AN EDUCATIONAL APPROACH TO SCHOOL FOOD: USING NUTRITION STANDARDS TO PROMOTE HEALTHY DIETARY HABITS

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"*[S]chool ought to be [an] environment that is conducive to developing lifetime habits of good nutrition . . . .*"
– Dr. David Satcher, former U.S. Surgeon General[1]

I. INTRODUCTION

Reforming school food is a prominent issue on the nation's food policy agenda. A longstanding concern of reform advocates has been the abundance of foods that are high in sugar, fat, and salt.[2] These items—pizza, burgers, french fries, cakes, snack foods, soda, and candy—are sold in cafeterias, vending machines, and school stores.[3] In addition, students sell these foods to raise funds for extracurricular activities, parents provide them for in-class birthday parties, and teachers give them out as rewards.[4] Critics allege that overconsumption of these foods in school contributes to increasing rates of childhood obesity and type 2 diabetes and fosters bad dietary habits that increase the risk of health problems later in life, such as heart disease.[5]

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[1] Laura Pappano, *Biting Criticism: School Lunch Nutrition Called into Question*, BOS. GLOBE, Oct. 6, 2002, at A30.

[2] *See* KELLY D. BROWNELL & KATHERINE BATTLE HORGEN, FOOD FIGHT: THE INSIDE STORY OF THE FOOD INDUSTRY, AMERICA'S OBESITY CRISIS, AND WHAT WE CAN DO ABOUT IT 131–34 (2004).

[3] *Id.*

[4] *Id.* at 138–39.

[5] *See, e.g.*, *id.* at 167–70; COMM. ON PREVENTION OF OBESITY IN CHILDREN AND YOUTH, INST. OF MED., PREVENTING CHILDHOOD OBESITY: HEALTH IN THE BALANCE 22, 73, 237–44 (Jeffrey Koplan et al. eds., 2005) [hereinafter PREVENTING CHILDHOOD OBESITY]; Ellen Fried & Michele Simon, *The Competitive Food Conundrum: Can Government Regulations Improve School Food?*, 56 DUKE L.J. 1491, 1491–93 (2007); *The Movie*, TWO ANGRY MOMS, http://www.angrymoms.org/themovie.php (last visited Sept. 21, 2010); *The Mission*, TWO ANGRY MOMS, http://www.angrymoms.org/themission.php (last visited Sept. 21, 2010).

School food is already extensively regulated. Meals sold under the National School Lunch Program (NSLP) and the School Breakfast Program (SBP) must meet federal nutrition standards.[6] In addition, federal regulations prohibit the sale of soda and candy in foodservice areas during mealtimes.[7] Many state and local governments have imposed their own stricter nutrition standards and sales restrictions on school foods.[8]

Existing regulations, however, have not allayed the concerns of reformers. Pizza, burgers, french fries, and cakes all qualify as acceptable entrees or side dishes under NSLP and SBP nutrition standards.[9] Moreover, most schools sell these foods individually as á la carte items outside of the NSLP and SBP and, as such, they are not subject to federal nutrition standards.[10] In addition, federal regulations do not apply to soda, candy, or snack foods commonly sold in vending machines and school stores located outside of the cafeteria.[11] School officials have resisted stricter state and local sales restrictions and nutrition standards because they rely on the often considerable revenue from the sale of these foods for which there is high student demand.[12] And students, parents, and teachers have in many schools successfully thwarted efforts to regulate foods sold at bake sales, served at class parties, and distributed as rewards.[13]

Any successful effort to improve the nutritional quality of school food must balance a number of competing interests. One interest is promoting good dietary habits. This requires limiting students' consumption of foods that are high in sugar, fat, and salt. A second interest is maintaining the financial viability of school food programs. Since government subsidies are inadequate to cover the cost of

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[6] 7 C.F.R. §§ 210.10(a)(1)(i), 220.8(a) (2010).

[7] *Id.* § 210.11(b); *id.* pt. 210 app. B.

[8] JANET POPPENDIECK, FREE FOR ALL: FIXING SCHOOL FOOD IN AMERICA 113–14, 125 (2010); *see, e.g.*, CAL. EDUC. CODE §§ 49430–49431.5 (West 2006 & Supp. 2010); N.Y. PUB. HEALTH LAW § 2599-c (McKinney 2007).

[9] *See infra* text accompanying note 62.

[10] *See infra* text accompanying notes 42–45.

[11] *See, e.g.*, U.S. GOV'T ACCOUNT-ABILITY OFFICE, GAO-05-563, SCHOOL MEAL PROGRAMS: COMPETITIVE FOODS ARE WIDELY AVAILABLE AND GENERATE SUBSTANTIAL REVENUES FOR SCHOOLS 7 (2005) [hereinafter GAO, COMPETITIVE FOODS], *available at* http://www.gao.gov/new.items/d05563.pdf; POPPENDIECK, *supra* note 8, at 5–6; KATHERINE RALSTON ET AL., U.S. DEP'T OF AGRIC., THE NATIONAL SCHOOL LUNCH PROGRAM: BACKGROUNDS, TRENDS AND ISSUES 2, 29–31 (2008), *available at* http://www.ers.usda.gov/Publications/ERR61/ERR61.pdf.

[12] *See, e.g.*, Danielle Gaines, *School Cafeterias Struggle to Keep Up with Cost of Food Inflation and New Government Regulations Turn Former Revenues into Mounting Debt*, MERCED SUN-STAR, Sept. 23, 2008, at A1; Carolyn Jones, *Nutrition Rules Ambush School Bake Sales*, S.F. CHRON., Oct. 27, 2008, at B1; Jennifer Medina, *New Policy Outlaws Bake Sales in Schools*, N.Y. TIMES, Oct. 3, 2009, at A17.

