BODYWORKS

A Toolkit for **Healthy** Girls & Strong Women

Bodyworks Evaluation

Final Report

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The Altarum Institute was contracted by the Office on Women's Health
to conduct this evaluation, write, and edit this report.

TABLE OF CONTENTS

Executive Summary

Overview

Public health programs that turn the tide on the problem of childhood and adolescent overweight are critical to the nation's future. To this end, the Department of Health and Human Services Office on Women's Health (OWH) developed *BodyWorks* to promote habits for maintaining a healthy weight and reducing obesity through healthy eating and increased physical activity among teen girls.

BodyWorks focuses on helping parents and caregivers teach, facilitate, and support healthy eating and exercise habits for their 8- to 17-year-old daughters and other family members. The program aims to reach individual adolescent girls at home and within the context of their particular cultural, linguistic, social, and physical environments by tapping directly into the parent/caregiver-child link around eating and exercise behaviors.

The theory behind *BodyWorks*—that parents/caregivers can be effective messengers and partners encouraging their daughters to develop and maintain healthy nutrition and activity behaviors—is based on research indicating parent/caregiver behavior and practices significantly influence these habits, which form in childhood.

BodyWorks focuses on delivering three key messages to parents/caregivers and girls:

- Healthy girls become strong women
- Parents are an important influence on their children's eating and activity habits
- Change takes time – begin by taking a few small steps

The program features a series of 8- to- 10 week parent/caregiver training sessions, led by facilitators who have been trained in the *BodyWorks* approach. The sessions include parent/caregiver participation in a series of workshops that explore issues such as "Serving Sizes, Snacks, Fats, and Fast Food", "Healthy Eating", and "Physical Activity." Specially designed and market-tested materials, such as food and fitness journals, a recipe book, shopping lists, and a pedometer supplement the program.

Background/Purpose of Study

Following a national launch of the *BodyWorks* toolkit, OWH conducted a combined **process and outcome evaluation,** which focused on the following program elements:

Dissemination. Examination of the OWH dissemination plan, identifying participants and the methods materials used to reach trainers and parent/caregivers.

Training of Trainers. Description of the trainers who participated in *BodyWorks* and their experiences with the training they received to train other trainers and to facilitate sessions with parents/caregivers.

Implementation. Exploration of the skills, resources, and motivation necessary to prepare trainers to implement *BodyWorks* with parents/caregivers and to train other trainers. The processes trainers used to engage, motivate, and retain parents/caregivers also were assessed.

Short- and Intermediate-term Outcomes. Assessment of the effectiveness of the training and Toolkit at promoting parent/caregiver self-efficacy, immediate healthy behavior changes among participating adults and girls, and parent/caregiver participation in their child's healthy development and growth.

The results of this evaluation will be used to improve future implementation of *BodyWorks*, pointing to ways to improve program administration and management, while documenting the extent of its effectiveness on short- and intermediate-term outcomes.

Methods

The evaluation included two key components: a **national survey** of trainers who completed the training session, including their reasons for participating and their experiences both with training other trainers and in facilitating BodyWorks with parents/caregivers, and an **indepth study**, which included on-site interviews at six evaluation sites; a series of surveys conducted with intervention and comparison groups of parents/caregivers; and a survey of girls, ages 8 to 17, whose parents/caregivers had completed *BodyWorks*. Survey respondents included:

- 166 trainers
- 94 parents/caregivers from intervention groups and 35 parents/caregivers from comparison groups
- 70 girls

Key Findings

BodyWorks led to an initial, effective train-the-trainer process, although it was more effective in training other trainers than in training parents/caregivers. Approximately 73 trainers were initially trained to "train-the-trainer;" they went on to train an additional 1,698 trainers. Almost all trainers volunteered to participate because they felt that overweight, obesity, and diabetes were "big issues in our community." The first wave of trainers represented a range of organizations: 24 percent were government employees, while most others worked at the community level, either in a community-based organization (20 percent), a university medical school (16 percent), or a community health center. Most trainers reported having a background and expertise in health education (35 percent), nutrition and/or dietetics (28 percent), and nursing (16 percent), with an average of 12 years' experience providing general health education.

In general, trainers were satisfied with the design, content, and delivery of the training sessions; although several noted that they would have appreciated more guidance on administrative and managerial tasks associated with implementing *BodyWorks* and recruiting parents/caregivers. Lack of financial resources and skills to recruit and setting up the program rather than skills in training or nutrition and physical activity may explain why trainers did not routinely go on to offer additional training sessions or to implement parent/caregiver sessions.

BodyWorks *changed parent intentions, motivation, and immediate behavior*. The short- and intermediate-term outcomes for parents/caregivers were widespread – from increasing vegetable consumption to setting nutrition and physical activity goals to helping their daughters change their eating habits. In contrast to comparison group parents/caregivers, those in the intervention were more likely to have gained nutrition and physical activity knowledge, self-

confidence in helping their daughters change eating habits, and an ability to set nutrition goals or plan physical activity for their families. Intervention group parents/caregivers made healthier food choices, changed how much they ate, exercised more, and changed food preparation and purchases. They helped their daughters make healthier food choices, increase physical activity, and do more active things together. Surveys with daughters confirmed parent-reported changes. However, *BodyWorks* was less successful in helping parents/caregivers to overcome perceived barriers to physical activity and subsequently to exercise more. Parents/caregivers reported wanting additional skills to help them make school and community changes.

***Girls responded positively to their parents/caregivers' participation in* BodyWorks.** The majority of girls felt comfortable, confident, and interested in pursuing a nutritious lifestyle in cooperation with their parents/caregivers and also recorded increased physical activity and healthier meals following their parents/caregivers' graduation from the *BodyWorks* training. These reported changes occurred although many girls did not actually use *BodyWorks* materials and activities. Interestingly, although 57 percent of girls described themselves as being at a healthy weight, only 37 percent of their parents/caregivers thought they were. In fact, 63 percent of parents/caregivers described their girls as being overweight or at risk for being overweight. More than half of the girls surveyed said that it would be easier to set *BodyWorks* goals if similar programs were available to friends who shared these goals. And almost half reported that goal-setting would be easier if unhealthy foods were less readily available.

Lessons Learned

Trainers need time to plan the program: to create a budget, identify funds, and recruit participants. Key informant interviews indicated that many trainers felt overwhelmed by the time and resources required to implement *BodyWorks.* Trainers tended to underestimate the amount of time and effort required to develop and implement the program, especially in terms of staff time and time required to recruit parents/caregivers. Program funding was a key issue for many sites. In fact, each evaluation site relied on an array of funding mechanisms to cover associated costs.

Effective recruitment strategies. Recruiting parents/caregivers who are able and ready to commit to a 10-week class to change their health behavior is challenging. Trainers found that effective recruitment strategies included word-of-mouth and referral. They conducted outreach in their communities, recruiting people from physician offices, beauty salons, gyms, and PTAs. Many found it difficult to recruit parents to commit to a 10-week training session; consequently, several reduced the number of sessions offered. Simply finding a 10-week block of time proved difficult not only for parents/caregivers, but also for organizations and trainers as well. Despite the challenges posed by recruitment, most parents who committed to the program actually attended all sessions.

Conclusions

The *BodyWorks* program is a promising parent-focused intervention, targeting parents and caregivers as agents of behavior change. Immediate changes demonstrated by survey responses support the importance of targeting parents as both role models and facilitators of behavior change. Longer term follow-up evaluation is needed to determine whether sustained effects are found among parents and whether those changes ultimately influence their daughters' behavior.

Chapter 1. Introduction

A. Background

The public health epidemic of overweight and obesity is not limited to adults: Nearly a third of America's children and adolescents are overweight, [1] [2] with still-rising rates exceeding two to three times those of a generation ago. Children who are overweight face increased immediate health risks such as higher rates of asthma, type 2 diabetes, and hypertension. These children, especially adolescents, face increased risk of becoming overweight adults,[3] who face the myriad physical, medical, social, financial, and emotional costs of overweight and obesity.

The range and importance of the increased health and social risks associated with the rising prevalence of obesity cannot be ignored. Some researchers warn that if current trends in obesity continue, our Nation will be at risk for declines in the average life expectancy. For the first time in American history, the children of today may live lives that are on average shorter and less healthy than those of their parents.[4]

For the first time in American history, the children of today may live lives that are on average shorter and less healthy than those of their parents

Effective interventions that turn the tide on childhood overweight are critical. To this end, the Department of Health and Human Services Office on Women's Health (OWH) created the BodyWorks program to promote habits for maintaining a healthy weight and reducing obesity through healthy eating and increased physical activity among teen girls.

The BodyWorks program focuses on helping parents and caregivers teach, facilitate, and support healthy eating and exercise habits for their 8- to 17-year-old daughters and other family members. The program aims to reach individual adolescent girls at home and within the context of their particular cultural, linguistic, social, and physical environments by tapping directly into the parent/caregiver-child link around eating and exercise behaviors.

Figure 1-1, taken from the *BodyWorks* Web site, summarizes the toolkit of materials designed for trainers who participate in *BodyWorks*.

[1] Ogden CL, Carroll MD, Flegal KM. High Body Mass Index for Age Among US Children and Adolescents, 2003-2006 . *JAMA,* 2008: 299(20): 2401-2405.
[2] Labeled *childhood obesity* by some, it includes children whose body mass index is at or above the 95th percentile for their age.
[3] Center for Health and Health Care in Schools. *Childhood overweight: what the research tells us*. Washington: School of Public Health and Health Services, George Washington University Medical Center; March 2005.
[4] Olshansky SJ, Passaro DJ, Hershow RC, Layden J, Carnes BA, Brody J, Hayflick L, Butler RN, Allison DB, Ludwig DS. A potential decline in life expectancy in the United States in the 21st century. *New England Journal of Medicine*. March 17, 2005;352(11):1138–1145.

Figure 1.1 BodyWorks Toolkit Materials

 	**Body Basics and 4 Teens** These how-to-guides provide parents and teens with information on nutrition, physical activity, and setting goals. The guides also have quizzes; games; and interviews with girls, moms, and providers.
 	**Food and fitness journals** The food and fitness journals allow families to better understand current eating and activity habits by recording meals, snacks, and physical activity. One is for families, the other for teens.
	**Let's Shop, Cook, and Eat Together –** DVD Video on healthy shopping and cooking strategies This video gives families menu planning tips and healthy grocery shopping and cooking strategies. It also provides trainers with a facilitator's guide for discussion groups.
	**Recipe book** The recipe book provides families with low-cost, easy-to-prepare meals and snacks that are low in fat and calories.
	**Weekly meal planner refrigerator magnet** This magnet helps parents/caregivers plan meals, snacks, and physical activity for the week, while involving kids in food and activity planning.
	**Shopping lists** The shopping lists are designed to encourage families to plan weekly menus and remind them to buy healthy staple foods.

The Importance of Family and Community Influences

The theory behind *BodyWorks*—that parents/caregivers can be effective messengers and partners in helping their daughters develop and maintain healthy nutrition and activity behaviors—is based on research that indicates that these habits form in childhood and are significantly influenced by parent/caregiver behavior and practices. For instance, sedentary behavior and obesity tend to cluster in families, making the family unit an important target for health promotion interventions.[5] Parents and caregivers pass on cultural traditions around foods and food preferences. They foster certain values and attitudes that can, for better or worse, affect their children's risk of becoming overweight. Parents and caregivers determine food choices and set rules regarding food, meal times, the use of food as a reward, and leisure activities. Parents act as role models for their children's eating habits and behaviors and influence how active or sedentary their children are.[6]

Obesity prevention initiatives need to be tailored to fit diverse cultural, linguistic, social, and physical environments. Research suggests that programs to encourage weight-reducing lifestyle changes are more effective if they involve parents, especially mothers, than if they do not.[7] Moreover, the degree to which parents think that their children are overweight or that their children's weight is a health problem appears to affect their willingness to undertake changes in family diet and levels of physical activity.[8] Further evidence from a recent long-term study sponsored by the National Heart, Lung, and Blood Institute also indicates that programs that help parents give children healthy food choices and encourage regular physical activity can indeed be effective at promoting lasting, positive behavior changes.[9] Moreover, the Institute of Medicine highlights the importance of the home as a target of public health interventions to reduce obesity, while noting that the home is one of the microenvironments least accessible to health promotion experts.[10]

B. Purpose of the *BodyWorks* Program

BodyWorks focuses on three critical messages for parents/caregivers and for girls:

- Healthy girls become strong women
- Parents are an important influence on their children's eating and activity habits
- Change takes time – begin by taking a few small steps

These messages are delivered in 8 to 10 week discussion group series led by specially instructed trainers who supplement discussion with an array of media and materials. The 10-week format was developed based on behavior change theory, which indicates that this length of time is desirable. Specifically, *BodyWorks* seeks to:

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[5] Institute of Medicine. *Preventing childhood obesity: health in the balance*. National Academy of Sciences; 2005.
[6] Ibid.
[7] Golan M, Weizman A, Apter A, Fainaru M. Parents as the exclusive agents of change in the treatment of childhood obesity. *American Journal of Clinical Nutrition*. 1998;67:1130–1135.
[8] Rhee KE, DeLago CW, Arscott-Mills T, Mehta SD, Davis RK. Factors associated with parental readiness to make changes for overweight children. *Pediatrics*. July 2005;116(1):p94–p101. Available at: http://www.pediatrics.org/cgi/doi/10.1542/peds.2004-2479. Accessed July 13, 2005.
[9] *Horn LV, Obarzanek E, Friedman LA, Gernhofer N, Barton B. Children's adaptations to a fat-reduced diet: the Dietary Intervention Study in Children (DISC). Pediatrics.* June 2005;115:1723–1733.
[10] Institute of Medicine, op. cit.

