Can the Food Industry Play a Constructive Role in the Obesity Epidemic?

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to a patient's financial situation advise giving friendly reminders, offering extended payment terms, or reducing or forgiving charges to indigent patients. Practice experts also advise writing off uncollectible accounts rather than sending them to futile and even bankrupting collection, not sending bills to collection precipitously or before talking with the patient, and not substituting bellicose collection for properly terminating a treatment relationship.

In today's world of high medical costs, large medical bureaucracies, and the unsolved problem of millions underinsured, physicians alone cannot rescue patients overwhelmed by medical bills. But the long-standing professional ethos of the relational physician still can honor the bonds of trust and care that tie patients to physicians, even in the emerging era of consumerism.

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In response to increasing rates of obesity, many food companies have announced policies of corporate responsibility. McDonald's claims, "[we] empower individuals to make informed choices about how to maintain the essential balance between energy intake (calories consumed as food) and energy expenditure (calories burned in physical activity)."[1] Coca-Cola states, "we have launched new broad-based physical and nutrition education programs that reach even the least athletic students."[2] PepsiCo says, "we can play an important role in helping kids lead healthier lives by offering healthy product choices in schools, by developing healthy products that appeal to kids and by promoting programs that encourage kids to lead active lives."[3] Kraft says, "helping children and their families make heal thy food choices while encouraging physical activity has become part of how Kraft gives back to communities."[4] In light of such statements, should the food industry be welcomed as a constructive partner in the campaign against obesity?

The Dark Side of the Food Industry

Simon[5] examined food corporation practices in the United States, especially with regard to school nutrition, and concluded that companies "lobby vociferously against policies to improve children's health; make misleading statements and misrepresent their policies at government meetings and in other public venues; and make public promises of corporate responsibility that sound good, but in reality amount to no more than [public relations]." At the request of the World Health Organization, Lewin et al[6] compared the promises and actual practices of 2 leading food companies in the United States, documenting systematic discrepancies. Despite claims to the contrary, McDonald's at least up to 2005 continued to use *trans* fats in cooking oil (and was required to pay settlement costs for deceptive advertising); to market unhealthful products to children with toys, games, movie tie-ins, and trips to Disney World; and to promote supersized versions of Happy Meals.[6] Kraft, the second com-

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pany studied, remained heavily engaged in the marketing of unhealthful products to children despite promises to fight childhood obesity announced with great fanfare in 2003.[6]

The activities of the industry-sponsored group, Center for Consumer Freedom (CCF), merit particular attention. With an annual budget exceeding $3 million, the CCF lobbies aggressively against obesity-related public health campaigns, legislation to regulate marketing of junk food to children, and scientists who advocate for healthier diets. The CCF boasts that "[our] strategy is to shoot the messenger . . . We've got to attack [activists'] credibility as spokespersons."[7] According to the Center for Media and Democracy, the CCF is funded primarily through undisclosed donations from companies such as Coca-Cola, Cargill, Tyson Foods, and Wendy's,[8] allowing them to support unsavory lobbying practices while claiming to be responsible corporate citizens. Is the food industry simply not to be trusted?

An Irreconcilable Conflict

In a Western-style capitalistic economy, food corporations, like all corporations, must make the financial return to stockholders their first priority. Wall Street places corporations under great pressure not only to be profitable, but also to meet quarterly growth targets. But the food market in the United States is mature; it provides about 3900 kcal per capita each day, roughly twice the population's energy needs. To expand profits in this environment, food companies have only 2 options: convince customers to eat more (contributing directly to obesity) or increase profit margins, especially by marketing reformulated or repackaged products (an indirect contribution).

Nutritional experts generally agree that diets based predominantly on relatively unprocessed vegetables, fruits, and grains support good health. Although minimally processed foods protect against obesity and related diseases by virtue of their rich nutrient content and satiating properties, they have low profit margins. Far greater profits come from highly processed, commodity-derived products—fast food, snack foods, and beverages—primarily composed of refined starch, concentrated sugars, and low-quality fats. These already inexpensive products are made even more inexpensive by massive agricultural subsidies. Research links frequent consumption of highly processed foods to weight gain and increased risk for diet-related diseases.[9] The inverse relationship of processing to nutritional quality is illustrated by the progressive decline in the satiating value of apple-containing foods, from the whole fruit to applesauce to apple juice,[10] as profitability increases. Even though fast-food companies may offer healthier items, most of their profits come from french fries and soft drinks, explaining why fruit seldom appears in their advertisements.