[13] *See, e.g.*, Patricia Leigh Brown, *As School Food Slims Down, Bake Sales Are Out*, N.Y. TIMES, Nov. 10, 2008, at A16; Mary MacVean, *Schools Violate Junk Food Ban*, L.A. TIMES, May 9, 2009, at A9; Debbie Pfeiffer Trunnell, *Sweet Smuggling*, SAN BERNARDINO COUNTY SUN, Apr. 1, 2008, *available at* 2008 WLNR 6180960.

providing free and reduced-price meals, revenues from á la carte sales are essential to the survival of many foodservice programs.[14] These revenues depend on offering foods for which there is high student demand—typically foods that are high in sugar, fat, and salt. A third interest is respecting parental control. Parents bear ultimate responsibility for instilling good dietary habits in children, and school food programs should, at the very least, respect parental wishes regarding the restriction of certain foods. A fourth interest is allowing students choices in deciding what to eat. Consumer choice is an important value in American culture, and learning how to choose wisely is essential to maintaining good dietary habits.

There are examples of school food reforms that promote healthy dietary habits without causing significant revenue loss, undermining parental control, or depriving students of choices. A recent U.S. Department of Agriculture (USDA) report describes how some schools have achieved such reforms using a combination of methods: stricter nutrition standards, a wider array of healthy food choices, intensive marketing techniques to shape student preferences, limits on the availability of less healthy foods, and alternative revenue generating strategies.[15]

This Article proposes a novel regulatory technique that would complement existing reform efforts to promote healthy dietary habits while maintaining revenues, respecting parent control, and preserving student choice. The Article recommends that schools institute *daily aggregate nutrition standardization* (DANS) that would monitor the nutritional quality of all food provided to each individual student in school over the course of a day, including meals and snacks, whether from the cafeteria, vending machines, bake sales, or in class. DANS would provide a nutritional standard for the sale or service of food to each student anywhere in school during any part of the school day.

A school could institute DANS by programming registers and vending machines to track all foods purchased by or served to a student each day and compare the nutritional content of those foods to a daily aggregate nutrition standard appropriate for that student. All food sales and service—including bake sales and class parties—would be registered with the cafeteria to keep track of all food sold or served to a student during the day. Schools could use DANS to generate information that would allow parents, health professionals, or other interested parties to keep track of the nutritional profile of foods served to a child in school. Schools could also use DANS to block purchases of foods that are inconsistent with a student's daily aggregate nutrition standard. To do this, registers and vending machines could be programmed to accept only purchases consistent with a student's daily aggregate nutrition standard. The decision to block purchases that do not meet the standard could be left in the hands of parents or imposed by schools or other public authorities.

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[14] GAO, COMPETITIVE FOODS, *supra* note 11, at 26; POPPENDIECK, *supra* note 8, at 5–6, 41, 74–75; RALSTON ET AL., *supra* note 11, at 2, 29–31.

[15] U.S. DEP'T OF AGRIC., MAKING IT HAPPEN! SCHOOL NUTRITION SUCCESS STORIES, EXECUTIVE SUMMARY (2005) [hereinafter MAKING IT HAPPEN!], http://www.fns.usda.gov/tn/resources/makingithappen.html (follow "Executive Summary" hyperlink).

DANS is an educational approach to school food aimed at helping children develop good dietary habits. Less restrictive than outright bans on "bad" foods, DANS trains children to manage their consumption of such foods. DANS allows for limited consumption of less nutritious foods—"junk food" or "treats" depending upon one's perspective—within the context of an overall balanced daily diet. Under this approach, there is room for a soda at lunch or a cupcake in class. DANS seeks to manage these guilty pleasures rather than attempting to eliminate them. DANS also provides parents with more information about and, potentially, more control over the foods that their children are being served in school. DANS leaves some room for school foodservices to generate revenue from the sale of less nutritious foods for which there may be high student demand. To be sure, using DANS not only to generate information but also to block purchases would both restrict choice and reduce revenues by making it harder for students to overconsume unregulated á la carte cafeteria offerings and vending machine snacks. Under DANS, students would not be permitted to purchase three servings of french fries or eat numerous snack foods for lunch.

DANS offers a more individualized approach to regulating school food. Current regulation of NSLP and SBP meals uses menu planning and sales records to estimate the nutritional content of the average meal served.[16] By contrast, DANS would track the actual nutritional content of school food served to each individual student. Moreover, current NSLP and SBP nutrition standards are based on the average needs of children in different age groups.[17] DANS standards could be tailored to accommodate the different dietary needs of children within an age group. Thus, the food purchases of a sixteen-year-old 185-pound football player would be measured against a different DANS standard than that of a 105-pound chess aficionado. Information generated by DANS would be more closely tailored to the needs of each student, as would purchase restrictions.

DANS may sound like a very expensive, high-tech regulatory technique for school foodservices that are underfunded and struggling to break even. Both the cost and logistical complexity of DANS, however, would be less than many of the successful school food reforms described in the USDA report previously mentioned. Many of those reforms require costly investments in educational programming and marketing campaigns.[18] By contrast, DANS could be implemented with minor modifications in existing software currently used for menu planning, nutrient analysis, account management, and sales transactions in the overwhelming majority of large urban school districts and many smaller

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[16] Under the School Meals Initiative (SMI), the USDA requires states to conduct reviews every five years of school foodservices participating in the NSLP and SBP to determine whether they are in compliance with USDA nutritional standards. TEX. DEP'T OF AGRIC., SCHOOL MEALS INITIATIVE REVIEW 24.1 (2009), *available at* http://www.square meals.org/vgn/tda/files/2348/20739_Section%2024-SMI.pdf.

[17] 7 C.F.R. § 210.10 (2010).

