

Sustainable Practices Within a School-Based Intervention: A Report from Project Healthy Schools

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Over the past three decades the proportion of students classified as overweight has almost tripled. This trend in childhood obesity is a cause for concern. Stakeholders have come together to stem growth and implement healthy habits in childhood to not only prevent obesity, but also future cardiovascular risk. School-based health interventions have proven to be an effective medium to reach youth. Sustainable practices remain the largest determinant of long-term success of these programs. Project Healthy Schools, a community–university collaborative school-based health intervention program, sustainable practices have led to positive changes in participating middle schools. This collaborative has provided important insight on key factors needed for long-term sustainability for a school-based wellness program. These key factors are described under leadership, policy, finances, and reproducibility. Future school-based programs may plan for success with sustainability while drawing from our experience.

KEY WORDS: childhood obesity, middle school intervention, sustainability, wellness program

Background

Childhood Obesity Reduction and Prevention Programs

The current national trend for childhood obesity and physical inactivity is alarming (Ogden et al., 2012; Orsi, Hale, & Lynch, 2011). From Michelle Obama to parents to healthcare workers, stakeholders are developing strategies to stem this phenomenon (Dobbins et al., 2009; Flynn et al., 2006; Nwobu & Johnson, 2007; Rosenbloom et al., 1999). Conveniently, the school, as a meeting point for students, teachers, and parents, is becoming a popular venue for some of these strategies. Some school-based health programs have demonstrated effectiveness in reduction of obesity and improvement of other health markers (Kropski, Keckley, & Jensen, 2008; Nixon et al., 2012; van Stralen et al., 2011; Waters et al., 2011). Yet, many such reports are accompanied by caveats highlighting the

weaknesses of the study design or findings, especially in controlling the rise of obesity (Waters et al., 2011; Yildirim et al., 2011). In addition, while some positive effects have been noted in the short term (Han-Markey et al., 2012), long-term sustainability of these school-based wellness programs has not yet been established. Nonetheless, many of these studies do highlight successful aspects of existing programs that warrant consideration and further inquiry (Peterson & Fox, 2007; Swinburn & de Silva-Sanigorski, 2010). The long-term success from Project Healthy Schools (PHS) has begun to pave the way to setting standards for program sustainability. By sharing our experience, we hope to contribute to the collective knowledge of successful, sustainable best practices for school-based health programs.

Sustainable Practices

School-based programs have grown drastically, emphasizing everything from mental health to character development and goal setting (Bird & Markle, 2012). Hence, sustainability has been postulated to be a crucial determinant of long-term success (Zanzen & Kridli, 2009). We define sustainability as execution of a program with fidelity while maintaining flexibility to suit the local context. While school-based programs have been ongoing for several decades, studies of sustainability practices for these programs have been few and relatively recent. In addition, existing sustainability studies are limited in their study population and context (Franks et al., 2007; Han & Weiss, 2005; Zanzen & Kridli, 2009). Nevertheless, they have proposed essential ingredients in a successful school-based health intervention program: (1) proper identification of resources/staff needed, (2) involvement of stakeholders, (3) planning for dissemination early on, (4) flexibility, and (5) rigorous evaluation of the intervention (Franks et al., 2007; Zanzen, 2009). PHS incorporates several of these concepts, all of which contribute to its sustainability. We have organized our topics of sustainability under four headings: Leadership, Policy, Finances, and Reproducibility.

Project Healthy Schools

PHS is a community–University of Michigan collaborative that aims to reduce childhood obesity and its long-term cardiovascular risk factors through school-based environmental change and education. Since 2004, PHS has been incorporated into 27 middle schools across southeast and mid-Michigan. The program strives to promote the healthy lifestyle habits through five main goals: (1) eat more fruits and vegetables, (2) make better beverage choices, (3) eat less fast and fatty foods, (4) include at least 150 min of physical activity each week, and (5) spend less mindless (computer and TV) screen time. There are 10 in-class, hands-on learning activities that are taught predominantly in homeroom periods by PHS staff, health ambassadors (local school health volunteers), or the homeroom teachers. Baseline and subsequent yearly follow-up (for 3 years post intervention) data on dietary, physical, and sedentary behaviors are collected from students

participating in the study. These results have shown both immediate (Saunders et al., 2012) and long-term (Corriveau et al., 2011; Eagle et al., 2012) improvement in cardiovascular risk factors; the methods and results of which have been published elsewhere (Cotts et al., 2008; Eagle et al., 2010).

Sustainability

Leadership

The leadership structure at PHS is focused on a collaborative model. The steering committee, based at the University of Michigan, functions to recruit new schools, oversee existing programs, and manage the higher level organization of the program. An advisory board composed of community stakeholders and donors provides counsel for the steering committee. The day-to-day administration of PHS is run through MHealthy, a health and wellness arm of the University of Michigan. When approaching a new school, health educators from MHealthy present the program to the middle school principal and other higher level school and district administrators. The health educators provide the groundwork both to start the program and ensure continuity at the school by centralizing direction and resources.

