FDA Seeks Public Comment on Food Facility Registration

The Food and Drug Administration (FDA) has requested public comments on the information collection provisions of regulations that “require registration for domestic and foreign facilities that manufacture, process, pack, or hold food for human or animal consumption in the United States.”

According to FDA, the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 requires food facilities to provide information via Form FDA 3537 (§1.231) or the electronic Food Facility Registration Module that will support FDA’s enforcement activities and help the agency issue notifications in the event of accidental or deliberate contamination. In 2011, the Food Safety Modernization Act amended these regulations to compel facilities to renew their registrations biennially and to submit additional information, such as “the email address for the contact person of a domestic facility and the email address of the U.S. agent for a foreign facility.”

Based on the registrations received in previous years, FDA has estimated that (i) the annual number of new domestic facility registrations will be 11,080, requiring a burden of approximately 2.7 hours per average domestic facility registration; (ii) the annual number of new foreign facility registrations will be 19,900, requiring a burden of approximately 8.9 hours per average foreign domestic facility registration; (iii) the average number of registration updates will remain unchanged at 118,530 updates annually over the next 3 years, requiring a burden of approximately 1.2 hours per average facility; and (iv) the average number of registration cancellations will remain unchanged at 6,390 cancellations over the next 3 years. The agency has also estimated that the new biennial registration required by FSMA “will require 30 minutes (0.5 hour) per response,” with 224,930 biennial registrations submitted over the next 3 years on an annualized basis. FDA will accept comments on the proposed information collection by March 25, 2013. See Federal Register, January 22, 2013.
Standards for Oils Target of Upcoming Codex Meeting

The U.S. Department of Agriculture’s Food Safety and Inspection Service and the Food and Drug Administration have announced a February 5, 2013, public meeting in Washington, D.C., to provide information and receive public comments on draft U.S. positions for discussion during the 23rd Session of the Codex Committee on Fats and Oils of the Codex Alimentarius Commission in Langkawi, Malaysia, on February 25-March 1, 2013.

Agenda items include a proposed draft standard for fish oils, proposed draft amendment to parameters for rice bran oil in the standard for named vegetable oils, discussion paper on the revision of the limit for campesterol in the Codex standard for olive oils and olive pomace oils, and discussion paper on cold-pressed oils. See Federal Register, January 23, 2013.

FSA to Prosecute Retailer over Raw-Milk Vending Machines

The U.K. Food Standards Agency (FSA) will reportedly prosecute a department store for installing raw-milk vending machines at its flagship London location. According to a January 23, 2013, FSA press release, the agency has sought charges against Selfridges Retail Limited as “a person other than the occupier of a production holding or distributor” under Regulation 32 and Schedule 6 Paragraph (2)(1) of the Food Hygiene (England) Regulations. FSA has also included the farmer who supplied the milk as “an occupier of a production holding” under Regulation 32 and Schedule 6(2)(2). Westminster Magistrates Court has set the hearing date for February 6, 2013.

The vending machines reportedly came to FSA’s attention in 2011, when the agency initiated an investigation of the retailer and demanded that the unpasteurized milk products carry a warning label. Under current regulations, farmers in England, Wales and Northern Ireland can sell raw cow’s milk directly to consumers at farms or farmers’ markets, although all such sales are banned in Scotland. “We have always supported unique products like raw milk,” one Selfridges spokesperson was quoted as saying. “We see ourselves, like many farmers’ markets, as a platform to launch a variety of choice for our customers to enjoy.” See The Guardian, January 23, 2013.

Cal/EPA Intends to List BPA as Reproductive Toxicant Under Prop. 65

California EPA’s Office of Environmental Health Hazard Assessment (OEHHA) has issued a notice of its intent to list the chemical bisphenol A (BPA) as a reproductive toxicant under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop. 65). The agency has proposed the action “under the authoritative bodies listing mechanism,” noting that the National Toxicology Program—Center for the Evaluation of Risks to Human Reproduction published a report in 2008 concluding that “the chemical causes develop-
mental toxicity in laboratory animals at high levels of exposure." Comments are requested by February 25, 2013.

OEHHA has also proposed adopting a maximum allowable dose level (MADL) for BPA of 290 micrograms per day. Comments on this proposal are requested no later than March 11, 2013. According to the agency, “Some businesses may not be able to afford the expense of establishing a MADL and therefore may have to defend litigation for a failure to warn or for a prohibited discharge of the listed chemical. Adopting this regulation will save these businesses those expenses and may reduce litigation costs.”

