The Sustainability of APPLE Schools: Teachers' Perceptions

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Introduction

In response to the childhood obesity epidemic (Janssen et al., 2005), health and education professionals, as well as governing bodies, have acknowledged that there is a need for comprehensive strategies to curb the problem. Schools have become a popular health promotion setting, and comprehensive school health (CSH) has been recognized as a process to address the whole school environment, including the nutrition and physical activity environments. A variety of school-based diet and physical activity programs have previously been examined (Deschesnes, Martin, & Hill, 2003; St Leger, 1999; Veugelers & Fitzgerald, 2005) and findings indicate that in practice, CSH programs vary considerably in content, community involvement, financial support, and delivery. However, the interventions most likely to be effective are those that use a multi-faceted approach including classroom instruction, changes in school environments (social and physical), community connections, and those that are sustained (Deschesnes, et al., 2003; Stewart-Brown, 2006). In general, there is support for school-based interventions; however, questions remain regarding the sustainability of such interventions (Neumark-Sztainer, Story, Hannan, & Rex, 2003). Sustainability refers to the long-term continuation of programs (Shediac-Rizkallah & Bone, 1998) and is a key characteristic of CSH. Where very little research has addressed the sustainability of CSH, the need for this research has been recognized (Stewart-Brown, 2006).

Teachers are recognized as invaluable champions within school communities. This is especially true for school-based health promotion programs (Fullan, 1999; St Leger, 1998, 2000). However, there is a lack of understanding of teachers' perceptions of school-based health promotion, and specifically teachers' perceptions on the sustainability of these programs. Han and Weiss' (2005) concept of program sustainability refers to teachers' continued implementation of an intervention after initial resources have been withdrawn. Much research has focused on factors influencing program implementation, but less work has attempted to provide an integrated understanding of mechanisms that affect teachers' sustainability of these programs. Given the lack of evidence in this area, soliciting teachers' input is invaluable when examining and improving CSH programs. Therefore, the purpose of this study was to examine teachers' perceptions of the various factors affecting the sustainability of a CSH project taking place in the Canadian province of Alberta: the Alberta Project Promoting active Living and healthy Eating in Schools (APPLE Schools). Additionally, this study provides insight on a variety of

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School-based health promotion programs, including comprehensive school health (CSH), are becoming increasingly popular throughout Canada. Within the CSH framework, teachers are recognized as invaluable stakeholders during program implementation and in ensuring continued sustainability. However, there is a lack of understanding of teachers' views of school-based health promotion, including the sustainability of these programs. Therefore, the purpose of this study was to examine teachers' perceptions of the various factors affecting the sustainability of a CSH project taking place in the Canadian province of Alberta: the Alberta Project Promoting active Living and healthy Eating in Schools (APPLE Schools). Additionally, this study provides insight on a variety of considerations that may be helpful in improving future programming.

Les programmes de promotion de la santé en milieu scolaire, y compris l'approche de santé globale à l'école (SGE), gagnent en popularité à l'échelle du pays. Aux fins de l'approche de SGE, les enseignantes et enseignants deviennent des intervenants clés qui jouent un rôle crucial dans l'instauration et le maintien de tels programmes. Malgré tout, on ne sait pas toujours ce que les enseignants pensent de l'efficacité et de la viabilité des programmes de promotion de la santé à l'école. Cette étude visait à établir comment ces derniers percevaient les facteurs de viabilité associés à un projet de santé globale à l'école mis sur pied dans la province de l'Alberta (Canada), l'Alberta Project Promoting Active Living and Healthy Eating in Schools. L'étude a fait ressortir plusieurs éléments dont il faudra tenir compte à mesure que les efforts se poursuivront en vue d'améliorer la qualité de tels programmes.

considerations that may be helpful in improving the likelihood of project sustainability and future programming.