From the first meeting with school officials, PHS staff emphasizes establishing the program as a regular part of their school curriculum. In the midst of funding cuts and leaner resources, officials at the state and local levels are scaling back or eliminating health and physical education, which are subjects not tested on standardized exams. In light of the tenuous status of physical health programs in schools, PHS makes written agreements with schools (and higher administration when possible) to maintain support even in situations of staff turnover or infrastructure changes. The agreements contain language regarding the length of the program, resources required from the schools, and stipulations embedding the program into existing curriculum. These contracts signify our intention to carry through on the program—especially in resource poor schools that encounter many groups that volunteer, but leave prematurely. Finally, also within the agreement is a guarantee by the school to create the position of a Wellness Champion (WC).

Once PHS is established in a school, the WC is the lead for ongoing implementation of the program. WCs, working alongside health educators from PHS, train teachers on the PHS curriculum, participate in school events to encourage increased physical activity and consumption of healthy foods, and report to PHS staff about their progress. The WC is usually a school staff member, such as a teacher, counselor, or school nurse, who facilitates PHS by engaging staff and students to create a healthier school environment. PHS offers WCs a small stipend each year. In return, WCs work to understand the distinct culture at each school, receive and act on feedback, and ensure that PHS thrives in the school. WCs provide stability for PHS in existing schools and free PHS staff to expand the program into new schools.

PHS organizes a periodic Best Practices Summit that brings together all WCs from the participating schools to rejuvenate WCs and reduce their sense of isolation. It also offers WCs a chance to voice their concerns and find peers that concur and offer their own solutions. In addition, PHS provides all WCs online access to each other and administrators; communication allows for ongoing malleability in the structure and delivery of the curriculum.

As part of a Centers for Disease Control initiative (CDC, 2011b), each school forms a Wellness Committee (not to be confused with Wellness Champion) composed of dedicated parents, teachers, and students. WCs and PHS staff both work with the Wellness Committee to help inform decisions and make changes at the school. PHS facilitates the formation of Wellness Committees in schools that do not already have one. The Wellness Committee grew from the idea that sustained change requires broad involvement of active stakeholders (CDC, 2011a). The Committee brings together experts of various disciplines to coordinate activities and pool their talents, bridging gaps and establishing a comprehensive health program. Their role is further described in the “Policy” Section.

In recognition of the influence of environment and community on health, PHS makes an effort to involve community organizations in as many steps of the process as possible. For example, the program has partnered with the local YMCA to provide after school physical activity options. Grant money has provided us with the opportunity to organize busing from the school to the local YMCA where the students can participate in swimming classes, fitness programs, and other activities not normally offered in schools. We have also worked closely with local farmers to provide students with “Farm Fresh Fridays” where students get fresh foods and recipes, as well as “Seed to Plate,” where students are able to grow and eat their own fruits and vegetables.

In our experience, community buy-in has not been overly difficult, as school officials and parents are attuned to, or have at least heard of, concerns raised about the childhood obesity trends. An investment by crucial stakeholders into the program not only enables its success by forming a strong foundation, but also allows for the community to tailor it to their specific socioeconomic and political context, making matters of policy regarding the program proceed with far fewer obstacles.

Policy

Childhood health and obesity is a frequent topic of report and debate in the media and public discourse. Hence, advocacy and policy initiatives found a natural role in the program. Past studies in PHS assessing changes in health metrics (Cotts et al., 2008), influence of socioeconomic status (Jackson et al., 2009) and race (Jamerson et al., 2012), among others (Betzig et al., 2012; Govindan et al., 2012) were often followed by press releases; the attention they received was a testament to the importance of the topic. A cost-benefit analysis of PHS has yet to be performed, but similar programs have reported cost savings and/or gain in quality adjusted life years (Wang et al., 2003, 2008). Ultimately, our goal is to use

our successes to illustrate the feasibility of implementing the program. Specifically, we would like to illustrate the minimal personnel, resources, and funds required such that we can argue for a state-wide policy to institute the program.

Along with their previously described leadership role, the Wellness Committee is charged with assessing existing health programs, access to healthy food options and safe physical activity, and identifying areas for improvement. The Committee serves as a vital ally in promoting, at times controversial measures such as changing vending machine options and cafeteria menu items. Incorporating the tenets of the PHS curriculum into the school's wellness policies (e.g., limiting junk food fundraisers) allows the program to become ingrained into the school culture.

Once policies are designed, disseminating information and implementing the proposed changes involve several steps. To describe this process, we use the model set forth by LeGreco and Canary (2011) as a guide. The steps include: (1) orientation, (2) amplification, (3) implementation, and (4) integration. One application of this model was the process of including healthy options on the cafeteria menu. During the orientation stage, notices were sent home to parents, signs were posted at school in the cafeteria, food vendors were contacted and information sessions were held for food workers. This spread awareness among the stakeholders. In the amplification stage, detailed examples of changes in the food options were discussed and approved with the appropriate financial changes. In the implementation stage, the menu options were changed, and minor changes were made in storage, delivery, and serving of food. Lastly, in the ongoing integration stage, we continue to evaluate the changes in eating habits by the students and the number of students eating cafeteria food, and discuss feedback from food workers, students, and parents. We also assess changes in overall diet through the follow-up surveys and screenings. This systematic method of approving, disseminating, and carrying out action items provides a sustainable and reproducible process for continuing and improving present initiatives as well as starting new ones.