BPA is primarily used in the production of polycarbonate plastics and epoxy resins for food and drink packaging, including cans and food storage containers, water bottles and baby bottles. It is also found on cash register receipts. See OEHHA Notice, January 25, 2013.

Proposed Ordinance in Chicago Would Ban Energy Drinks

Chicago Alderman Edward Burke (14) has introduced a proposed ordinance that would prohibit the distribution of energy drinks in the city. Citing the popularity of the drinks among teenagers and young adults and the dangers they purportedly pose to health, the ordinance defines “energy drink" as “a canned or bottled beverage which contains an amount of caffeine exceeding or equal to 180 milligrams per container and containing Taurine (2-aminoethanesulfonic acid) or Guarana." The proposed ordinance also states that those violating the ordinance would face fines of $100 to $500 per offense with a mandatory revocation or suspension of business licenses for repeat offenders. Some legal commentators and critics reportedly claim that the proposed ban is rife with legal flaws and misrepresentations about the law regarding energy drinks and that the ambiguity surrounding the regulation of these products needs to be addressed. The proposal was assigned to the City Council Committee on Health and Environmental Protection. See Chicago Sun-Times, January 17, 2013.

LITIGATION

Lawsuits in Illinois and New Jersey Challenge Subway “Footlong” Claims

As consumers around the world have begun posting images online of their Subway “footlong” sandwiches with rulers showing that the restaurant’s offerings are actually 11 or 11.5 inches in length, several have taken their claims to court. Buren v. Doctor's Assocs., Inc., No. 13-498 (U.S. Dist. Ct., N.D. Ill., filed January 22, 2013); Pendrak v. Subway Sandwich Shops, Inc., No. n/a (N.J. Super. Ct., filed January 22, 2013).
Plaintiff Nguyen Buren filed his lawsuit in a federal court in Chicago, claiming that his sandwich was less than 11 inches long and alleging a “pattern of fraudulent, deceptive and otherwise improper advertising, sales and marketing practices.” New Jersey residents John Farley and Charles Pendrak allege in state court, “Despite the repeated use of uniform language by Subway stating that this sandwich is a ‘footlong,’ the product in question is not, in fact, a foot long. Rather this product consistently measures significantly less than 12 inches in length.” Both cases seek class certification.

The attorney representing the New Jersey plaintiffs said, “Subway is profiting hundred[s] of thousands and potentially millions of dollars at consumers’ expense through mass uniform widespread misrepresentation about the size of its ‘Footlong.’ It is important that large companies like Subway promote and advertise their products accurately and deliver what they promise to consumers.” According to a news source, the company issued a statement indicating that it has “redoubled” efforts “to ensure consistency and correct length in every sandwich we serve,” but that it otherwise produces 12-inch sandwiches in its shops around the world. Subway has reportedly sued other food chains to protect the “footlong” mark, which was actually rejected by the U.S. Patent and Trademark Office as descriptive and generic. See Shabel & Denittis, P.C. News Release, January 22, 2013; Law360, January 23, 2013; Chicago Tribune, January 24, 2013.

NAACP New York Branch Joins Others to Oppose NYC Soft Drink Size Limits

The NAACP’s New York state branch and the Hispanic Federation have joined those arguing in court that New York City’s restrictions on the size of sugary beverages sold by certain vendors, such as corner stores and delis, should not take effect on March 12, 2013. During the January 23 hearing, opponents, including several City Council members, apparently argued that the rule should have been adopted by the elected City Council rather than the mayor’s appointed health board and that it was too narrow, exempting certain other types of beverages and excluding convenience stores and supermarkets, to be fair.

