Special Focus IV. Community Interventions for the Prevention of Obesity

by

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Community interventions: Why, who, what and where?

Community settings offer a unique set of opportunities to reach various individuals and groups at the local level (WHO, 2007) and are a necessary complement to the implementation of high-profile, macro-level policies. Members of a community share cultural or ethnic backgrounds and are exposed to the same environmental determinants. The rationale of acting at the local level is its capacity to facilitate cross-sector efforts (King and Gill, 2009). Within a community, there is a potential to mobilise human resources such that different dynamics and synergies translate into better possibilities to "partner, collaborate, expand and enrich" an intervention (Economos and Irish-Hauser, 2007). This is particularly important given that increased and effective engagement of stakeholders enhances the prospects of a successful implementation of interventions aimed at changing lifestyles (WHO, 2007; King and Gill, 2009).

Most community programmes have been designed to target children and have used schools as an entry point. Others have targeted lower income groups (see the examples from Wales and Germany below) or groups prone to become sedentary (as in the Dutch example).

Community interventions typically entail a variety of measures addressing the supply of, and demand for, food as well as physical activity.

Interventions are implemented in a combination of local settings apart from schools, including workplaces, communal sites, religious and cultural

centres, health and social care facilities or neighbourhoods. They may target all the population or only selected groups, such as children, housewives, pregnant women, the disabled, high-risk groups such as diabetics, the elderly, families, and socially disadvantaged groups.

Community interventions in the OECD area

Community interventions addressing lifestyle were first designed in the 1970s to address non-communicable diseases. The "North Karelia Project" in Eastern Finland (Puska *et al.*, 1989; Vartiainen *et al.*, 2009) and the "Stanford Three Community Study" in the United States (Fortmann *et al.*, 1981) illustrated the great potential of community interventions to reduce lifestyle risk factors. Typically interventions include a combination of actions addressing both demand and supply. For example, "Heart Health Nova Scotia" (Nova Scotia Heart Health Program, 1993), implemented in 1989-95 as part of the Canadian Heart Health Initiative, included a retail point-of-purchase demonstration project; a campaign promoting the consumption of lower fat breakfasts, a continuing education programme for chefs, and consumer-friendly nutrition labelling.

A new generation of community interventions has recently been designed to address the challenge of obesity.

- *Europe.* In 2006, the European Charter on counteracting obesity was signed by the health ministers of European countries. It stressed the need for action against obesity to be taken at both macro and micro level and in different settings (WHO, 2006). In view of this commitment, international and national policies (macro level) should be complemented by activities and initiatives at the community level (micro level). Interventions should include as many components and address as many areas of daily activity simultaneously in order to facilitate healthy options and create healthy instead of so-called "obesogenic" environments (Lemmens *et al.*, 2008).

  The "Shape Up" project (*www.shapeupeurope.net*) was implemented in 21 European cities in 2006-08 to promote healthy lifestyles through school and community.

  - The healthy eating component involved increased nutritional quality and variety of food available in school canteens; parental awareness about the links between healthy eating, learning and prevention; as well as better access to healthy food in the school neighbourhood.
  - The physical activity component involved increased number, attractiveness and variety of possibilities for physical activity, information and skills in schools; parental awareness of mobility patterns and health; changed family patterns in terms of

mobility/bringing children to school; and increased number, attractiveness and variety of possibilities for physical activity provided by the environment surrounding the school, creating more possibilities for active mobility.

- *United Kingdom*. The Department of Health has established a Childhood Obesity National Support Team to provide support to local partnerships in achieving the Government's key deliverables for childhood obesity. The team is meant to help local authorities, primary care trusts and other partners to improve their capacities to address the obesity agenda. They provide recommendations on data and needs assessment, on evaluation/performance management, on how to establish and run preventive activities aimed at very young and school-age children, on weight management programmes, on working with families, the built environment, training and workforce development, and communication.
- *Wales*."Food Coops" started in 2004 and involved 26 sustainable food co-operatives to promote consumption of fruits and vegetables among low socio-economic status groups. The programme allows the purchase of fresh fruit and vegetables at wholesale prices through direct supply by local farmers.
- *France*. Municipalities can receive the national government's "Healthy Cities" label if they conform with the *Plan National Nutrition et Santé*. This can be accomplished by implementing a range of interventions, including: activities aimed at improving the nutrition of infants and young children (information and education, monitoring); improving the situation in schools (better catering, fruit distribution, water fountains, education about nutrition, physical education); improving the possibilities for physical activity (active transport, sports events, support to sport associations); aid for socially deprived groups (support to the structures and the staff providing food aid, information and promotion of physical education); support for elderly people (cooking classes, access to physical activity, social networking); actions aimed at economic agents (bakers, fruit and vegetable distributors, retailers, workplaces, public catering, information for operators); communication to the public (nutrition information in public documents and through public channels, public events). Currently 195 cities have adhered, for a total of approximately 10 million people.
- *Iceland*. "Everything Affects Us, Especially Ourselves" was started in 2005 in 25 municipalities to promote healthy lifestyles of children and their families by emphasising increased physical activity and improved diet.
- *Netherlands*. "Communities on the Move" was established by the Netherlands Institute for Sports and Physical Activity (*www.communities*

