

Implementing a Multicomponent School-Based Obesity Prevention Intervention: A Qualitative Study

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ABSTRACT

Objective: To explore barriers and facilitators to implementing and sustaining Healthy Choices, a 3-year multicomponent obesity prevention intervention implemented in middle schools in Massachusetts.

Methods: Using purposive sampling, 56 in-depth interviews were conducted with middle school employees representing different positions (administrators, teachers, food service personnel, and employees serving as intervention coordinators). Interviews were recorded and transcribed. Emergent themes were identified using thematic analyses.

Results: State-mandated testing, budget limitations, and time constraints were viewed as implementation barriers, whereas staff buy-in, external support, and technical assistance were seen as facilitating implementation. Respondents thought that intervention sustainability depended on external funding and expert assistance.

Conclusions and Implications: Results confirm the importance of gaining faculty and staff support. Schools implementing large-scale interventions should consider developing sustainable partnerships with organizations that can provide resources and ongoing training. Sustainability of complex interventions may depend on state-level strategies that provide resources for implementation and technical assistance.

Key Words: qualitative, school, intervention, obesity prevention (*J Nutr Educ Behav.* 2014;46:576-582.)

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INTRODUCTION

The scope and consequences of pediatric obesity in the US are well documented.^{1,2} Schools are a strategic organizational setting for obesity prevention, but school-based interventions addressing lifestyle behaviors to prevent obesity have had mixed success,^{3,4} which has led to

calls for comprehensive approaches to obesity prevention that address multiple levels in schools or in after-school settings.^{4,5} Multicomponent approaches for obesity prevention may place unknown demands on organizational systems, including schools. There is, however, limited available information about how contextual factors influence implementation and

sustainability of school-based multicomponent interventions. Previous research determined that employing district-level coordinators, having administrative support, having an effective program champion, and employing a team approach are important for intervention implementation,⁶⁻¹¹ yet only limited evaluations examining the implementation processes have been conducted.⁴ Qualitative research methods are ideally suited to explore the process of implementing school-based health promotion programs. The objective of this case study was to use qualitative research methods to explore barriers and facilitators to implementing and sustaining a multicomponent school-based intervention.

METHODS

Healthy Choices

Healthy Choices was a multicomponent intervention designed to increase physical activity and healthful eating and to decrease television viewing, with the goal of reducing overweight and obesity.¹² Healthy

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Choices brought together 2 previously evaluated programs: Planet Health and Healthy Choices–After School. Planet Health, an interdisciplinary curriculum, has been shown to improve health behaviors and reduce obesity in middle school girls.¹³ Healthy Choices–After School was an after-school program that offered opportunities for physical activity and/or nutrition education. The Healthy Choices intervention also included use of an assessment tool (the School Health Index) to help schools identify the strengths and weaknesses of health-related programs, and create an action plan.¹⁴

Healthy Choices was a collaboration between the Massachusetts Department of Public Health (MDPH) and Blue Cross Blue Shield of Massachusetts (BCBS-MA). All schools that applied for funding received funding: \$5,000 in year 1, \$3,000 in year 2, and \$1,000 in year 3. Funds were used to provide staff stipends, purchase supplies, and supplement intervention-related activities. MDPH employed 4 regional coordinators who provided support to participating schools to aid intervention implementation. In addition, MDPH and BCBS-MA provided training on Planet Health and sponsored an annual training meeting. Healthy Choices began in the 2004–2005 school year with 69 schools. Healthy Choices II began in 2005–2006, when an additional 51 schools received their first year of funding (total $n = 120$ schools).

A staff member at each funded school volunteered to be the Healthy Choices school coordinator and created a team to assist in intervention implementation. Most teams included classroom teachers, physical education (PE) teachers, and the school nurse. A few also included administrators, food service personnel, and students. Participating schools were encouraged to meet intervention benchmarks: (1) have ≥ 1 teacher in each core subject area (language arts, math, science, and social studies) teach 2–3 Planet Health lessons each year, (2) implement ≥ 1 before- or after-school program focused on nutrition or physical activity each year, (3) implement ≥ 1 yearly campaign promoting the 5–2–1 message (eat ≥ 5 fruits and vegetables, watch < 2 hours of screen time, and get at least 1 hour of physical

activity daily), (4) complete Module 1 of the School Health Index (School Health and Safety Policies and Environment), and (5) initiate ≥ 1 policy or environmental change to support healthy eating and/or active living in years 2 and 3. School coordinators documented all activities in annual progress reports.

Participants and Recruitment

The current study was limited to Healthy Choices–II schools. Using process data collected through the end of year 2, each school's intervention activities were determined (ie, number of Planet Health lessons taught, number of teachers who received Planet Health training, number of before- and after-school programs implemented, number of 5–2–1 campaigns implemented, number of policy and environmental changes) and reach (ie, percentage of students involved). The researchers used this information to create an implementation score. Schools with the highest and lowest scores in each of the 4 areas of the state were identified (total $n = 8$ schools). Regional coordinators contacted school coordinators at identified schools and described the voluntary study. One school did not respond to the regional coordinator's requests, so another school was selected as a replacement. Interview guides for each position to be interviewed (administrator, food service personnel, PE teacher, school coordinator, classroom teacher using Planet Health, and classroom teacher not using Planet Health) were developed using an ecological framework.¹⁵ The interview guides included questions that were asked of all interviewees (5 questions), as well as 2–5 position-specific questions, and were pilot-tested in 2 schools to assess flow.

After agreeing to participate in the study, school coordinators identified potential interviewees who were involved in Healthy Choices (eg, members of the Healthy Choices team) or teachers within their cluster for participation. Food service personnel asked to participate were those in charge of food services at the participating schools. Most schools only had 1 PE teacher, but if a school had employed more than 1, the school coordinator identified the PE teacher who was

most involved in the intervention. School coordinators forwarded their list of potential interviewees to study staff who scheduled interviews. If needed, the regional coordinators and school coordinators assisted with scheduling. As the interview guides were not modified after pilot-testing, the 2 schools participating in the pilot-test were included in the analysis (total $n = 10$ schools). The Institutional Review Board at Harvard School of Public Health approved this study and all interviewees provided written informed consent.

Analysis

Trained interviewers conducted all interviews, and interviews were audio-recorded and transcribed without names of interviewees¹⁶ (position within the school remained in the transcript) or the school's level of intervention implementation. Interviews lasted between 20 and 50 minutes. Analysis was a multi-step process. A graduate-level researcher trained in qualitative research methods read several transcripts create an initial codebook and then coded all transcripts; new codes were created when needed. Another researcher trained in qualitative research methods reviewed coding, and differences were discussed. The 2 researchers worked collaboratively to collapse codes using the thematic analysis technique to identify key concepts and themes by staff position.^{17,18} A level of intervention implementation was then assigned to each transcript, and themes were examined across staff positions and levels of intervention implementation.

RESULTS

Interviews ($n = 56$) were conducted with school coordinators ($n = 11$; 1 school had 2 school coordinators), administrators ($n = 12$; at 2 schools, the principal asked that the assistant principal be interviewed), PE teachers ($n = 9$), food service personnel ($n = 7$), classroom teachers using Planet Health ($n = 9$), and classroom teachers not using Planet Health ($n = 8$). Three individuals served 2 roles (eg, school coordinator and PE teacher) and were interviewed for both positions. None of the approached individuals actively declined to participate:

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