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The Internationalization of the Obesity Epidemic

The Case of Sugar-Sweetened Sodas

Malden C. Nesheim and Marion Nestle

Introduction

The prevalence of overweight and obesity in the US population increased markedly from the late 1970s to the early 2000s. Whereas surveys in 1976–80 found 15 percent of the adult population to be obese on the basis of body mass index (BMI), they identified 31 percent as obese in 1999–2000.[1] The most recent figures from 2009–10 suggest that 36 percent of the adult population, men and women, meet BMI criteria for obesity, and another third is overweight (Fryar et al. 2012). During these same years, the prevalence of obesity tripled among children, such that 17 percent of children and adolescents are now classified as obese (Ogden et al. 2012). Overall, national surveys find about two-thirds of the US population to be overweight or obese.

The United States is not alone in experiencing a rising prevalence of obesity. The most recent data from the Food and Agriculture Organization (FAO) reveal overweight and obesity to be a global problem, rising from a combined prevalence of 25 percent in 1980 to 34 percent in 2008 (Stevens et al. 2012). Nearly all countries have experienced this rise in prevalence, even those in which undernutrition and micronutrient deficiencies—and their consequent stunting and wasting—remain common. In parts of Europe, the Middle East, and Latin America, more than 60 percent of adults over the age of 15 are classified as overweight or obese. In Mexico, for example, the proportion of the population considered obese now exceeds that of the United States (FAO 2013).

Concerns about obesity would not be so serious if this condition were only a matter of appearance (Bray 2004). Obesity, however, raises risks for a number of diseases and conditions, such as coronary heart disease, Type 2 diabetes, high blood pressure, stroke, certain cancers, liver and gallbladder disease, osteoarthritis, sleep apnea and other respiratory problems, and various gynecological disorders, particularly abnormal menses and infertility. Obesity and its consequences affect quality of life and can lead to disability and premature mortality. In addition to the personal costs for individuals, the societal costs for medical care and lost productivity are estimated at upwards of $150 billion dollars annually in the United States alone (Finkelstein 2009).

Although obesity results from habitual consumption of more calories than are expended, and thus is a matter of personal action, many factors in society influence dietary choices. Obesity is closely linked to economic development and the replacement of traditional food systems with Westernized diets that provide more meat, fats, and refined carbohydrates and, therefore, more calories. This obesity-promoting shift in dietary patterns occurs so commonly in emerging economies that it has been given its own designation, the "nutrition transition" (Popkin et al. 2012).

The societal changes that promote dietary transitions are well identified in the United States. From the early 1900s to about 1980, the US food supply provided an average of 3,200 calories per day per capita. From 1980 to 2000, per capita calorie availability had increased to 3,900 calories per day (USDA 2014). Even when adjusted for wastage, per capita calories per day increased by 400 from 1980 to 2010. Calorie availability represents food produced in the United States, plus exports less imports, and is likely to overestimate average calorie intake. In contrast, surveys of reported food consumption tend to underestimate actual intake. Even so, they report increases of 200 to 300 calories per day for both men and women since the early 1980s (Kant and Graubard 2006).

Increases in calorie availability and intake are the result of an "eat more" food environment, spurred by aggressive food-industry marketing. Beginning in the early 1980s, food availability became ubiquitous. Food and drinks are now available in retail stores selling clothing, office supplies, and books—places where they had never been sold before. Spending on foods away from home increased from about one-third of total food expenditures to about one-half, and the proportion of calories obtained away from home increased from less than 20 percent to more than 30 percent, much of it in the form of fast food. The changes have been especially dramatic for children, who now get more of their calories from fast-food outlets than they do from schools (Nestle and Nesheim 2012). United States Department of Agriculture (USDA) nutritionists have estimated that the average meal eaten away from home by an adult adds 134 calories to daily intake, and that one meal a week

eaten at a restaurant can account for an annual weight gain of 2 pounds (Mancino et al. 2009).

Since the 1980s, the portion sizes of food and beverages offered to consumers by restaurants, fast-food outlets, and major food companies have increased substantially in an effort to attract customers. Larger portions contain more calories and contribute more calories to the diet. They are also cheaper on a per-calorie basis. During this period, the relative prices of fruits and vegetables increased by about 40 percent, whereas the relative prices of desserts, snack foods, and sodas have declined by 20 to 30 percent. To expand sales, food companies have developed new products aimed at convenience, but these new offerings are often high in salt, sugar, fat, and calories. These foods are designed to be consumed as snacks, readily available at relatively low cost. Together, these market-driven changes have fueled an increase in overall calorie intake and the rise in obesity in large segments of the US population (Nestle and Nesheim 2012).