inbeweging.nisb.nl/cat). It has developed a community approach to promoting an active lifestyle among groups that tend to become more sedentary through active participation of the target group in the organisation, the execution and the atmosphere of the activity and through the introduction of the element of enjoyment.

- *Finland*. "Fit for Life" (*www.likes.fi*) encourages people over 40 years of age to include physical activity in their daily lives. It is implemented in co-operation with municipal sports and health services, workplaces, occupational health care, sports clubs, various associations and public health organisations.
- *Spain*. In the "Exercise Looks after You" project in Extremadura, (*www.ejerciciotecuida.es*) general practitioners refer elderly people with a risk of metabolic syndrome or moderate depression to a sports centre, where professionals periodically assess participants (with fitness, psychosocial and biological tests) and deliver a structured, walk-based programme four days a week. Preliminary results showed the cost-effectiveness of the programme based on a reduction in primary care consultations and improvements in fitness and health-related quality of life.
- *Germany*. The "BIG" project (*Bewegung als Investition in Gesundheit*, "Movement as Investment for Health") targeted women of low socio-economic status or minority background in the city of Erlangen (2005-07). The sports administration was responsible for organising the local activities, promoting networking among the different settings and providing contact and information for other municipal branches.
- *Australia*. "Eat Well Be Active Community Program" (Wilson, 2009) worked in partnership with a variety of sectors such as health, education, welfare, neighbourhoods and food supply by addressing both environmental and individual barriers to healthy eating and physical activity in schools and the community.

Evaluating community interventions

A systematic review of interventions for preventing obesity in children (Summerbell *et al*., 2005) highlighted the paradox that only a limited number of studies provide findings on what works, despite the recognition that obesity is a priority for public health. The clinical trial philosophy of randomised controlled trials is not ideal to appraise community interventions, as it would miss important aspects such as the intervention-context interaction. One possibility to capture such insights is the ecological approach, which seeks to preserve and manage resources such as people, settings and events and encompass the notion of context (Hawe and Riley, 2005; McLaren and Hawe, 2005).

Knowledge coming from unsuccessful interventions fails to make a distinction between the evaluation process and the intervention's concept itself, whereas the restricted generalisability (external validity) and transferability of the results should be stressed (Rychetnik *et al.*, 2002).

As an alternative, observational epidemiological methods such as non-randomised trials, prospective and retrospective cohort studies and case-control studies could also be used (Black, 1996).

Results of community interventions

There are however important experiences that indicate the value of community projects for the control of obesity. In Europe, the EPODE project, which has been implemented in several European countries since 2004 and which involves multiple local stakeholders, has shown a reduction of the prevalence of being overweight or obese (Westley, 2007; Katan, 2009; Romon *et al.*, 2009). Similarly, the "Programme for Nutrition, Prevention and Health of Children and Adolescents" implemented in 2004 in the Aquitaine region of France indicated decreased the prevalence of being overweight among 6-year-old children in Bordeaux (Baine, 2009).

A 2009 WHO review of 65 community interventions addressing diet and physical activity (20 focusing on disadvantaged communities and three from low- or middle-income countries) indicated that "the most successful community interventions generally comprised many different activities and usually included both diet and physical activity components", although information on cost-effectiveness is not available (WHO, 2009). An explicit obesity reduction target has not always been formulated.

