When science met the consumer: the role of industry1–4

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ABSTRACT
The Coca-Cola Company is committed to understanding consumers and providing solutions to help them live active and healthy lifestyles. The Coca-Cola Company has developed a wide range of innovative beverages that can be incorporated into a healthy diet. Product offerings include beverages with fewer calories, smaller package sizes, and expanded beverage fortification options. In addition, the company has policies in place that responsibly address advertising to children and guidelines for selling beverages to schools. Nutrition education messages continue to be delivered through the Internet and on product packaging while physical activity initiatives are promoted in schools and communities. The most recent initiative has been the creation of The Beverage Institute for Health & Wellness. This institute comprises nutritionists, food scientists, physicians, and communicators and has been established with the holistic goal of providing people all over the world with a wide range of healthy beverages options. The institute supports scientific research and consumer education that focuses on the role of beverages in a healthy lifestyle. Current projects of the institute include the role of hydration in health and performance, alternative beverage sweeteners, capturing the natural goodness of fruits and vegetables for beverage use, and appropriate beverage fortification. Am J Clin Nutr 2005;82(suppl):256S–8S.

KEY WORDS The Beverage Institute for Health & Wellness, consumers, food industry, obesity, healthy lifestyle choices, marketing

INTRODUCTION
Consumers often struggle with making the right diet choices for themselves and their families while balancing an occasional indulgence in their favorite foods. The food and beverage industry can play a positive role in helping people make smart choices by providing broader selections of products, smaller packaging sizes, and product nutrition information on packaging. By providing information on the wider subject of healthy lifestyle choices, to include food and beverage choices, and by promoting physical activity, the food and beverage industry can help people make healthier choices.

As a marketing company, The Coca-Cola Company spends a great deal of time understanding consumer needs on such issues. Based on these insights, The Coca-Cola Company is addressing these consumer needs through four primary avenues: 1) product innovation to provide more beverage choices and variety; 2) programs and policies, particularly in the schools; 3) physical activity, nutrition, and lifestyle education programs; and 4) a science-based Beverage Institute for Health & Wellness.

PRODUCT INNOVATION
One focus of Coca-Cola’s product innovation efforts is to provide lower-calorie products, smaller package sizes, and beverage fortification. The Company’s global beverage portfolio, of \( \approx \)400 brands, comprises soft drinks, diet soft drinks, juices, juice drinks, sports beverages, waters, teas, coffees, milk-based drinks, and fortified beverages (1).

In the lower-calorie beverage category, the company has built on its success with Diet Coke, the third largest-selling soft drink in the world (2). The Company has introduced several new flavors of this well-known diet soft drink, as well as fruit juice-based drinks such as Minute Maid Light Lemonade, in bottles and cans, with only 5 cal per 8 fl ounce serving. Furthermore, the Company has made regular soft drinks available in 8 oz cans, providing a way for consumers to enjoy a soda but in a more limited portion size.

The company also has been involved in a substantial amount of innovation in beverage fortification. Orange juice, in particular, has proven to be an excellent vehicle for delivering fortification because it is so frequently consumed. The company introduced Minute Maid Premium orange juice fortified with calcium in 1986. More recently, using the National Health and Nutrition Examination Survey (NHANES III, 1988–1994) and Continuing Survey of Food Intakes by Individuals (CSFII 1994–1996, 1998), the Company worked with ENVIRON Health Sciences Institute to create a vitamin D database to estimate mean intakes of the entire United States population (3). A significant gap in the intake of vitamin D compared with recommended levels was identified. Because vitamin D is a fat-soluble vitamin, it was thought that only beverages containing fat could be fortified with vitamin D. Because vitamin D plays an important role in increasing calcium absorption, a study was undertaken to assess whether or not vitamin D would be bioavailable when added to calcium-fortified orange juice (4). Findings indicated that vitamin D was bioavailable, and the company submitted a food additive petition to the Food and Drug Administration (FDA) to change regulations to allow for the addition of vitamin D to calcium-fortified juices and juice drinks (5). In 2003, the

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FDA approved the food additive petition, and Minute Maid Premium orange juice fortified with calcium plus vitamin D was launched. Continuing the effort to explore ways to enhance calcium absorption, the company participated in a clinical trial designed to investigate the possible benefit of inulin-type fructans on increasing calcium absorption from fortified orange juice in pubertal adolescents. Results indicated that inulin-type fructans significantly increased calcium absorption and enhanced bone mineralization during pubertal growth (6).