[18] GAO, COMPETITIVE FOODS, *supra* note 11, at 38–41.

districts.[19] Computerization is an increasingly common strategy for cutting costs and increasing the efficiency of school lunch programs.[20] Existing software allows schools to keep track of the nutrient content of the foods they serve in order to comply with NSLP and SBP nutrition standards.[21] The software also helps schools manage accounts, track inventory, and maintain an individualized purchasing history for each student.[22] Web interfaces allow parents to deposit funds in student accounts, keep track of what their children are purchasing in the cafeteria, and place restrictions on their accounts.[23] Thus, many schools already have the capacity to analyze the nutritional content of the foods they serve, track the purchase histories of each student, and receive input from parents. Combining these existing capacities and adding the assignment of daily aggregate nutrition standards for each student would provide all of the technological tools needed to implement DANS.

The ultimate goal of DANS is to train children to make food choices within the context of a healthy daily diet and to do so in an environment that exposes them to many of the temptations they face outside of school while protecting them from overindulgence. This is a goal that could be embraced by stakeholders on all sides of current debates about school food reform, including parents, teachers, foodservice providers, school officials, policymakers, public health advocates, and food industry executives. To those who seek radical change—getting rid of industrially processed food products in schools altogether—DANS suggests that there is value in teaching children to deal with the existing food system in the meantime. For those who oppose any restrictions on the marketing and sale of foods in schools regardless of their nutritional value, DANS preserves a place for less healthy foods within an overall healthy diet in the midst of a growing trend toward banning whole categories of food from schools. The approach advocated in this Article neither promotes nor prohibits pizza, burgers, french fries, soda, cookies, and candy. Instead it helps students develop healthy dietary habits in a world where these foods are legal, available, and tempting.

This Article proceeds in four parts. Part II identifies features of the current school food regulatory regime that undermine healthy dietary habits. Part III sets out in greater detail how schools could implement DANS as a means of promoting better dietary habits while maintaining revenue, respecting parental control, and preserving student choice. Part IV addresses potential objections to DANS, especially from those who might view it as an obstacle to a more fundamental shift away from industrially processed foods altogether. And Part V concludes by highlighting several aspects of DANS that make it an especially attractive regulatory technique.

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[19] *See* Julie Ann Boettger, Effects of Organizational Attributes on Adoption of Technology for Supply Chain Management in Large School Nutrition Programs 50 (2009) (unpublished Ph.D. dissertation, Iowa State University) (on file with author).

[20] *Id.* at 1–9.

[21] *See infra* notes 90–91 and accompanying text.

[22] *See infra* notes 95–99, 112–113 and accompanying text.

[23] *See infra* note 100 and accompanying text.

II. HOW THE CURRENT REGULATORY REGIME UNDERMINES HEALTHY DIETARY HABITS

The regulatory regime governing school food provides incentives for schools to sell and serve foods that are high in sugar, fat, and salt, and makes it easy for students to avoid healthier foods. Three features of the current system contribute to this problem. First, inadequate public funding of both school meals and schools in general has led schools to seek revenue by selling less healthy foods that appeal to students as á la carte items in the cafeteria to make up for insufficient school meal subsidies.[24] School foodservices have also incorporated these popular foods into the subsidized meals themselves in order to avoid losing student participation in the meal program.[25] In addition, school officials, students, and parents sell less healthy foods, for which there is high student demand, in order to raise money for school programs that lack adequate public funding, such as sports and arts programs.[26]

A second feature of the current system that makes it easy for students to avoid healthier foods is federal rules that undermine NSLP nutrition standards. Each of these rules addresses a legitimate concern, but often at the expense of students' dietary habits. One rule is that compliance with menu planning nutrition standards is based on the average nutritional content of meals offered over a school week.[27] This rule, designed to provide school food administrators greater flexibility in menu planning, allows foodservice programs to comply by offering healthier meals on some days to compensate for less healthy meals on other days, leaving students free to buy school meals only on the less healthy days.[28] A second rule is the byproduct of a federal policy designed to reduce food waste. Under the "Offer versus Serve" rule, school foodservices must offer students a meal that meets federal nutrition standards, but students may refuse part of the meal without disqualifying the meal for a federal subsidy.[29] This rule is mandatory for high schools and optional—but widely used—in middle and elementary schools.[30] The rule allows students to avoid the fruit and vegetable components of school meals.[31]

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[24] GAO, COMPETITIVE FOODS, *supra* note 11, at 7; POPPENDIECK, *supra* note 8, at 5–6, 41, 74–75; RALSTON ET AL., *supra* note 11, at iv, 2, 29.

[25] POPPENDIECK, *supra* note 8, at 41.

[26] GAO, COMPETITIVE FOODS, *supra* note 11, at 21–25, 32–33; RALSTON ET AL., *supra* note 11, at 30–31.

[27] 7 C.F.R. § 210.10(a)(i) (2010); GAO, COMPETITIVE FOODS, *supra* note 11, at 6.

[28] SUSAN LEVINE, SCHOOL LUNCH POLITICS: THE SURPRISING HISTORY OF AMERICA'S FAVORITE WELFARE PROGRAM 184 (2008).

[29] POPPENDIECK, *supra* note 8, at 40.

[30] COMM. ON NUTRITION STANDARDS FOR NAT'L SCH. LUNCH AND BREAKFAST PROGRAMS, INST. OF MED., SCHOOL MEALS: BUILDING BLOCKS FOR HEALTHY CHILDREN 101 (Virginia A. Stallings et al. eds., 2010) [hereinafter SCHOOL MEALS].

[31] *Id.*; POPPENDIECK, *supra* note 8, at 40; *see* U.S. DEP'T OF AGRIC., RESOURCE GUIDE: OFFER VERSUS SERVE IN THE SCHOOL NUTRITION PROGRAMS 14, *available at*

A third aspect of the current system that undermines the nutritional quality of what students eat in school is the lack of regulation in many schools of foods that are not sold by the school but either distributed free, brought from home, or purchased off campus. The dominant food culture both fosters and indulges children's desire for highly processed foods that are high in sugar, fat, and salt.[32] Eager to please students, parents and teachers serve less healthy foods in class parties or distribute them as rewards. Parents also pack these same foods for lunches and snack times. Parents and school administrators allow students to go off campus at many schools in order to purchase less healthy foods from nearby convenience stores and fast food restaurants.[33] To the extent that these sources of food are unregulated, they promote the dominant food culture, increase the volume of unhealthy foods consumed during the school day, and undermine healthy dietary habits. This Part of the Article analyzes each of these three aspects of the current school food regime in greater detail.

