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Executive Summary

This report presents a description of the Eat Well Play Hard-Enhanced (EWPH-E) curriculum as developed and delivered to child care centers in Monroe County, New York. Directors and staff from a sample of child care centers that received the curriculum were interviewed about program implementation in their centers. The goal of this part of the evaluation is to determine what changes may have resulted from participation in the intervention.

Qualitative data collected from 12 of the centers that received EWPH-E, representing four centers from each of the three years of the program, were intended to address questions relating to efficacy and sustainability. Center directors and staff had reasonable recall of the program, but did not report any ongoing efforts to incorporate the EWPH-E curriculum into their center activities in any consistent manner. Many of the centers continue to use the cooking tools that were provided by the program, and some centers have adopted physical activities from the materials that were also provided. None of the centers have added the EWPH-E curriculum to new staff orientation and staff members have not received additional training in healthy eating and exercise. Data from this preliminary analysis will be used to develop a quantitative measure.

A second wave of data collection, using a quantitative self-report measure, is planned to supplement these initial findings and will target all early child care providers from the 80 centers that participated during the three-year Greater Rochester Healthy Child Care 2010 initiative.

Semi-Structured Interview Findings

Program directors:

- All directors reported participating in the training
- There is one new program director (out of 12 centers) who was unaware of the program
- Directors approved of the program and felt that it was of benefit to the children receiving care at their centers and to their staff

Provider staff:

- In all centers, nearly 100% of child care providers for three- to five-year-olds received training
- Overall, there has been a 50% turnover in staff
- Typically, new staff members do not receive information about the EWPH-E curriculum
- With the exception of one center, there was no key staff person identified as the leader or proponent of healthy eating or physical activity at the centers

Introduction to Eat Well Play Hard-Enhanced

The Eat Well Play Hard (EWPH) curriculum was developed by the New York State Department of Health and focuses on centers serving low-income families. The program is designed to improve overall nutrition in preschool-aged children enrolled in child care centers. Nutritional information is provided to the parents of the children and to the center staff. Eat Well Play Hard-Enhanced (EWPH-E) was an adaptation of the EWPH program. The enhanced program was developed by the collaborative efforts of the Child Care Council, Inc., Children's Institute, and Golisano Children's Hospital at Strong, with other members of the Greater Rochester Healthy Child Care 2010 initiative. Funding for the program was provided by the Greater Rochester Health Foundation. The curriculum of EWPH-E incorporates the elements of EWPH with the addition of the Child Obesity Prevention Initiative (COPI) and Team Nutrition Training as enhancements. The long-term goals of the curriculum are to improve child care center policies and procedures in order to positively impact young children's healthy lifestyle choices.

From September 2007 through December 2010, the EWPH-E program was delivered to 80 child care centers, reaching 692 children between the ages of 2 to 5 years and their 93 child care providers. Separate components of the curriculum targeted children, their parents, center staff, and the center's key decision makers (directors, cooks, and other supervisory staff). Participation in EWPH-E included the standard EWPH curriculum for children and *Childhood Obesity Prevention Initiative (COPI)* training (a train-the-trainer model for the child care center staff and key decision makers).

Staff who participated in COPI were provided with tools to offer EWPH training to current and future preschool-aged children and their parents. These tools included handouts and information about appropriate portion sizes, measuring utensils for food preparation and serving, nutritional information about snack and meal offerings, and strategies to impart this information.

Key decision makers at the centers and other center staff received *Team Nutrition Training.* This training targeted policy changes that would result in improved nutrition and promote physical activity. This, in turn, would encourage children to develop healthier lifestyle choices and, consequently, aid in preventing childhood overweight and obesity.

The EWPH-E program was presented by a registered dietician (RD) for 10-week intervals or cycles. At the completion of the program, quarterly post-intervention contacts to each site were planned to provide continuing support and technical assistance. Center staff were also encouraged to contact the dietician with questions or concerns regarding nutrition and physical activity.

Program Outcomes

The findings from data collected as part of the evaluation of the EWPH-E program have been previously reported in the *Greater Rochester Healthy Child Care 2010 Final Report*, May 2011. Evaluation data were collected at two time points (pre- and post-program) for children who participated in the EWPH-E activities. Specifically, children's height and weight were measured and BMI was computed to assess whether there were changes during the period in which the child received the program. Pedometers were placed on the children at the same two time points to measure activity levels, computed as steps per minute, to determine if there were changes in physical activity. A brief summary of the results is shown in the tables below.

