

Connecting Classroom and Cafeteria in a School Wellness Initiative

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Please note that this study was published before the implementation of Healthy, Hunger-Free Kids Act of 2010, which went into effect during the 2012-13 school year, and its provision for Smart Snacks Nutrition Standards for Competitive Food in Schools, implemented during the 2014-15 school year. As such, certain research may not be relevant today.

ABSTRACT

Purpose/Objectives

The Child Nutrition and WIC Reauthorization Act of 2004 required all school districts participating in federally funded child nutrition programs to adopt and implement a school wellness policy by the beginning of the 2006-2007 school year. One drawback of this federal mandate was that it did not provide funding to assist with the development and implementation of school wellness policies. This lack of funding has been cited as a chief barrier to fully implementing these policies. The objective of this project was to determine if a collaborative school wellness project, which included community partners from Cooperative Extension, SNAP-Ed (the Supplemental Nutrition Assistance Program – Education), and New Jersey Action for Healthy Kids (AFHK-NJ), could enhance and expand children's nutrition knowledge and behaviors by linking classroom education to the cafeteria.

Methods

The project team initiated a social marketing campaign during the 2007 and 2008 school years in two elementary schools within a New Jersey school district. Building on the messages presented in traditional SNAP-Ed nutrition lessons, it incorporated a variety of school-wide promotions and social marketing activities to supplement classroom education. At the end of each year, nutrition knowledge, behaviors and attitudes were compared to those at the beginning of the project. Investigators assessed changes in student, faculty and staff behaviors, as well as the overall school environment.

Results

As a result of this project, the project team saw a greater variety of fruits and vegetables now regularly offered on the school lunch menu; increases in student nutrition knowledge; increases in fruit and vegetable consumption by children; and significant increases in teachers' willingness to actively participate in efforts that would improve the school wellness environment.

Applications to Child Nutrition Professionals

School foodservices should consider collaborating with Cooperative Extension and other community wellness providers to initiate educational/social marketing projects that link classroom nutrition education to the cafeteria and overall school environment.

Connecting Classroom and Cafeteria in a School Wellness Initiative

In 2007, Rutgers Cooperative Extension (RCE) and New Jersey Action For Healthy Kids (AFHK-NJ) received a grant to develop and implement a pilot school wellness project in two limited-resource elementary schools. By pairing an AFHK-NJ grant with existing RCE and Supplemental Nutrition

Assistance Program-Education (SNAP-Ed), (formerly the Food Stamp Nutrition Education Program) outreach, the group was able to link classroom nutrition education with cafeteria promotions and school-wide messages via a school wellness initiative called BEE Healthy: Eat Smart and Exercise! (BEE Healthy). While the overall project addressed several key objectives related to school wellness, for the purposes of this article, we describe the development and implementation of an objective that linked existing classroom nutrition education to projects and promotions in the school cafeteria.

BACKGROUND

According to the most recent National Health and Nutrition Examination Survey (NHANES) data (Ogden, Carroll, & Flegal, 2008), 31.9% of US children and adolescents are overweight and 16.3% are obese. Health impacts for overweight children are similar to those seen in adults, with rising rates of chronic diseases such as type 2 diabetes, hypertension and others (Barlow & The Expert Committee, 2007). Statistics for New Jersey school children are consistent with national weight trends for low-income children (Crane, Mille, Kent, & Morse, 2004). It is essential to slow and reverse these trends among children through a multi-faceted approach via all aspects of the community, including schools.

Obesity is also linked to academic performance. Overweight and obese children tend to miss more school, which may affect academic performance (Chriqui, Schneider, Chaloupka, Ide, & Pugach, 2009). There is strong evidence linking healthy nutrition and physical activity with improved academic performance and classroom behavior among school age children (Geier et al., 2007). Schools are recognized as a fundamental setting for providing children with a healthy environment where they can consume nutritional meals, snacks and beverages, get regular physical activity, and learn about the importance of healthy behaviors (Chriqui et al., 2009).

The Child Nutrition and WIC Reauthorization Act of 2004 required all school districts participating in federally funded child nutrition programs to adopt and implement a school wellness policy by the first day of the 2006-2007 school year. These policies, along with the National School Lunch and School Breakfast programs are aimed at helping children to learn to eat healthier and be healthier. These policies have significant potential for improving the school nutrition and physical activity environments. During the 2007-08 school year, more than 31 million students participated in the National School Lunch Program and more than 10 million students participated in the School Breakfast Program (Moag-Stahlberg, Howley, & Luscri, 2008).