A. Inadequate Public Funding and the Sale of Competitive Foods as a Revenue Source

The NSLP and SBP require participating schools to provide free and reduced-price lunches to all income eligible students, but reimbursements for these lunches do not cover costs.[34] The price and amount of federal reimbursement for each meal depends upon the income level of the student receiving the meal. Students whose household income is at or below 130% of the federal poverty level, or who are already enrolled in one of several federal poverty programs, are entitled to a free meal for which the NSLP provides a reimbursement of $2.72 per meal served.[35] Students with a household income between 130% and 185% of the federal poverty level are entitled to a reduced-price meal for which schools may charge no more than $0.40 and for which they receive a NSLP reimbursement of $2.32 per meal.[36] Students who do not qualify for either a free or reduced-price lunch may also purchase a NSLP meal, the price of which is set by the local school food authority

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http://teamnutrition.usda.gov/resources/ovs%20resource%20guide.pdf (last visited Oct. 13, 2010).

[32] BROWNELL & HORGEN, *supra* note 2, at 8–11.

[33] POPPENDIECK, *supra* note 8, at 138.

[34] GAO, COMPETITIVE FOODS, *supra* note 11, at 7; POPPENDIECK, *supra* note 8, at 5–6, 41, 74–75; RALSTON ET AL., *supra* note 11, at 2, 29. The NSLP reimburses states for meals served in schools, and the states administer the program in accordance with USDA regulations through agreements with local school food authorities. In 2006, 94% of schools, both public and private, participated in NSLP which spent $8 billion in federal funds to feed thirty million children—60% of school-age children once per week—making it the second largest U.S. food and nutrition assistance program. *See id.* at 1–3.

[35] *National School Lunch Program*, FOOD RESEARCH & ACTION CTR., http://www.frac.org/html/federal_food_programs/programs/nslp.html (last visited Oct. 13, 2010) (showing reimbursement rates for the 2010–11 school year).

[36] *Id.*

and for which the school receives a NSLP subsidy of $0.26 cents per meal.[37] In addition to these reimbursements, the USDA provides schools an allocation of surplus agricultural commodities, and local school food authorities can make agreements with food companies to either process the commodities into ready-to-serve foods such as pizza or french fries, or exchange the commodities for foods that meet USDA nutrition standards.[38] Federal reimbursements, revenues from reduced- and full-price meals, and the savings from surplus commodities do not generally cover the operating costs of most school foodservice programs.[39] While some states provide additional subsidies, they are inadequate to make up the shortfall.[40] Many local districts provide no funding at all, expecting foodservices to be financially independent.[41]

Schools attempt to make up this shortfall by selling food outside of the NSLP and SBP on an á la carte basis.[42] Foods sold to students in school outside of federally subsidized meal programs are known as "competitive foods."[43] Competitive foods range from more nutritious foods (such as fruit, salad, and milk) to less nutritious foods (such as soda and candy).[44] They may be sold by the foodservice program as á la carte items, by the school administration in vending machines and school stores, or by student groups in fundraisers.[45] A 2005 survey conducted for the USDA found that competitive foods were sold in cafeterias as á la carte items in 75% of elementary schools and over 90% of middle and high schools, and were sold in vending machines in 27% of elementary schools, 97% of middle and junior high schools, and 98% of high schools.[46] A 2005 United States Government Accountability Office (GAO) report found that many schools generated substantial revenues from the sale of competitive foods.[47] The GAO estimated that in 2003–2004, 30% of all high schools generated more than $125,000 per school from the sale of competitive foods, 27% of middle schools

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[37] *Id.*

[38] RALSTON ET AL., *supra* note 11, at 16–19; *About Commodity Processing*, U.S. DEP'T OF AGRIC., http://www.fns.usda.gov/FDD/processing/about_processing.htm (last modified Feb. 28, 2008).

[39] *See* GAO, COMPETITIVE FOODS, *supra* note 11, at 7; POPPENDIECK, *supra* note 8, at 41, 92–93; RALSTON ET AL., *supra* note 11, at 29–30; SHIRLEY R. WATKINS, U.S. DEP'T OF AGRIC., REPORT TO CONGRESS ON FOODS SOLD IN COMPETITION WITH USDA SCHOOL MEAL PROGRAMS, para. 13 (2001), *available at* http://www.fns.usda.gov/CND/Lunch/_private/CompetitiveFoods/report_congress.htm.

[40] GAO, COMPETITIVE FOODS, *supra* note 11, at 7; POPPENDIECK, *supra* note 8, at 41, 92–93; RALSTON ET AL., *supra* note 11, at 30; WATKINS, *supra* note 39, at para. 13.

[41] WATKINS, *supra* note 39, at para. 22.

[42] GAO, COMPETITIVE FOODS, *supra* note 11, at 7; POPPENDIECK, *supra* note 8, at 5–6, 41, 74–75; RALSTON ET AL., *supra* note 11, at 2, 29.

[43] GAO, COMPETITIVE FOODS, *supra* note 11, at 5.

[44] *Id.* at 12.

[45] *Id.* at 13–14.

[46] RALSTON ET AL., *supra* note 11, at 31.