Internationally, the growth of obesity as a public health problem in low-income countries follows a similar pattern. Diets everywhere are becoming sweeter and more energy dense. As economies improve, portion sizes increase, and eating away from home and snacking become more frequent. In many countries, consumption of edible oils and animal products increases (Popkin 2006). The World Health Organization (WHO) reports that non-communicable diseases—especially cardiovascular disease, diabetes, cancer, and chronic respiratory diseases—are likely to be responsible for as many deaths as those caused by infectious, maternal, perinatal, and nutritional diseases by 2020. WHO scientists suggest that behavioral risk factors such as smoking, inactivity, and diet are responsible for as much as 80 percent of worldwide deaths from cardiovascular disease. The global rise in obesity is also accompanied by a rise in the prevalence of Type 2 diabetes, creating a further burden on healthcare systems (WHO 2011). Designing public health interventions to counter such trends presents great challenges.

The Role of Sugar-Sweetened Beverages

Sugar-sweetened beverages (SSBs) constitute an excellent case study for understanding the difficulties of devising public health policies to decelerate or reverse the rise in worldwide obesity. Increasing evidence suggests that consumption of SSBs (or sodas) contributes significantly to development of overweight and obesity, particularly among children and adolescents. Also, some evidence suggests that physiological controls of food energy do not function well when calories from sugars are consumed in liquid rather than solid form (CSPI 2009).

Since the early 2000s, studies of trends in SSB intake among schoolchildren have shown that the addition of even one soda to the daily diet of a child increases the likelihood of the child becoming overweight (Ludwig et al. 2001). Similarly, reducing soda consumption decreases the prevalence of overweight (James et al. 2004). Although not all studies have reported such results (see Newby et al. [2004]), most have identified at least a small correlation between consuming sodas and higher calorie intakes and body weights among children (Striegel-Moore et al. 2006). Furthermore, clinical trials of soda reduction have demonstrated lower rates of weight gain in young children (de Ruyter et al. 2012). One clinical trial of adolescents also reported reduced weight gain (Ebbeling et al. 2006), although that benefit disappeared after the second year (Ebbeling et al. 2012). When such studies are subjected to systematic reviews, the overall results show impressive correlations between soda intake and weight gain in the young (Pérez-Morales et al. 2013). One recent meta-analysis concludes that SSB consumption is associated with weight gain in both children and adults (Vasanti et al. 2013).

Soda Consumption, United States

Sugar-sweetened beverages, unlike candy, are typically consumed in large amounts. Recent reports derived from national surveys in the United States suggest several conclusions (Bleich et al. 2009; Ogden et al. 2011; Han and Powell 2013; Hsiao and Wang 2013):

- Only half the population over the age of 2 years drinks sodas; the other half reports drinking no sodas at all.
- One-quarter of the population consumes at least 16 ounces a day.
- 5 percent of the population consumes 48 ounces a day, or more.
- Men drink nearly twice as many sodas as women, 14 ounces as compared to 8 ounces a day.
- Children of ages 2 to 5 years drink an average of 6 ounces a day.
- Boys of ages 12 to 19 years are the highest consumers of sodas; 70 percent drink sodas on any given day for an average consumption of 22 ounces.
- The elderly consume the fewest sodas (males, 6 ounces per day; females, 4 ounces).
- Blacks and Hispanics report drinking more sodas than other racial and ethnic groups.
- Soda consumption is higher among low-income Americans; the lower the income, the more soda consumed.

- All age groups report drinking less soda than they did in the late 1990s, reflecting replacement of carbonated SSBs with sports drinks, pre-sweetened teas, and diet drinks.
- Sugar consumption from sodas has declined by 15 g a day since the late 1990s, consistent with the decline in SSB consumption (Popkin and Nielsen 2003; Nielsen and Popkin 2004; Welsh et al. 2011; Ervin and Ogden 2013).
- Sodas, along with energy drinks and sweetened waters, are the fourth leading source of calories in the diets of adults and the third leading source for children; they account for one-third of total reported sugar intake (USDA and USDHHS 2010; National Cancer Institute 2014).