The American Beverage Association and groups including movie theater owners and Korean grocers were expected to oppose the rule, but the issue is reportedly complex for minority advocates in light of high obesity rates in the African-American and Hispanic communities. Still, these groups claimed in an amicus brief that the rule will unduly harm minority business owners and infringe “freedom of choice in low-income communities.” Arguing that the city should focus on enhancing physical education in the schools, the NAACP brief states, “This sweeping regulation will no doubt burden and disproportionately impact minority-owned businesses at a time when these businesses can least afford it.” See Associated Press, January 23, 2013.
Insurance Company Disputes Obligation to Provide Diacetyl Damages or Defense

A company that issued Citrus and Allied Essences Ltd. a commercial umbrella insurance policy in 2006 and 2007 has filed suit in a New York state court seeking a declaration that it is not obligated to defend the food-flavoring company in suits by those alleging respiratory injury from diacetyl exposure or to pay damages. *Cont’l Cas. Co. v. Citrus & Allied Essences Ltd.*, No. 650158/2013 (N.Y. Sup. Ct., N.Y. Cnty., filed January 17, 2013). According to the complaint, Citrus and its other insurers have claimed that the primary insurance policies for those years have been exhausted by settlements with plaintiffs in the underlying lawsuits. According to the umbrella insurer, however, because the bodily injury did not take place during the policy period, those other policies have not been exhausted. The insurance plaintiff also seeks to recover the amount it paid under a reservation of rights to cover a “shortfall” to one of the settling plaintiffs in the underlying litigation.

McDonald’s Settles Alleged Halal Fraud Lawsuit

McDonald’s Corp. and a franchisee that owns a Dearborn, Michigan, restaurant which purported to sell halal chicken products have agreed to settle complaints that some of the products sold to consumers were not prepared according to Islamic law. *Ahmed v. Finley’s Mgmt. Co.*, No. 11-014559-CZ (Wayne Cnty. Cir. Ct., Mich., hearing held January 18, 2013). While denying any liability, the defendants will post notices about the settlement in two area restaurants, at area mosques and in several other locations. The settlement amount is $700,000, including attorney’s fees and an incentive award for the plaintiff. The net proceeds will be distributed to a health clinic and to the Arab American National Museum in Dearborn. According to plaintiff’s counsel, “McDonald’s from the very beginning stepped up and took this case very seriously. They made it clear they wanted to resolve this. They got ahead of the problem.” See *The Washington Post*, January 21, 2013.

EU General Court Decides Trademark Dispute in Favor of Anheuser-Busch

In a long-running dispute between Anheuser-Busch LLC and Budějovický Budvar, národni podnik, the European Union’s (EU’s) General Court has determined that a Czech brewery cannot stop the St. Louis-based company from using the “Bud” mark in a number of EU member nations. *Budějovický Budvar, národni podnik v. Anheuser-Busch LLC*, Nos. T-225/06 RENV, T-255/06 RENV, T-257/06 RENV, & T-309/06 RENV (Gen. Ct., decided January 22, 2013). The matter was before the court on remand from the Court of Justice. The court found that the Czech brewery’s evidence of sales in France and Austria were so small that the company could not show “trade of a sign of more than mere local significance.” The parties were ordered to pay their own costs.
Dietician Organization Riddled with “Big Food” Support, New Report Alleges

Food activist and attorney Michele Simon has issued a report that explores the relationship between the Academy of Nutrition and Dietetics (AND) and corporations such as Kellogg, General Mills, PepsiCo, and Nestlé that make what Simon characterizes as unhealthy food and beverages. Titled “And Now a Word From Our Sponsors: Are America’s Nutrition Professionals in the Pocket of Big Food?,” the January 2013 report examines the level of financial support provided to AND by the largest U.S. food manufacturers since 2001.

According to Simon, the companies provide numerous speakers for courses needed by dieticians to maintain their professional credentials as well as sponsorships for AND’s meetings, while taking up the most prominent and significant amount of floor space during AND’s annual meeting expo. The report includes a first-person account of Simon’s attendance at one of these meetings, including her dismay that other conference attendees (i) willingly accepted food samples from “Big Food,” and (ii) listened to industry representatives without an appropriate level of skepticism or disbelief. Conference programs do not apparently include conspicuous disclosure of speaker affiliations, something Simon calls for the organization to address.

Simon also complains that the organization is awash with unspent cash and strong investment reserves that could allow it to replace corporate sponsorships. The report states that “corporate contributions were the single largest source of revenue in 2011: $1.3 million out of a total of $3.5 million or 38 percent.” Simon contends that all of this money buys influence over organization policy.

She argues that AND’s public policy priorities for the next five years “are either internal to the profession or fairly safe territory politically—nothing that might ruffle the feathers” of corporate sponsors. She cites just two instances where AND should have spoken out as a nutrition organization in the midst of “our nation’s chronic disease epidemic”: New York City’s establishment of soft-drink cup-size limits and California’s voter initiative on labeling genetically modified foods. According to Simon, AND’s call for an evaluation of the effectiveness of New York City’s action and its failure to take a stand in California other than to correct an out-of-date position paper on the topic used by opponents of the initiative suggest that corporate influence has played a role in AND’s positions.