[47] GAO, COMPETITIVE FOODS, *supra* note 11, at 27.

generated more than $50,000 per school, and 32% of elementary schools generated more than $5,000 per school.[48]

Revenues from á la carte sales of competitive foods help offset foodservice operating losses due to inadequate public funding.[49] The GAO reported that in 2003–2004, 20% of foodservice programs that sold á la carte items made over $125,000 per school, and over 66% of foodservice programs made over $25,000.[50] However, revenue from á la carte sales does not help to offset operating losses if it merely shifts students from reimbursable lunches to á la carte items. In order to cover costs, school lunch programs need to keep up their volume of reimbursable lunches while at the same time generating additional revenue from á la carte sales. This leads schools to offer the popular á la carte items—pizza, french fries, etc.—in reimbursable school lunches.[51] Thus, there is an incentive to include less healthy food within NSLP meals while also selling it á la carte.

Competitive foods sold in vending machines, school stores, and fundraisers provide funds for a wide range of school programs and expenses, including athletic equipment, facilities, and uniforms; arts programs such as band and chorus; student field trips; school assemblies; playground equipment; textbooks and school supplies; library supplies; computer equipment; staff development; student rewards and incentives; scholarships; construction of new facilities, and general school overhead such as facilities and grounds maintenance.[52] Similar to school foodservice directors, school officials, teachers, parents, and students seeking to promote educational programs and fill budget gaps also have incentives to sell competitive foods that appeal to students, and this often means more unhealthy food in schools.

Within most schools, decisions about selling competitive foods are made by many different people, including foodservice directors, school officials, parents, teachers, and students.[53] There have been efforts to centralize decision making about competitive foods. For instance, in 1970, Congress authorized the USDA to ban the sale of competitive foods in school cafeterias during mealtimes, but later reversed that policy and subsequently restored a more limited authority to regulate competitive foods.[54] Today, the USDA regulates a subset of competitive foods known as "foods of minimal nutritional value" (FMNV)—foods that provide less than 5% of the recommended daily intake of each of eight specified nutrients per

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[48] *Id.* at 27–28.

[49] The information in this paragraph is drawn from RALSTON ET AL., *supra* note 11, at 1–5 unless otherwise specified.

[50] GAO, COMPETITIVE FOODS, *supra* note 11, at 30.

[51] POPPENDIECK, *supra* note 8, at 40–41.

[52] GAO, COMPETITIVE FOODS, *supra* note 11, at 33.

[53] *Id*. at 21–25.

[54] Act of Sept. 26, 1972, Pub. L. No. 92-433, 86 Stat. 724, 729 (amending National School Lunch Act); Act of May 14, 1970, Pub. L. No. 91-248, 84 Stat. 207 (amending National School Lunch Act and Child Nutrition Act of 1966). For a historical analysis of these provisions see MARION NESTLE, FOOD POLITICS 207–08 (2002).

serving—by prohibiting their sale in foodservice areas during mealtimes.[55] Examples of FMNV include soda, chewing gum, and hard candy.[56] In addition to federal regulation, by 2003, more than half of the states imposed additional restrictions on competitive foods, and an estimated 60% of schools had instituted school-level policies on the sale of competitive foods.[57] In 2004, Congress mandated that by 2006 every school participating in federally subsidized food programs establish a local wellness policy that includes nutrition guidelines for all foods available on school campuses.[58] There are indicators that most schools have complied with this requirement; however, it is too early to judge how comprehensive these local wellness policies are or what their impact has been.[59] As we shall see, DANS offers regulators—at the federal, state, and local level—an additional tool to keep track of and control less healthy foods served in federally-subsidized school meals and sold as competitive foods.

B. NSLP Rules that Allow Students to Avoid Federal Nutrition Standards

School meals must meet federal nutrition standards in order to qualify for reimbursement under NSLP. These standards require that school meals provide one-third of the Recommended Daily Allowances of calories, protein, vitamin A, vitamin C, and calcium, without exceeding 30% of calories from fat of any kind and 10% from saturated fats.[60] The standards also require that school meals be consistent with recommendations from the Dietary Guidelines for Americans that individuals eat a variety of foods and choose a diet low in cholesterol, with plenty of grain products, vegetables and fruits, and moderate amounts of sugars and salt.[61] Since these standards apply to the meal as a whole, meals containing entrees such

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[55] RALSTON ET AL., *supra* note 11, at 31.

[56] GAO, COMPETITIVE FOODS, *supra* note 11, at 7.

[57] *Id.* at 22.

[58] Child Nutrition and WIC Reauthorization Act of 2004, Pub. L. No. 108-265, § 204, 118 Stat. 729, 780–81; RALSTON ET AL., *supra* note 11, at 33; GAO COMPETITIVE FOODS, *supra* note 11, at 12.

[59] *See* JAMIE CHRIQUI ET AL., LOCAL WELLNESS POLICIES: ASSESSING SCHOOL DISTRICT STRATEGIES FOR IMPROVING CHILDREN'S HEALTH 10, 81 (2009), *available at* http://www.rwjf.org/files/research/20090728bridgingthegapfull.pdf. By the first day of the 2007–08 school year, "[m]ore than 94 percent of all students were enrolled in a district that had adopted a wellness policy" that should have included nutritional guidelines for all food available throughout the campus for the day. *Id.* at 14, 18. "[M]ore than 89 percent of all students were enrolled in a district that addressed," in its wellness policy, the food and beverage sales sold or served outside of the school meal programs. *Id.* at 39. However, "approximately only 54 percent of all students were enrolled in a district with some type of policy that addressed evaluation," and "[o]nly 10 percent of all students were enrolled in a district with a strong policy that had specific evaluation requirements, including measureable outcomes." *Id.* at 84.

[60] 7 C.F.R. § 210.10(b) (2010). There are additional standards for the SBP, but in the interest of simplicity, I will focus exclusively on the NSLP standards.

