



# **A Literature Review**

**For**

**California Project LEAN**

***Food on the Run Campaign***

**California Department of Health Services**

**Public Health Institute**

**Funded by**

***The California Endowment***

**December 1997**



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## **1. INTRODUCTION**

The main objectives of the literature review were to identify: 1) lessons learned from past programs and research conducted around healthy eating and physical activity targeting adolescents aged 14 to 18, with an emphasis on lower-income teens; 2) barriers, attitudes, perceptions and motivations to healthy eating and physical activity and effective social marketing intervention strategies around these behaviors; 3) appropriate channels and social marketing strategies that may result in positive behavior change; 4) programs requiring further investigation; and 5) experts and other key informants to consult with in later steps.

## **2. METHODOLOGY**

Thirty articles were selected using on-line search databases including Medline and Profound. Articles recommended by Project LEAN staff and other sources were also reviewed. Other sources cited by the articles were collected if they fit our search criteria.

With few exceptions, articles were selected based on the following criteria:

- Main subject of the article was nutrition or healthy eating and physical activity or exercise;
- Study sample was comprised of or included people aged 14 to 18;
- Names of past programs or key informants were provided that are relevant to the scope of the *Food on the Run* campaign; and
- Study was published in or after 1990.

We did make one exception to include an article published in 1986, as it was consistently referenced in other articles. Articles were excluded if the main subject was dieting, eating disorders or school breakfast or lunch programs.

## **3. FINDINGS**

### **3.1. Teen Eating Habits**

The most prevalent adolescent nutrition problems that increase risk factors for chronic disease include consumption of foods with little nutritional value, obesity, vitamin and mineral deficiencies and eating disorders<sup>15</sup>. Dietary patterns have changed, with fewer teens eating three meals a day, more teens snacking and more eating fast and processed foods instead of unprocessed foods.

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The report did not make recommendations with regard to program design, but focus groups provided insight, and it would appear that some of the factors mentioned below may have contributed to the success of the program:

- Both males and females felt that what they ate was important for immediate reasons related to general health and appearance, performance, weight control, academics and productivity.
- Students were interested in eating more fruits and vegetables, but lack of variety, availability and taste were major barriers to consumption.
- Students felt it was important to involve parents so that there was greater availability of fruits and vegetables at home.
- The first intervention semester materials and activities including cafeteria marketing stations, public service announcements, posters, table tents, taste testing, parent newsletter and citrus giveaways were approved and found acceptable by large percentages of the cohort.
- School focus groups with students.
- Media-marketing strategies that are acceptable to adolescents.
- Creative and focused materials.
- Variety of executions of key message strategies.
- Messages placed where teens are captive audiences (i.e., bathroom stalls, table tents)

#### **3.3.4. New Haven Summer Youth Nutrition Education Program**

This multilayered nutrition education program involved underprivileged teenagers aged 14 to 17 being trained by educators to teach nutrition to younger children from grades 1 through 6 as part of a summer camp nutrition education program <sup>1</sup>. The objective was that youth would show increases in nutrition knowledge, especially knowledge of the food groups and nutrients.

A complete curriculum with objectives, handouts and activities was provided to the teenagers. It included five lessons. The first, *Are you what you eat?* helped the children become more aware of their eating habits and the reasons for their food choices. The remaining four lessons were based on food groups, with emphasis on the key nutrients provided by each group: Dairy Products for Calcium, Fruits and Vegetables, Summertime Treats, different grain products were discussed in lesson four, and lesson five was *The Meat Group and Review*, teaching children about protein and iron. Each lesson featured a nutritious snack recipe that used foods in the lesson. Game cards reinforced the lesson through take-home fun activities.

The treatment group scored significantly higher in knowledge of food sources of nutrients, designing a balanced lunch menu, identifying the recommended number of servings from the basic food groups, nutrient functions and true-false. 62 percent



## **Fun**

Health messages should be upbeat to engage and excite adolescents and their families<sup>3</sup>. Efforts should be made to highlight fun and physical activity, as well as promoting the latter as a lifetime behavior, rather than simply emphasizing winning<sup>5</sup>.

## **Instant gratification**

The Achilles heel of programs for adolescents is the difficulty in creating approaches that are appealing and meaningful for them immediately, particularly when health-enhancing behaviors may not be as highly valued as unhealthful behaviors<sup>22</sup>. Messages should emphasize more immediate benefits of healthy eating and physical activity versus longer term health outcomes.

## **Skill building**

Knowledge is not enough. There is a weak relationship between knowledge and food choice behavior. Changes in knowledge cannot be interpreted as accompanying changes in food choices. Nutritional interventions should focus more on directly influencing dietary behaviors, as compared to strategies designed to influence knowledge alone<sup>11, 14</sup>.

Intervention programs need to help adolescents hone desirable skills for specific dietary behaviors<sup>28</sup>. These could include making appropriate food choices, reading food labels, convenience store/fast food shopping, evaluating their own diets and evaluating dietary and nutrition information. Hands-on training in assertiveness, decision making and managing peer pressure could also be effective ways of promoting positive health behaviors. The intervention and messages should continually reinforce these skills and behaviors<sup>27</sup>.

Most school physical education programs are not associated with nutrition education. New programs should address the correlation between nutrition and fitness for life.

## **Personal association**

The message needs to be salient to be credible. If messages and the channels through which they are communicated are not seen as relating to adolescents' lifestyles or attitudes, they likely will not be as effective<sup>23</sup>. Interventions should consider employing distinct strategies for specific ethnic, gender and age subgroups<sup>5</sup>. Sociocultural factors are important determinants of physical activity and some health-related behaviors, and programs should not ignore this<sup>20</sup>.

## **Competitive messages**

Program designers need to recognize and understand the power of competitive messages and influences. For example, instructing students at school in behavioral skills to promote health and resist the social influences to behave in unhealthy ways may have limited impact if other sources of socialization are delivering contrasting messages<sup>11</sup>.











