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Using the RE-AIM framework to evaluate a school-based municipal programme tripling time spent on PE

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ABSTRACT

Documenting the implementation of effective real-world programmes is considered an important step to support the translation of evidence into practice. Thus, the aim of this study was to identify factors influencing the adoption, implementation and maintenance of the Svendborgproject (SP) – an effective real-world programme comprising schools to implement triple the amount of physical education (PE) in pre-school to sixth grade in six primary schools in the municipality of Svendborg, Denmark. SP has been maintained for ten years and scaled up to all municipal schools since it was initiated in 2008. The Reach, Effectiveness, Adoption, Implementation and Maintenance framework (RE-AIM) was applied as an analytic tool through a convergent mixed method triangulation design. Results show that SP has been implemented with high fidelity and become an established part of the municipality and school identity. The successful implementation and dissemination of the programme has been enabled through the introduction of a predominantly bottom-up approach combined with simple non-negotiable requirements. The results show that this combination has led to a better fit of programmes to the individual school context while still obtaining high implementation fidelity. Finally, the early integration of research has legitimated and benefitted the programme.

1. Introduction

Globally only a small proportion of school-aged children meet the physical activity (PA) recommendation put forward by the World Health Organization, stating that children should get at least one hour of moderate to vigorous PA a day (Hallal et al., 2012; Inchley et al., 2016; Kalman et al., 2015). This is alarming since inactivity in childhood has been associated with obesity (Strong et al., 2005) and negative health consequences relating to lifestyle diseases such as cardio vascular diseases and diabetes (Andersen, Hasselstrom, Gronfeldt, Hansen, & Karsten, 2004; Janssen & Leblanc, 2010). Therefore, the promotion of PA in children should be a public health priority. Schools have been identified as ideal arenas to promote PA, as they have the potential to reach children of all socioeconomic groups and most children spend a large proportion of their weekdays at school (Dobbins, Husson, DeCorby, & LaRocca, 2013; Reis et al., 2016). However, translating and disseminating behaviour-related programmes into a real-world context such as schools is often a challenge and there is a need for evaluations with greater attention to the context and the practical implications of programmes (Gaglio, Phillips, Heurtin-Roberts, Sanchez, & Glasgow, 2014; Glasgow & Emmons, 2007; Heath et al., 2012; McGoey, Root, Bruner, & Law, 2015).

The RE-AIM framework (Reach, Effectiveness, Adoption, Implementation and Maintenance) has been developed to guide evaluations with a special focus on external validity, adding attention on the translation and dissemination of programmes (Glasgow, Vogt, & Boles, 1999). RE-AIM is a widely accepted framework and has already shown useful when evaluating real-world programmes with a special focus on the implementation of new practices in a school context (Austin, Bell, Caperchione, & Mummery, 2011; Estabrooks,

Abbreviations: PA, physical activity; PE, physical education; SP, the Svendborgproject; ATC, age-related training concept; CHAMPS-study DK, Childhood Health Activity and Motor Performance School Study Denmark; RE-AIM, The Reach, Effectiveness, Adoption, Implementation and Maintenance framework