- Provide parents/caregivers with tools and strategies to improve family eating and activity habits
- Promote parent/caregiver self-efficacy
- Support adolescent girls in reaching and maintaining a healthy weight
- Prevent obesity among adolescent girls

Formative research to develop *BodyWorks* included a literature review; a steering committee of researchers, providers, and government officials; and focus groups with girls ages 11–13,[11] middle-school nurses, and parents of middle school-aged girls. Key messages, the *BodyWorks* Toolkit, and trainer guides were developed and tested based on this formative research.

In 2007, OWH developed a process to create a network of trainers, to engage parents in a series of *BodyWorks* sessions, and to disseminate free copies of the *BodyWorks* Toolkit. Parents/caregivers learned from trained facilitators how to encourage healthier eating and exercise habits by using the *BodyWorks* Toolkit with their daughters. In general, that process included the following steps:

- Trainers were recruited from community-based organizations (CBOs), health professionals (physicians, nurses, dietitians), hospitals/clinics, faith-based organizations (FBOs), state and city health agencies, and nonprofits (YMCA, schools, foundations).
- OWH trained trainers in 6-hour sessions in small groups of 10–15. These trainers (referred to as Tier 1 Trainers) were then encouraged to train other trainers (Tiers 2, 3, etc.) and recruit and implement programs for parents/caregivers.
- Parent/caregiver trainings typically included 10–12 participants who attended 8 to 10, 90 minute sessions, usually weekly, and received a free *BodyWorks* Toolkit.
- Support to trainers included marketing materials, a listserv, and other resources.
- Dissemination of *BodyWorks* was measured by tracking Toolkit tags (with user information) and entering the data from the tags into a database.

Even as OWH sought to launch the program nationwide, program developers decided to conduct a process and outcome evaluation to assess the implementation process and the program's effectiveness. OWH worked a team of contractors to disseminate *BodyWorks,* train a first wave of trainers, and another independent contractor to conduct a process and outcome evaluation. That team, which included experts in social marketing programs and program evaluation, shared a common goal: To create a program that would prove effective in improving eating and exercise habits among parents/caregivers and adolescent girls. OWH noted that the team's flexibility, dedication, and strong partnership were absolutely essential for successful implementation.

[11] The target age for *BodyWorks* changed from 11–13 to 9–17 during implementation of *BodyWorks*.

Chapter 2. Evaluation Purpose and Design

A. Evaluation Purpose

In 2006, OWH contracted Altarum Institute to conduct a combined **process and outcome evaluation** of the *BodyWorks* program, including the following elements:

Dissemination. Examining the OWH dissemination plan and identifying recipients and the method through which materials reached trainers and parent/caregivers.

Participation. Describing the trainers who participated in *BodyWorks* and their experiences with the training they received to facilitate sessions with parents/caregivers.

Implementation. Exploring of the skills, resources, and motivation necessary to prepare trainers to implement *BodyWorks* with parents/caregivers and to train other trainers. The processes trainers used to engage, motivate, and retain parents/caregivers also were reviewed.

Short- and Intermediate-term Outcomes. Assessing the effectiveness of the training and Toolkit at promoting parent/caregiver self-efficacy, immediate healthy behavior changes among participating adults and girls, and parent/caregiver participation in their child's healthy development and growth.

The results of this evaluation may be used to improve future implementation of the *BodyWorks* program, pointing to ways to improve program administration and management while documenting the extent of its effectiveness on short- and intermediate-term outcomes.

B. Evaluation Design

The evaluation used two primary data collection methods to generate a comprehensive description of the processes and outcomes of *BodyWorks*. The first was a national survey of trainers who were trained by OWH's contractors, and the second was a more indepth study of six sites that trained trainers and parents/caregivers in *BodyWorks*.

- The nationwide survey of **trainer experiences** was administered at least 6 months after trainers had participated in a training session. The survey of 166 trainers focused on measuring their reasons for participating, the utility of the training, and their experiences training others and with parents/caregivers.
- The **indepth study** featured two key activities: surveys of parents/caregivers and indepth interviews with evaluation site administrators and trainers. A pre-post comparison intervention group design measured changes in parent/caregiver outcomes, knowledge, intentions, and behaviors. Participating parents/caregivers completed questionnaires at their first and last *BodyWorks* sessions. For comparison, a similar cohort of non-*BodyWorks* parents/caregivers completed the same questionnaire during the same period. Finally, girls whose parents/caregivers had completed *BodyWorks* were asked to complete a survey. Indepth interviews of the administrators or lead trainers from the six sites were conducted to better understand their experiences implementing *BodyWorks*.

The Evaluation Team held short discussions with three organizations that had intended to implement *BodyWorks* but were unable to do so. These discussions sought to better understand their reasons for not implementing the program. The Team reviewed other independent

monitoring and evaluation reports of *BodyWorks*, tracking databases from OWH contractors, and newspaper articles. For a mapping of the data collection methods to the evaluation questions, see Appendix A.

C. Obtaining OMB and IRB Clearance

Office of Management and Budget (OMB) clearance was granted on January 16, 2007. The data collection protocol and instruments were reviewed by the Institutional Review Board (IRB) of the George Washington University Medical Center. IRB approval was initially received on August 25, 2006, with continuing renewals received through August 2009.

Assurances of confidentiality and protection of the rights of study participants were provided through a combination of widely accepted survey practices. The rights commonly held for this type of study include the following:

- The right of informed consent, which requires the Study Team to provide sufficient information about the study's objectives, level of burden, and uses of participants' information so that individuals may make informed decisions about their participation.
- The right to refuse to participate, which applies to the individual's right to decline to participate at all in the study or to decline to answer specific questions.
- The right to privacy, which guarantees against invasions of privacy as well as the specific protections provided by the Privacy Act of 1974.

D. Data Collection

The data collection period lasted approximately 15 months. This section describes the data collection mechanisms, criteria for inclusion, recruitment into the study, and sample sizes. Each instrument was pilot tested with the specific target audience for which it was intended. Instruments can be found in Appendix B. A detailed description of the data analysis is found in Appendix C.

1. National Trainer Data

Between March 2006 and February 2007, 468 individuals were trained as *BodyWorks* trainers and agreed to be contacted by evaluators after the training workshop. A post-test-only design was used to assess:

- Trainer demographics and work experiences
- Trainer experiences with the training provided by OWH
- The extent to which trainers used *BodyWorks* to train other trainers and work with parents/caregivers following training and their successes and challenges during implementation

Trainers were recruited to complete a 15-minute online survey using email and postcards.

This survey targeted those trainers trained by OWH and its contractors (Tier 1 trainers). Tier 1 trainers may be somewhat different from subsequent tiers of trainers in their demographic characteristics and years of experience in training parents/caregivers and in the topic (nutrition/physical activity). Interviews with the six evaluation sites indicate that their Tier 2 and 3 trainers typically did not have a health education background, but instead were community-

based or faith-based representatives who played key roles in recruiting and retaining parents/caregivers.

2. Indepth Study

The Evaluation Team recruited six sites based on their plans to implement *BodyWorks,* in English, with at least two parent/caregiver groups. Each group met for at least eight sessions. These sites also represented typical locations for which *BodyWorks* was intended, specifically OWH funded Centers of Excellence of Women's Health and community- and faith-based health and social service organizations. Maintaining this level of fidelity and representation was important to the evaluation. Many sites that were originally interested in participating in the evaluation modified the implementation plan in a variety of ways – from scheduling a shorter number of classes, to instructing in Spanish, to working primarily with girls rather than their parents/caregivers – thus limiting recruitment of a larger number of sites.

All six sites volunteered to participate. They agreed to collect the data from parents/caregivers and girls. Altarum Institute provided technical assistance and guidance to the selected sites in participant recruitment and data collection. Participating sites benefited by obtaining new nutrition and physical activity program evaluation instruments, receiving site-specific indepth nutrition and physical activity data, and being acknowledged in journal articles.

Eligibility Criteria and Recruitment Procedures for Parents/Caregivers and Girls: For the indepth study, eligible participants included parents/caregivers of 8- to 17-year-old adolescent girls. Male and female parents/caregivers were eligible to participate, although the Toolkit training is best suited for the individual predominantly responsible for the household food choices and food preparation. Trainers were asked to screen for participants who might be unable to work with the written materials or who could not complete the survey in English. Trainers were asked to recruit participants who could commit to attending all of the sessions.

Parents/caregivers were recruited by referral, word of mouth, notices in organizational health letters, and specially developed recruitment fliers and handouts. These patrons/clients volunteered to participate in the *BodyWorks* evaluation. All parents/caregivers had an adolescent girl ages 8 to 17.[12]

The sites recruited a comparison group of parents/caregivers. In some cases, the comparison group was a delayed treatment comparison; in others, participants were recruited from a demographically similar group for which there were no immediate plans to offer *BodyWorks*. Although recruitment strategies varied across sites, within each site, the same procedure was followed to recruit intervention and comparison groups.

Parents/caregivers who participated in the *BodyWorks* evaluation received a $10 gift certificate at the last session, while those who were part of the comparison group received $10 gift certificates at the completion of both the pre- and post-test surveys. Sites were reimbursed upon receipt of a consent form, a questionnaire, and the incentive receipt for the gift card for each parent/caregiver.

[12] Although the target audience was 9–17, some parents/caregivers had daughters younger than 9. Because the instruments were tested with girls ages 8–17, the data collection effort included 8-year olds.

Data Collected from Parents/Caregivers: Two surveys were used to collect baseline and outcome data. The preintervention survey was completed before implementation of the *BodyWorks* program; the postintervention survey was conducted immediately after the intervention period. Survey domains included:

- Demographic information
- Nutrition and physical activity knowledge, intentions, and behavior
- Meal preparation
- Daughter's general health, eating habits, and physical activity
- Relationship with daughter
- Experience with *BodyWorks*

Data Collected from Girls: Girls ages 8–17 whose parent/caregiver participated in the *BodyWorks* training,[13] and who received parental consent, were invited to participate in the evaluation. They were asked to participate in at least two classes including the last day of the training for their parent/caregivers at which the trainer introduced the girls to the evaluation and its purpose and administered an assent form. Girls then completed a questionnaire designed to understand their:

- Use of and satisfaction with the Toolkit
- Knowledge, behavior, and attitudes
- Relationships with their parents/caregivers

Data Collected from Administrators/Program Directors and Trainers of Selected Sites: The administrators/program directors and trainers of each site participated in a semistructured interview once they had an opportunity to assess how the *BodyWorks* Toolkit was implemented in their organizations. Only one interview was held at each site. Some sites chose to have only one interviewee, while others chose a group interview format.

3. Sample Size and Site Summary

The following are sample sizes for each of the groups surveyed and interviewed. For further details about the sample size and data analysis review Appendix C: Data Analysis.

- 166 trainers
- Interviews with administrators/program directors and trainers at six sites

Data Collection Protocol

Either upon registration or at the first training session, each trainer introduced parents/caregivers to the evaluation and administered the consent form. In addition to consenting to their own participation, parents/caregivers received a consent form for their daughters' participation. If a parent/caregiver was in the comparison group, he or she was administered informed consent, and given the survey. All parents/caregivers surveyed were given the survey and an envelope in which to place completed surveys. Envelopes were sealed and participants signed their names across the seals. Envelopes containing individual surveys were collected in a larger envelope, which the facilitator sealed and sent to the site's administrator, who sent it directly to Altarum for data entry.

To ensure ongoing participant involvement in the evaluation, an introduction to the survey was included with the elements of consent on the front of the post-survey. This clearly stated that participants did not need to take the survey if they did not want to and that they were free not to answer any questions. Parents/caregivers were able to take home the sheet which contained the names and phone numbers of the IRB representative and the principal investigator.