So many independently funded studies and reviews associate habitual consumption of SSBs to childhood obesity, and so few do not, that many researchers are confident that the evidence justifies public health efforts to reduce children's soda intake (James and Kerr 2005). In contrast, studies sponsored by Coca-Cola tend to come to conclusions favorable to soda intake (Lesser et al. 2007; Forshee et al. 2008). Such views have led to attempts to eliminate sodas from vending machines in schools, educate the public about reducing soda consumption, restrict portion sizes, and to impose taxes on soft drinks. The soda industry strongly resists such measures, and few have been implemented successfully in the United States.

International Soda Consumption

As consumption of SSBs declines in industrialized countries, soda companies have shifted marketing efforts to international countries. Such markets have long been recognized as growth opportunities. In 1991, for example, Roberto Goizueta, then chief executive of Coca-Cola, explained to a reporter from the *New York Times* why his company was focusing efforts on selling sodas outside the United States: "Willie Sutton used to say he robbed banks because that is where the money is. Well, we are increasingly global because 95 percent of the world's consumers are outside this country. It's that simple" (Cohen 1991). By that year, Coca-Cola's international sales already accounted for 80 percent of its profits. Profit margins, sales growth, and growth potential were much greater in international markets than in the United States, and competition from Pepsi Cola was much weaker. The president of Coca-Cola, Donald Keough, told the *New York Times* reporter: "Our single and relentless focus has been internationalizing this business. ... To do so, we have become the most pragmatic company in the world. ... When I think of Indonesia—a country on the Equator with 180 million people, a median age of 18, and a Moslem ban on alcohol—I feel I know what heaven looks like" (Cohen 1991).

Coca-Cola intended to enter foreign markets from its onset. The company made its first foreign sale in 1899 to a merchant in Cuba. Within the next decade, Coca-Cola began selling syrup in Mexico, Puerto Rico, and the Philippines, and established its first international bottling plant in Cuba in 1906. For the next 20 years, the company added foreign franchises and established foreign subsidiaries to 76 countries by 1930, China among them. By today's standards, however, its foreign presence was quite limited. The limitations were overcome during World War II, when the company pledged to supply a bottle of Coca-Cola for 5 cents to every American in the armed forces anywhere in the world. By the end of the war, it provided 95 percent of the soft drinks served to the US military and was supplying 155 international bottling plants—as compared to just one for Pepsi. After the war, its global investments grew even more rapidly (Giebelhaus 1994).

Today, international sales continue to account for large percentages of soda company profits. Coca-Cola claims sales in more than 200 countries, with 81 percent of revenues coming from outside the United States, especially from Mexico, China, Brazil, and Japan (Coca-Cola Company 2012a). Its leading market is Latin America: Mexico, Chile, Panama, Argentina, and Bolivia are among the ten highest consumers of Coca-Cola drinks (Coca-Cola Company 2012b). In 2013, the United States lifted decades-old trade sanctions imposed against the military junta in Myanmar, thereby leaving just two countries with US trade embargoes that block soda sales: North Korea since 1950, and Cuba since 1962. The Cuba situation is particularly ironic in the light of Coca-Cola's early sales in that country. The company left Cuba when Fidel Castro's government seized private assets, and it is unlikely to return until the Cuban government changes. As one Coca-Cola executive explained, "The moment Coca-Cola starts shipping is the moment you can say there might be real change going on... Coca-Cola is the nearest thing to capitalism in a bottle" (Hebblethwaite 2012).

PepsiCo also says it sells products in more than 200 countries, but international sales account for only 35 percent of profits. To expand market share, PepsiCo, too, is investing in emerging and developing markets. It claims to be the leading food and beverage business in Russia, India, and the Middle East; the second leading business in Mexico; and among the top five in Brazil and Turkey (PepsiCo 2012a).

Both Coca-Cola and PepsiCo especially want to expand sales in the countries listed in Table 4.1 (Mullaney 2013). China and India are obvious targets for soda marketing; their populations exceed 1 billion, and their soda consumptions are extremely low. Both companies have pledged to invest billions of dollars in both countries over the next several years. Although Mexico is currently the top soda consumer, it still has potential for slow but steady sales growth—unless concerns about obesity affect sales. The

Table 4.1. Top 10 emerging markets for beverages, per capita carbonated soda availability, and prevalence of obesity

Rank[a]	Country[a]	% estimated sales growth, 2012–2017[a]	Availability, 8-ounce servings per capita, 2012[b]	% obese 2008[c]
1	China	8	37	6
2	India	5	12	2
3	Russia	4	128	27
4	Brazil	2	358	19
5	Indonesia	4	15	5
6	South Korea	4	114	8
7	Malaysia	3	74	14
8	Mexico	2	617	32
9	South Africa	3	280	31
10	Turkey	2	199	28

Sources:

[a] Mullaney (2013).