[61] *Id.* § 210.10(b)(3).

as pizza or side dishes, like french fries, can qualify for reimbursement if they contain other foods like vegetables, fruit, and milk that compensate for the low-nutrient density and high-fat content of less healthy meal components.[62] Indeed, in annual surveys of school foodservices, pizza is regularly reported to be the most popular entrée and potatoes the most popular vegetable.[63]

Local school foodservices must plan daily menus based on these standards. USDA regulations provide for five methods of menu planning.[64] Traditional Food-Based Menu Planning requires that meals include five food components: a serving of meat or meat alternative, a serving of grains or bread, two servings of vegetables and/or fruits, and a serving of milk. Enhanced Food-Based Menu Planning is a variation that increases calories from low-fat sources and increases serving quantities of the grain/bread and vegetable/fruit components. Nutrient Standard Menu Planning requires only three items, including an entrée and milk, and uses computer software to analyze the nutrient content of foods so that planners can design meals that meet specified nutrient requirements not tied to particular types of food. Assisted Nutrient Standard Menu Planning is a variation for schools that lack the technical resources or skills to conduct their own nutrient analysis. It allows schools to rely on an outside source, such as another school district, a state agency, or a consultant, to conduct the analysis and provide recipes and product specifications in order to implement the menu. Finally, Alternate Menu Planning permits school foodservices to develop their own menu planning method that satisfies USDA nutrition standards.

Two federal rules in particular allow students to avoid USDA nutrition standards and the detailed menu planning methods designed to implement them. First, according to federal menu planning regulations, "[c]ompliance with the nutrition standards and the appropriate nutrient and calorie levels is determined by averaging lunches planned to be offered over a school week."[65] This allows school foodservices to offer meals that do not meet federal nutrition standards as long as they compensate for doing so with a meal on some other day that exceeds the standards. As a USDA spokesman put it, "[w]here the schools have flexibility is that nutrition guidelines are judged over a week's menu cycle rather than for an individual meal. So schools could offer a relatively high fat item on one day and make up for it on other days."[66] Students can avoid USDA nutrition standards by purchasing lunch only on the days when more popular, less healthy meals are

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[62] *See* LEVINE, *supra* note 28, at 185.

[63] POPPENDIECK, *supra* note 8, at 84.

[64] The information in this paragraph is drawn from the U.S. DEP'T OF AGRIC., MENU PLANNING IN THE NATIONAL SCHOOL LUNCH PROGRAM (2000), *available at* http://www.fns.usda.gov/cnd/menu/menu_planning.doc. *See also* 7 C.F.R. § 210.10 (providing a list of regulations).

[65] 7 C.F.R. § 210.10(a)(1)(i). NSLP menu planning compliance is based on the meal *as offered*, while NSLP reimbursability is based on the meal *as served*, meaning, as selected by the student. For an explanation of this distinction, see SCHOOL MEALS, *supra* note 30, at 91.

[66] LEVINE, *supra* note 28, at 184.

served and eat à la carte or bring a bag lunch on days when healthier meals are served to balance out the weekly menu.

Second, the NSLP "Offer versus Serve" rule allows students to decline parts of the meal without rendering the meal ineligible for reimbursement. In 1975, Offer versus Serve was made mandatory for high schools in order to reduce plate waste from students who did not eat all of the food included in school lunches.[67] In subsequent years, the rule was made optional for middle and elementary schools, and it is in widespread use in most schools today.[68] Where schools use food-based menu planning, Offer versus Serve allows students to decline two of the five meal components, and where they use nutrient standard menu planning, students may decline two items so long as they take the entrée and at least one other item.[69] While allowing students to decline foods may reduce plate waste, it undermines the standards that govern the nutritional content of NSLP meals.[70] Effort invested at the menu-planning stage to provide well-balanced meals for each student is wasted if at the point of purchase students can merely pick and choose which parts of the meal to take.[71]

C. Inadequate Regulation of Foods Not Sold by Schools

Until recently, foods that are consumed during the school day but not sold in school—sweets served in class parties, rewards distributed by teachers, foods brought from home, and foods purchased off campus—have been largely unregulated. This is beginning to change as schools have started implementing federally mandated local wellness policies that cover all foods consumed in school.[72] Many schools have attempted to impose restrictions on the content,

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[67] POPPENDIECK, *supra* note 8, at 66–67.

[68] *Id.*

[69] 7 C.F.R. § 210.10(i)(2)(ii).

[70] POPPENDIECK, *supra* note 8, at 67; SCHOOL MEALS, *supra* note 30, at 10, 99–104.

[71] Note that the *average* meal served must meet NSLP nutrition standards since menu planning takes into account a weighted average of the meal actually served. Nevertheless, Offer versus Serve allows any *individual* student to be served a meal that does not meet the NSLP nutrition standards. *See* 7 § C.F.R. 210.10(i)(2)(ii) (2010). I am grateful to Francine Rodgers, retired director of the Shenendehowa School Food Service Program in Clifton Park, New York, for pointing this out to me.

[72] *See* CHRIQUI ET AL., *supra* note 59, at 38–39. In the 2007–08 school year, 93% of elementary school students, 92% of middle school students, and 89% of high school students were enrolled in a district with a wellness policy that included nutritional guidelines not only for school meals but for all foods and beverages sold or served outside of school meal programs during the school day. *Id.* at 40. In addition, 65% of elementary school students, 62% of middle school students, and 59% of high school students were enrolled in a district with a strong policy that required action and specified an implementation plan or strategy. *Id.*

quantity, and frequency of sweets served at in-class parties.[73] Some schools have included in their wellness policies nutritional guidelines for lunches brought from home and in some cases discouraged bag lunches altogether in favor of eating meals provided by the school foodservice program.[74] Designing a wellness policy has led some schools to reevaluate policies that allow students to leave campus during the day to purchase lunch and snacks.[75]

Enforcing wellness policies is not likely to be easy. Controversy over restrictions on in-class sweets—dubbed the "cupcake wars"—has led some parents to defend eating treats such as cupcakes in classroom birthday parties as an important childhood experience and to denounce school restrictions as an overzealous reaction to anxiety about childhood obesity.[76] Moreover, beyond the regulation of food served in the classroom, it is unclear just how much control school officials can practically exercise over what parents pack their children for lunch. And in schools with open campus policies that allow students to leave school to purchase meals and snacks, schools are likely to have limited influence over what students purchase off campus.[77]

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[73] *Id.* at 44–45. "By the first day of the 2007–08 school year, 65% of elementary-school students were enrolled in a district with a policy that placed some restriction on the availability of competitive foods during classroom parties." *Id.* at 44–45.