The Coca-Cola Company distributes beverages in almost 200 countries that include both developed and developing markets. Recognizing that micronutrient malnutrition is an important health concern in many developing countries, the company undertook a study in Botswana to determine whether a micronutrient beverage containing 12 essential vitamins and minerals could improve nutrition status in children who were at risk for micronutrient deficiency. Findings demonstrated significant improvements in iron, zinc, folate, and riboflavin status (7). A follow-up study in Peru demonstrated that both iron and zinc in the micronutrient beverage were also bioavailable when given with a meal (8). Since efficacy and bioavailability had been confirmed, the company introduced Vitingo in South Africa in 2002 to provide consumers with an affordable beverage to address common micronutrient deficiencies.

In 2004, the company introduced Minute Maid Premium Heart Wise orange juice with plant sterols, which, through a clinical study, was proven to lower LDL cholesterol. Study participants with normal to borderline high cholesterol levels significantly lowered their LDL cholesterol 12.4% by drinking two 8 fl oz (240 mL) servings of Minute Maid Premium Heart Wise orange juice per day with meals for 8 wk (9). To educate consumers regarding the benefits of plant sterols, Minute Maid Heart Wise packaging used the FDA-approved health claim that “foods containing at least 0.4 g per serving of plant sterols, consumed twice a day with meals for a daily total intake of at least 0.8 g, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease” (10). A serving of Minute Maid Heart Wise contains 1 g of plant sterols per 8 fl oz (240 mL) serving.

PROGRAMS AND POLICIES

The Coca-Cola Company and its bottlers collaborated with leaders from major educational organizations to develop a set of guidelines for selling beverages to schools. These guidelines cover numerous aspects of school contracts, such as appropriate product mix availability in vending machines and appropriate branding in the school environment. The company has recommended that carbonated soft drinks not be available to elementary school children during the school day and has made timers available so that schools can control the availability of beverages to students at appropriate times. In middle and high schools when carbonated soft drinks are made available, a full array of other products also must be available, such as juices, water, and sports beverages. Ultimately, the decision as to which Coca-Cola beverages to offer and when is determined by local school boards, teachers, and parents acting within Federal guidelines. The Company respects the classroom as a commercial-free zone. Company logos and other marketing graphics are not permitted on textbooks, curriculum materials, or book covers. Venues that are appropriate for product logos include scoreboards, menu boards, coolers, student publications, and materials to promote educational activities, health wellness and nutrition education, extracurricular activities, physical activity, and athletic events. These are but a few examples of the company’s interest and intent to work in concert with the education community, at both a national and local level.

The company continues to respect the authority of parents and caregivers to make choices for their children. Recently, The Coca-Cola Company reaffirmed its 50-y-old policy regarding marketing carbonated soft drinks directly to children under 12. For example, the company does not place advertising for any brands during Saturday morning or after-school television, in print media primarily directed to younger children, or in venues frequented primarily by unsupervised children.

PHYSICAL ACTIVITY AND NUTRITION EDUCATION

The Coca-Cola Company and almost 80 Coca-Cola bottlers nationwide also support school and community physical activity programs in their local regions. The company sponsors national programs such as Step With It! in middle schools. Step With It! provides stepometers to students in middle schools to encourage them to get more active as part of an overall healthy, active lifestyle. By the end of 2004, this interactive program reached one million students and educators. In 2005, the Step With It! program will be expanded to include both a physical activity and a nutrition-education component.