APPLE Schools

APPLE Schools is a CSH intervention. This school-based health promotion intervention began in January 2008 when school health facilitators (SHFs) were placed full-time into ten Alberta schools. SHFs are key champions in each APPLE School that help to facilitate change in order to create a healthy school community. They do this in partnership with other key stakeholders in the school environment. APPLE Schools addresses healthy eating and physical activity in order to increase knowledge about healthy living for students, parents, teachers, and the school community and to ultimately improve students' health behaviours (Schwartz, Karunamuni, & Veugelers, 2010). The current study took place in April 2009, which was approximately 15 months into the intervention. In order to provide an understanding of the process, impact, and outcome of APPLE Schools, a variety of approaches are being used for evaluation. As part of this ongoing evaluation, teachers were interviewed due to their role as key stakeholders involved with APPLE Schools, and results have previously been presented on teachers' perceptions of implementation (Storey, Spitters, Cunningham, Schwartz, & Veugelers, 2011). However, for the purposes of this study, only the teachers' perceptions of the sustainability of the APPLE Schools project are presented.

Methods

Focus groups were conducted with teaching staff in the APPLE Schools. Participants were recruited via email, with assistance from the SHF, and were provided with an information letter. Only individuals that had been employed in an APPLE School for at least two months were invited to participate. Informed consent was provided prior to the focus group. Approval was obtained from the Health Research Ethics Board at the University of Alberta as well as from

each participating school jurisdiction and school.

Ten focus groups were conducted in the APPLE Schools with a total of 45 teacher and classroom staff (n=5 males, n=40 females, range of two to eight participants from each APPLE School) and lasted an average of 57:10 minutes. Focus groups were held after school hours in each of the ten APPLE Schools. Participants possessed from nine months to 29 years of teaching experience and from two months to 26 years of experience in their current teaching roles. Education levels varied among the participants (n=2 possessed college diplomas/degrees; n=34 held undergraduate degrees; n=5 held graduate degrees; n=4 were not disclosed). A member of the research team moderated the focus groups in order to ensure consistency (Freeman, 2006). Teachers were asked to describe their perceptions of APPLE Schools and to elaborate on factors that would improve sustainability using a topic guide developed in partnership with the research team and APPLE Schools' staff. The focus group format facilitated

interaction among participants, and provided direct evidence of similarities and differences between individual experiences (Krueger & Casey, 2009).

The focus groups were audio-recorded and transcribed verbatim. Data was analyzed using a process of inductive content analysis (Miles & Huberman, 1994), which initially began with coding and categorizing meaningful segments of information. This was followed by a more interpretive approach in which categories were refined and sometimes collapsed together in order to identify a series of final themes (Glaser & Strauss, 1967). Researchers ensured that each category was unique, self-contained, and meaningful by constantly comparing units, themes, and categories. Two members of the research team coded and compared data to strengthen the overall findings (Patton, 2002).

Results

Results are organized into five themes that include: facilitation and autonomy, self-efficacy, expectations, staff turnover, and time limitations. These themes are

presented below as either factors that facilitated sustainability (facilitation and autonomy, self-efficacy) or that challenged sustainability (expectations, staff turnover, time limitations).

Factors supporting sustainability
Facilitation and Autonomy
Participants indicated that the SHF's facilitation (i.e., encouraging others to become involved instead of doing the activities alone) and the autonomy provided allowed the school to take ownership of initiatives and was an important factor influencing long-term sustainability. As one teacher indicated:

> …you know the SHF knows that in a few years she won't have a role in our school, so she's trying to make us all aware of what we can do and planning ahead for next year with…some goals and activities and ideas that we've all thought about.

When asked to elaborate, this staff member went on to say, "…of course [the SHF] will support us in leading some of those ventures but she gets the ball rolling and then steps back and lets us run with it. So that it is sustainable without her help." Another teacher also acknowledged that in order to be sustainable, APPLE Schools had to allow for autonomy within their school: "…what are our priorities at our school? Not what is [the SHF] going to do? But what are we going to do? How are we going to take ownership?"

Participants provided specific examples of how they demonstrated autonomy, such as forming an external committee (APPLE Core Committee) in order to encourage stakeholder engagement, which included community stakeholders. Ultimately, teachers perceived APPLE Schools to be sustainable and that it is a transitional process.

Self-efficacy
Increasing the self-efficacy of staff members to the point that they believed they would be able to continue the APPLE Schools project once the SHF was gone was viewed as a critical and invaluable role of the SHF.