[b] Euromonitor International (2013). Note: includes diet and regular carbonated sodas.

[c] Central Intelligence Agency (n.d). The World Factbook.

prevalence of obesity tends to be higher in countries with higher soda consumption. Countries with low soda consumption—most notably China, India, Indonesia, and South Korea—still experience a low prevalence of obesity. The prevalence is expected to rise with an increase in average soda consumption.

Marketing Methods

Although the populations of emerging and developing markets have relatively little money to spend, small increases in soda consumption among enormous numbers of people quickly add up. Soda advertising is ubiquitous in developing countries and has become an expected, but largely unnoticed, part of the environment.

Billboards and advertisements, however, constitute only a minor part of soda companies' marketing strategies. Coca-Cola and PepsiCo both invest substantial thought and effort in identifying ways to sell sodas to people of widely different cultures who may never have consumed such drinks before, and in creating effective business partnerships in each country. Coca-Cola, for example, was an early user of cell phone technology to advertise to young, tech-savvy Japanese customers (Terhune and Kahn 2003). This company especially focuses on the use of music and sports to connect with its multicultural customers. Coca-Cola supports local concerts and sports teams, as well as international sporting events such as the Tour de France, the soccer World

Cup, and the Olympics. It also supports student scholarships and health programs, offers emergency relief in natural disasters, and supports environmental causes.

Coca-Cola is particularly adept in using philanthropy to neutralize potential critics. In 2012, for example, a Reuters investigative team discovered that the Pan American Health Organization (PAHO), the Latin American arm of WHO, had accepted a $50,000 gift from Coca-Cola. One of the company's top officials sits on the steering committee of WHO's Pan American Forum for Action on Non-Communicable Diseases, a group that determines efforts to counter obesity in Latin America (Wilson and Kerlin 2012).

PepsiCo also emphasizes sports as a leading marketing strategy. In 2013, it announced a strategic partnership with the Asian Football Development Project (AFDP) with lofty goals that go well beyond games. AFDP uses football (soccer) as a tool to promote health, social development, and the empowerment of women in 40 countries, but with a focus on the Middle East and India (PepsiCo and AFDP 2013).

The efforts of these companies to reach international markets are stunningly comprehensive. Whenever a potential opening appears, they quickly move in. Both use innovative methods to sell sodas in developing and emerging economies in Asia, the Indian subcontinent, the Middle East, and Africa. In Table 4.2, we give just a few recent examples of soda marketing activities in selected countries—in the form of advertising, philanthropy, sponsorship, and social responsibility. No doubt as a result of such efforts, Coca-Cola scores high in international surveys of public views of corporations. Among 60 admired companies, Coca-Cola ranked second in the Philippines, fourth in India and South Korea, fifth in Thailand, seventh in Myanmar, and eighth in China (Consultant Survey 2013).

The Marketing Challenges: Political

Soda companies engage in such actions not only to promote products, but also to reduce the considerable economic and political risks of selling products in cultures decidedly different from that of the United States. Any company doing business overseas must confront fluctuations in the value of the dollar, political instability, trade restrictions, and cultural misunderstandings (Cohen 1991). In 2013, for example, Coca-Cola conducted a marketing campaign in Israel involving placement of 150 popular first names on its cans. Although about 1.5 million Arabs live in Israel, no Arab names appeared on the cans. The result: Mideast controversy (Bouckley 2013).

