# Impact of Social Marketing in the Prevention of Childhood Obesity<sup>1-3</sup>

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#### ABSTRACT

Obesity, mainly childhood obesity, is a worldwide concern. Childhood obesity continues to adulthood, and it is associated with multiple noncommunicable diseases. One important aspect in the fight against obesity is prevention, the earlier, the better. Social marketing is a novel concept being increasingly used as an approach to address social problems and more and more included in the community-based interventions aiming to change unhealthy behaviors. Although there is limited evidence of its effectiveness, it seems that when conscientiously applied, social marketing principles may be useful to change behaviors and thus better health outcomes. *Adv. Nutr. 3: 6115–615S, 2012*.

#### Introduction

The prevalence of obesity and its comorbidities have dramatically increased in recent decades and have overtaken on epidemic proportions (1). The prevalence of excess weight among children is increasing in both developed and developing countries, but at very different rate and in different patterns. Because the long-term adverse consequences of childhood obesity are substantial and well documented, there is a need for prevention or early intervention

to reduce the current high incidence (2). However, few strategies have proved successful. Because obesity, once established, is difficult to treat, prevention is the main priority. Many community-based interventions have been developed to achieve this objective, but have produced inconclusive results (3–5).

In the past decades, a new concept, social marketing, has been increasingly used as an approach to address social problems. Kotler and Zaltman (6) defined social marketing as the "design, implementation, and control of programs calculated to influence the acceptability of social ideas, and involving considerations of product, planning, pricing, communication, distribution and marketing research." The marketing literature has long referred to the 4 Ps of marketing: product, place, price, and promotion. Social marketing is understood to encompass the additional P of people. In the case of social marketing focused on childhood obesity, this is reframed as the partnership P in recognition of the need to coordinate efforts between the various agencies and stakeholders (7).

Social marketing thinking and strategies are now at the top of health improvement strategies in several countries (8). For example, in the United States, social marketing is increasingly being advocated as a core public health strategy for influencing voluntary lifestyle behaviors such as smoking, drinking, drug use, and diet (8). In the United Kingdom, the potential benefits of social marketing were recognized in the White Paper on Public Health, with specific reference made to "the power of social marketing"

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and "marketing tools applied to social good" being "used to build public awareness and change behavior" (9). Apart from these strategies, several social marketing campaigns have been or are still being developed such as Change4Life (United Kingdom), SnackRight (United Kingdom), VERB (United States), and EPODE (France). These campaigns use social marketing strategies to modify lifestyle and environmental factors relevant to diet and physical activity to reduce the prevalence of overweight and obesity among children and adolescents. Local project managers represent the link between the national coordination organization and the target population. It is important that each campaign involves local project managers in the social marketing planning process to better take into account the habits of the population and thus its needs and expectations. Their local knowledge allows a better understanding of the target population and hence the development of a more tailored approach. Local project managers should be in regular contact with the national coordination organization to provide updates of project implementation (e.g., activities performed). They constantly assess the efficiency of what they are doing based on their perceptions of the responses from the target population.

The main focus of these childhood obesity campaigns or interventions has been to change parents' and children's knowledge and behaviors. In this specific case, social marketing represents an interesting option because its principles are not complex or expensive and can provide "intelligent solutions" (10) to important social problems, and, as it is well known, obesity is a social concern.

# Why use social marketing criteria to promote healthier behaviors?

Currently, public services are not only tackling the determinants of ill health and discouraging "bad" behavior, but also incentivizing positive choices and creating the conditions in which people feel able to and want to make healthy choices for the benefit of their own families and society. In addition, we can distinguish a health promotion approach that is largely informational (still effective for issues that require increased knowledge and awareness, e.g., new vaccination guidelines) and approaches beyond information (e.g., for issues such as poor diet or sedentary lifestyles). For example, communicating that a desired behavior is an easy and appealing choice requires considering the reward that the audience of interest values (e.g., offering incentives), making the place to perform pleasant and convenient (e.g., encouraging stair use by interesting art in stairwells), and offering the audience benefits that outweigh those of the competition (e.g., walking with friends and need to belong instead of watching television alone) (11).

The term social marketing has been in use since the early 1970s (6) and refers primarily to efforts focused on influencing behaviors that will improve health, prevent injuries, protect the environment, and contribute to communities (12). It has been more recently defined as the systematic application of marketing, alongside other concepts and techniques,

to achieve specific behavioral goals for the benefit of society (13).