[13] One site did not receive its own required IRB approval to survey the daughters until halfway through its data collection.

- 207 pre-tests and 183 post-tests of parents/caregivers (comparison and intervention groups)
- 69 girls

Figure 2-1 provides a brief summary of each site.

Figure 2-1. Sites Participating in the Evaluation

	Type of Organization	Number of Training of Trainer Sessions Conducted	Number of Parent Series in Evaluation	Number of Parents Who Participated in the Evaluation				Number of Girls Who Participated in the Evaluation
				Comparison Pre-test	Comparison Post-Test	Intervention Pre-Test	Intervention Post-test	
Site 1	Private Pediatrics Office	1	3	13	7	26	23	25
Site 2	CBO Focused on Physical Activity, Nutrition, and Leadership Programs for Girls	0	4	15	26	22	34	2
Site 3	Girl/Parent National Membership Organization	1	1	9	8	6	4	5
Site 4	Nonprofit Health Education Organization	1	2	10	10	12	8	11
Site 5	Rural County Health Department	0	4	13	7	35	20	20
Site 6	University Center of Excellence in Women's Health	2	4	0	0	46	36	6

Chapter 3. Process Evaluation

A. Introduction

Results of the *BodyWorks* process evaluation will inform future implementation activities. This section focuses on the *BodyWorks* dissemination plan, especially in terms of the effectiveness of its train-the-trainer sessions, trainers' perceptions of the program, and approaches trainers used to implement the program with parents/caregivers.

This section discusses data collected from key-informant interviews with site administrators and trainers; the trainer survey; and the *BodyWorks* tracking database.

Key Findings

Although trainers were satisfied with the training, they wanted additional guidance on how to implement *BodyWorks* with parents/caregivers. Indeed, far more trainers trained other trainers than trained parents/caregivers.

To effectively implement *BodyWorks* with parents and caregivers, trainers need to have the time and skills to create a budget, identify financial resources, recruit participants, prepare and deliver sessions, and conduct retention activities.

Effective recruitment strategies included engaging community leaders, relying on word of mouth, and targeting efforts to parents/caregivers ready to change their behavior.

The current tracking mechanism for OWH to manage the *BodyWorks* program is insufficient for OWH to monitor Toolkit use. The program does not include a formal mechanism or have an expectation to follow up with trainers to assess implementation in order to improve the program or make adjustments.

Among trainers who implemented *BodyWorks* with parents/caregivers, most reported that parents liked the Toolkit contents (100 percent), the group sessions (89 percent) and conversations about nutrition (93 percent). They cited challenges for parents in setting goals (37 percent) and in talking to their daughters about physical activity (54 percent).

B. Dissemination Strategy and Results

1. Changes to the Dissemination and Implementation Plans

Chapter 1 describes the *BodyWorks* dissemination plan, which was adapted to better engage trainers and parents/caregivers. These adaptations, which influenced the implementation process, may have affected the project's outcomes.

Initial outreach efforts focused on developing partnerships and engaging local providers and national organizations. At the local level, the campaign sought organizations that wanted their staff trained to implement *BodyWorks* with parents/caregivers; at the national level, it targeted large organizations that could potentially adopt and adapt *BodyWorks*, perhaps by printing Toolkits or by training their members/staffs/networks in its use.

The original train-the-trainer plan defined two "tiers" of trainers. Tier 1 trainers were to have been regional OWH coordinators who led efforts to engage and train community-based providers, such as health centers, community- and faith-based organizations (CBOs and FBOs), and OWH Centers of Excellence. Tier 2 trainers were to include CBOs and FBOs that would train other trainers, as well as parents/caregivers.

Upon program implementation, this plan changed significantly. OWH regional office coordinators did not have the time nor funding to act as Tier I trainers. Instead, OWH went directly to FBOs and CBOs to develop the necessary trainer network.

OWH delayed the launch of a national media campaign pending evaluation results that demonstrated whether *BodyWorks* led to behavior changes; demonstrated success would encourage national partners to support the program. Consequently, the media communication strategy shifted from a plan based on outreach designed to link organizations to a network of lead trainers to one of building an infrastructure of trainers.

Members of the OWH *BodyWorks* team provided outreach, training, and technical assistance to CBOs, FBOs, PTAs, hospitals and health care systems, and to work-site wellness programs. To this end, the project team became more involved in hands-on planning for how best to engage trainers at the local level and support them in the implementation with parents/caregivers. To support this infrastructure, the team developed several resources, including:

- A comprehensive BodyWorks Web site that parents/caregivers and potential trainers could search for BodyWorks activities in their community, order additional Toolkits and access materials such as checklists, poster templates, flyers, and sample news releases
- A trainer listserv
- A quarterly newsletter with tips and updates for trainers
- A database to track the dissemination of BodyWorks Toolkits
- Contact information for public inquiries

Outreach activities pointed to the need to adapt the program to meet community needs. For example, *BodyWorks* was designed as a 10-week session targeting parents/caregivers of girls ages 11–13 based on behavior change theory. Many organizations found the 10-week format to be too long, and felt that the focus on 11-13 year old girls limited engagement of organizations whose target populations include older or younger girls or boys. As a result, OWH agreed that

organizations could modify both the length of the program and the targeted age range and sex. Organizations were encouraged to sponsor and hold at least six classes and were allowed to include a broader age range of girls.

To engage a wider range of communities, additional versions of the Toolkit were developed, including adaptations for Spanish speaking and Native American populations; in addition, a special book was developed for use with boys. The latter change shifted *BodyWorks'* focus to the entire family, rather than just on girls and their parent/caregivers. It should be noted that this evaluation did not include analysis of these adaptations.

2. Dissemination Results

Originally, evaluators planned to use data from the *BodyWorks* tracking database to evaluate aspects of the dissemination. However, problems that emerged with the actual tracking of Toolkit distribution limited the results of that analysis. For example, as of July 31, 2008, 7,246 toolkits had been distributed. Of these, at least 683 were used with parents and caregivers, and at least 1,698 with individuals being trained as trainers.[14] However, almost 5,000 Toolkits (4,865) were unaccounted for. With no information on how these Toolkits were used, the tracking results described in this section may underestimate the number of trainers and parent/caregivers who participated in *BodyWorks*.

In some instances, results from the tracking database did not align with results from the trainer survey. For example, the trainer survey found that a larger number, 21 percent of respondents implemented *BodyWorks* with at least one group of parents/caregivers. Of these trainers, 52 percent had delivered the program once, 16 percent had facilitated two program series, and 13 percent, three series (Appendix D, Tables 3-18 and 3-19). According to the tracking database, however, only 3 percent of trainers actually implemented *BodyWorks* with parents/caregivers. The disparity in these numbers underscores the need for better tracking to more accurately describe *BodyWorks* implementation and to help OWH manage Toolkit distribution and understand if the Toolkits are indeed reaching the intended user. In either case, it is clear that a relatively small percentage of people who attended the training actually implemented *BodyWorks* with parents/caregivers.

a. Trainer network

According to the tracking database, approximately 73 Tier 1 trainers trained 1,698 other trainers nationwide to implement *BodyWorks* with parents/caregivers. States with at least 75 trainers include: Alabama, Arizona, California, Georgia, Illinois, Michigan, Mississippi, Pennsylvania, and West Virginia.

b. Parent/caregiver participation

BodyWorks was better at reaching trainers than at reaching parents/caregivers. The number of people trained to be trainers was 2.5 times greater than the number of parents/caregivers who participated in *BodyWorks* sessions (1,698 Toolkits by trainers compared with 683 Toolkits by parents and caregivers). However, parents/caregivers who received the training reflected wide geographic distribution, with key pockets of activity in California, Delaware, Hawaii, Illinois, and Washington.

[14] From July 2008 to March 2009, at least 294 toolkits were used with parents/caregivers.

C. Implementation

1. Training of Trainers

The remainder of this chapter summarizes survey data collected from a subset of trainers (*n* = 166) and key-informant interviews with administrators and trainers at evaluation sites. Appendix C includes more detailed data tables.

a. Characteristics of the trainers and their organizations

Key to *Bodyworks'* long-term success is an understanding of the characteristics of people who are interested in and able to implement it. According to trainer survey data, respondents represented a range of organizations: 24 percent were government employees, while most others worked at the community level, either in a CBO (20 percent) university medical school (16 percent), or community health center (Appendix D, Table 3-1).[15]

Most trainers reported having background and expertise in health education (35 percent), nutrition and/or dietetics (28 percent), and nursing (16 percent), with an average of 12 years' experience providing general health education. Almost a third had had no experience providing nutrition education to adolescent girls, while almost 20 percent had no experience providing such education to adults (Appendix D, Tables 3-2, 3-3 and 3-4).

Almost all surveyed trainers were women (99 percent) and the majority were non-Hispanic White (61 percent) with far fewer being non-Hispanic Black (13 percent) and Hispanic (12 percent) (Appendix D, Tables 3-5 and 3-6). The majority of respondents (68 percent) reported that they had never used other nutrition programs, while 13 percent had used diabetes-specific materials, 12 percent had used "We Can!" and 7 percent had used Power Panther (Appendix D, Table 3-8).

b. Reason for attending the training

Trainers were asked what motivated them to participate in the *BodyWorks* Train the Trainer program. The majority reported that they themselves decided to attend the training (63 percent) and chose to do so because the *BodyWorks* Toolkit seemed as though it would be helpful to parents/caregivers (57 percent) or because it was free (39 percent) (Appendix D, Tables 3-9 and 3-10).

Interviews with staff and administrators from the six evaluation sites provided more detail:

- One site had found it challenging to find meaningful ways to engage the parents/caregivers of the girls it serves, and was impressed by the way *BodyWorks* empowers parents through group facilitation and participant-centered counseling.
- Another administrator wanted a way to help the many overweight and obese children she sees in her work.

[15] Figures are within the text of this document. Tables are included in Appendix C.

- A third site noted that while information about the importance of healthy eating and exercising is readily available, the support of the training class might really make a difference in behavior.

c. Perceptions of the Training Workshop

Most training events ran from 6 to 8 hours (73 percent) which was consistent with the 6-hours recommended in the training curriculum; a smaller percentage reported events that lasted less than 6 hours (19 percent) (Appendix D, Table 3-11).

For the most part, trainers felt that the amount of time spent on substantive, instructional, and training topics was "just about right." Few to no respondents reported spending too much time on any specific topic. However, a number of respondents reported that "too little" time was spent on the following topics or that they were "not covered" (Appendix D, Table 3-12):

- Community and school gardens (66 percent)
- Advocacy in schools and communities (40 percent)
- How to recruit and retain participants (40 percent)
- How to use behavior change theories to identify participants' stage of change and tailor methods to meet their individual needs (27 percent)
- Expectations on training other trainers to use *BodyWorks* with parents/caregivers (26 percent)
- How to promote family communications about nutrition and physical activity (26 percent)

Participants seemed to enjoy the participatory nature of the training and requested additional role-plays and "hands-on" practice, especially for practice with the curriculum and guidance on how to obtain funding and recruit participants. Some respondents wished that they had known more about the purpose of the training and its expectations before they participated. Some also wanted follow-up support after the training ended. To this end, many said that they wanted the train the trainer program to be longer.

Asked to suggest improvements to the training process (Figure 3-1), most respondents said that guidance was needed on how to implement *BodyWorks*, rather than on specific nutrition- or physical activity-related topics. Although the training and the *BodyWorks* Web site encouraged participants to seek guidance and support from OWH, very few of the trainer survey respondents reported having done so. None of the six indepth study sites sought any technical assistance or additional training.