Discussing a survey showing that some 80 percent of 3,000 AND members oppose corporate sponsorship, Simon recommends that the organization adopt greater transparency, request input from membership, adopt meaningful sponsorship guidelines, reject corporate-sponsored education, and increase leadership on nutrition policy. Simon is the author of Appetite for Profit: How the Food Industry Undermines Our Health and How to Fight Back.
New York Times food reporter Stephanie Strom, discussing the report in a January 22, 2013, column, states, “Questions about corporate influence have bedeviled the organization for years. In 2007, it revamped its corporate sponsor program to address concerns among its members.” She also observes that corporate sponsorships accounted for just 5 percent of the organization’s $34 million 2011 revenue, “down from 9 percent in each of the previous two years.” Center for Science in the Public Interest Director of Nutrition Policy Margo Wootan is quoted as saying, “Ten years ago, the academy was really very closely tied to the food and beverage industry. But they really have cleaned up their act.”

Hastings Center Scholar Calls for Shaming the Obese to Address Epidemic

In a paper titled “Obesity: Chasing an Elusive Epidemic,” Hastings Center Scholar and President Emeritus Daniel Callahan calls for a combination of measures to stop what he calls “the most difficult and elusive public health problem this country has ever encountered.” Contending that current initiatives have failed to stem the tide, Callahan includes “social pressure on the overweight” as a promising tactic. He apparently attributes his success in quitting smoking to “being shamed and beat upon socially” and thus believes that stigmatization will help people “strongly want to avoid being overweight.”

The paper also recommends taxes on sugared drinks and unhealthy processed foods, youth marketing bans, calorie postings in restaurants, and government subsidies for healthy foods to “make a significant difference” on the “supply side.” Callahan’s recommendation to the business community is to create wellness programs for employees while the second prong of his approach targets preventative strategies aimed at children, calling this “the real front line.” He states that “children can be cajoled into good eating and exercise habits, or forced into them if necessary.”

While he believes that most people who are already obese will not likely be helped by any measures, including shaming, Callahan wants to induce overweight people to ask themselves uncomfortable questions, including (i) “If you are overweight or obese, are you pleased with the way you look?”; and (ii) “Fair or not, do you know that many people look down upon those excessively overweight or obese, often in fact discriminating against them and making fun of them or calling them lazy and lacking in self-control?” According to Callahan, this will empower individuals, especially the large number “who are unaware that they are overweight. They need, to use an old phrase, a shock of recognition.”

Report Aims to Clear Up Confusion in the GMO Debate

The European biotech firm EuropaBio has published a new report titled “Science Not Fiction: Time to think again about GM” that provides an overview of the debate in Europe over genetically-modified organisms (GMOs).
The report urges Europeans to take a new look at evidence for GM safety, to confront some of the “misleading tactics” used by some anti-GM-science campaign groups and to “think again about GM and to discuss how Europe can play its part in reducing the immediate and future stresses facing our life support system—the food chain.”

According to a EuropaBio news release, the report “provides insights into the acceptance challenges of the past, the process of re-establishing ‘fact over fear,’ and the role of scientists, policymakers, the food chain, media and other stakeholders over the last 20 years.” Carel du Marchie Sarvaas, director of Agricultural Biotechnology at EuropaBio said, “The scientific consensus on GM crops is even greater than that for climate change. It is critical that we work to engage with the public to overcome any misunderstandings related to the technology. We need to help people understand how they and the environment can benefit from including GM in the European farmer’s agricultural toolkit. We share this responsibility with those food and feed companies whose products contain GM ingredients, and with national and European authorities who need to play a bigger role in public communications.”

“The amazing thing is that people harbour fears about GM crops, but don’t know why they have these opinions. By revisiting the origins of the debate we hope to enable people to review their perspectives in the light of what we know today,” du Marchie Sarvaas added. “By revisiting the origins of the debate we hope to enable people to review their perspectives in the light of what we know today.”