[74] *See* BLAND COUNTY, VA., BLAND CTY. SCH. BD., STUDENT WELLNESS POLICY 4 (Mar. 27, 2006), *available at* http://www.bland.k12.va.us/documents/Local%20Policy%20Manual/Student%20Wellness%20Policy%20-%20JHCF.pdf; MILWAUKEE, WIS., ADMIN. PROCEDURE OF THE MILWAUKEE PUB. SCH. 4.07: STUDENT NUTRITION & WELLNESS PROCEDURES 2–3 (July 26, 2006), *available at* http://mpsportal.milwaukee.k12.wi.us/portal/server.pt/gateway/PTARGS_0_2_46363_0_0_18/4_07.pdf; ST. CLOUD, MINN., ST. CLOUD AREA SCH. DIST. 742, ADMIN. PROCEDURE 533A 9 (July 29, 2006), *available at* http://isd742.org/schoolboard/Policies/ap533a.pdf. *See generally* G.A. Rees, C.J. Richards & J. Gregory, *Food and Nutrient Intakes of Primary School Children: A Comparison of School Meals and Packed Lunches*, 21 J. HUM. NUTRITION DIETETICS 420 (2008), *available at* http://www3.interscience.wiley.com/cgi-bin/fulltext/120747995/PDFSTART (discussing a study comparing nutrient intakes of UK primary school children eating a school meal with those taking a packed lunch).

[75] MARLO R. MIURA, PUB. HEALTH ADVOCACY INST., OFF THE MAP: EXTRACURRICULAR SCHOOL FOOD 1 (2009), *available at* http://www.phaionline.org/wp-content/uploads/2009/04/otm_open_campus_lunch.pdf. The 2006 School Health Policies and Programs Study showed that, nationwide, 71.1% of high school districts and 73.1% of high schools had a closed campus policy where students could not leave campus during lunch or at any other time during the school day, compared to 65.9% of high school districts and 73.4% of high schools in 2000. *Id.* at 1–2.

[76] *See, e.g.*, *Cupcake Wars*, PARENTS—GOODYBLOG (Sept. 26, 2007, 3:59 PM), http://www.parents.com/blogs/goodyblog/2007/09/cupcake-wars/. Some have even labeled those who favor restrictions as "food Nazis." Hamilton Nolan, *Meet New York's Worst Food Nazi Mom*, GAWKER (June 16, 2009, 3:45 PM), http://gawker.com/5292891/meet-new-yorks-worst-food-nazi-mom.

[77] POPPENDIECK, *supra* note 8, at 158–59. None of this is to say that wellness policies are likely to be ineffective. To the contrary, they are at a minimum a useful means of

To summarize, I have suggested that three features of the current regulatory regime undermine efforts to promote healthy dietary habits in schools. Inadequate public funding leads to the sale of competitive foods not covered by federal nutrition standards governing school meals which, in turn, exerts a bad influence on the content of school meals. NSLP regulations such as weekly compliance standards and Offer versus Serve create opportunities for students to circumvent nutrition standards by avoiding the healthier components of school meals. And inadequate regulation of foods not sold by schools, but served and consumed during the school day, leaves much school food largely outside of the school food regulatory regime altogether.

III. DAILY AGGREGATE NUTRITION STANDARDS

I propose to assign each student a daily aggregate nutrition standard that would apply to all foods sold or served to the student during the course of a school day. Within each age group, there would be several different standards, and students would be assigned an appropriate standard based on their size, activity level, and other relevant dietary concerns. All foods from any school source—whether from a cafeteria, vending machine, school store, bake sale, or class party—would be subject to the standard at the point of sale or distribution. I call this proposal *daily aggregate nutrition standardization* (DANS). In a less restrictive version, DANS would generate individualized and detailed information about the nutritional content and overall nutritional profile of all foods served to a student each school day and compare this information to the student's daily aggregate nutrition standard. This information could be provided to parents, health professionals, or other interested parties. DANS could be used in a more interventionist manner by preventing the sale or serving of food that is inconsistent with a student's daily aggregate nutrition standard.

A. Performance-Based Regulation

Before delving deeper into the details of implementation, it may be helpful to place DANS in a larger regulatory context. DANS, in its more interventionist version, is a form of performance-based regulation. Performance-based regulation tells a regulated party what its outputs or results should be with regard to a certain problem and then leaves the regulated party to figure out how to achieve those outputs or results.[78] The federal No Child Left Behind Act is a prominent example of performance-based regulation.[79] This Act sets academic standards for student achievement and leaves schools to figure out the best way to meet those

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prompting different stakeholders to think about the overall food environment in schools and how to improve it.

[78] Stephen D. Sugarman & Nirit Sandman, *Fighting Childhood Obesity Through Performance-Based Regulation of the Food Industry*, 56 DUKE L.J. 1403, 1412 (2007).

[79] No Child Left Behind Act of 2001, PUB. L. NO. 107-110, 115 STAT. 1425 (2002).

standards.[80] Performance-based regulation is already part of school food regulation. Menu planning regulations, for example, set standards for NSLP meals and leave school foodservice administrators to determine how to meet them.