Figure 3-1. Suggested Improvements for Training

Content of Training	Illustrative Comments
Includes: Hands-on practice of the curriculum (20*) Technical support on funding (19) Recruitment strategies (more information/support on recruitment) (16) Basic structural information (e.g., number of sessions, availability in Spanish) (10) Provision of "real-life" examples of training (10) Adapting BodyWorks to specific audiences (9) How to address other determinants including lack of motivation (8) Follow-up support and activities (7) Nutrition and physical activity (6) More information about the training before attending (4)	*"Explain what is most important to emphasize in each lesson and how to do so."* *"More of a walk through the steps and setting up your first training session."* *"Ways to recruit/engage parents from high-need, busy, and underresourced communities."* *"I would recommend some training on how to adapt the BodyWorks Toolkit to specific audiences."* *"More discussion of mental health issues involved in wellness program. I think many of our participants are suffering from depression. Need more training on how to deal with the depression so that the BodyWorks steps can be addressed."* *"More real-life stories from other trainers/leaders about how effective this program is with mothers, daughters, and families."* *"There wasn't much communication between the facilitators and myself in order to answer questions. I never heard from them after the training. More communication would have helped."* *"'More background information on what the program was, and what the expectations of participants were. I thought that the program was to provide info, so I could use it, I did not know that it was a train-the-trainer after a 1- day workshop kind of deal."* *"Make a DVD that is a movie about a family that actually implements and moves through the stages of change and focus on the results obtained... including how the men in the family either obstruct or prevent women from attending or making changes."*
Logistics and Resources	
Extend length of training (22) Improve Train the Trainers Guide (5) Trainer experience (behavior change with this population) (4) Smaller class size (3) Reduce length (2)	*"More time. My low satisfaction rate had nothing to do with the trainer, but 6 hours seems like so little time to train on an entire 10-week curriculum plus a training on how to train others in the curriculum's use."* *"Would develop a one-pager guide to allow trainer to have program at-a-glance."* *"Trainer should be knowledgeable about behavior change for weight control, preferably with a background in individual behavior change programs."*
Training Methodology	
More role plays (10) Increase group participation and hands on practice (6)	*'Time to actually work through one class on one topic as it would be used. Role-play class with the conference attendees."*

***This number represents the number of respondents with this comment.**
Source: Trainer Survey

2. Trainers Training Other Trainers

The vast majority of trainer survey respondents (81 percent) had not yet trained others to deliver *BodyWorks*; note that the survey was completed, a minimum of six weeks following training. Reasons for not training others include (Appendix D, Tables 3-13 and 3-14):

- Did not have the time or are still in the planning phases (31 percent)
- Did not deliver with the parent/caregiver group [OWH recommends but does not require that trainers implement with parent/caregiver group before training other trainers (23 percent)]
- Did not have the resources (14 percent)
- Never intended to train others (14 percent)

Respondents who felt prepared (p = .003), motivated (p = .0013), and satisfied (p = .001) with the training were more likely to train other trainers than those who did not. Years of health education and trainer experience were not statistically significant predictors of conducting parent or trainer sessions (Figure 3-2).

Figure 3-2. Likelihood to Train Other Trainers

		Trained Other Trainers		Did NOT Train Others		*p*-Value
		n	%	*n*	%	
Prepared to train other trainers	Not Prepared (not at all, not very, not sure	7	25%	67	57%	.003
	Prepared (prepared, very)	21	75%	51	43%	
Motivated to train other trainers	Not Motivated (not at all, not very, not sure)	2	7%	44	38%	.0013
	Motivated (motivated, very)	26	93%	73	62%	
Satisfaction with the BodyWorks Toolkit	Not Satisfied (not at all, not very, not sure)	0	0%	36	31%	.0001
	Satisfied (satisfied, very)	28	100%	82	69%	

Source: Trainer Survey

Of those who trained other trainers (19 percent), 50 percent trained between 1 and 10 people, while 4 trainers (14 percent) trained more than 30 other trainers (Appendix D, Table 3-15). Respondents were most likely to train health care providers (e.g., doctors, nurses, social workers) who were not health educators either outside (64 percent) or inside (46 percent) of their organization; fewer trained health educators outside (46 percent) or inside (32 percent) of their organization (Appendix D, Table 3-16). Only 11 percent of those who trained others reported that “some” or “all” of the people they trained had previous experience facilitating parent/caregiver groups, and 55 percent believed “none” or “few” of their trainees had facilitated parent/caregiver groups previously, while 34 percent of trainers were unaware of training participants’ backgrounds (Appendix D, Table 3-17).

Four of the six *BodyWorks* program evaluation sites used the train-the-trainer curriculum to train others in their organizations or communities. They did this primarily to achieve a broad base of trainers to help co-facilitate sessions with parents/caregivers. Interviews with site administrators

also revealed that they were unsure whether those whom they trained went on to train other trainers or to facilitate parent/caregiver sessions. They noted that there was no formal mechanism or expectation in place for trainers to follow up with those they had trained. Staff changes and unclear expectations of the trainees, as well as a lack of confidence in their ability to train parents/caregivers, prevented some trainees from going on to implement *BodyWorks.*

The following section further explores reasons why trainers did not go on to train parents/caregivers.

3. Implementation with Parents/Caregivers

This section details community-level implementation. It describes why some trainers implemented the program with parents/caregivers and others did not. It focuses on how programs were implemented, detailing program planning activities such as funding and recruitment. Finally, it examines factors that influenced parental participation, as well as successful efforts in recruitment and retention. This section integrates information gathered from key-informant interviews with evaluation site administrators and trainers, the trained-trainer surveys, and the parent/caregiver surveys.

a. Motivation for and Barriers to Implementing BodyWorks with Parents/Caregivers

Trainers who reported implementing *BodyWorks* with parents/caregivers were asked about their reasons for doing so; most reported that they used *BodyWorks* because:

- Overweight, obesity, and diabetes are big issues in our community (94 percent)
- The materials were free (74 percent)
- Parents/caregivers were asking for education' or assistance around their family's nutrition or physical activity patterns (45 percent) (Appendix D, Table 3-20)

Those who had not implemented *BodyWorks* with parents/caregivers were asked why. Frequent responses were "did not have time" (35 percent) and "did not have resources" (16 percent). A large number of respondents (39 percent) selected "other." This question included a "check all that apply" box, so in some cases, "other" was selected to qualify an already-selected response. The majority of these "other" responses (*n*= 45) were categorized as follows (also see Appendix D, Tables 3-21 and 3-22):

- Trainer was still in the planning phases (*n* = 22; 49%)
- Trainer did not provide this type of service or never intended to implement *BodyWorks* with parents themselves (*n* = 14; 31%)
- Trainer encountered problems recruiting parents (*n* = 8; 18%)
- Trainer was waiting for additional resources, such as Spanish or Native American materials (*n* = 3; 7%)

Interviews with site administrators/trainer key informants corroborated survey responses. Interviewees also pointed to the considerable time it can take to implement a program due to grant writing processes and the general nature of budget and funding cycles. A few sites also explained that they had trained some "backup" trainers, who may not have "intended to implement with parents" but could fill in for the primary trainer if necessary. Program funders, who never intended to provide services directly to parents, also attended the training session.

For example, some State level program administrators attended a training to decide whether or not to fund implementation of *BodyWorks*.

b. Program Planning

Implementing a multisession program with parents/caregivers could overwhelm some trainers. They said that successful implementation requires more than attending a training and ordering free Toolkits, but also requires resources and planning.

Trainers need time – both to participate in sessions and to engage and retain parents/caregivers – to deliver *BodyWorks* sessions. Since parents often were available only for evening and weekend classes, trainers typically offered the class during their "personal" time. One site explained that because many of the staff who work in CBOs are already spread thin, adding these responsibilities was too much.

Key informants from the six evaluation sites concur that planning the program and identifying resources to advertise and market it were important considerations. The largest expense was staff time, including time to create a budget, identify financial resources, and identify and recruit parents. Trainers often underestimated the time and resources needed for this task; this challenge is further described later in this chapter.

Program funding was a key issue. In fact, to implement *BodyWorks*, each evaluation site relied on funding through grants, sponsorships, internal sources, or donations (financial as well as labor and time). Two sites received grants to implement the program in their communities. Three sites received funding from their State departments of health. One national organization offered its program through its "university," charging a $10 fee per person to cover class expenses, including labor and materials.

Juggling Responsibilities

Many trainers found the time and resource commitment daunting. One way to overcome these challenges is to employ a team approach, which each evaluation site used. They used a team of trainers who helped implement the program.

For example, one site conducted a training of trainers attended by their own staff and staff from their community partner. In effect, they built a team of trainers who supported or substituted for each other as needed. This prevented risking a parent series being interrupted because of staff vacation, illness, or recidivism. This reduced the burden of providing the training on any one trainer.

c. Recruitment

1. Methods Used by Trainers

A variety of data sources were analyzed to understand recruitment efforts. The trainer survey asked respondents who had implemented *BodyWorks* to list their recruitment methods; evaluation site trainers were interviewed to learn more about which methods they had used, what worked well, and what could work better. The parent/caregiver survey asked participants how they had learned about the program and what motivated them to attend.

Figure 3-3 describes the perceived effectiveness of various recruitment strategies identified by trainer survey respondents.

Figure 3-3. Methods Used to Recruit Participants and the Perceived Level of Effectiveness

		Effectiveness Ranked by Those Who Used the Method (*N* = 31)				
Method Used	*n*	Not at all effective	Not very effective	Not sure if effective	Effective	Very effective
Referral/word of mouth	18	0%	11%	22%	22%	44%
Posters or fliers	16	13%	25%	25%	31%	6%
Presentation	9	0%	11%	56%	22%	11%
Media (newsletter, newspaper press, TV appearance)	7	0%	20%	40%	20%	20%
Computer-based communication	5	20%	0%	60%	0%	20%

Source: Trainer Survey

Evaluation site key informants provided greater detail about effective recruitment activities. They reached out to physician offices, beauty salons, gyms, and PTAs. Three sites wrote press releases; print and broadcast media outlets interviewed several trainers. One location branded the program by offering *BodyWorks* t-shirts and created an identity for the class. Although some distributed OWH brochures and flyers, many sites designed their own, noting that the OWH flyer was not specific enough to reach their particular target audiences.

Sites promoted the program using different key messages. For example, one site marketed its program as a "parent trainer" program and offered certification to parents who completed it. Another, which initially promoted *BodyWorks* as an "anti-obesity" program, dropped this approach, concerned that it might deter some people from attending. A third site targeted people who were ready to make behavior changes; e.g., those who were ready to "deal with this serious health issue."

Empowering Parents

One site empowered parents by selling the program as a "parent trainer" program. Parents who attended the *BodyWorks* series received certification upon completion. After receiving certification, one *BodyWorks* "parent trainer" was motivated to offer another class to parents in her child's school. This parent successfully recruited another parent series in her child's school, without additional funding or resources. This strategy is particularly noteworthy given the trouble sites report in recruiting.

2. Reasons Why Parents/Caregivers Attended BodyWorks

The preintervention questionnaire asked parents/caregivers how they learned about *BodyWorks*. The most frequently selected responses were: through schools, from a friend or doctor, or from a health care flyer or public announcement. This information is not representative and reflects the strategies used by the participating evaluation sites, but it is somewhat consistent with data collected on the trainer survey indicating that word-of-mouth was one of the best outreach methods. For example, those who heard about the program through schools participated in programs that were offered in the schools. Likewise, those who learned about it through a health care provider were primarily participants in programs offered through the university medical center site (Figure 3-4).

Figure 3-4. How Parents/Caregivers Heard About *BodyWorks*

Sources	Intervention Group (*N* = 129)	
	n	Percentage
School	57	44%
Other	23	18%
Friend	18	14%
Doctor or other health care provider	21	16%
Saw a flyer or public announcement	28	22%
Work place	10	8%
Neighbor	3	2%
Teacher	3	2%

Note: One or more responses were given by each respondent.
Source: Parents/Caregivers Survey

Figure 3-5 describes the reasons parents/caregivers gave when asked what had interested them in the program.

Figure 3-5. Reasons Parents/Caregivers Were Interested in BodyWorks

Reasons	Intervention Group (*N* = 128)	
	n	Percentage
Wanted to learn about nutrition	87	68%
Concerned about family's health	86	67%
Concerned about daughter's health	81	63%
Wanted to learn to cook healthier meals	78	61%
Concerned about own weight	73	57%
Concerned about own health	70	55%
Wanted group support	62	48%
Concerned about daughter's weight	60	47%
Wanted to learn how to talk with daughter	46	36%
Other	13	10%

Note: One or more responses were given by each respondent.
Source: Parents/Caregivers Survey

3. Recruitment Challenges and Solutions

Although they used many strategies to recruit parents/caregivers, *BodyWorks* trainers found the task challenging. Each of the evaluation sites had unique relationships within their communities and used different recruitment strategies with varying levels of success. Interviews with trainers indicated that successful recruitment efforts entailed engaging community partners or relying on existing ties to the community or target audience. Three sites collaborated with sites or organizations, such as schools and CBOs and FBOs, which already worked with the target audience. Organizations that already worked directly with parents/caregivers also used this connection. For example, a State affiliate of a national organization offered the program to all of its leaders through its "university."

In contrast is the experience of the county health department evaluation site, which did not work with targeted communities *per se* but recruited participants from the general public. The county team of trainers already taught other health education classes and had an existing client base through two other grants and had relationships with clients through the Women Infants and Children (WIC) program. However, the trainer felt this was insufficient and thought that having better ties to the community would have improved recruitment.

