exchange, Northeastern University, September 2009

VI. HKHF Fall 2009 Programming

For Fall 2009, HKHF is working with Dr. Ellen Glovsky, founder of the Motivational Interviewing Institute to provide three series of trainings for Head Start staff, teaching supervisors and nutrition central staff specifically centered around providing techniques and tools to support nutrition promotion in the classroom and among families to prevent childhood obesity (for complete description see Appendix C, Fig. 4). The workshops will address the following three areas where ABCD Head Start identified additional support was needed:

- Recognizing hunger and satiety cues for self and children;
- Negotiating seconds and portion sizing during meal time; and
- Strengthening teacher communication skills with families around obesity.

To support staff wellness, HKHF is working with the Boston Public Health Commission's Division of Chronic Disease Prevention and Control to coordinate an ABCD Staff Walk Challenge across the four HKHF pilot program sites (Appendix C, Fig. 5).

HKHF will also complete the two remaining WE CAN! class series providing one English and one Spanish language workshop series. Based on participant feedback HKHF staff is working

with the BPHC to modify the four class WE CAN! series to include a supermarket tour as the fifth class. HKHF staff will also work directly with the parent policy committee at the hosting WE CAN! class site to recruit parents in addition to coordinating with ABCD Head Start staff.

For the Fall 2009 Student Open Gym Orientation Training, a caregiver panel was offered to new student volunteers. This modification allowed incoming student volunteers to hear from caregivers their expectations for the Open Gym and their experience throughout the summer and provided Open Gym caregivers with a new leadership opportunity within the program. Additionally, HKHF is partnering with Service Learning at Northeastern University to recruit student volunteers to become Open Gym activity leaders while receiving the benefit of course credit for their participation.

For the Fall 2009 Saturday Open Gym pilot, HKHF staff is working with the Boston Public Health Commission to develop and pilot a 30-minute mini-nutrition series for caregivers of Open Gym using the topics covered in the WE CAN! curriculum. Pending renewal of funding, the mini-nutrition series will take place after the regular Open Gym hours in the Spring of 2010 as an optional opportunity for caregivers to explore ways to make healthful food choices for their families. It is anticipated that Saturday Open Gym children will be supervised by Northeastern student volunteers during this time in the same gym space as their caregivers.

One of the Saturday Open Gym Graduate Student coordinators will also be examining the level of moderate-to-vigorous physical activity engaged in by children and caregivers during the Saturday Open Gym and caregiver feedback about the program as part of her master's thesis.

VII. Summary Conclusions

i. Nutrition and Physical Activity Promotion in Home and Child Care

Head Start Program Self-Assessment

Findings from the NAP SACC across the four participating Head Start HKHF pilot program sites were the following.

- Head Start program sites limit unhealthy food choices: fried potatoes, fried chicken, high-fat meats (hot dogs), sugary drinks, and salty snacks, with no vending/soda machines on site.
- Head Start program sites promote healthy food choices: fruits, vegetables, low-fat milk, high-fiber, whole-grain foods, beans and lean meats; while water is encouraged.
- Staff encourage children to try new or less favorite foods, join children at the table for meals, consume the same food and drinks as children, talk with children about trying/enjoying healthy foods frequently, and are aware of fullness and hunger.

- Nutrition education and policies reported by the Head Start program sites included posters or books about healthy foods, written policies on nutrition, nutrition training opportunities for the staff, and nutrition education for children and caregivers.
- Exercise and physical activity polices for children included 45-90 minutes of active playtime daily, limited access to TV and videos, rarely sitting for more than 30 minutes at a time, and having physical education as part of the curriculum. Staff training opportunities in physical activity are provided at least two times per year and a policy on physical activity is written, available and followed.

Goal Setting and Implementation at HKHF Pilot Program Sites

- Each Head Start program site chose one or more NAP SACC area goals that focused on nutrition and physical activity/exercise.
- Two Head Start sites selected goals related to nutrition education and feeding practices and one chose supporting healthy eating and the nutrition policy. None of the sites selected nutrition goals dealing with specific foods or types of foods.
- Two sites chose goals related to physical activity education for staff, children and families and a physical activity policy. Only one site selected a specific goal related to active play and inactive time.

Head Start Staff Training and Professional Development at HKHF Pilot Program Sites

- NAP SACC All Staff Training evaluation surveys administered to a total of 71 staff members showed that 66.2% of staff (n = 47) attended both training series. Most participants agreed that workshop topics were important and interesting, objectives were clearly presented, information was useful both professionally and personally, well organized, and taught effectively. The majority of the participants indicated they would be interested in a follow-up session on the training topics.
- NAP SACC focus groups were carried out with 11 staff members. Focus group participants were asked to recall memorable workshop messages and ideas that they were able to be put into practice at the Head Start sites as a result of the program. Frequent themes recalled included: reduced sugar consumption, particularly in beverages; increased awareness of portion sizes when eating and nutrition information when purchasing food; and ideas to encourage increased vegetable consumption.