Among other things, the report notes that (i) Europe is becoming less and less self-sufficient in food production and therefore relies on Africa, Asia and America to meet its food needs, as well as draws on scarce local resources like fuel and water; (ii) GM crops could be one of the green solutions that help Europe meet its responsibility to produce more food for the rest of the world; (iii) if GM crops were grown in Europe today, the increase in production could be equal to the output from land the size of Belgium every year; and (iv) by increasing yields on existing farmland, GM crops could help to ease pressure on natural habitats.

**Australian Health Organizations Campaign Against Sugary Drinks**

Cancer Council, Diabetes Australia and the National Heart Foundation of Australia have issued recommendations about the sale and availability of sugar-sweetened beverages as well as launched a new public service announcement titled “Rethink Sugary Drinks.”

According to a January 17, 2013, press release, the three organizations “have called for immediate action by governments, schools and non-government organizations such as sport centers to tackle one of the key contributors to obesity in Australia—sugary drinks.”
In particular, the groups advocate (i) a government-sponsored social marketing campaign “to highlight the health impacts of sugar-sweetened beverages consumption and encourage people to reduce their consumption levels”; (ii) a Federal Department of Treasury and Finance investigation “into tax options to increase the price of sugar-sweetened beverages or sugar-sweetened soft drinks, with the aim of changing purchasing habits and achieving healthier diets”; (iii) government restrictions on the marketing of sugar-sweetened beverages to children, “including through schools and children’s sports, events and activities”; (iv) state government restrictions on sugar-sweetened beverage sales in all schools as well as places frequented by children, “with adequate resources to ensure effective implementation, monitoring and evaluation”; and (v) state and local government investigation “into the steps that may be taken to reduce the availability of sugar-sweetened beverages in workplaces, government institutions, health care settings and other public places.”

“Soft drinks seem innocuous and consumed occasionally they’re fine, but soft drink companies have made it so they’re seen as part of an everyday diet—there’s an entire aisle dedicated to them in the supermarket, most venues and workplaces have vending machines packed with them, they’re often cheaper than bottled water and are advertised relentlessly to teenagers,” said Cancer Council Australia’s Public Health Committee Chair Craig Sinclair. “But sugary drinks shouldn’t be part of a daily diet—many people would be surprised to know that a regular 600ml soft drink contains about 16 packs of sugar and that’s a lot of empty kilojoules. Yet they’re being consumed at levels that can lead to serious health issues for the population—it’s time to stop sugar-coating the facts.”

ISSN Takes Stand on Energy Drinks

The International Society of Sports Nutrition (ISSN) has issued a position statement on energy drinks (ED) and energy shots (ES), claiming that “given the number of servings of these products that are consumed daily, the rate of adverse events appears low in the population of consumers.” Bill Campell, et al., “International Society of Sports Nutrition position stand: energy drinks,” Journal of the International Society of Sports Nutrition, January 2013. After analyzing the scientific literature on this topic, ISSN found that “[a]lthough ED and ES contain a number of nutrients that are purported to affect mental and/or physical performance, the primarily ergogenic nutrients in most ED and ES appear to be carbohydrate and/or caffeine.” The society thus concluded that consuming low-calorie ED “10-60 minutes before exercise can improve mental focus, alertness, anaerobic performance, and/or endurance performance,” but cautioned that drinking higher-calorie ED during exercise may promote weight gain.
At the same time, however, the position statement identified the need for additional research to evaluate the “potential additive benefits of other nutrients contained in ED and ES.” It also warned that children and adolescents should use ED or ES only with parental approval and urged athletes to consider “the impact of ingesting high-glycemic load carbohydrates on metabolic health, blood glucose and insulin levels, as well as the effects of caffeine and other stimulants on motor skill performance.” In addition, ISSN has recommended that individuals with certain pre-existing conditions “avoid use of ED and/or ES unless approved by their physician.”

 “[T]he current evidence (although small) suggests that consumption of ED and ES are safe in healthy populations and similar to ingesting other foods and beverages containing caffeine,” concludes the position statement. “Additionally, since ED often contain several nutrients that contain caffeine and/or other stimulants, care should be taken to make sure an excessive number of ED are not consumed within a short period of time.”

**Organic Grocery Chain Bans Products with Cartoon Packaging**

In an effort to combat marketing to children, a Washington, D.C.-based organic grocer has stopped stocking products whose packaging features cartoon characters from books, movies and TV programs. According to a MOM’s Organic Market news release, products such as Dora the Explorer frozen soybeans will be replaced with alternatives in cartoon-free packaging.