Coca-Cola and PepsiCo also must confront, however, a particular source of political opposition: views of sodas as emblems of American cultural and economic domination. Although many people in developing countries hold

Table 4.2. Selected examples of Coca-Cola and PepsiCo international marketing, 2012–13

Country	Marketing event
China	Pepsi CEO opens new bottling plant in Zhengzhou; opens new food and beverage center in Shanghai; donates $1 million earthquake aid to Sichuan. Coca-Cola will invest $4 billion to establish new bottling plants in central and western regions.
India	Pepsi spends $72 million to sponsor cricket tournament. Coca-Cola recruits Bollywood stars to promote "Share Happiness" campaign in films, digital media, merchandise, and on-ground initiatives in 1,000 communities; launches online store for product delivery. Coca-Cola and PepsiCo commit about $5 billion each to market expansion.
Indonesia	Coca-Cola intends to spend $700 million on marketing among other "big plans."
Kenya	Coca-Cola partnership sells solar power to rural kiosks.
Laos	Coca-Cola announces joint venture to open bottling operation by 2014.
Mexico	A former president of Coca-Cola, Vicente Fox, was president of Mexico from 2000–2006. Coke is still involved in Mexican politics.
Myanmar	Coca-Cola discovers its products are seen as expensive and elitist; keeps messages simple ("delicious, refreshing"); distributes free samples; puts price on bottle. Pepsi signs with United Nations Educational, Scientific, and Cultural Organization (UNESCO) to develop vocational training initiatives. Its CEO says, "We believe we can build a strong business in Myanmar and play a positive role in the country's continued development."
Pakistan	Coca-Cola creates "happiness without borders" campaign to share drinks with Indians and reduce political tensions between the two countries.
Philippines	More than 6,000 women attend Coke-sponsored International Women's Day celebration.
Singapore	Coca-Cola pilots "phenomenally successful" cans that split in two for sharing.
Vietnam	Pepsi forms bottling and marketing partnership; considers Vietnam "linchpin" of campaign to expand in emerging markets.

Sources: Current newspapers, magazines, and Internet reports.

images of Coca-Cola or Pepsi as symbols of freedom and the most enviable aspects of American society, others see these companies as cultural and economic intruders intent on exploiting the local population—"Coca-Colonization," as the French called it in the 1950s. In the 1990s, boycotts were organized in Guatemala to protest the company's alleged violence against union organizers, and similar problems in Colombia led to creation of a "Killer Coke" campaign, which still continues (Blanding 2010).

In 2003, demonstrators in Thailand poured Coca-Cola onto the streets in protest against the American invasion of Iraq (Coca-Cola Company 2012a). More recently, the president of Iran threatened to ban Coca-Cola in retaliation for economic sanctions imposed against his country (LaFranchi 2010), and the late president of Venezuela, Hugo Chávez, called on supporters to boycott foreign imports such as Coca-Cola or Pepsi (Associated Press 2012). A boycott campaign in Vietnam accused Coca-Cola of tax evasion and lack of social responsibility to its customers (Iyer 2013).

The Marketing Challenges: Obesity

Obesity may incur costs to individuals and to society, but it also poses a threat to soda companies. Obesity rates are rising in emerging economies in parallel with increasing soda consumption. Concerns about the health consequences of promoting sodas to vulnerable populations in developing countries have led to calls for restrictions on soda marketing, taxes, and bans on sales. As early as 2003, investment analysts were warning food companies that obesity posed a threat to their profits (Streets et al. 2002; Langlois 2006). Soda companies were well aware of this threat. In 2007, a Coca-Cola marketing executive gave an interview to *Advertising Age*, in which she said, "Our Achilles heel is the discussion about obesity... It's gone from a small, manageable U.S. issue to a huge global issue. It dilutes our marketing and works against it. It's a huge, huge issue" (Thompson 2007).

The US Securities and Exchange Commission (SEC) requires corporations to describe factors that pose risks to profits. Coca-Cola lists obesity as the most important threat that might reduce demand for its products. PepsiCo, however, does not list obesity as a risk factor in its SEC filings, although it says obesity "represents a significant challenge to our industry" (PepsiCo 2012b). Coca-Cola explains how the company is countering this threat:

> All of our beverages can be consumed as part of a balanced diet. Consumers who want to reduce the calories they consume from beverages can choose from our continuously expanding portfolio of more than 800 low- and no-calorie beverages, nearly 25 percent of our global portfolio, as well as our regular beverages in smaller portion sizes. We believe in the importance and power of "informed choice," and we continue to support the fact-based nutrition labeling and education initiatives that encourage people to live active, healthy lifestyles. (Cohen 1991)

Anti-Obesity Campaigns

Soda companies have good reason to be concerned about the effects of anti-obesity campaigns. American and international consumer advocacy groups have created global "Dump Soda" campaigns in countries such as India, Japan, Malaysia, and Mexico. The goal of these campaigns is to induce soda companies to:

- stop marketing to children under age 16;
- stop selling sodas in schools;
- stop promoting physical activity or health programs unless they do so without featuring their corporate logos or brands; and
- sell sodas in smaller portions (CSPI and IACFO 2007).