One drawback of this federal mandate was that it did not provide funding to assist with the development and implementation of school wellness policies. This lack of funding has been cited as a chief barrier to fully implementing these policies (Chriqui et al., 2009; Moag-Stahlberg et al., 2008). A study conducted by Action For Healthy Kids found that areas lacking attention in policies, yet essential for sustaining wellness practices, include assurances of qualified staff, opportunities for staff development, and implementation, evaluation, and revision of the policies (Moag-Stahlberg et al., 2008). Schools need support in order to effectively implement school wellness policies. Partnering with organizations such as Cooperative Extension and other community stakeholders with interests in health promotion can be a viable means to improve the school wellness environment.

In 2007 the AFHK-NJ Team identified Paulsboro, an underserved community in Southern New Jersey, in which to implement a pilot school wellness project. Paulsboro is a small industrial town with a total population of 6,160 and a school district that contains only two public elementary schools. Because of its small size, the Paulsboro school district was ideal for this pilot project. More than 14% of Paulsboro families live at or below the federal poverty level (United States Census Bureau, 2009), and 62% of public school students qualify for free/reduced lunch (New Jersey Department of Agriculture, 2008).

At the start of this project, the Paulsboro school district had established a local school wellness policy. The policy highlighted the district's commitment to providing an environment that promotes and protects children's health, well-being and ability to learn by supporting healthy eating and

physical activity in the cafeteria, classroom and community. This made the timing optimal to launch a supplemental wellness initiative such as BEE Healthy.

PROJECT OVERVIEW

BEE Healthy enhances and expands classroom-based nutrition education, linking it with the cafeteria and the overall school environment. It can be used with any classroom-based nutrition education project, but was designed to supplement and support SNAP-Ed programming. In New Jersey, SNAP-Ed school programming consists of a series of six to eight lessons that are research-based, learner driven and behaviorally focused. Lessons are developed and tested at Rutgers, the State University of New Jersey, prior to presentation in the classroom by county Extension educators and paraprofessionals. BEE Healthy builds on the messages presented in these lessons and incorporates a variety of school-wide promotions and social marketing activities that supplement classroom education. This integrative approach engages students, administrators, school staff, families and the community in creating an overall healthy school environment.

INTEGRATING CLASSROOM MESSAGES THROUGHOUT THE SCHOOL

Over the course of the school year, as students are formally taught about making healthier food choices, they also participate in BEE Healthy school-based nutrition/physical activity events, sample new foods featured in the cafeteria and classroom, and increase their opportunities to become physically active. In 2007 and 2008, Extension educators presented a variety of lessons to students, as outlined in Table 1. Lessons are behaviorally focused and, learner driven. Lesson content is grade-specific, and nutrition messages are targeted to each age.

| TABLE 1: Supplemental Nutrition Assistance Program-Education (SNAP-Ed) Nutrition Education Lesson | |
|---|---|
| Year #1 – 2007-2008 | Year #2 – 2008-2009 |
| <ul style="list-style-type: none"> • MyPyramid – Introduction & Overview • Food Safety – Hand-washing Basics • The Breakfast Rule – Quick, Easy, Nutritious Breakfast Ideas • Easy Ways to Eat More Fruits & Vegetables • Good Eats: Calcium – Best sources & Tips On How to Include Calcium-Rich Foods in Your Diet • Trip to “Low-Faturn” – Tips to Select Lower Fat Snack Options • Healthy Eating & Snacking • MyPyramid Review – A Game-Style Review of All Lesson | <ul style="list-style-type: none"> • Garden Pizza – Adding More Vegetables to A Favorite Kid Food • The Three Sisters – A Native American Lesson Featuring Corn, Beans & Squash • The Grain Game – Review of Whole Grains and Their Role in the Diet • Glitter Bug (Food Safety) – A Hand-washing Challenge Where Students Try to Wash Off "Fluorescent" Glow Germ® Solution from Their Hands • Soul Food – Creating Healthier Versions of Favorite African-American Foods • Meat What You Eat – Identifying Healthier, Low-Fat, Cost-Conscious Meat • More Healthy Snacking • MyPyramid Review – A Fun, Inter-Active Challenge to Review All Lessons |

An important focus of BEE Healthy is to help increase healthy food choices in the school cafeteria. Starting with the standard school lunch menu, educators work with cafeteria personnel to increase

variety of fruits and vegetables while maintaining the foodservice budget. In Paulsboro schools prior to BEE Healthy, the standard selection of fruits/vegetables was limited, and typically included only corn, peaches, applesauce and (occasionally) peas. To introduce new foods to students, the cafeterias featured a “Harvest of the Month,” based on a combination of seasonal and/or commodity availability. In the classroom, educators spotlighted the “Harvests of the Month” by including taste testings, food preparation and food/farming messages in lessons.