A review of the potential of social marketing to help promote health in England was issued in 2006 to "examine ways to improve the impact and effectiveness of health promotion, and in particular to consider the potential contribution of social marketing at national and local levels" (14).

The main findings from this review can be summarized as follow: 1) social marketing can significantly improve impact and effectiveness when applied systematically; 2) there is potential to use available resources and mobilize assets more effectively; 3) current approaches are unlikely to deliver the required policy goals, leadership, and effective coordination that are key to success; 4) social marketing capacity and capability across the wider public health system are currently underdeveloped; 5) the importance of integrating effective research and evaluation into the development of programs and campaigns to maximize their value.

The last finding confirms the interest of social marketing techniques when applied in a systematic way.

The term social marketing can be used in 2 different ways: 1) as a set of concepts and principles, that is, as a theory of interventions aimed at behavior change and 2) as a specific intervention method or planned process to achieve targeted behavioral goals (15).

According to French et al. (13), to succeed in implementing effective strategies, we need to move from an "expert and defined product" approach to a "value to user" approach. The aim is to make the healthy and most socially positive choice of behavior rewarding and, if possible, easy. For social marketing promoters, the use of social marketing could inform and help to develop a well-targeted policy intervention mix (10,12,13,16,17).

#### Social marketing benchmark criteria

Across the literature and increasingly in practice, interventions are being described as forms of social marketing. The National Social Marketing Centre is an organization based in the United Kingdom (UK) and established by the UK government in 2006. One of its focuses is to avoid the risk of work being simply relabeled as social marketing while not really being consistent with its core features. The National Social Marketing Centre created benchmark criteria (BC) (13), building on Alan Andreasen's 6-point criteria (18), to support better understanding of core social marketing concepts and principles, promote a consistent approach to review and evaluation, and assist in the commissioning of social marketing services (19). So one of the objectives of the BC is to check whether what is being described is really consistent with social marketing, including a strong customer and behavioral focus (13). The strength of social marketing is to apply these principles in a coordinated, sustained, and innovative effort (4). The Social Marketing National BC are described and completed by illustrative examples for easier understanding (13).

- 1. Customer orientation. Using data from different sources to develop a better understanding of the target audience (e.g., using formative consumer/market research to identify audience characteristics and needs).
- 2. Behavior. Focusing on changing or reinforcing specific behaviors. Conduct a broad and robust behavioral analysis, including both the problem behavior (e.g., level of physical inactivity in adolescents) and the desired behavior (e.g., less screen time, i.e. less time watching TV or playing computer games and increased practice of outdoors play).
- 3. Theory. Using a theoretical framework to develop the intervention. An open integrated theory framework is used that avoids the tendency to simply apply the same preferred theory to every given situation and takes into account behavioral theory across 4 primary domains: biophysical, psychological, social, and environmental/ecological [e.g., from the customer understanding, considering various theories (across different disciplines) to identify ones that might offer insight and opportunities for ways to intervene].
- 4. Insight. Focusing on consumer motivations. An approach based on identifying and developing "actionable insights" using considered judgment rather than just generating data and intelligence (e.g., looking at current behaviors such as no cooking at home) and related knowledge, attitudes, beliefs, perceptions, values, and emotional engagement of the audience to develop a proposition to favor behavior change (e.g., join a group of friends for cooking classes).
- 5. Exchange. Considering the costs and benefits (e.g., financial, physical, social, time spent) incurred by the target group when changing their behavior. Incentives, recognition, reward, and disincentives are considered and tailored according to specific audiences based on what they value (e.g., time and money spent joining a cooking class vs. personal satisfaction of acquiring a new skill).
- 6. Competition. Analyzing the barriers that discourage the acquisition of the desired behaviors. Both internal (e.g., pleasure, risk taking) and external competition (e.g., influencers competing for audience's attention and time) are considered and addressed. Sedentary activities (e.g., screen time) can be in competition with a town event organized for the benefits of the population.
- 7. Segmentation. Using a segmentation approach while avoiding stigmatization. Cooking classes are organized throughout the town, with a focus on deprived areas involving local associations to tailor the intervention to local needs.
- 8. Methods mix. Using an appropriate mix of methods and avoiding a single-method approach. Four primary intervention domains are considered: informing/ encouraging, servicing/supporting, designing/adjusting environment, and controlling/regulating. For example,

in the promotion of a balanced diet and more physical activity in children, combining various influences in support (e.g., providing leisure and recreational services), education (e.g., changing the perception of vegetables), design (e.g., developing bicycle paths), and control (e.g., setting nutrition standards in school