Thus, food industry strategies to increase revenues typically depend on "eat more" campaigns designed to promote larger portions, frequent snacking, and the normalization of sweets, soft drinks, snacks, and fast food as daily fare. Advice to eat less often, eat foods in smaller portions, and avoid high-calorie foods of low-nutritional quality undermines the fundamental business model of many companies.

Pitfalls of the Collaborative Approach

The food industry, considered a stakeholder in the campaign against obesity, is actively encouraged to participate in government-sponsored workshops, contribute to the formulation of national nutritional policy, affiliate with government-sponsored initiatives, and partner with scientists and professional associations. Moreover, the industry has been asked to establish voluntary codes of conduct for nutritional quality and marketing practices, sometimes in cooperation with public health organizations. However, this collaborative approach seems better suited to the interests of industry than to those of the public.

To demonstrate concern about childhood obesity, food companies tout their efforts to promote sports in schools or youth organizations. For example, PepsiCo will donate $11.6 million over 5 years to the YMCA to support, among other events, an annual community day "to celebrate healthy living, encourage kids and families to get excited about physical fun and activity and . . . engage kids in play to be healthy."[11] This focus on physical activity, characteristically without commensurate attention to diet quality, appears disingenuous. A child can easily consume more calories from a soft drink than she would expend at a sports event sponsored by a beverage company.

The food industry, with its enormous financial resources, has an especially insidious influence on the conduct of research and development of public health policy. Lesser et al[12] analyzed 206 scientific articles published over a 5-year period that addressed the health effects of milk, fruit juices, and soft drinks. The likelihood of a conclusion favorable to the industry was 4-fold to 8-fold higher if the study received full rather than no industry funding, raising the possibility of systematic bias. Food companies also donate large sums of money to professional associations. In return for a donation to the American Dietetic Association (ADA), Coca-Cola becomes an ADA partner and receives "a national platform via ADA events and programs with prominent access to key influencers, thought leaders, and decision makers in the food and nutrition marketplace."[13] Some professional associations continue to accept fees to endorse sugary breakfast cereals and processed snack foods, even though this practice was considered potentially deceptive by state attorneys general nearly a decade ago.[14]

Although companies sometimes volunteer to establish nutritional standards or limit unfair marketing practices, such actions appear to have dubious public health benefit. In 2006, the American Heart Association and the William J. Clinton Foundation brokered an agreement with Coca-Cola, PepsiCo, and Cadbury Schweppes to remove sugary drinks from schools. From the start, public health experts expressed con-

cern that the agreement made too many concessions to the companies and would undermine efforts to enact meaningful government regulations. Subsequent modifications to the agreement reintroduced caloric beverages—such as sugary vitamin waters and sports drinks—into schools, thereby limiting the initiative's effectiveness.[15]

An Appropriate Division of Responsibilities

In a market-driven economy, the manufacturer is free to sell poor-quality products and the customer is free to reject them. This supply-and-demand principle works well for many consumer goods, but not those that affect health, safety, or the greater social good. Like food products, cars have benefits and risks to individuals and society. The government imposes regulations, mandates, taxes, and incentives to encourage production of safer and less polluting vehicles. An informed public willingly pays more for such cars, and concerns for higher gasoline prices and climate change stimulate their sales. Society does not expect car companies to police themselves, nor allow them to market unsafe cars in exchange for initiatives to reduce accidental injuries from other causes.

Modifiable dietary factors cause substantially more illness and death than automobile crashes. Left unchecked, the economic costs associated with obesity alone will affect the competitiveness of the US economy. Therefore, it is imperative to clarify the appropriate role of the food industry in relationship to other key segments of society.

The government's role is to regulate by establishing rigorous standards for nutrition at school (US Department of Agriculture), banning food marketing targeted to children (US Federal Trade Commission), and forbidding unsubstantiated health claims on food labels (US Food and Drug Administration). If commercials for erectile dysfunction medication must mention rare complications like prolonged erection, it seems that commercials for fast food should be required to warn about the likely consequences of consuming partially hydrogenated fat and too much sugar. The government also must ensure that nutritional policies are based on solid science, rather than special interests. Congress should mandate greater funding of nutritional research to help counter the influence of industry money; consider placing responsibility for dietary guidance with an independent body such as the Institute of Medicine; structure agricultural subsidies to support public health, not commodity producers; and reform campaign finance laws to prevent corporate political donations from leveraging the legislative process.