Table 1. Height, Weight, BMI and BMI z-score at Pre and Post.

	Eat Well Play Hard-Enhanced			
Measure	Pre	Post	t	p-value
Height (cm)	105.1	106.2	17.9	<.001
Weight (kg)	17.9	18.3	13.3	<.001
BMI	16.2	16.2	0.4	ns
BMI z-score	0.34	0.36	0.5	ns

Table 2. Computed Steps per Minute at Pre and Post.

	Eat Well Play Hard-Enhanced			
Measure	Pre	Post	t	p-value
Steps/minute	17.1	16.5	.975	ns

Other measures of program outcomes, such as an analysis of the menu of snacks and meals served, were not useful. Most of the child care centers involved participate in the Child and Adult Care Food Program (CACFP) and are therefore required to meet certain nutritional guidelines. Menus are written in general terms (e.g. Milk, Chicken, etc.) without necessarily specifying fat content, preparation method, or quantity served.

Child care center directors and staff expressed high levels of satisfaction with EWPH-E when it was introduced. Feedback provided at that time from teachers and other staff indicated that the children were easily engaged in the lessons and the activities. Staff members and most directors at the centers expressed a desire to make changes to their menus and food preparation. They welcomed new ideas for incorporating higher levels of physical activity into their daily schedules.

While the EWPH-E program was considered a successful implementation, because the centers that participated were able to modify aspects of their programs related to healthy eating and exercise, the longer term impact of the program is still unknown. Child level data demonstrated no changes in BMI, but this is not unexpected given the brief interval between the pre- and post-participation time points (eight weeks). The current study is designed to collect child care center-level data to determine the effect of the program on day-to-day center activities and on policies regarding provision of meals and snacks, opportunities for physical activity, and ongoing training for staff.

Current Evaluation Activities

The current evaluation is designed to address the extent to which EWPH-E is delivered by child care centers that participated in the program during the three years that Greater Rochester Healthy Child Care 2010 was operational. The evaluation will examine whether centers are currently using the curriculum and other materials received as part of the program, and how this is being implemented. Related issues, such as barriers and challenges to instituting healthier menus and regular opportunities for physical activity, will be considered. Finally, this evaluation will explore factors identified by directors, center staff, and other stakeholders, that might strengthen center capability to adopt and promote the key components of the curriculum.

Data Collection

Interviews were conducted with center directors, providers (e.g., teachers), and other staff (e.g., cooks) from 12 of the original 90 centers that received the intervention. A total of 32 individuals were interviewed using a semi-structured format. Questions addressed when the center received the program, whether the interviewee was working at the center at that time, his or her role at the center, materials received, materials still in use, perceived changes in participating children, center-level changes, ongoing training, and sustainability. A randomly selected subset of four centers was chosen from each annual cohort. The interview questions were predominately the same, with minor differences for the directors and the other staff.

Several of the questions afforded quantification. Those results can be found in Table 3. These questions referred to whether the director or staff person had been working at the center at the time of program participation, materials received and in use, and additional training received.

Table 3. Follow-up Interview of EWPH-E Center Staff: Quantitative Items

	Year 1	Year 2	Year 3
Year of program participation	13	10	9

Role	
Director	10
Staff	22

Worked at center during program 24 (75%)

	Received	In Use
	#	#
Materials received – any	24	21
Curriculum manual	8	3
Children's books	8	3
Cooking tools	19	14
Recipes	15	5
Toys promoting physical activity	18	16
CDs/music promoting activity	17	12
Handouts for parents/staff	13	1
Healthy foods/samples	20	*2

*continue to purchase healthy foods for classroom activities

Other information elicited by the interviews describes any changes, either for the children or the center's operations, which were observed during the course of program participation. For these questions, the responses were open-ended, so qualitative methods of analysis were used.

In response to the question about changes in the children who participated in the program, the most common observation was that children were much more likely to try new foods, particularly new fruits and vegetables. Less commonly observed were changes in children's levels of physical activity. Those respondents who did report seeing increases in children's activity more frequently stated that children who had been reluctant to join in organized vigorous

play were more receptive during the program sessions. Suggested reasons for this finding include the dietician's introduction of the activities in an appealing and inclusive manner and the activities, which tended to be aerobic and large motor in nature, were more fun for the children than their standard choices. The physical activities were described as relatively non-competitive and highly accessible.