Initially, teachers discussed their appreciation in having an SHF as a provider of knowledge and a key individual who kept the staff motivated. However, as focus group discussions developed, teachers discussed how the SHF provided a way to build self-efficacy "…she's teaching your kids but she's also teaching you, so then you're going to have that knowledge and then carry it forward when she's not here."

Specifically regarding resources, one teacher indicated that by building resources together, the information would be useful in years to come, saying "…we're building resources [DPA bins, or Daily Physical Activity bins, which include resources to support physical activity in the classroom; activity booklets; meal plans] that will be here…so

when the SHF leaves, those resources will always be available, and I believe there are people here who will carry the initiative on for the SHF."

Challenges affecting sustainability

Expectations

One of the recognizable features of CSH is that implementation is designed around the needs of the school community, but each school is different. While the benefits of tailoring the project to meet each school's needs allowed for increased autonomy, a perceived lack of clear expectations of what should comprise an APPLE School proved to be a challenge and negatively affected the teachers' perceptions regarding sustainability. Teachers were unclear as to what was expected and indicated that this made progress challenging. For example, one teacher explained,

To be honest … if I walked in, I wouldn't really know this is an APPLE School…I don't really know what it is supposed to be… is it very showy? I don't really see that. It kind of to me seems like it's maybe been on the back burner a little bit…

Other teachers shared similar concerns, "…[APPLE Schools] was not quite as defined as it could have been, or maybe it was just that I didn't understand as much what an APPLE school should be."

Staff turnover

High staff turnover within the APPLE Schools posed a challenge in keeping new staff members informed about the project and was viewed as a risk to project sustainability. As one teacher stated:
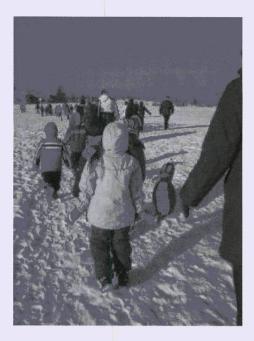
…the staff turnover too, I mean it's taken us since September to get

enough understanding of all the various DPA bins and how to use them, and each year…the turnover in the staff, we have to reintroduce all of that…

In particular, teachers mentioned the challenges associated with training new staff: "…and then you know like new staff coming in, how do you find out what you're supposed to do right? So if the SHF wasn't here and you came and then how would you know?" In order to maintain the APPLE Schools philosophy and to ensure sustainability, teachers indicated that it would be necessary to have a trained individual to orient new staff.

Time limitations

In addition to their existing teaching responsibilities, teachers were concerned

with the ongoing time and effort required to fully assess the future needs of their school and to assume the SHF responsibilities. Teachers cited lack of time as an important challenge affecting sustainability, indicating that they have limited time given their teaching responsibilities. As one teacher explained,

> ...the time that the SHF puts in, teachers do not have that time, and the SHF can set this stuff up, but just to even go back and open that binder and go back to it, that's a ton of work.

Many teachers expressed doubts when considering program sustainability without the presence of the SHF. One teacher noted, "...for this to continue we still have to have someone because it's not realistic to ask the teachers to do it. It just isn't, in this school, because we have so much to deal with as it is..." Another teacher stated, "...and this is what has actually had me worried thinking you know we're so gung-ho, we're so into it now, are we going to be left high and dry and have to implement it ourselves?" Teachers also referred to the length of the intervention as a major disadvantage. "I think the biggest disadvantage is that [APPLE Schools] only [lasts] three years, right? And I think that's long enough to get something started and see some changes happening, and then it will be gone."

Overall, teachers reported that having autonomy to decide how APPLE Schools is implemented is a viable tool enabling sustainability, including the ability to increase self-efficacy among staff. However, teachers also reported unclear expectations, staff turnover, and time limitations as significant barriers inhibiting sustainability. It appeared that some teachers believed the duration of APPLE Schools was too short to sustain existing initiatives or progress, which negatively affected their perceptions regarding sustainability.