The private pediatrician's office used its ties with clients and area doctors to recruit parents/caregivers; it recruited parents/caregivers who seemed most ready to change their behavior. Another site that recruited through medical facilities, however, did not believe that this was a successful strategy. This result may indicate that staff "buy-in," rather than the type of organization, is important for outreach to parents/caregivers.

Site administrators/trainers interviewed felt that it was very difficult for parents to commit to a 10-week program, noting that parents had many competing priorities, from attending school open houses to simply wanting to spend time with family. Just hearing that a class *lasted* for 10 weeks, much less 10 consecutive weeks, may have limited parent/caregiver interest in the program. In addition, scheduling conflicts—school schedules, vacation plans—presented problems.

Word of Mouth: Parents Do the Recruiting

One site spent time and money recruiting parents to one of their *BodyWorks* sessions. They put an announcement in the local newspaper for an open house for parents and caregivers to learn about the program. Only two parents attended the first class. The trainer told the parents that if they wanted to have a class, they needed to help recruit more parents. In the second session, these two parents brought seven other parents.

The 10-week format was developed based on behavior change theories which point to this level of time commitment. However, organizations also found the 10-week commitment significant, and typically offered shorter class sessions; staff did not have the interest or capacity to hold a 10-week series. Although sites believed that it was difficult to commit to 10 weeks, they differed in whether or not they believed the class should be shortened. Staff at half of the evaluation sites considered offering shortened alternatives to the 8-10 week series. Ideas included offering a 1-day *BodyWorks* workshop and shortening the program to 6 weeks or fewer. These sites felt that their target audience was largely ambivalent about making lifestyle changes and found the 10-week commitment overwhelming.

The sites recommended additional recruitment strategies:

Hold an open house. Explain the purpose of *BodyWorks*, get ideas about the best times/days for sessions, and share/demonstrate how the sessions will be held – participatory, engaging, and so on. The open house can help spread the word for recruitment.

Use personal invitations. Use the existing participants' and the community leaders' connections to personally invite attendees.

Advertise the class in places where parents typically "go" to engage in healthy lifestyle activities, such as the YMCA.

Leverage the high level of interest in the training of trainers. When people ask to be trained in *BodyWorks*, require that they identify a group of parents/caregivers from whom they have a "soft" commitment and have recruitment strategies.

d. Attendance and Retention

Despite the challenges posed by recruitment and course length, key informants reported that retention was not a problem once parents/caregivers had committed to the course. In general, parents/caregivers who committed to the 8- or 10-week series attended most classes. To encourage ongoing participation, several sites developed weekly newsletters; another popular method was to host food demonstrations and group meals.

The trainer survey asked: "What methods did you or your organization use to keep participants coming to the *BodyWorks* sessions and how effective were these methods?" "Offering incentives to parents," "using reminders," "developing a strong support group," and "using raffles" were the most frequently selected responses. Of these methods, "using raffles" (80 percent) and "developing peer support" (75 percent) were cited as the most effective retention methods. Other popular retention methods included using a "buddy system" and "providing child care" (Figure 3-6).

Figure 3-6. Methods Used to Retain Participants and the Perceived Level of Effectiveness

		Effectiveness Ranked by Those Who Used the Method (N = 31)		
Method	n	Not at all effective/Not very effective	Not sure if effective	Effective/Very effective
Using incentives	18	18%	18%	64%
Using reminders	17	24%	24%	53%
Developing a strong peer support group	12	8%	17%	75%
Using raffles	11	10%	10%	80%
Using the buddy system	8	0%	25%	76%
Providing childcare	8	13%	13%	75%
Providing transportation	2	0%	0%	100%
Other	2	0%	0%	100%

Source: Trainer Survey

Evaluation sites completed and submitted attendance sheets for each participating *BodyWorks* series. The average attendance rate across all evaluation sites and all *BodyWorks* sessions was 69 percent. Attendance rates ranged from a high of 81 and 82 percent in Weeks 1 and 2 respectively, to a low of 59 and 55 percent during Weeks 7 and 8 respectively, but then picked back up again to 66 and 72 percent by sessions 9 and 10 (Appendix D, Table 3-23). During the key-informant interviews, the trainers from these sites reported that they were satisfied with class attendance.

To identify effective retention methods, it is helpful to understand why parents/caregivers missed classes or stopped coming. The postintervention survey asked parents, "What got in the way of your attending all the sessions?" The most frequently chosen responses were "schedule conflicts" (55 percent) and "work" (27 percent). No one responded that he or she did not attend for interpersonal reasons such as "did not like the trainer," "did not like the other group members," or "didn't feel comfortable talking to other group members" (Figure 3-7). If anything, participants' appreciated the cohesiveness of the group: 58 percent of parents/caregivers reported that the group was "somewhat" cohesive and 39 percent rated it as being "very" cohesive, and only 3 percent rated the group as "not very" cohesive (Appendix D, Table 3-24). Only those who attended the last class answered this survey (72 percent of those enrolled);

participants who dropped out of the class or stopped attending may have done so for these or other reasons.

Figure 3-7. Obstacles to Parents Attending All Sessions

What Got in the Way?	*N* = 83	
	n	Percentage
Schedule conflicts	46	55%
Work	22	27%
Childcare	4	5%
Transportation	3	4%
Time of day sessions were held	1	1%
Topic didn't seem important to me	1	1%

Note: One or more responses were given by each respondent.
Source: Parents/Caregivers Survey

Most of the evaluation sites experimented with encouraging girls to come to all of the sessions. Benefits from having girls attend were the development of a parent/daughter bond around healthy eating and physical activity and the ability to spend time together in a positive activity. Problems included the lack of or minimal development of a group dynamic among parents/caregivers (which was the reason for the original structure) and the lack of lesson plans that simultaneously meet the needs of parents/caregivers and girls.

e. Trainers' Opinions of Using BodyWorks for Parents/Caregivers and Girls

Trainer survey respondents were asked about the usefulness of the *BodyWorks* components with parents/caregivers. Fifty-four percent found the Body Basic manual very useful, followed by the recipe book (42 percent), and the pedometer (39 percent). The majority of respondents also felt the magnet was "useful" (58 percent). Many found the teen-oriented *My Journal* "not very useful" (23 percent) or "not at all useful" (11 percent). Only half of respondents used *Eating Disorders and Obesity*, and of those only 38 percent found it "very useful" or "useful" (Appendix D, Table 3-25).

While there was general satisfaction with each session of the *BodyWorks* training for parents/caregivers, trainer survey respondents felt the session on "Serving Sizes, Snacks, Fats, and Fast Food" went "very well" or "somewhat well" (90 percent). Similarly, Sessions 5 (Physical Activity) and 1 (Introduction) were highly scored. More than one-third of respondents felt that Session 6 (Setting Goals and Meal Planning) did not work well, and the majority (59 percent) thought that Session 9 (Environment) did not work well (Figure 3-8).

Chapter 4 describes in more detail trainers' perceptions of parent/caregiver likes, dislikes and challenges.

Figure 3-8. Trainer Satisfaction with Bodyworks Sessions ("How Well Did It Work?")

Session Title and Number	Taught Session	Sessions Ranked By Trainers Who Taught the Session with Parents/Caregivers (*N* = 28)*	
		Well (Very or Somewhat)	Not Well (Not Sure How Well, Somewhat Poorly, Very Poorly)
Introduction to *BodyWorks* Toolkit (Session 1)	22	78%	23%
BodyWorks Tools for Behavior Change (Session 2)	21	75%	25%
Healthy Eating (Session 3)	23	72%	28%
Serving Sizes, Snacks, Fats, and Fast Food (Session 4)	20	90%	10%
Physical Activity (Session 5)	22	81%	19%
Setting Goals and Meal Planning (Session 6)	20	65%	35%
Shopping for Meals (Session 7)	20	74%	27%
Cooking and Eating Together (Session 8)	18	76%	24%
Look Around You: Your Environment (Session 9)	18	42%	59%
How Media Affects Body Image and Food Choices (Session 10)	18	72%	28%

***Only 27 trainers responded whether they taught sessions 4, 5, and 7.**
Source: Trainer Survey

f. Project Sustainability

About half of the evaluation site administrators and trainers reported that they will continue to implement *BodyWorks*. While all of them were enthusiastic about the program and the positive effect it had on parents/caregivers and girls, continued implementation depended on finding funding. None of the sites intended to fund *BodyWorks* with their existing financial resources.

Chapter 4. Short- and Intermediate-Term Outcomes for Parents/Caregivers

The *BodyWorks* evaluation assessed parent/caregiver satisfaction with the program and subsequent immediate changes in their knowledge, self-efficacy, behavior, and intentions. This evaluation included pre- and post-intervention surveys with an intervention group of parents/caregivers who actually participated in the program, and with a comparison group who did not.

Key Findings

Participants reported that *BodyWorks was* "very helpful" with regard to helping them shop for healthier food (64 percent), make healthier food choices (66 percent), help their daughters make healthy food choices (54 percent), and do more active things with their daughters (53 percent).

There was a statistically significant decrease in non-diet soda or pop consumption among parents/caregivers participating in the *BodyWorks* training, compared with those in the comparison group ($p = 0.0101$). Additionally, *BodyWorks* participants reported an increase in overall vegetable consumption compared with the comparison group ($p = 0.0393$).

Participants in the intervention were nearly 7 times more likely than those in the comparison group to have reported making healthier food choices in the past month, more than 4.7 times more likely to have helped their daughters make healthy food choices, and 4.6 times more likely to have shopped for healthier foods.

Parents/caregivers in the intervention group were significantly more likely to have developed nutrition or physical activity goals for themselves over the past month and to have helped their daughters develop their own nutrition or physical activity goals ($p < .0001$).

BodyWorks motivated those parents/caregivers who did not perceive certain barriers to physical activity to increase the frequency with which they engaged in physical activity; however, it did not motivate parents/caregivers who perceived barriers to physical activity.

A. Parent/Caregiver Demographics

The pre-intervention survey collected demographic, socioeconomic, and pertinent health-related information from parents/caregivers in both the intervention and comparison groups. Demographic characteristics were compared to assess any intrinsic differences between the two groups. With regard to the following variables, no statistically significant differences were found (see Appendix D, Tables 4-1 and 4-2):

- Sex
- Race/ethnicity
- Highest level of education
- Spouse/partner's highest level of education
- Whether or not parent/caregiver was working for pay
- Whether or not spouse/partner was working for pay
- Previous participation in health education programs about nutrition or physical activity
- Household income
- Daughter's age
- Daughter's grade
- Parents/caregivers' satisfaction with own weight

The majority of parents/caregivers in the intervention group were female (96 percent) and non-Hispanic White (46 percent), followed by non-Hispanic Black (30 percent), and Hispanic (14 percent). Most were from households with an annual income of $50,000 or more. The daughters' average age was 11.8 years.

Significant differences emerged, however, in the mean body mass index (BMI) percentiles of the intervention and comparison groups (Figure 4-1). These percentiles were calculated based on parents/caregivers' reported height and weight for themselves and their daughters. Parents/caregivers in the intervention group had a mean BMI score of 31.0 (obese), compared with a 26.1 score (overweight) for the comparison group. Similarly, girls in the intervention group were more likely to be overweight than those in the comparison group (49 versus 13 percent). Certain factors may explain the differences in BMI of parents/caregivers and daughters between the intervention and comparison groups, particularly self-selection into the *BodyWorks* program and cross-site variations in participant recruitment.

Figure 4-1. Parent/Caregiver BMI by Comparison/Intervention Group

		Total	Comparison		Intervention		*p*-Value
		N	n	Mean / %	n	Mean / %	
Parent's BMI	**MEAN***	124	32	26.1	92	31.0	0.0003
	Underweight (BMI: <18.5)		0	0%	2	2%	
	Normal (BMI:18.5-24.9)		18	56%	19	21%	
	Overweight (BMI:25.0-29.9)		10	31%	25	27%	
	Obese (BMI:30.0+)		4	13%	46	50%	
Daughter's BMI percentile	**MEAN***	116	32	53.8	84	79.0	0.0003
	Underweight (<5th percentile)		3	9%	0	0	
	Normal (5th – <85th percentile)		21	66%	31	37%	
	At risk of overweight (85th – <95th percentile)		4	13%	12	14%	
	Overweight (≥95th percentile)		4	13%	41	49%	

Source: Parents/Caregivers Survey

B. Parent/Caregiver Responses to *BodyWorks* Training and Toolkit

Data were collected from parents/caregivers and from trainers to evaluate their satisfaction with the training and Toolkit components, and to get their feedback on how to improve the program. This section incorporates two data sources:

- Parents/caregivers who had completed the post-evaluation survey (*n* = 99)
- Trainer survey data (a survey of *all* trainers, not only those at the evaluation sites) (*n*=166)

1. *BodyWorks* training

Parents/caregivers were satisfied with many aspects of the program; 79 percent reported that they were completely satisfied with the *BodyWorks* training. Another 12 percent were somewhat satisfied, 3 percent were neutral, and the remaining 6 percent were somewhat or completely dissatisfied (Appendix D, Table 4-3).