During Year 1, BEE Healthy included monthly promotions or social marketing activities to generate excitement and interest in healthy eating and physical activity (see Table 2). These events targeted students, school staff and families. The promotions were fun, creative and interactive, employing a variety of different techniques to reach students. Some promotions utilized grant funds or sponsors to purchase supplies and prizes, while others required nothing more than classroom time and a creative assignment. All of the promotions generated significant “wellness excitement” throughout the school. Promotions continued during Year 2. However, due to reduced funding, they were scaled down and featured the most popular promotions: the monthly prize patrols and sing, write & rap competitions.

TABLE 2: Year 1 Monthly *BEE Healthy* Promotions & Events

October – MyPyramid Poster Contest

November – Apple Election: Vote for your favorite variety of NJ apple

December – Fruit and Veggie Prize Patrol: Win a prize for tasting the “Harvest of the Month”

January – Fruit/Veggie Sing, Write & Rap: Get creative with your favorite fruits and vegetables

February – Milk Prize Patrol: Win a prize for trying your milk, yogurt or cheese

March – National Nutrition Month “Celebrity” Poster Exhibit: See your teachers, students and local community stars photographed with their favorite foods

April – *Get Moving, Get Healthy NJ (GMGH)* Physical Activity Project: Visit the GMGH activity stations to learn how to be more active and eat healthier

May – *BEE Healthy Food Vote & Doing Dairy Right* Assembly: Vote for which “Harvests of the Month” should be on next year’s menu, and enjoy a fun assembly

TAKING THE BEE HEALTHY MESSAGE HOME

To reinforce school-based nutrition and physical activity messages, BEE Healthy included regular communication with families. Families were involved through monthly take-home newsletters that highlighted each month’s *BEE Healthy* happenings:

- Showcase the “harvest of the month” in the school cafeteria and feature quick-and-easy recipes to use the harvest at home
- Feature ideas for including more fruits/vegetables in packed lunches
- Summarize the themes of monthly SNAP-Ed lessons
- Report on the month’s *BEE Healthy* promotions and contests so families could support students in taking part

Family Fitness Nights brought hundreds of families to school to participate in festive *BEE Healthy* activities that had children and adults taking part in fitness games, making healthy snacks and trying activities that presented nutrition and physical activity concepts in a fun yet educational manner. Families learned about portion sizes, hidden calories in beverages, simple exercise techniques for home, reading food labels and more.

BEE HEALTHY OUTCOMES

As a result of *BEE Healthy*, a greater variety of fruits and vegetables is now regularly offered on the school lunch menu, including carrot and celery sticks, apples, broccoli, salad, orange slices, grapes, strawberries and bananas. The frequency with which these foods are offered is dependent upon availability and cost. However, student demand for the items and a renewed awareness of the importance of variety to increase fruit and vegetable consumption in students has influenced the foodservice purchasing habits.

Pre- and post testing after Year 1 demonstrated improvements in student nutrition knowledge, although data indicates that student nutrition knowledge was high prior to the start of *BEE Healthy*. This is likely related to SNAP-Ed's presence in the school prior to the start of this initiative. Table 3 outlines improvement in student nutrition knowledge. While improvements were seen in all areas assessed, the greatest improvements in knowledge involved students ability to identify foods in the fruit group (+33.2% change) followed by their ability to identify dairy foods (+14.6% change) and members of the grain family (+12.4% change).

| TABLE 3: Changes in Student Nutrition Knowledge as a Result of <i>BEE Healthy</i> | | | |
|---|-----------------|------------------|---------------|
| Benchmark | Pre-Test | Post-Test | Change |
| Students able to identify foods in fruit group (i.e., orange juice, strawberries, apples) | 62% | 95.2% | +33.2% |
| Students able to identify foods in vegetable group (i.e., tomatoes, broccoli, carrots) | 86% | 96.2% | +10.2% |
| Students able to identify foods in grain group (i.e., bread, popcorn, cereal) | 71.5% | 83.9% | +12.4% |
| Students knew recommended number of daily grain servings | 38.4% | 48% | +9.6% |
| Students able to identify foods in dairy group (i.e., yogurt, milk, cheese) | 77.3% | 91.9% | +14.6% |

In regard to self-reported eating behaviors, students reported eating more fruits and vegetables in school and, to a lesser extent, at home, since launching *BEE Healthy*. Direct observations in school also indicate that students are consuming the provided produce. Anecdotal reports from cafeteria staff indicate that students eagerly select fresh produce when offered, and express gratitude for the increased variety.