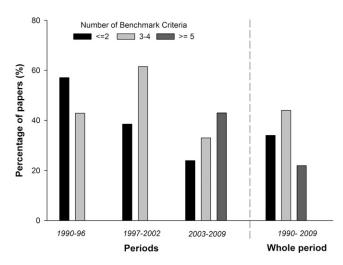
These general guiding principles are helpful to design, develop, and compare social marketing approaches. By organizing the criteria to be analyzed before developing a strategy, the benchmark helps balancing each aspect and not forgetting to consider one of them. Nonetheless, one should not forget to take into account specificities of particular public health issues and intervention needs, such as in obesity prevention.

# Are social marketing interventions effective for diet, nutrition, and physical activity improvement?

There is growing evidence that interventions using a customer-focused social marketing approach can contribute to encourage healthier lifestyles that are less conducive to obesity (4,13,20). It seems that social marketing can help by structuring the process for action as well as integrating various inputs to maximize behavioral change.

French et al. (13) screened recent reviews of social marketing programs that included nutrition and physical activity aspects. Overall, the results of the review provided evidence that social marketing can improve food intake, by increasing fruit and vegetable intake (21) and decreasing total energy intake (22) and the psychosocial factors associated with nutrition incorporating educational, behavioral, and living environment components. With regard to social marketing interventions for physical activity, Neiger et al. (23) emphasized the efficiency of initiatives comprising communication and promotions and a diversity of ongoing activities, events, and environmental changes in increasing the physical activity level of a workplace population. Other interventions succeeded in increasing exercise-related knowledge and the impact on psychological variables, such as selfefficacy or perceived social support to exercise regularly (24). Nevertheless, French et al. (13) suggested that there is weaker evidence that social marketing initiatives tackling physical activity can improve physiological outcomes.

Our previous work reviewed the effectiveness of obesity preventions programs in children and adolescents and the relationship between the number of social marketing BC observed and the effectiveness of the programs (4). The results of this review showed that over the period (1990-2009), 25 of 27 interventions targeting behavior changes were effective. For body composition changes, 14 of 23 interventions targeting BMI or overweight/obesity prevalence were effective, and 7 of 8 interventions targeting skinfolds were effective. Figure 1 shows the presence of the BC in obesity prevention interventions since 1990 to 2009.



**Figure 1** Observation of benchmark criteria used in interventions targeting childhood obesity. Adapted from Reference 4 with permission.

The most effective period (1997–2002) reported an effectiveness of 9 of 9 targeting behavior changes. For body composition changes, 5 of 6 interventions targeting BMI or overweight/obesity prevalence and 6 of 6 interventions targeting skinfolds were effective. In this period of time, >60% of analyzed papers used 3 to 4 BC. However, there does not appear to be a direct relationship between the effect of the interventions and the number of BC used. This may be because most of studies did not use the BC in a comprehensive and conscientious way.

In fact, from our review, we observed that the BC have not been consistently used and reported in interventions aimed at preventing obesity in children and adolescents despite the higher prevalence in more recent years. Nevertheless, we can provide 2 conclusions: 1) the increase in studies using social marketing techniques underscores a growing interest in this type of methodology and 2) there is a need for further research to better document the effective elements in studies and programs using social marketing techniques.

These conclusions actually confirm previous general findings from the review conducted by the National Social Marketing Centre on the potential effectiveness of social marketing (25), acknowledging that "as yet, there are no common and consistently used core standards for social marketing" and adding that "[u]nderstanding and use of the social marketing benchmark criteria is only at a very early stage." Interestingly, the review also confirm that "the drive to identify and capture what constitutes best evidence-based practice remains key," especially because much useful experience and learning have not yet reached scientific publication.

### **Conclusions**

Among other causes, obesity, mainly childhood obesity, is mainly determined by lifestyle determinants combined with specific behaviors. An important way to fight against obesity is to change the behaviors. This is accomplished by a coordinated and well-structured work method, including the most important stakeholders and actors involved in public lifestyle. Social marketing is a systematic application of marketing trying to achieve specific behavioral goals for the benefit of society. The BC are those critical components of social marketing that determine whether an intervention may be defined as social marketing and those aspects of a coordinated application that may deal with a successful intervention. Until now, social marketing has not been conscientiously applied, and the results of its effectiveness need further research.