“Marketing to children is wrong and should be illegal,” said MOM’s founder and CEO Scott Nash. “Advertising is a shady game. It focuses on creating a shallow emotional attachment instead of pointing out the merits of a product. Unfortunately, it works—and young children are particularly susceptible.”

“Using beloved media characters to sell kids on a particular brand of food is wrong, even if it’s healthy food,” said Susan Linn, Director of the Campaign for a Commercial Free Childhood. “Children should not be trained to pick foods based on the cartoon on the box. We congratulate MOM’s for taking this courageous stance on behalf of families and urge other companies to follow suit.” See **MOM’s Organic Market News Release**, January 15, 2013.

**SCIENTIFIC/TECHNICAL ITEMS**

**FDA Study Examines Nutrition Facts Labeling**

Food and Drug Administration (FDA) researchers recently published a study claiming that consumers found it easier to compare food items with single-serving or dual-column nutrition facts (NF) labels as opposed to the NF labels currently in use. Lando and Lo, “Single-Larger-Portion-Size and Dual-Column Nutrition Labeling May Help Consumers Make More Healthful Food Choices,”
Scientists with FDA’s Center for Food Safety and Applied Nutrition apparently asked 9,482 adults to determine the healthfulness of a single product or compare the nutrition information on two products using one of the following NF configurations: (i) a single-column format listing two servings per container; (ii) a dual-column format listing two servings per container, with one column showing NFs per serving and one column showing NFs per container; and (iii) a single-column format listing a larger single serving per container. Within each of these formats, “there were versions that enlarged the font size for ‘calories,’ removed ‘calories from fat,’ and changed the wording for serving size declaration.”

The survey results evidently suggested that “[f]or products that contain 2 servings but are customarily consumed at a single eating occasion, using a single-serving or dual-column labeling approach may help consumers make healthier food choices.” In particular, the study noted that in the single product task, “the only label format modification that appeared to consistently affect healthfulness ratings was the modification that defined the entire container as a single serving.” But when participants compared a more and less healthful version of the same product using the same label format, they were “very accurate in determining the healthier product and the one with fewer calories, regardless of the label format.” Moreover, when comparing products with different label formats, participants showed no performance differences but rated the task “easy” if they “could rely on the calorie declaration without considering the number of servings per container to derive the correct answer in all cases.”

“The main findings are that for single product evaluations, single serving per container labeling and dual-column formats generally performed better and scored higher on the label perception index than two servings, single-column formats, including the control label,” concluded the study’s authors. “Another main finding is that enlarging the font size for calories and removing ‘calories from fat’ did not independently affect label usability as measured in this study.”

**New Article Targets Food Addiction, Adolescent Obesity in Low- and Middle-Income Countries**

Focusing on recent research into food addiction, a review article published in the *Journal of Adolescent Health* discusses “the need for multilevel interventions that go beyond simple behavioral approaches” in low- and middle-income counties (LMICs) with increasing adolescent obesity rates. Albert Lee and Susannah Gibbs, “Neurobiology of Food Addiction and Adolescent Obesity Prevention in Low- and Middle-Income Countries,” *Journal of Adolescent Health*, January 2013. The article argues that “advances in the understanding of neurobiology may provide important guidance in shaping
how obesity is addressed in LMICs,” where changes in global food production have prompted many consumers to shift “from consuming meals prepared at home to consuming mass-produced processed foods that are high in sugar, salt, and artificial ingredients.”

Citing numerous studies that have investigated the neurobiology of food addiction and its alleged similarities to substance abuse, the authors ultimately credit the current body of literature with suggesting that “lifestyle- or willpower-based models of prevention and intervention may not be effective, particularly among adolescents, who may be at a higher risk than adults for developing food addictions,” in part because they are more sensitive to sweets and more likely to take risks than older consumers. To this end, the article recommends several concrete interventions that target both the community and the individual, such as “making unhealthy food a difficult choice” and “withdrawing rewards on excess time spent on… sedentary lifestyles and overconsumption of junk food.”

“Solutions to address obesity among adolescents in LMICs must approach this public health priority on a variety of levels from national policy to individual-level interventions and should take into account what is known about the neurobiology of food addiction,” write the authors. “Future research on adolescent obesity should be cross cutting, linking public health science and biomedical science with outcome measurements including neurobiological changes as well as behavioral and physiological changes.”