Discussion

Schools are logical places to promote healthy eating and active living because schools can reach almost all children (Wechsler, Devereaux, Davis, & Collins, 2000). CSH supports changes among students and school communities with lifelong health benefits for students and staff (Story, Kaphingst, & French, 2006). The sustainability of CSH therefore seems essential and is viewed as a priority for program planners (Altman et al., 1991). A better understanding of factors affecting sustainability will help to support CSH.

In general, teachers had extremely positive attitudes towards APPLE Schools. Teachers reported that APPLE Schools, namely the SHF, facilitated the process of implementing comprehensive school health and provided them with adequate support in order to promote sustainability though increased self-efficacy. In turn, this allowed teachers to have greater autonomy and accountability, which they viewed as essential. School-based programs that are able to focus on the skills, development, and motivation of a community of teachers within a school often benefit from the initial influx of resources, which can be used to fuel continued high-quality implementation when the intensive support is diminished (Han & Weiss, 2005). As well, engaging multiple community stakeholders was an important component of sustainability. Community engagement is an established strategy for

sustainability and is one of the goals of the CSH model (Joint Consortium for School Health, 2008).

Clarifying the conceptual elements and the expectations of health-based promotion programs is essential to increase the potential for sustainability (Scheirer, 2005). Users (e.g., teachers) of school-based interventions need to have a clear understanding of the program itself in order to fully embrace and take part in it. Such factors were challenging for APPLE Schools. At times, teachers were unsure how APPLE Schools was supposed to be defined and integrated into their school communities, including the expectations of the project. As indicated by Mukoma and Flisher (2004), teachers have to understand and accept the health promoting school concept in order to integrate it into their curriculum. Establishing a clear understanding of the defining concepts and characteristics of a program is therefore crucial and relevant for all school-based interventions (Adelman & Taylor, 2003).

Staff turnover is a barrier to sustainability, due to the importance of understanding the objectives, goals, and elements of APPLE Schools. The amount and quality of teacher training in intervention programs has been recognized as important (McCormick, Steckler, & McLeroy, 1995; Perry, Murray, & Griffin, 1990; Rohrbach, Graham, & Hansen, 1993) and it is known that high staff turnover can negatively affect sustainability. Training for a program should not just occur at the beginning of its implementation, but should be repeated over time (Bossert, 1990). Further, trained teachers are more likely to engage in long-term implementation compared with teachers who receive program materials without a training component (McCormick, et al., 1995). Therefore, training programs targeting new staff members need to be implemented in order for programs to remain integrated within the school culture (Hoelscher et al., 2004). This would involve selecting a program champion to assume responsi-

bility for the training needs of APPLE Schools.

Teachers' involvement and engagement in school-based interventions is essential (Perez-Rodrigo & Aranceta, 2001), and their ability to take responsibility for program objectives by serving as a "champion" or "leader" in the school community is an invaluable means to enhance sustainability (Scheirer, 2005). However, teachers expressed concern with the time and effort required to sustain APPLE Schools once the SHF was no longer present. This highlights the dichotomous nature of school-based intervention programs. While the school acts as an ideal intervention setting, sustained program change is challenging because of the time constraints placed on teaching staff. As central agents within school settings, teachers are the key players that have the potential to carry forward a program; however as their day-to-day responsibilities increase, teachers have less and less time. Teachers also perceived limitations associated with the length of APPLE Schools (three-and-a-half years), which negatively affected their attitudes toward program sustainability. While time represents an important component, it seems the amount of time required to implement a novel program, and the tasks required to continue the program, are two separate but important variables. Given teachers' apprehension regarding this issue, time and resources remain a key component in the successful sustainability of school-based interventions.

This study contributes to the growing body of literature on comprehensive school health by exploring the relatively unexamined aspects of school-based health programs, especially regarding teachers' perceptions of issues affecting sustainability. Teachers identified factors both supporting and limiting the potential sustainability of APPLE Schools. While challenges were identified, teachers were incredibly supportive of APPLE Schools and were willing to work on solutions to enhance sustainability. ■

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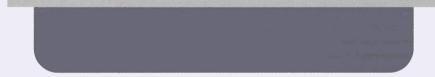
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