Parents/caregivers were asked to select from a preset list to identify ways to make the training more effective. Among those offering any suggestions for improving effectiveness (*n* = 82), the most often selected items included:

- Follow-up physical activity projects (34 percent)
- More sessions with the girls (29 percent)
- Samples of food (27 percent)
- More demonstrations (27 percent)
- More sessions (26 percent)

Trainers and parents/caregivers had mixed responses to the number of training sessions offered. While 54 percent of trainers agreed or strongly agreed that there were too many training sessions for parents/caregivers (Appendix D, Table 4-4), only 6 percent of parents/caregivers said that fewer sessions would improve program effectiveness (Appendix D, Table 4-3). Fifteen percent of parents/caregivers suggested that the program could benefit from longer sessions, while only 4 percent responded that the sessions should be shorter.

Trainers and parents/caregivers liked the group session format. Nearly 90 percent of trainers agreed or strongly agreed that the parents/caregivers liked group sessions, while only 9 percent of parents/caregivers said that they would have found a one-on-one format more effective. However, 10 percent of parents/caregivers thought that more discussion with the facilitator and with other caregivers could improve *BodyWorks*' effectiveness.

2. *BodyWorks'* helpfulness in making positive health and lifestyle changes

BodyWorks participants were asked to identify areas in which the training helped them to make the positive changes needed to develop a healthy lifestyle. Most participants reported that *BodyWorks was* "very helpful" in helping them to:

- Make healthier food choices (66 percent)
- Shop for healthier food (64 percent)
- Help their daughters make healthy food choices (54 percent)
- Do more active things with their daughters (53 percent)

Parents/caregivers were split on whether *BodyWorks* was helpful to them in making school or community changes related to nutrition or physical activity practices, programs, or policies. Almost half (48 percent) reported that the training was very helpful or somewhat helpful. However, 36 percent found the training "neither helpful nor unhelpful" and 16 percent thought it was somewhat unhelpful or not at all helpful in making relevant school or community changes (Appendix D, Table 4-5).These responses varied according to income level: Although parents/caregivers with lower incomes were more likely to find *Bodyworks* very helpful in trying to make relevant school or community changes, those with household incomes of $50,000 or more found it less helpful (Figure 4-2).

Figure 4-2. Perceptions of BodyWorks' Helpfulness in Making School or Community Changes Related to Nutrition and Physical Activity, by Participants' Annual Income (n = 97)

Annual Income	Not at all / Somewhat unhelpful / Neutral	Somewhat helpful	Very helpful	*p*-Value
Less than $35,001	36%	20%	44%	<.0001
$35,001-50,000	31	31	38	
Greater than $50,000	70	21	9	

Source: Parents/Caregivers Survey

3. Parent/caregiver satisfaction with *BodyWorks* trainers

Parents/caregivers were generally satisfied with the training they received. Among the 99 participants responding, 65 percent thought the trainer taught them to use the Toolkit "very well," and another 33 percent felt they were taught "quite well." Indeed, only 4 percent of parents/caregivers reported that more explanation of the Toolkit would have made the training more effective. However, 13 percent of parents/caregivers reported that more tools would have

made the training more effective; this result may reflect both a high level of satisfaction with the tools provided and a desire to have more behavior-change tools at their disposal (Appendix D, Table 4-3).

4. Use of the *BodyWorks* Toolkit

Overall, parents/caregivers participating in the *BodyWorks* training sessions were satisfied with the *BodyWorks* Toolkit: 74 percent were completely satisfied and 14 percent were somewhat satisfied with it. In fact, more than 90 percent of parents/caregivers completing the training thought they would continue to use at least part of the Toolkit: 61 percent of parents/caregivers reported that they were completely likely to continue to use all or parts of the Toolkit, while 30 percent responded that they were somewhat likely to do so. (Appendix D, Table 4-6).

Trainers echoed parent/caregiver satisfaction with the Toolkit: All agreed or strongly agreed that parents/caregivers liked the Toolkit contents and found them highly relevant. Similarly, all trainers disagreed or strongly disagreed that the Toolkit was too complicated for parents (Appendix D, Table 4-3).

Parents/caregivers noted which parts of the Toolkit they had used personally, and how helpful each was (Table 4-7). The most-used components and their level of helpfulness were:

- *BodyBasics* parent guide: 95 percent used, 100 percent found it very or somewhat helpful
- Recipe Book: 92 percent used, 100 percent found it very helpful or somewhat helpful
- Pedometer: 92 percent used, 96 percent found it very or somewhat helpful
- Weekly Planner (90 percent), 96 percent found it very or somewhat helpful

Fewer parents/caregivers used the products that were designed specifically for teens or for parents/caregivers and teens to use together (Table 4-7):

- *BodyWorks DVD*: 71 percent used, 94 percent found it very or somewhat helpful.
- *My Journal: A Girl's Food and Fitness Diary*: 75 percent used, evenly split between its being somewhat or very helpful
- *BodyWorks* 4 Teens: 76 percent used, 57 percent found it helpful, but 41 percent found it only somewhat helpful

C. Changes in Knowledge, Skills, and Self-Efficacy among Parents/Caregivers

All parents/caregivers were asked questions to measure changes with regard to knowledge, skills, and self-efficacy. These questions ranged from knowledge of physical activity recommendations to self-efficacy in selecting healthy foods in various situations. Parents/caregivers participating in the *BodyWorks* training improved on several indicators of knowledge, self-efficacy, and skills.

Data analysis revealed significant differences in BMI levels for parents/caregivers in the intervention and comparison groups. In addition, BMI levels appeared to influence the likelihood of parents/caregivers changing their behaviors. Consequently, evaluators found it necessary to control for parents'/caregivers' and daughters' BMIs. By controlling for BMI level, evaluators

could ensure that any observed changes in behaviors, knowledge, or intentions was actually due to participation in *BodyWorks* and not related to parents/caregivers' and daughters' BMI. Controlling for these factors, in essence, leveled the playing field between the comparison and intervention groups.

1. Knowledge

A statistically significant increase occurred in the percentage of intervention group parents/caregivers who correctly reported the recommended amount of time their daughters should be physically active. These parents/caregivers were 3 times more likely than those in the comparison group to have shown improved knowledge (Figure 4-5, $p = 0.0231$). The increase in knowledge remained significant after controlling for parent/caregivers' and daughters' BMI.

Figure 4-5. Parents/Caregivers Reporting That the Recommended Amount of Time Their Daughters Should Be Active Is 60 Minutes per Day

Response	Comparison				Intervention				*p*-Value
	Pre		Post		Pre		Post		
	N	%	*N*	%	*N*	%	*N*	%	
Correct (60 minutes per day)	8	23%	8	24%	13	15%	39	41%	0.0231*
Incorrect (all other responses)	27	77%	25	76%	74	85%	55	59%	

***Significant at <0.05 after controlling for parent/caregiver and daughter's BMI.**
Source: Parents/Caregivers Survey

Parents/caregivers participating in *BodyWorks* also were more likely to report having learned a lot about nutrition and physical activity compared with the comparison group. *BodyWorks* participants were nearly 8 times more likely than those in the comparison group to agree that they had learned a lot that was new to them in the past month ($p<.0001$). This result indicates that the program was successful in teaching parents/caregivers new nutrition and physical activity concepts (Appendix D, Table 4-8). The findings were significant after controlling for parents/caregivers' and daughters' BMI.

2. Self-efficacy

Statistically significant increases in self-efficacy among *BodyWorks* participants were evident with regard to whether or not parents/caregivers knew how to:

- Plan physical activities for the week for their families ($p = 0.0046$)
- Set realistic nutrition goals for their families ($p = 0.0227$)

After participating in *BodyWorks,* the percentage of parents/caregivers reporting that they "somewhat" or "strongly" agreed that they knew how to plan physical activities for their families increased by 32 percent, compared with no change among the comparison group. Similarly, there was a 36 percent increase among parents/caregivers reporting that they "somewhat" or "strongly" agreed that they knew how to set realistic nutrition goals for their families (Appendix D, Table 4-9). Results were significant with and without controls for parent/caregiver BMI ($p <.05$).

After controlling for parents/caregivers' and daughters' BMI (p = 0.0096), there was a statistically significant increase among intervention group parents/caregivers reporting that they knew how to help their daughters change their eating habits.

Parents/caregivers did not, however, show improvement with regard to five other measures of self-efficacy, including whether they felt they "knew how to" help their daughters understand why healthy eating is important, make changes in their homes to support their daughters' health, set realistic physical activity goals for themselves, plan weekly meals for their families, and create weekly shopping lists.

BodyWorks aimed to improve parent/caregiver self-efficacy toward healthy eating, especially in terms of making healthy food choices in various situations and emotional states. Intervention group parents/caregivers were asked how sure they were that they could eat healthy foods in the following types of situations, which were categorized as being situational (marked with an asterisk) or emotional:

- At the mall (*)
- Hungry after work (*)
- Hanging out with friends (*)
- At a fast food restaurant (*)
- Having dinner with my family (*)
- Alone (*)
- Stressed out
- Feeling down

Neither the situational nor emotional eating scales showed a statistically significant change among intervention and comparison groups (p = 0.9374 and 0.8897, respectively), even when controlled for participants' BMI levels. This result may point to an opportunity to review and enhance those training components intended to improve parent/caregiver self-efficacy (Appendix D, Table 4-10).

3. Perceived Barriers to Physical Activity

BodyWorks was designed to address barriers to physical activity. Parents/caregivers were asked to identify the barriers they have experienced to physical activity at pre- and post-intervention. Intervention and comparison groups selected the following barriers (Figure 4-6): "don't have time," "too tired," and "don't have anyone to exercise with." Parents/caregivers in both groups reported experiencing the same barriers before and after participating in *BodyWorks*, even after controlling for parents/caregivers' and daughters' BMI scores.

Figure 4-1. Parents/Caregivers Self-Reported Barriers to Physical Activity

	Comparison				Intervention				*p*-Value
	Pre		Post		Pre		Post		
	N = 35	%	*N* = 35	%	*N* = 93	%	*N* = 93	%	
Don't have time	17	49%	16	46%	54	58%	52	56%	0.4703
Too tired	12	34%	12	34%	47	51%	36	39%	0.7509
Don't have anyone to exercise with	4	11%	7	20%	18	19%	13	14%	0.1815

Source: Parents/Caregivers Survey

D. Changes in Behavior

Parents/caregivers in the intervention and comparison groups were surveyed about their nutrition/eating and physical activity behaviors before and after participating in *BodyWorks*. These questions sought to determine whether immediate changes occurred in behavior.

1. Food consumption

Parents/caregivers were asked how many times in a normal day they eat a variety of foods (Appendix D, Table 4-12). There was a statistically significant decrease in non-diet soda consumption among parents/caregivers participating in the *BodyWorks* training compared with those in the comparison group ($p = 0.0101$). *BodyWorks* participants were four times more likely to have decreased non-diet soda consumption than were their peers in the comparison group. There was no change in diet soda consumption ($p = 0.3085$).

BodyWorks' participants were more than twice as likely as the comparison group to have increased their vegetable consumption ($p = 0.0393$). In the pre-test, nearly 32 percent of intervention group parents/caregivers reported consuming vegetables at least 3 times per day; this percentage increased to 47.9 upon *BodyWorks* completion. Changes in non-diet soda and vegetable consumption remained significant after controlling for parent/caregiver BMI scores.

2. Past month healthy lifestyle behavior changes

Parents/caregivers in the intervention group reported greater improvements in other healthy lifestyle behaviors over the past month compared to those in the comparison group (Appendix D, Table 4-13). Parent/caregiver participants reported the following changes, which were statistically significant:

- I cooked with less fat ($p = 0.0042$)
- I was more physically active ($p = 0.0271$)
- I changed how much I ate ($p = 0.0002$)
- I shopped for healthier foods ($p = 0.0003$)
- I made healthier food choices ($p < .0001$)
- I helped my daughter be physically active ($p = 0.0111$)
- I helped my daughter make healthy food choices ($p = 0.0007$)
- I did more active things with my daughter ($p = 0.0117$)

Each of these findings remained statistically significant after controlling for parents/caregivers' and daughters' BMIs.

Among the most resounding changes were reports of making healthier food choices, both for themselves and for their daughters. Participants in the *BodyWorks* intervention were nearly seven times more likely than those in the comparison group to report having made this change. They were also 4.7 times more likely to have helped their daughters make healthy food choices and 4.6 times more likely to report having shopped for healthier foods.