Finances

Funding remains the largest deterrent to sustainable practice. From the start, the focus of PHS was running a sustainable health initiative rather than a one-time research study. First, we limited expenses associated with the program (elaborated in the "Reproducibility" section). Next, we strived to find sustainable financial supports for the program at each school. We engaged a variety of donors and sponsors and made the benefits of their contribution clear to them. We currently have three main types of funding models for individual schools: (1) Health System, 2) Donor/Grant, and (3) School supported. All three models are founded around a "3-year to independence" plan. The startup year includes fixed costs for supplies and consultation fees from PHS experts. In the second year, expenditure decreases with only variable supply costs, a smaller consultation fee, and the WC stipend. In the third year, the WC stipend and disposable

supply costs are low enough that through school fundraisers, many schools can finance the program on their own.

In the Health System model, PHS functions as an actionable vehicle for health systems to be leaders in promoting community health among the citizens they serve. In this model, PHS provides a toolkit, staff training, and some combination of on-site, electronic, and/or phone consultation services. Health system staff works with the school administration and teachers to coordinate the program, organize activities, form a Wellness Committee, and deliver the PHS lessons. The health system can improve community health while garnering community support (and business). This arrangement adds to their marketing presence in the community, but more importantly, offers an effective preventative strategy for this patient population. A health system sponsored program is the most sustainable and provides the greatest reach for PHS.

The donor/grant model rests upon individuals, corporations, foundations, and community organizations. The advisory board and steering committee play a large role in approaching these entities and gathering support for the program. The donor or grant sponsors schools in their community, often with commitment for ongoing support. As an example, PHS has partnered with Champions for Charity, a local group that raises money for non-profit organizations through races in southeastern Michigan. These funds have been used for support for several schools in southeast Michigan. Smaller donations may fund the program “a la carte” with options such as sponsoring a fresh food cart, purchase of props, or even field trips to farmers’ markets. Large donations and grants, while beneficial in the short term, can also be used to establish endowments.

Schools may also initiate the programs themselves—although with the current budgeting difficulties, most schools would need to seek community and grant funding. The Wellness Committee at the school can work to secure external funding in the same way the PHS staff seek single donors or grants. Schools can implement their own fundraising programs, partner with existing booster clubs, or draw from established health funds.

Reproducibility

PHS was conceived as an easily reproducible enterprise, both between different schools and from year to year within a single school. The strategy rests on making the program inexpensive, simple, and customizable. To make PHS more affordable, lesson plans integrate resources commonly found in the classroom, include activities with simple props, and reuse materials over multiple years. After an initial purchase of materials, there are few recurring costs, enticing sponsors with the prospect of longitudinal effects from a single donation.

PHS is simple. Effort on the part of the teacher to understand and teach the material is minimal. At some schools, the lessons are taught by trained community members, parents, or college students. Lesson plans are designed without complex tasks and their content is easy to remember. For example, one of the plans entitled “Get the Beat” takes students through the process of learning to take their pulse

and how it changes with exercise. Props required include a few informational handouts and a timer or clock. The activity goes on to link regular physical activity and the relationship to changes in resting pulse rate while also referring to popular sports figures as role models of fitness. Students graph their heart rates to compare with each other while also integrating math skills. These simple activities are not only appealing to students, but also engage them in a healthy manner. It is easily reproducible in diverse settings, substituting the athletes for local celebrities, and adapting role-playing games to the interest of the students.

To implement PHS in different communities, customization is essential. For example, two of the communities that have implemented PHS include Ann Arbor, MI—a higher income community (\$52,625 median annual household income), and Detroit—a lower income community (\$28,357) (U.S. Census, 2012). These socioeconomic differences called for lessons to be tailored appropriately for available community resources. A lesson focusing on consuming fruits and vegetables in Detroit focuses as much on availability and access as nutrition, whereas the same lesson on access in Ann Arbor, where grocery stores with fresh produce are abundant, is unnecessary. Another method of customization includes partnering with existing local businesses and programs. As mentioned before, the YMCA has been a great partner for some schools, whereas others had established access through other partners. Schools also started new or partnered with existing gardens for co- and extracurricular programming. PHS is now run in both rural and urban, high income and low income, largely white and largely nonwhite communities, all of which are run from the same base curriculum, but adapt it to match their local context.

Conclusion

With obesity and its related health care costs on the rise, childhood health has been cast in a spotlight. School-based health intervention programs show promise in slowing (and perhaps reversing) these trends. Furthermore, programs like PHS show that it can be done in a manner that is effective and sustainable. Leadership that enables effective communication, provides ample support for ground staff, and brings together a variety of stakeholders has provided a strong base for this program. Ongoing policy initiatives drive long-term growth and guide decision making. Varied financial models in conjunction with effective policy ingrain the program within the school culture without straining the school budget. Finally, simplicity in the design of the curriculum allows for reproducibility and adaptability.

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Notes

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