Such campaigns are supported by WHO policy statements. In 2010, WHO recommended that its member nations reduce the marketing of high-sugar foods to children and the exposure of children to such marketing (WHO 2010a). Although these recommendations did not specify soft drinks, an accompanying resolution urged countries to reduce the marketing of non-alcoholic beverages (translation: sodas) to children, and "to cooperate with civil society and with public and private stakeholders in implementing [these recommendations]... in order to reduce the impact of that marketing, while ensuring avoidance of potential conflicts of interest" (WHO 2010b).

More recently, the WHO identified key global strategies related to obesity prevention, among them community-based and policy interventions to limit the consumption and marketing of unhealthy beverages to children (WHO 2012). To implement these recommendations, the United Nations Special Rapporteur on the Right to Food, Olivier De Schutter, observed that the most effective way to reduce consumption of high-sugar foods is through regulation: "Impose taxes on soft drinks (sodas)" (De Schutter 2011).

Many governments and non-governmental organizations (NGOs) have responded to WHO recommendations, especially those directed at children. One study identified more than 30 countries with national and or regional policies to restrict the availability of sodas in schools (Hawkes 2008, 2010). A coalition of NGOs, the Sweet Enough Network, has called for bans on all food products in schools, particularly soft drinks (Thai Health Promotion Foundation 2010). In Mexico, 47 organizations called for higher taxes on soft drinks as part of a national "Crusade against Hunger" (Versa 2013). In 2013, despite intense soda industry lobbying, Mexico passed a tax of 1 peso per liter on SSBs—and a tax of 8 percent on snack foods—as part of an effort to reduce obesity trends (Villegas 2013). Tax initiatives may be as much about raising revenue as they are about obesity prevention, but advocates in many countries expect the revenues to be used for health and other social purposes.

In 2013, the WHO surveyed member countries on their anti-obesity initiatives. The survey found most countries to have instituted policies to reduce obesity and diet-related diseases, but only one-third regulated the marketing of sodas to children, and with about half of these countries reporting restrictions on marketing sodas in schools. Despite what seem like major efforts (by American standards), the WHO report lamented that most countries considered obesity to be a problem of personal responsibility rather than a public health matter of governmental concern, as indicated by the most common policies reported: educating individuals through dietary guidelines, food labels, and media campaigns about healthy eating (WHO 2013).

Conclusion

From the standpoint of soda companies, such obesity prevention efforts must be of intense concern. Efforts to reduce soda consumption are having an effect. In India, for example, sales of Pepsi and Coca-Cola are not growing as fast as they once did, a problem attributed to increasing preferences for drinks that seem healthier—fruit drinks, nectars, juices, and energy drinks (Natti 2013). Soda companies are responding by redoubling marketing in target countries and by creating social responsibility campaigns and voluntary "responsible marketing" campaigns, such as the one developed for schools by PepsiCo (PepsiCo [n.d.], "Advertising"). PepsiCo says it will not sell its full-sugar drinks in schools. It pledges "not to engage in product advertising or marketing communications directed to students in primary schools, except if requested by, or agreed with, the school administration for specific educational purposes." But, it says, "this restriction does not apply to signage at the point of sale" (PepsiCo [2014], "Policy on Responsible Advertising to Children"). It is difficult to know what such promises mean in practice, especially in light of Pepsi's other marketing efforts.

In this light, the Global Dump Soft Drinks campaign makes an important point. It calls on soda companies to stop marketing to children in *any* form: print and broadcast advertising, product placement, Internet advertising, cell phone messages, athletic event sponsorship, signage, packaging promotions, merchandising, and other means.

In 2013, the international food policy analyst, Corinna Hawkes, produced a background paper for FAO in which she reviewed international policies for promoting healthier eating and what existing programs reveal about their effectiveness. Advocacy, she finds, is likely to be most effective when it involves multiple components—not only education, but also information and skills for changing the food environment as well as personal behavior. Soda companies do both when they back product reformulations with advertising campaigns. Governments do both when they combine policies on nutrition labels with public information about how to use them, and when they insist that school nutrition standards be accompanied by classroom instruction. Advocacy is more likely to succeed when it backs up policy initiatives with public education (Hawkes 2013).

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