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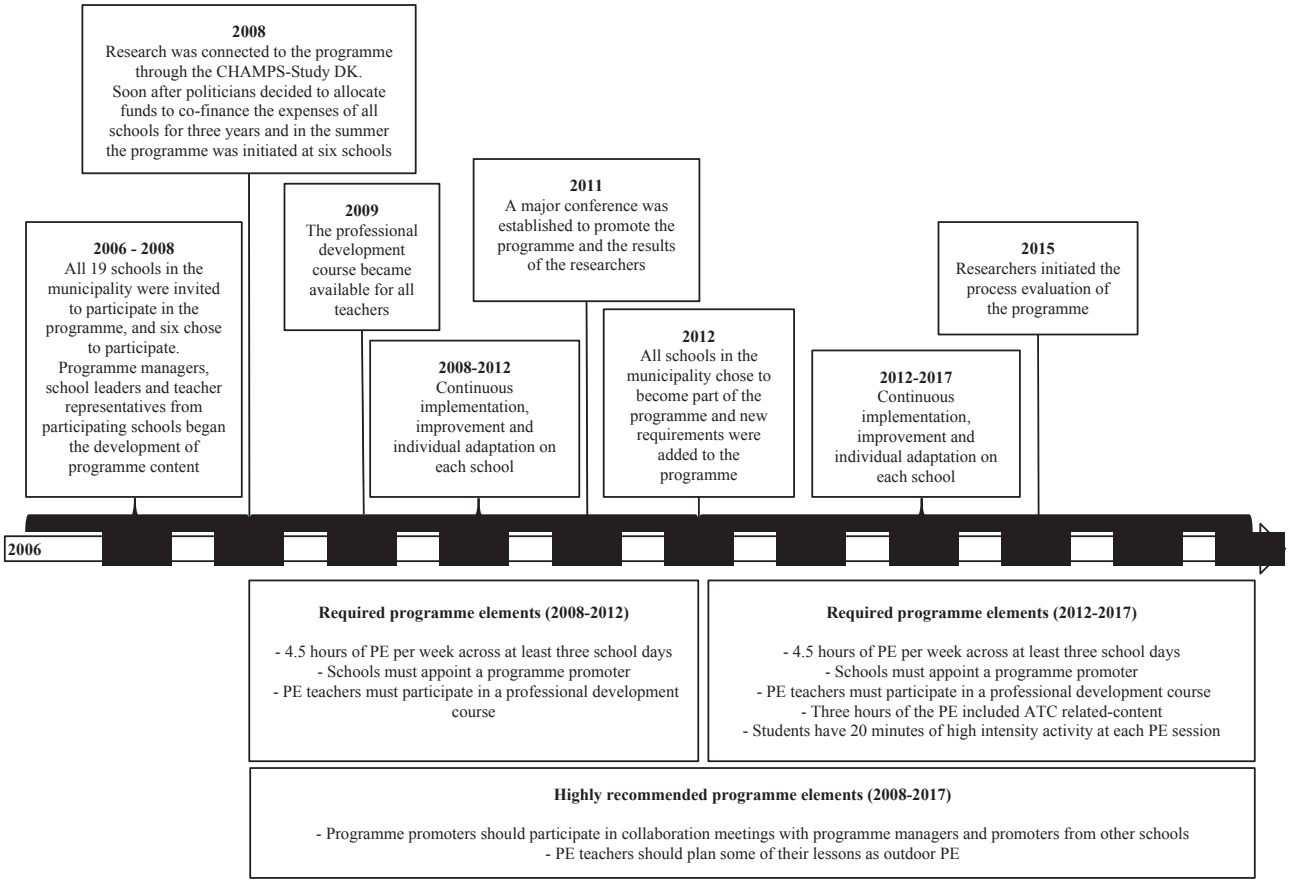

Fig. 1. Description of relevant timepoints and programme requirements of SP.

Dzewaltowski, Glasgow, & Klesges, 2003; Janssen, Toussaint, van Mechelen, & Verhagen, 2013; Smedegaard, Brondeel, Christiansen, & Skovgaard, 2017).

The Svendborgproject (SP) is real-world programme promoting PA in primary school focusing on implementing triple the amount of physical education (PE) in pre-school to sixth grade. The implementation of SP has resulted in students becoming more active during school time (Moller et al., 2014) as well as a decrease in incidents of overweight and obesity (Klakk, Chinapaw, Heidemann, Andersen, & Wedderkopp, 2013), a reduction of cardiovascular risk factors (Klakk, Andersen, Heidemann, Moller, & Wedderkopp, 2014) and improved fitness in students with low fitness levels (Rexen et al., 2014). Furthermore, SP has been maintained and subsisted over a period of nearly ten years, which clearly emphasises the value of evaluating the programme using the RE-AIM framework in order to enhance the external validity of the programme.

1.1. Aim

The aim of the present study is to apply the RE-AIM framework as an analytic tool to evaluate SP and identify important factors influencing the adoption, implementation and maintenance of SP.

2. Method

2.1. Programme description

SP has been developed, facilitated and sustained by the municipality of Svendborg, Denmark. When the planning of SP was initiated in 2006, all 19 public schools in the municipality were invited to co-develop the programme. The main focus of the programme was for schools to implement triple the amount of PE. Prior to programme initiation all schools in the municipality and Denmark had two mandatory PE lessons – adding up to 1.5 h weekly. Ten schools showed interest, but only six had the capability (practically or economically) to prioritize the implementation of the additional amount of PE. Eventually six of the schools initiated the programme in 2008, implementing a relatively simple concept consisting of three required programme elements: (i) the students in pre-school to fourth grade were to receive 4.5 h of PE distributed across a minimum of three days a week at programme start-up, and gradually integrating the fifth and the sixth grade over the next two years; (ii) PE teachers had to participate in a professional development course based on an Age-Related Training concept (ATC), stressing the importance of training children in a biologically relevant manner to accord with their physical and physiological maturity (Bach & Eiberg, 2010; Pryce, Willeberg, Falkentoft, & Meyhoff, 2005); (iii) the schools had to assign a programme promoter (school staff member), who was to act as a link between their school and the programme managers. Besides these three requirements, two additional elements were highly-recommended for schools to implement: (i) programme promoters should participate in collaboration meetings with programme managers and promoters from other schools, and (ii) PE teachers should plan some of their lessons as outdoor PE. Overall, this aimed at students receiving an improved quality of PE and triple the amount of PE.

SP was developed and evolved independently of researchers, though researchers were initially allowed to follow the programme. This led to a substantial programme of research, the Childhood Health, Activity, and Motor Performance School Study Denmark (CHAMPS-study DK), being connected to SP. Through the CHAMPS-study DK a multifaceted quasi-experimental study, comparing SP schools and non-SP schools, was established in order to evaluate the effects on the physical health of