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#### **Literature Cited**

- Gracia-Marco L, Vicente-Rodríguez G, Rey-López J, España-Romero V, Moreno L. Energy metabolism and childhood obesity development. In: Overton LT, Ewente MR, editors. Child nutrition physiology. New York: Nova Biomedical; 2009. p. 245–55,.
- Dietz WH. Childhood weight affects adult morbidity and mortality. J Nutr. 1998;128:4115–4S.
- Doak CM, Visscher TL, Renders CM, Seidell JC. The prevention of overweight and obesity in children and adolescents: a review of interventions and programmes. Obes Rev. 2006;7:111–36.
- Gracia-Marco L, Vicente-Rodriguez G, Borys JM, Le Bodo Y, Pettigrew S, Moreno LA. Contribution of social marketing strategies to community-based obesity prevention programmes in children. Int J Obes (Lond). 2011;35:472–9.
- Summerbell CD, Waters E, Edmunds LD, Kelly S, Brown T, Campbell KJ. Interventions for preventing obesity in children. Cochrane Database Syst Rev. 2005;CD001871.
- Kotler P, Zaltman G. Social marketing: an approach to planned social change. J Mark. 1971;35:3–12.
- Henley N, Raffin S. Social marketing to prevent childhood obesity: the EPODE Program. In: Waters E, Swinburn B, Seidell J, Uauy R, editors. Chichester: Wiley-Blackwell; 2010. p. 243–52. 2009.
- Stead M, Hastings G, McDermott L. The meaning, effectiveness and future of social marketing. Obes Rev. 2007;8(Suppl 1):189–93.
- Department of Health. Choosing health. Making Healthier Choices Easier. Public Health White Paper, Series No. CM 6374. The Stationery Office. London 2004.
- Hastings G, Saren M. The critical contribution of social marketing. Mark Theory. 2003;3:305–22.
- 11. Huhman M. Impacting behavior by integrating health communication and marketing. Health Commun. 2010;25:617–8.
- Kotler P, Lee N. Social marketing: influencing behaviors for good. 3rd ed. Los Angeles: Sage Publications; 2008.
- French SA, Fulkerson JA, Story M. Increasing weight-bearing physical activity and calcium intake for bone mass growth in children and adolescents: a review of intervention trials. Prev Med. 2000;31: 722–31.
- French J, Blair Stevens C. Big pocket guide, social marketing. 2nd ed. London: National Social Marketing Centre; 2007.
- Rayner M. Social marketing: how might this contribute to tackling obesity? Obes Rev. 2007;8: Suppl 1:195–9.
- 16. Hastings G. Ten promises to Terry: towards a social marketing manifesto. Soc Mar Q. 2006;12:59–62.
- 17. Donovan R, Henley N. Social marketing: Principles and practice. 2003.
- 18. Andreasen A. Social marketing in the social change marketplace. J Public Policy Marketing. 2002;21:3–13.
- National Social Marketing Centre..Social marketing benchmark criteria. National Consumer Council. London: DH Social Marketing Development Unit, Department of Health; 2010.

- 20. Gordon R, McDermott L, Stead M, Angus K, Hastings G. A review of the effectiveness of social marketing nutrition interventions. London: National Social Marketing Centre for Excellence Report; 2006.
- 21. Lowe CF, Horne PJ, Tapper K, Bowdery M, Egerton C. Effects of a peer modelling and rewards-based intervention to increase fruit and vegetable consumption in children. Eur J Clin Nutr. 2004;58:510-22.
- 22. Nader PR, Stone EJ, Lytle LA, Perry CL, Osganian SK, Kelder S, Webber LS, Elder JP, Montgomery D, Feldman HA, et al. Three-year maintenance of improved diet and physical activity: the CATCH cohort. Child and Adolescent Trial for Cardiovascular Health. Arch Pediatr Adolesc Med. 1999;153:695-704.
- 23. Neiger BL, Thackeray R, Hanson CL, Rigby S, Hussey C, Anderson JW. A policy and environmental response to overweight in childhood: the impact of Gold Medal Schools. Prev Chronic Dis. 2008; 5:A132.
- 24. Caballero B, Clay T, Davis SM, Ethelbah B, Rock BH, Lohman T, Norman J, Story M, Stone EJ, Stephenson L, et al. Pathways: a school-based, randomized controlled trial for the prevention of obesity in American Indian schoolchildren. Am J Clin Nutr. 2003;78:1030-8.
- 25. National Social Marketing Centre. It's our health! Realising the potential of effective social marketing. Independent review, findings and recommendations. London: National Consumer Council; 2006.