The company also has implemented a highly successful community-based youth soccer program called Copa Coca-Cola for boys and girls throughout the Americas and Europe. In 2004, =10 000 teams and >600 000 student athletes participated in the youth soccer program. Copa Coca-Cola originated in Mexico, and the program helps to promote the need for physical activity outside the school grounds. The company also has supported the Tiger Woods Foundation in a program that brings golf clinics to inner city youths who otherwise might not be exposed to golf. Recently, the company made a multiyear commitment to the Boys & Girls Clubs of America to sponsor a new program called Triple Play in conjunction with Kraft Foods and the US Department of Health and Human Services, which includes physical activity, nutrition education, and life skills for youths.

The Coca-Cola Company continues to participate in many clinical studies in the area of nutrition and physical activity. The company helped sponsor the Beat Osteoporosis Nourish and Exercise Skeleton (BONES) nutrition and exercise intervention program conducted by Tufts University. Minute Maid calcium-fortified juices were provided to 1470 children aged 6–9 y who participated in after-school programs for a period of 25 wk. Preliminary results indicated that fortified juices contributed significantly to the increased calcium of 1191 mg/wk (11).

The company also has a longstanding interest in the ability of beverages to provide hydration, during both physical activity and normal activities of daily living. Research supported by the company helped demonstrate that carbonated soft drinks with and without caffeine can contribute to the hydration needs of healthy adult males (12). These findings were cited in the Institute of Medicine’s Dietary Reference Intake recommendations for water and helped support the final conclusion that caffeinated beverages appear to contribute to the daily total water intake, similar to that contributed by noncaffeinated beverages (13).
The company continues to use the Internet as a great platform for physical and nutrition education. The company has long supported www.kidnetic.com, a site designed for kids to promote physical fitness and activity. For several years, the company sponsored www.MayoClinic.com and has included health tips from the site on millions of cartons of Minute Maid Premium orange juice products. This collaboration has been an excellent means for delivering health and nutrition messages to consumers in the comfort of their own kitchen.

THE BEVERAGE INSTITUTE FOR HEALTH & WELLNESS

One of the company’s most recent initiatives was the creation of The Beverage Institute for Health & Wellness. The goal of the institute is to help people all over the world by providing a wide range of healthy beverages options. This organization, comprising nutritionists, food scientists, physicians, and health communicators, is funded and operated by The Coca-Cola Company. The institute has a global focus, revolving around health and nutrition. The institute continues to identify insufficient nutrient intakes in various populations, in different parts of the world, and continues to conduct clinical work to study how beverages may play a role in filling those nutrient intake gaps. The results of the clinical work, typically conducted at independent universities and institutions, helps to support the future development and the ultimate launch of new beverages.

The institute is served by an international advisory council made up of global thought leaders with expertise in several areas that include nutrition, medicine, exercise physiology, consumer research, culinary arts, and retailing. The advisors help to set research agendas and guide the scientific integrity of the work. Current primary areas of interest for the institute include expanding the universe of sweetener knowledge, increasing the understanding of the natural goodness of phytochemicals in fruits and vegetables that may have an application in beverages, advocating hydration as a key component of a healthy diet, expanding appropriate beverage fortification innovation, and demonstrating beverage efficacy through clinical trials.

The institute seeks to educate and inform consumers, health professionals, and media on topics relevant to beverages. In an effort to help increase the awareness of new research on vitamin D and health, in 2003, the company helped sponsor a National Institute of Health conference on “Vitamin D and Health in the 21st Century”. The Beverage Institute for Health & Wellness contributed funds to help publish the conference proceedings (14). In 2004, the institute helped sponsor a symposium on vitamin D insufficiency as a significant risk factor in chronic diseases during Experimental Biology meetings in Washington DC. Again, the Institute helped publish the vitamin D symposium proceedings (15).

CONCLUSION

The Coca-Cola Company is taking a proactive role by creating a new frontier of products by launching innovative new beverage choices, introducing new programs to help consumers navigate their way through the health and diet landscape, and establishing the science-based Beverage Institute for Health & Wellness. Research findings and health-promotion activities, conducted by The Beverage Institute for Health & Wellness, are now available at www.thebeverageinstitute.org. We believe these efforts are steps in the right direction toward helping consumers lead healthier lives.

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REFERENCES