Wellness Education for Caregivers of Head Start Children at HKHF Pilot Program Sites

- WE CAN! Energize Our Families survey was administered to 57 caregivers. Caregivers' ages ranged from 21 to 56 years and 93% were women. Fifty two caregivers attended at least one class, 37 attended three or more. Half of the caregivers attended the classes offered in Spanish and half attended classes in English. A total of 26 families completed both the pre- and post-intervention questionnaires, representing 45.6% of the 57 families participating in the program.
- Caregiver likelihood of engaging in healthy nutrition and exercise-related behaviors from pre- to post-intervention was tested. At post-test, care givers were significantly more

likely to report behavioral intentions to reduce high fat, and high sugar foods at home and to help their child plan physical activities with friends relative to pre-test.
- Focus groups were carried out among 30 (n = 12 English and n = 18 Spanish) caregivers who participated in WE CAN! classes. Caregivers were asked to recall memorable program messages and ideas that they were able to be put into practice at home as a result of the program. Frequent themes recalled included: reduced sugar consumption, particularly in beverages; increased awareness of portion sizes when eating and nutrition information when purchasing food; and ideas to encourage increased vegetable consumption.

ii. Community-Based Physical Activity Promotion for Youth and Families

Saturday Open Gym Student Orientation Training

- Students serving as volunteers for the Saturday Open Gym were asked to rate the success of their training (n=20). The majority (80%) of the student volunteers rated the training as excellent in helping them understand their role as an HKHF volunteer. Two-thirds (65%) rated the training as excellent in helping them understand how to engage families and children in physical activity together; and 60% rated the training as excellent in helping them understand the Saturday Open Gym structure.

Saturday Open Gym Family Participation

- A series of 9 Saturday Open Gyms were completed during the summer 2009 with 49 participating families. An estimated total of at least 128 adult caregivers and children between the ages of 2-10 years participated. Average weekly attendance for the Saturday Open Gym was 20 families (range from 12-30 families).
- Caregivers who attended the Saturday Open Gym with their children (or grandchildren) were asked to rate their overall experience as well as certain aspects of the program. Nineteen caregivers participated in this survey. All caregivers reported that they enjoyed the program, they would recommend the program to others, they would return to the same location for Open Gym, and they would play the activities learned at Open Gym with their children.

Saturday Open Gym Wellness Resources

- Eight community based organizations attended a Community Resource Day at the Open Gym, where they provided information and resources to families related to asthma prevention, childhood injury prevention, early literacy and enrichment, and pre- and peri-natal care. These organizations included: The Boston Public Health Commission's Healthy Baby, Healthy Child; Children's Hospital Boston's Community Asthma Prevention Program, Children's Hospital Boston's Childhood Injury Prevention Program, Criterion Early Intervention, Countdown to Kindergarten, Childcare Choices of Boston, Kool Smiles, and Neighborhood Health Plan.

iii. Healthy Kids, Healthy Futures Partnerships

Partnerships

- HKHF resulted from partnerships among six institutions in Boston, MA: Northeastern University; Children's Hospital-Boston; the Boston Red Sox; Action for Boston Community Development (ABCD) Inc. - Head Start Programs; Boston Centers for Youth & Families (BCYF); and the Boston Public Health Commission (BPHC). Capitalizing on the assets of each of these institutions, each partner contributed in unique ways to the success of the HKHF pilot initiative.

Community Partners' Perspective of the HKHF Pilot Initiative

- To obtain information from institutional partners related to the HKHF pilot, a survey was collected from six key informant partners. Respondents indicated that the most important accomplishments of the HKHF pilot activities included: convening the message on how healthy nutrition impacts children's futures, teaching easy, cost-effective strategies for eating good, nutritious food, teaching easy strategies to stay physically active, providing resources to parents to help them access healthy food and physical activity, recognizing the importance of a team approach to address childhood obesity, establishing healthy habits as a prevention strategy, helping to facilitate parental involvement, reinforcing Head Start staff about the importance of 1 hour of daily physical activity, and having good Open Gym participation.
- All six key informant partners reported being either mostly or very satisfied with all aspects of the HKHF project. They strongly agreed that HKHF meetings were productive, that they felt encouraged to voice their opinion, and that there was trust among HKHF partners.
- ABCD Head Start and BCYF reported that HKHF helped them advance their organizational goals
- Recommendations were also provided for program improvement.

HKHF Collaborations Beyond Program Implementation

- HKHF was able to support two inter-institutional working teams to facilitate communication/outreach efforts and the pilot evaluation.