Data will be soon available from the "Pacific OPIC" Project (Obesity Prevention in Communities) (Swinburn *et al.*, 2007; Schultz *et al.*, 2007), a comprehensive, community-based intervention comprising programmes, events, social marketing and environmental change involving over 14 000 youth in Fiji, Tonga, New Zealand, and Australia; and from the Stanford GEMS (Girls Health Enrichment Multi-site Studies) (Robinson *et al.*, 2008). GEMS addressed low-income, pre-adolescent African-American girls and compared a culturally tailored after-school intervention and a home/family-based intervention to reduce screen media use with an information-based community health education programme.

Designing community interventions

Existing community interventions indicate that comprehensive interventions are preferable and should include a combination of actions to address the offer and the demand of food and action to address the demand and offer of physical activity.

In 2009, the US Institute of Medicine (Parker *et al*., 2009) carried out an analysis at the community level and identified a series of potentially effective actions to promote healthy eating and to increase physical activity. The list of measures aimed to improve diet includes:

- Increase community access to healthy foods through supermarkets, grocery stores, and convenience/corner stores.
- Improve the availability and identification of healthful foods in restaurants.
- Promote efforts to provide fruits and vegetables in a variety of settings, such as farmers' markets, farm stands, mobile markets, community gardens, and youth focused gardens.
- Ensure that publicly run entities such as after-school programmes, child care facilities, recreation centres, and local government worksites implement policies and practices to promote healthy foods and beverages and reduce or eliminate the availability of calorie-dense, nutrient-poor foods.
- Increase participation in federal, state, and local government nutrition assistance programmes.
- Encourage breastfeeding and promote breastfeeding-friendly communities.
- Increase access to free, safe drinking water in public places to encourage consumption of water instead of sugar-sweetened beverages.
- Implement fiscal policies and local ordinances that discourage the consumption of calorie-dense, nutrient-poor foods and beverages.
- Promote media and social marketing campaigns on healthy eating and childhood obesity prevention.

A similar list for the promotion of physical activity includes:

- Encourage walking and bicycling for transportation and recreation through improvements in the built environment.
- Promote programmes that support walking and bicycling for transportation and recreation.
- Promote other forms of recreational physical activity.
- Promote policies that build physical activity into daily routines.
- Promote policies that reduce sedentary screen time.
- Develop a social marketing campaign that emphasizes the multiple benefits for children and families of sustained physical activity.

Apart from the limited evidence on what works in programmes for public health there is the inherent complexity of selecting among the interventions

that work. The ANGELO framework (Analysis Grid for Environments Linked to Obesity) was developed in Australia to guide the process of prioritising actions for obesity prevention within communities. ANGELO distinguishes the size (micro: settings, macro: sectors) and the type (physical, economic, political and sociocultural) of environment; analyses the "obesogenic" influences within a sector or setting; and allows possible actions among a portfolio of different actions to be identified and prioritised (Swinburn *et al*., 1999; Simmons *et al*., 2009).

The evaluation system, apart from assessing the objectives of the project with clear process, output and outcome indicators (WHO, 2008), should also explore the specific context of the setting in which the intervention is applied.

Conclusion: Involving stakeholders

The effective involvement of the right stakeholders is crucial (WHO, 2007; Flynn *et al*., 2006). Different sectors of national and local government, local leaders, local councils, sport associations, parent-teacher associations, and clubs, NGOs, academics, the media and the private sector need to be implicated and involved in different forms of dialogue and partnerships. The establishment of a good governance mechanism is central, as well as effective channels of communication stakeholders.

Stakeholders can commit human and financial resources to the project, as well as establish or review their practices to comply with the project objectives. Community interventions are supported by public funds (national or local), as well as by charities and other private sources, including corporate sponsorships. Whenever this happens it is important to emphasize the need for transparency, public disclosure and strict ethical rules, especially when the funding is accepted from private sources that might have a conflict of interest with the project objectives.

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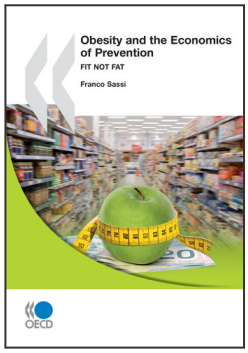

From:
Obesity and the Economics of Prevention
Fit not Fat

Access the complete publication at:
https://doi.org/10.1787/9789264084865-en

Please cite this chapter as:

Branca, Francesco and Vasiliki Kolovou Delonas (2010), "Community Interventions for the Prevention of Obesity", in OECD, *Obesity and the Economics of Prevention: Fit not Fat*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/9789264084865-13-en