Overall improvements to center menus were reported. Most directors and staff were aware of changes that ranged from minor (serving meals family style) to substantial (modifications to food preparation, appropriate portions served, conversion from pre-packaged carbohydrate snacks to fresh fruit and vegetable snacks). Most of the menu changes identified have continued at the centers one year or more following participation.

Only one center that participated in the interviews reported continuing to measure the BMI of the children in their care. When asked why BMI was not measured, directors and staff said that health information, including immunization records, height, and weight, was required for center enrollment and was provided by the children's primary care physicians. They did not think that measuring height and weight fell within the center's responsibilities. Staff were unaware of measurement equipment (scales and measuring sticks) being left with the center at the completion of the program cycle.

Very few of the center directors or staff could identify a lead staff person who worked most closely with the dietician at the time of the intervention or a staff person who was a key proponent of healthy eating and/or physical activity. There were no apparent differences in the continuation of EWPH-E activities or center commitment for the few centers that did have a staff person leading their healthy lifestyle promotion.

Staff turnover was high among this sample of centers. Up to half of the staff members who received the training were no longer working at the center. However, center directors and staff at these sites had been fully engaged, with all or nearly all staff receiving at least some of the training during the intervention. No centers reported including EWPH-E or similar materials in their new staff orientation. Most staff members who were interviewed who had not been working at the center during the intervention were either completely unaware of the curriculum or had a minimal awareness of the center's prior participation. In addition, very few centers reported any subsequent staff training regarding healthy eating and physical activity. One exception was noted: a center applied for and received a Greater Rochester Health Foundation mini-grant to continue some of their obesity prevention activities.

According to directors and staff, the parents of the children who received EWPH-E were at least somewhat aware of the program. Parents signed permission slips allowing their children to be measured (height and weight) and monitored (pedometers). Many parents also received handouts that had been provided by the EWPH-E dieticians. At a few of the centers, parents became more deeply involved and began working with center staff to create healthy menus for their children. One director reported that a parent group formed and has remained active in menu planning as their children have moved on to school-aged classrooms.

Among directors, some of the suggestions for what might be necessary or helpful in keeping the EWPH-E curriculum active included more training opportunities (provided by an outside agency) for staff. Several directors suggested annual or semi-annual refresher courses. Directors stated that this would serve to keep the information current and also aid in orienting new center staff. They reported a need to keep staff motivated. Other suggestions expressed a need for more options for gross motor/large muscle activities, either in the form of equipment or space. Several directors indicated that supplying fresh fruits and vegetables daily was far more costly and time demanding than serving less healthy snacks and meals. Staff members discussed the need to find additional sources of fresh, healthy menu alternatives.

Staff members were enthusiastically supportive of the program and curriculum. They reported that the children were highly engaged during the classroom sessions and that the dieticians worked well to present the information and activities in a developmentally and age-appropriate manner. There was some concern expressed about the safety of including children in food preparation. Center staff members also requested follow-up training opportunities. This was in response to high staff turnover and to staff burn out. Staff members suggested that periodic mailings would be useful in keeping them mindful of the curriculum.

Conclusions and Future Directions

This sample of child care center staff members provided insights about aspects of the EWPH-E curriculum that are retained and self-sustaining. Suggestions were provided regarding what might be done to encourage centers to continue to review their menus and engage children in recommended levels of physical activity. Overall, center staff and directors expressed satisfaction with the program and how it was delivered. There was an appreciation of the misconceptions that were present with regard to nutrition, food selections, portion control, and exercise needs. Center directors reported making changes in response to the knowledge they gained from the intervention. Directors and staff were receptive to, and requested, additional training for children, staff, and parents.

While these findings provide some conceptual understanding of how the program has been implemented and to what extent, there is still a paucity of information that enables quantification of this program. To date, the New York State Department of Health has not conducted an evaluation of the sustainability of its EWPH program. Nor does this evaluation provide adequate data to determine if additional training would serve a need for child care centers. We recommend that the interview data be used to develop an empirical measure that can be distributed to all centers that participated in the Greater Rochester Healthy Child Care 2010 initiative as well as centers that were not included in that program in order to assess the community need for more, and potentially ongoing, training of this nature.