Reports on staff reactions to *BEE Healthy* are equally encouraging. Faculty and staff embraced *BEE Healthy*, its educational components and the projects and promotions it involved. Cafeteria staff responded enthusiastically to menu changes and even volunteered to spend more time on food preparation if it meant serving more fruits and vegetables. The foodservice director reports that faculty and staff requests to replace less healthier options with fruits/vegetables as meeting snacks have increased since implementing *BEE Healthy*. Faculty and staff were interested in and enthusiastic about the concept of school wellness. At the end of the first year, 78% of teachers were willing/very willing to work with the school to implement the school wellness policy, a 33% increase over the start of this project.

BEE Healthy has proven to be a major factor in bringing the school community 'on board' with implementing school wellness initiatives. It generates significant interest and support from students, faculty/staff and, in particular, administrators. Since its launch in 2007, sustained impacts include:

- Improved cafeteria menu – School foodservice continues to strive to include more variety and more fresh produce on the menu.
- Enhanced Summer Nutrition Program – School foodservice now purchases locally grown peaches for summer lunches.
- Continued school wellness promotions - School-wide and cafeteria-based promotions continue to be offered and involve faculty and staff, with leadership from Extension's Family & Community Health Sciences and SNAP-Ed staff.

- Increased participation in school wellness initiatives - The school implemented a recess walking club and a Youth Advisory Council (YAC), which aims to empower students to provide input on wellness initiatives that will positively influence the school environment.

Now in its third year, *BEE Healthy* continues to impact the school environment with classroom education, cafeteria outreach and school wide social marketing promotions. As the original grant funds expire, it becomes more difficult to maintain the initiative at its most active levels. Classroom education, however, continues at the same level (8 weeks annually) through SNAP-Ed, and social marketing promotions are offered intermittently (up to 4 times annually).

Additional challenges to sustaining the program have included Extension and school budget/staff cuts, limited parental involvement and shifting school priorities (due, in part to declining student academic test scores and budget issues). These challenges are many of the same issues faced by schools in other limited resource communities. Yet, despite these challenges, faculty, administration and staff continue to demonstrate strong support for nutrition and wellness programming, due in part to increased awareness and participation in the *BEE Healthy* initiative. Additionally, the identification of individuals to serve as “school wellness champions”, (whether they represent school foodservice staff, faculty, administration, school nurses, or parent volunteers) is critical to the success and sustainability of these initiatives. Finally, by actively seeking continued partnerships with community organizations, such as Cooperative Extension, schools can hopefully enlist additional resources (such as grants or donated materials), technical expertise in nutrition/health education, and overall ideas for the promotion of healthy lifestyles, in order to better sustain a healthy school environment.

REFERENCES

Barlow, S. E., & The Expert Committee. (2007). Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: Summary report [Supplement]. *Pediatrics*, 120(6), S164-S192.

Child Nutrition and WIC Reauthorization Act of 2004, 42 U.S.C. §1751 (2004).

Chriqui, J. F., Schneider, L., Chaloupka, F. J., Ide, K., & Pugach, O. (2009). *Local wellness policies: Assessing school district strategies for improving children’s health. School years 2006-07 and 2007-08*. Chicago, IL: University of Illinois, Health Policy Center, Institute for Health Research and Policy.

Crane, G., Mille, K., Kent, M., & Morse, L. (2004). *Statewide weight status survey of sixth graders in New Jersey during the 2003-2004 school year*. Department of Health and Senior Services, Family Health Services, Trenton, NJ. Retrieved

from http://www.state.nj.us/health/fhs/documents/obesity_report03_04.pdf

Geier, A., Foster, G., Womble, L., McLaughlin, J., Borradaile, K. E., Nachmani, J., ... Shults, J. (2007). The relationship between relative weight and school attendance among elementary school children. *Obesity*, 15(8), 2157-2161.

Moag-Stahlberg, A., Howley, N., & Luscri, L. (2008). A national snapshot of local school wellness policies. *Journal of School Health*, 78(10), 562-568.

New Jersey Department of Agriculture, Office of Child Nutrition. (2008). *Report of New Jersey schools free and reduced lunch eligibility*. Trenton, NJ: Author.

Ogden, C. L., Carroll, M. D., & Flegal, K. M. (2008). High body mass index for age among US children and adolescents, 2003-2006. *JAMA*, 299, 2401-2405.

United States Census Bureau. American Factfinder. Paulsboro Borough, New Jersey. Retrieved September 23, 2009 from www.factfinder.census.gov

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