3. Physical activity

Parents/caregivers were asked about the frequency, duration, and intensity of the physical activity in which they engaged. Pre- to post-test results indicate that the percentage of *BodyWorks'* parents/caregivers engaging in vigorous physical activity (made them sweat and breathe heavily for 20 minutes or more) on 3 or more days per week increased by 20 percent. Although this was a statistically significant increase when directly contrasted with vigorous physical activity among the comparison group (p = 0.0057; Figure 4-7), after controlling for differences in BMI levels, differences only neared statistical significance (p = 0.0594). BMI levels may influence the decision to participate in physical activity.

Figure 4-7. The Frequency with which Parents/Caregivers Work, Play a Sport, or Exercise Hard Enough to Make Them Sweat and Breathe Heavily for 20 minutes or More in a NORMAL Week

	COMPARISON		INTERVENTION		P-value
	Pre	Post	Pre	Post	
	N / %	N / %	N / %	N / %	
	35	35	93	93	0.0057
(1) Less than 3 days	51.4	57.1	58.1	37.6	
(2) 3 or more days	48.6	42.9	41.9	62.4	

Source: Parents/Caregivers survey

There were no statistically significant changes in the frequency of reported moderate physical activity (i.e., that did not make them sweat or breathe hard) lasting 30 minutes or more in a normal week (p = 0.2621; Figure 4-8) with or without the inclusion of parents/caregivers' and daughters' BMI as a control.

Figure 4-8. The Frequency with which Parents/Caregivers Participate in Physical Activity for 30 Minutes or More That Does Not Make Them Sweat or Breathe Hard in a NORMAL Week

Survey Items	COMPARISON		INTERVENTION		P-value
	Pre	Post	Pre	Post	
	N / %	N / %	N / %	N / %	
MEAN (based on scale below)	35	35	93	92	0.2621
(1) Less than 3 days	85.7	85.7	78.5	73.9	
(2) 3 or more days	14.3	14.3	21.5	26.1	

Source: Parents/Caregivers survey

E. Behavioral Intentions

Comparison and intervention groups differed in their intentions to make healthy lifestyle improvements in the next month (Appendix D, Table 4-14). Intervention group parents/caregivers were significantly more likely to express their intention to do each of the following:

For self--

- Be more physically active ($p < .0001$)
- Change how much I eat ($p = 0.0132$)
- Make healthier food choices ($p < .0001$)

For daughter--

- Help my daughter be physically active ($p < .0001$)
- Help my daughter make healthy food choices ($p < .0001$)
- Do more active things with my daughter ($p = 0.0069$)

After controlling for parents/caregivers' and daughters' BMI, significant group differences remained in relation to parents/caregivers who planned to make healthier food choices in the next month, help their daughters make healthy food choices, and do more active things with their daughters ($p <.05$).

On the other hand, after controlling for BMI, there were no significant differences with regard to changing how much they eat, being more physically active, and helping their daughter to be physically active. Apparent differences in parents/caregivers' intentions in these respects may be due to the influence of parents/caregivers and daughters' BMI status rather than the intervention itself. Overweight parents/caregivers or parents of overweight daughters may be more motivated to make changes in the next month regardless of whether or not they participated in *BodyWorks*.

Parents/caregivers in the intervention group were also significantly more likely than those in the comparison group to have developed for themselves or helped their daughters develop nutrition or physical activity goals ($p < .0001$; Appendix D, Tables 4-15 and 4-16). These differences remained significant after controlling for parents/caregivers' and daughters' BMI. This indicates a positive intention among intervention group parents/caregivers and daughters to make or continue to make changes related to nutrition and physical activity.

Chapter 5. Short- and Intermediate-Term Outcomes for Girls

The evaluation assessed the effect of *BodyWorks* on girls whose parents/caregivers participated in the series. These girls completed a post-intervention survey upon their parents/caregivers' graduation from the program. Although 94 intervention group parents/caregivers completed the *BodyWorks* post-intervention survey, 68 girls opted to take the 30-question adolescent survey. This survey assessed girls' use of the Toolkit, as well as changes in their knowledge, behavior, and attitudes.

Key Findings

In the next few months, 85 percent planned to make healthy food choices and 78 percent planned to exercise more often in the next few months

90 percent reported family meals and foods had changed since *BodyWorks and* 56 percent reported the amount of physical activity with their family had increased since *BodyWorks*

55 percent said that it would be easier to set goals if programs like *BodyWorks* were available to friends who shared similar goals

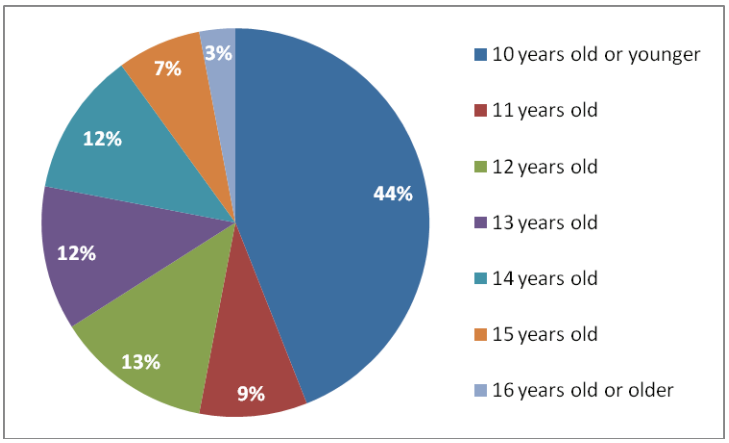
48 percent said that it would be easier to meet *BodyWorks* goals if unhealthy foods were less widely available

50 percent reported that they had completed no *BodyWorks 4Teens* Handbook activities

A. Description of Girls Participating in the Evaluation

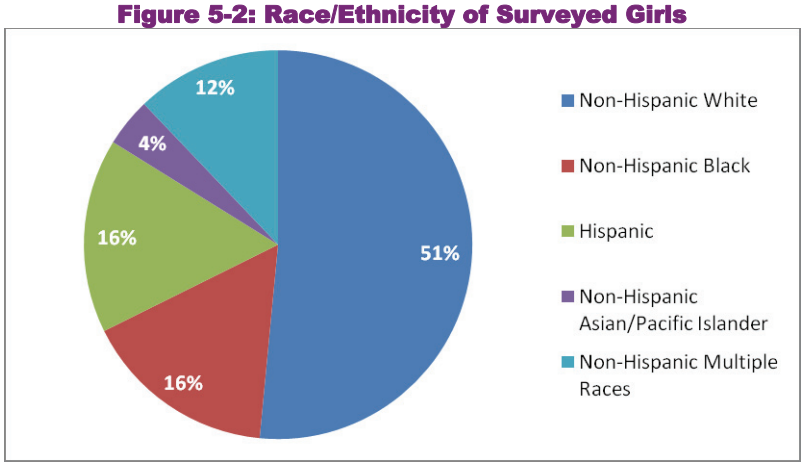
Girls ranged in age from 8 to 17; more than 40 percent were 10 years old or younger. More than half were non-Hispanic White (Figures 5-1 and 5-2; Appendix D, Tables 5-1 and 5-2). In addition, the majority of girls (65) stated that their mothers, rather than another caregiver, had participated in *BodyWorks*. Caregivers included "another caregiver" (10), father (1), sister (1), or parent's friend (1). (These responses were not mutually exclusive.) Lastly, 57 percent described themselves as being at a healthy weight, 39 percent described themselves as being too fat, and 4 percent said that they were too thin (Figure 5-3).

Figure 5-1[16]: Age of Surveyed Girls



Source: Adolescent Survey

Figure 5-2: Race/Ethnicity of Surveyed Girls



Source: Adolescent Survey

Figure 5-3: Girl Body Image

How would you describe yourself?	Girl Respondents	
	n	Percent
Too thin	3	4%
Healthy weight	38	57%
Too fat	26	39%
Total	67	100%

Source: Adolescent Survey

Although 57% of the girls identified themselves as being at a healthy weight, 37% of their parents/caregivers categorized them as being at a healthy weight. Although 39% of the girls described themselves as being “too fat,” 63% of their parents/caregivers identified them as being overweight or at risk of being overweight.

[16] Percentages in figures may not add to 100 due to rounding.

B. *BodyWorks* Toolkit and *4Teens* Handbook Use

BodyWorks 4Teens was a handbook was developed specifically for use by girls in the care of *BodyWorks* participants. It includes a host of materials and activities, including age- appropriate quizzes, word puzzles and checklists, and a Girl's Food and Fitness Diary. Parents/caregivers familiarized themselves with these materials during their training and then gave copies to their girls, along with guidance on how to use materials. Parents/caregivers reported sharing the following *BodyWorks* materials with girls (responses not mutually exclusive):

- Pedometer (72 percent)
- *My Journal: Food and Fitness Diary 4Teens* (71 percent)
- *BodyWorks 4Teens* Handbook (64 percent)
- *Healthy Recipes,* a recipe book (54 percent)
- Weekly Planner (37 percent)
- *Family Food and Fitness Journal* (31 percent)
- Shopping Lists (31 percent)
- *Let's Shop, Cook, and Eat Together,* a *BodyWorks* DVD (27 percent)
- *BodyBasics*, the parent/caregiver Toolkit (23 percent)

The girls were asked to list which elements of the Toolkit they used most and least often. Although the majority reported that their parent/caregiver provided them with *BodyWorks 4Teens* during or following their *BodyWorks* training, approximately one quarter of respondents indicated either that they had not or did not know if they had received it (Figure 5-4).

Figure 5-4: Whether 4Teens Handbook Was Provided to Respondent

Provided *4Teens*	Girl Respondents	
	n	**Percentage**
Yes	50	75%
No	11	16%
Do not know	6	9%
Total	67	100%

Source: Adolescent Survey

Girls were surveyed about their use of the *4Teens* handbook activities and materials (Appendix D, Tables 5-3 to 5-5). Handbook use appeared generally split between those who never used the *BodyWorks* activities and materials and those who made use of them regularly. For example, half reported that they had completed all or some of the Toolkit activities, while half reported that they completed none. While some girls used portions of *My Journal: Food and Fitness Diary 4Teens,* more than 50 percent did not regularly use it. These results were in contrast to the survey of intervention group parents/caregivers, of whom more than half reported that they did not provide their girls with a number of Toolkit and *4Teen* materials. Only 27 percent of parents/caregivers reported giving girls the DVD.

C. Knowledge and Awareness

The evaluation included several important short-term outcome questions regarding whether knowledge and skills increased as a result of parent/caregiver participation in *BodyWorks* activities. Despite the limited use of *BodyWorks* materials, the data suggest that at the time of the survey, girls had accurate knowledge regarding recommended physical activity levels and were aware of supports and activities that would help them set and meet health-related goals.

For example, girls were asked to name the recommended daily physical activity for adolescents. Fifty-nine percent responded with the 60 minutes described in the *BodyWorks* program. They identified a number of factors that would make it easier for them to create a healthy lifestyle (Appendix D, Table 5-6). For example, 55 percent of adolescent respondents felt that it would be easier to set goals if there were classes like *BodyWorks* for them and their friends; 39 percent felt that it would be easier if they learned more about nutrition and fitness in school; and 48 percent felt it would be easier to meet goals if there were fewer unhealthy foods available at school, at home, and in the neighborhood (Figure 5-5).

Figure 5-5. Setting and Meeting Goals

Survey Items	Girl Respondents (*N* = 66)	
Would make it easier to set goals	**n**	**Percentage**
If classes like this (*BodyWorks*) were there for me & friends	36	55%
If learned more about fitness and nutrition in school	26	39%
If supposed to go to more *BodyWorks* sessions	16	24%
If knew how to set better, achievable goals	14	21%
If parent/caregiver didn't bother me about eating & exercise	9	14%
If got along better with parent/caregiver	6	9%
	(*N* = 67)	
Would make it easier to meet goals	**n**	**Percentage**
If friends had same nutrition and physical activity goals	36	54%
If wasn't so much unhealthy food around	32	48%
If had more time	28	42%
If fewer commercials for unhealthy food	17	25%
If had place to exercise	15	22%
If had better equipment	12	18%
If parent/caregiver cooked different things	11	16%
If looked better in exercise clothes	4	6%
If had better clothes	2	3%

Note: Responses are not mutually exclusive.
Source: Adolescent Survey

D. Attitudes and Self-Efficacy

The adolescent survey also assessed potential longer term effects of *BodyWorks* on the respondents and their health, nutrition, and physical activity choices. Several questions were designed to measure girls' plans and intentions to commit to a healthy lifestyle in the months following their parents/caregivers' *BodyWorks* training. An overwhelming percentage of respondents planned to make healthy choices in the near future (Figure 5-6). These results did not differ based on how easily the girl could talk with her parent/caregiver or felt that the parent/caregiver "cares" for her.