Academia's role is to investigate by rigorous scientific investigation of nutrition and health. To minimize the corrosive effects of financial conflicts of interest, universities should institute systems to ensure independent review of industry-sponsored research, including critical oversight of hypotheses, design, data collection, data analysis, interpretation, and decisions to publish.

Public health organizations' role is to educate so professional health associations must avoid partnerships, product endorsement fees, or other financial ties with industry that compromise their independence and public credibility. Advocacy groups should broker industry agreements only with broad-based support from the public health community.

The public's role is to dictate, with the fork, by making informed food purchases, and with the ballot, by electing politicians committed to enlightened government action in the area of nutrition and health.

Industry's role is to innovate. Corporations must be able to make a profit. However, the prevailing approach encourages lowest common denominator practices; if one company advertises to young children, other companies would be at a competitive disadvantage if they adhered to ethical marketing standards. By establishing clear rules of conduct—leveling the playing field upon which all companies compete—society can free the industry to focus on what it does best: finding creative ways to satisfy consumer needs, in this case making healthful food economical, convenient, and tasty.

Conclusion

With respect to obesity, the food industry has acted at times constructively, at times outrageously. But inferences from any one action miss a fundamental point: in a market-driven economy, industry tends to act opportunistically in the interests of maximizing profit. Problems arise when society fails to perceive this situation accurately. While visionary CEOs and enlightened food company cultures may exist, society cannot depend on them to address obesity voluntarily, any more than it can base national strategies to reduce highway fatalities and global warming solely on the goodwill of the automobile industry. Rather, appropriate checks and balances are needed to align the financial interests of the food industry with the goals of public health.

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Transforming Research Strategies for Understanding and Preventing Obesity

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CURRENTLY, ONE-THIRD OF CHILDREN AND TWO-thirds of adults in the United States are overweight or obese; this trend has persisted for the last decade and shows no sign of abatement.[1,2] Obesity tracks from childhood into adulthood, with unfolding and serious medical and economic consequences throughout the life course. One recent estimate suggests that if the current trend continues, obesity will account for more than $860 billion, or more than 16%, of health care expenditures in the United States by 2030.[3] The need to find effective population-level obesity prevention strategies is among the most profound challenges in public health. Altering fundamental behaviors that govern energy balance is impossible when behaviors related to eating and physical activity are treated in isolation from the broader social, physical, economic, and policy context. Although energy consumption and energy expenditure may be at the core of the energy balance equation, obesity is, in fact, a medical manifestation of the complex interplay of biology and social change. However, the majority of research on obesity prevention has ignored larger changes in the social, physical, economic, and policy environments that doubtless are involved. Instead, most prevention efforts to date have focused on individually targeted strategies such as health education and behavioral skills training that turn out to be largely ineffective and unsustainable. The time is now ripe, and more urgent than ever, to implement a new, multilevel approach to understanding the basis of the obesity epidemic and how to reverse it.

Toward a Multilevel Obesity Research Strategy

A multilevel research approach for obesity prevention frames obesity as a complex systems problem, for which food and physical activity behaviors are not only a matter of individual choice but also strongly influenced by multiple levels of socioenvironmental risks, ie, interpersonal level (family, peers, and social networks), community level (schools, worksites, institutions), and governmental level (local, state, national policies), as well as by the interaction with biological processes (from genes and molecular and cellular processes to organ systems).[4]

By evolutionary advantage, the human body has a powerful defense mechanism against undernutrition in conditions of scarcity. However, that same evolutionary advantage (the capacity to store excess energy as fat) has not equipped humans for life in an *obesogenic* environment. At the interpersonal level, this obesogenic environment may include highly permissive or controlled child feeding styles, family demands that are stressful and time constraining, or unhealthful social norms of diet and physical activity. At the community level, unhealthy foods sold through school, worksite, hospital, and other institutional cafeterias and vending machines contribute to poor diets. The lack of physical education in schools or time and opportunity for leisure exercise elsewhere contributes to sedentary behavior. At the governmental level, policies regarding food, agriculture, education, transportation, urban design, marketing, and trade all play a role in increasing the accessibility and availability of high-fat and high-sugar foods vs fresh fruits and vegetables and in decreasing opportunities for physical activity. The lack of access to preventive care is also a major concern. Historical US policies that led to social inequality and segregation have, in turn, resulted in inequalities in the built environment, leading to disproportionate rates of obesity among the poor and minorities.[5]

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