Figure 5-6. Plans for the Next Few Months

Survey Items		Girl Respondents (*N* = 67)	
		n	**Percentage**
Make healthy food choices	Strongly agree	25	37%
	Agree	32	48%
	Neither agree nor disagree	4	6%
	Disagree	1	1%
	Strongly disagree	5	7%
Exercise more often	Strongly agree	26	39%
	Agree	26	39%
	Neither agree nor disagree	8	12%
	Disagree	1	1%
	Strongly disagree	6	9%
Exercise more vigorously*	Strongly agree	17	26%
	Agree	27	41%
	Neither agree nor disagree	14	21%
	Disagree	4	6%
	Strongly disagree	4	6%
Set nutrition goals	Strongly agree	20	30%
	Agree	32	48%
	Neither agree nor disagree	10	15%
	Disagree	1	1%
	Strongly disagree	4	6%
Set physical activity goals	Strongly agree	23	34%
	Agree	31	46%
	Neither agree nor disagree	5	7%
	Disagree	3	5%
	Strongly disagree	5	7%

***In this case, *n* = 66.Source: Adolescent Survey**

E. Behaviors Since *BodyWorks*

Along with measuring the health and nutrition knowledge and awareness of respondents after exposure to *BodyWorks*, this evaluation aimed to record whether girls attributed any changes in their own or their parents/caregivers' behavior to *BodyWorks*.

When asked if they had developed any nutrition or physical activity goals for themselves within the past month, girls gave a resounding yes: 64 percent developed nutrition and physical activity goals, 16 percent physical activity goals, and 15 percent developed nutrition goals. (Figure 5-7).

Figure 5-7. Did You Develop Any Nutrition or Physical Activity Goals for Yourself?*

Survey Items	Girl Respondents	
	n	**Percentage**
Yes, I developed both	43	64%
Yes, I developed nutrition goals	10	15%
Yes, I developed physical activity goals	11	16%
No, I did not develop any goals	3	4%
Total	67	99%

***Within the past month at the time of the survey.**
Source: Adolescent Survey

In addition, 90 percent reported that since *BodyWorks,* family meals and foods available had become healthier and included more fruits and vegetables and less junk food or oil (Figures 5-8 and 5-9). Fifty-six percent reported participating in more physical activity with their family (Figure 5-10). These data illustrate that although the majority of girls experienced changes in family nutrition habits, program participation had not led them to participate in more physical activity with parents/caregivers. Forty-one percent of girls reported no change in physical activity levels with family.

Figure 5-8. Have Family Meals and Foods Changed?*

Survey Items	Girl Respondents	
	n	**Percent**
Yes	60	90%
No	7	10%
Total	67	100%

***Within the past month at the time of the survey.**
Source: Adolescent Survey

Figure 5-9. How Family Meals Have Changed

Survey Items	Girl Respondents	
	N	**Percentage**
Healthier	14	26%
More fruits and veggies	10	19%
Decrease intake (e.g., junk food or oil)	7	13%
More fruits and veggies & decrease intake (e.g., junk food or oil)	6	11%
More variety/tried new things	5	9%
More meals together	3	6%
Eat differently	2	4%
Eat at home more	2	4%
Healthier and decrease intake (e.g., junk food or oil)	2	4%
Parent/child work together	1	2%
Smaller portions	1	2%
More fruits and vegetables and more meals together	1	2%
Total	54	102%

Source: Adolescent Survey

Figure 5-10. Amount of Physical Activity with Family *

Survey Items	Girl Respondents	
	n	**Percent**
More	34	56%
About the same	25	41%
Less	2	3%
Total	61	99%

***Within the past month at the time of the survey.**
Source: Adolescent Survey

Girls' perceptions and interpretations of their parents/caregivers' behavior since participating in *BodyWorks* reflect confidence in their parents/caregivers' ability to promote healthy nutrition and lifestyle changes. Eighty-seven percent reported that their parent/caregiver helped them to make healthier food choices. Seventy-eight percent reported that their parent/caregiver cooked with less fat since participating in *BodyWorks* and that their parent/caregiver actually solicited their assistance when cooking meals. Seventy-five percent reported that their parent/caregiver exercised more often than before participating in *BodyWorks*, and 70 percent indicated their parent did more active things with them, but only 61 percent indicated that they now exercised together (Figure 5-11).

Figure 5-11. Parent/Caregiver's Behavior Since *BodyWorks* Participation

Survey Items		Girl Respondents (*N* = 68)	
		n	**Percentage**
Cooks with less fat	Agree	52	78%
	Disagree	2	3%
	Not sure	13	19%
Exercises more	Agree	50	75%
	Disagree	4	6%
	Not sure	13	19%
Helps me make healthier food choices	Agree	58	87%
	Disagree	3	4%
	Not sure	6	9%
Helps me be more physically active	Agree	45	67%
	Disagree	9	13%
	Not sure	13	19%
Asks for my help in planning meals	Agree	41	61%
	Disagree	14	21%
	Not sure	12	18%
Asks for my helping in cooking meals	Agree	53	79%
	Disagree	6	9%
	Not sure	8	12%
Does active things with me	Agree	47	70%
	Disagree	9	13%
	Not sure	11	16%
Exercises with me	Agree	41	61%
	Disagree	15	22%
	Not sure	11	16%

Source: Adolescent Survey

Chapter 6. Conclusions

BodyWorks is a promising intervention targeting parents as agents of behavior change. Immediate pre-post changes support the importance of targeting parents as both role models and facilitators of behavior change. Longer term follow-up evaluation is needed to determine whether sustained effects are found among parents and whether those changes ultimately influence their daughters' behavior.

Significant pre-post test improvements favoring intervention group parents were found. Intervention parents gained knowledge about nutrition and physical activity and self-confidence in helping their daughters to change eating habits and in setting nutrition goals or planning physical activities for their families. Intervention parents made healthier food choices, changed how much they ate, exercised more, and changed food preparation and purchases. They helped their daughters make healthier food choices, increase physical activity, and did more active things together. Parent-reported changes were confirmed by their daughters'; parents and daughters intentions to sustain these changes were high.

There are, however, some limitations in the study design.

The non-randomized, quasi-experimental design may have resulted in biases from self-selection or site assignment of parents to groups based upon perceived need. Although no significant demographic differences emerged between intervention and comparison groups, there were important differences in BMI levels. These latter differences may reflect self-selection into groups. To address this issue, data were analyzed controlling for BMI levels to adjust for these group differences. Nevertheless, the fact that so many intervention parents (77%) and daughters (63%) were overweight or obese may mean that these results are only generalizable to a similar population.

Other limitations include the differential loss of parents in the intervention (less well-educated parents) and comparison (higher-BMI parents) groups at post-test, the small sample sizes, the lack of a longer-term follow-up assessment, and reliance on self-report data, particularly those used to derive parent and daughter BMI scores. Had a longer follow-up been possible, and were data collected from comparison group daughters, it also would have been possible to determine whether changes in parent behaviors contributed to changes among daughters or were sustained over time.

In summary, this study confirms the importance of targeting parents as role models and facilitators of behavior change. Immediate pre-post improvements in parent knowledge, self-efficacy, skills and behaviors suggest that BodyWorks is a promising new obesity prevention program. Participating parents made several important changes in their own eating and physical activity habits that will help them serve as better role models for their adolescent daughters.

A. Key Findings of the Evaluation

Although the *BodyWorks* trainer network is growing, implementation with parents and caregivers is not widespread. Lack of financial resources and technical skills may explain why trainers are not implementing parent/caregiver sessions. Funding is an important concern; all six evaluation sites received additional funding to conduct *BodyWorks, an* indicator of the resources

truly needed for its implementation. In addition, there is no formal mechanism to provide systematic follow-up and support for developing a realistic recruitment and implementation plan. Additionally, the tracking method that OWH currently uses to understand whether or not parents/caregivers are indeed receiving the toolkit and attending the class is insufficient.

***BodyWorks* changed parent intentions, motivation, and immediate behavior.** The short- and intermediate-term outcomes for parents and caregivers were widespread, from increasing vegetable consumption to setting nutrition and physical activity goals to helping their daughters make changes in their eating habits. Changes were harder to realize in the quality of the parent-child relationship, which affected parent/caregiver ability to make positive changes in physical activity and nutrition. Similarly, *BodyWorks* was less successful in helping parents/caregivers overcome perceived barriers to physical activity and subsequently to exercise more. Parents/caregivers and trainers alike reported wanting additional skills to help them make school and community changes.

Girls responded positively to their parents/caregivers' participation in *BodyWorks*. The majority of girls felt comfortable, confident, and interested in pursuing a nutritious lifestyle in cooperation with their parents/caregivers, and also recorded increased physical activity and healthier meals following their parents/caregivers' graduation from the *BodyWorks* training. These reported changes were despite the fact that many girls did not use *BodyWorks* materials and activities. Notably, girls reported that the participation and influence of their friends would make it easier to set and reach goals.

B. Considerations for BodyWorks

As the *BodyWorks* program continues to grow, the Evaluation Team suggests that OWH and its partners consider the following adaptations and augmentations.

Develop a more efficient tracking mechanism to manage *BodyWorks* toolkits. This will help OWH and *BodyWorks* partners develop strategies on Toolkit dissemination, on how to support *BodyWorks* trainers, and identify global technical assistance needs and respond appropriately.

Develop a more systematic process for identifying and training trainers. Given the nature of a train-the-trainer model, where diffusion of the project is key to its implementation, partners need to balance the need to create a large, multitiered training network with the need to engage those most likely to train parents/caregivers.

Provide more hands-on, tailored technical assistance. No one is currently tasked with providing systematic and on-going support to community organizations and trainers working to implement *BodyWorks*. Because trainers reported needing this technical assistance, OWH should consider how best to build this important infrastructural support.

Consider modifications of the *BodyWorks* model. Trainers struggle to implement *BodyWorks* as originally designed, modifying it in ways that have not been tested nor based on identified "best" practices. These changes, often in program duration or target audience, reflect trainer efforts to be more effective in recruiting and retaining parents/caregivers. If OWH supports these modifications, it should provide implementation guidelines that reflect the needs of the various target audiences, including guidelines for the following:

Varying stages of change. The 10-session format may be too much for parents/caregivers who are ambivalent about, or do not see the importance of, behavior change. Those who are actually ready to change found it easier to commit to attending 8–10 class sessions. To reach participants who are not yet ready for change, OWH may want to consider a *BodyWorks* design that includes fewer classes and different goals. Equally important would be development and testing of materials that sites could use as brief motivational interview guides that could be used for recruitment.

Prevention and/or treatment. *BodyWorks* was originally intended as an obesity prevention program and targeted those who were a "normal weight." However, participants in the evaluation sites were likely to be overweight or obese, as were their daughters. Because the actual participant audience was so different from OWH's original vision, OWH may want to consider whether to revise *BodyWorks* messages, materials, and activities to reflect either prevention or treatment messages.

Age of the children. The original *BodyWorks* curriculum was tested with girls aged 11–13. Evaluation sites recruited parents/caregivers whose girls represented a much larger age range. To this end, it would be useful to develop activities and/or strategies for different age groups.

Girl participation in parent/caregiver BodyWorks sessions. Many sites are experimenting with including girls in each parent/caregiver session. The program was originally designed with adult participants in mind. Guidance from OWH may be very helpful in ensuring that girls and their parents/caregivers benefit from a restructured program. Lesson plans that can be adapted to simultaneously meet the needs of parents/caregivers and girls would be critical.

Conduct a review of best-practices to recruit parents/caregivers of adolescent children into multi-class sessions. *BodyWorks* is not the first program to offer multiple classes for parents/caregivers. It may be very useful to identify best- or promising- practices through a literature review and interviews of similarly structured programs to learn what has worked well. These findings could be shared with trainers to help them apply useful strategies.

Consider changes in implementation strategy for parents/caregivers. OWH might increase the focus on addressing barriers to participating in physical activity, particularly in strengthening the relationship between parent and daughter, and overcoming reasons for not exercising. They could also consider a stronger emphasis on the environment and how parents/caregivers could make changes within their schools and communities.

In conclusion, *BodyWorks* proved to be an exciting and worthwhile program that holds promise for girls and their families interested in improving their eating and health habits by working together to change habits and behaviors. By involving a wide range of stakeholders in efforts to implement *BodyWorks*, it has the potential to reach—and transform—the lives of millions of girls.

BODYWORKS

*A Toolkit for **Healthy** Girls & Strong Women*

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