Like other forms of performance-based regulation, DANS sets a target—a daily aggregate nutrition standard—but does not specify how that target should be met. In contrast to most forms of performance-based regulation, under DANS there are many simultaneously regulated parties. Students are regulated parties insofar as they must choose foods during the course of a day that satisfy the standard. The sellers of school food are also regulated parties. School foodservice directors must provide cafeteria choices that are likely to satisfy the standard, and the same is true of school administrators when deciding how to stock vending machines and school stores. Students and parents who sponsor fundraisers must keep the standard in mind when determining what to sell. And parents and teachers who provide foods for in-class parties and teachers who distribute food as rewards must also take the standard into account. Finally, food manufacturers are also regulated parties insofar as DANS limits the sale of less healthy foods.

Like other aspects of school food regulation, federal, state, or local authorities could impose DANS. Each level of government brings its own comparative advantages. A federally mandated system would provide uniformity. Alternatively, state or local systems would provide opportunities for experimentation and comparison of different approaches. And a mixed system might entail federal funding and technical expertise, leaving state and local governments to adapt the DANS concept as they wish, perhaps as part of state guidelines or local wellness policies. For my purposes here, it does not matter whether DANS is a federal, state, or local program, or whether it is voluntary or mandatory. My aim here is to analyze more generally what DANS as a regulatory tool can accomplish in the hands of any regulator.

B. Setting Daily Aggregate Nutrition Standards

All of the technical requirements necessary to implement DANS are either already in use in schools or can be easily adapted from existing practices and technology.[81] To begin with, DANS requires adoption of a standard for daily nutrition in school. As we have seen, school foodservices use the federal Recommended Dietary Allowances and Dietary Guidelines for Americans for the purpose of NSLP and SBP compliance.[82] A DANS standard could be based on these existing federal nutrition standards already in use in most schools. These standards provide daily limits on saturated fat, cholesterol, and sodium and minimum thresholds for protein, fiber, calcium, iron, vitamin A, and vitamin C. Limits on sugar could be added.

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[80] Sugarman & Sandman, *supra* note 78, at 1422–23.
[81] *See infra* notes 112–114 and accompanying text.
[82] *See* 7 C.F.R. § 210.10 (2010).

DANS could go a step further. Current NSLP nutrition standards are based on the average dietary needs of children within specified age groups, dividing students into grades K-6 and 7-12 or K-3 and 4-12, depending upon the method of menu planning used.[83] That is, in many places there is a single standard applied to kindergarteners and sixth-graders, and a single standard to seventh-graders and high school seniors. In some schools, pre-adolescent fourth-graders are grouped with high school seniors. Needless to say, the dietary needs of students within these categories vary widely. Indeed, even within a single grade, there is likely to be considerable variation. DANS could provide several different standards for each grade that take into account characteristics that affect dietary needs such as a size and activity level. Each student could be assigned an appropriate DANS standard, selected by a parent or recommended by a health professional.

Most large urban school food programs already maintain student account profiles that, depending upon the system, include names, photographs, grades, eligibility for NSLP free and reduced-price meals, available balance, and allergy information.[84] DANS would simply require adding a field to existing account information for the daily aggregate nutrition standard assigned to the student. Thus, nutrition standards for school food could be more individualized than the broad averages currently used by the NSLP.

Since the aim of DANS is to help students develop healthy dietary habits, standards must be simple and transparent. Students cannot be expected to keep track of more than a few nutrient limits and thresholds. Limits on sugar, saturated fat, cholesterol, and sodium, and minimum thresholds for protein, fiber, calcium, iron, vitamin A, and vitamin C are a subset of the many nutrient standards defined by the federal government. DANS could be simplified even further by including only nutrients linked to the most salient health concerns such as obesity, diabetes, heart disease, and behavioral problems. For example, DANS might focus on overconsumption of sugar, saturated fat, and sodium and encourage students to eat foods with more fiber. Simplified standards might include only nutrients that students regularly overconsume or underconsume, which might vary regionally. Over time, students would learn to associate certain foods with these nutrients as they develop better dietary habits.

The use of daily limits and minimum thresholds is not to achieve a precise nutrient balance but rather to prevent overconsumption of popular foods like pizza, burgers, french fries, cakes, snack foods, soda, and candy and to encourage students to eat more whole grains, fruits, and vegetables. Indeed, focusing on daily nutrient intake is entirely unnecessary from a nutritional point of view—good nutrition can be achieved by a diet that fluctuates from day-to-day so long as, over

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[83] *Id.*

[84] *See* Boettger, *supra* note 19, at 50 (finding that the overwhelming majority of large, urban school districts employ point of sale—POS—technology); Telephone Interview with Julie Ann Boettger, Dir. of Operations for inTeam Consultants, School-Link Techs., (Sept. 16, 2009) (discussing how POS systems maintain student profiles that include identifying, eligibility, and allergy information).

time, an individual consumes a nutritionally balanced diet.[85] Daily guidelines are, however, a useful metric in building good dietary habits. For one thing, nutrition information on food labels is presented in terms of daily values.[86] Learning in school to think in terms of daily dietary intake makes it easier to use this nutritional information. Moreover, weight loss experts have suggested that portion control on a daily basis is easier for individuals to track and is an important element in sustaining the dietary habits necessary to maintain weight loss.[87]

C. Assigning Nutrient Profiles to Food Items

Under DANS, each food item sold or served to a student would have to be evaluated to determine whether its nutritional content is consistent with the student's DANS standard. This could be accomplished by assigning a nutrient profile to each food item. Nutrient profiles would identify the amounts of specified nutrients in a food, such as sugar, saturated fat, sodium, and fiber.

Technology for assigning a nutrient profile for each item of food sold or served is already widely available and is in use in many schools.[88] Nutrient standard menu planning requires that weekly menus conform to USDA nutrient standards for calories, fat, saturated fat, protein, calcium, iron, vitamin A, and vitamin C.[89] School food programs that use nutrient standard menu planning employ USDA-approved software that generates this information.[90] Menu planners

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[85] PANEL ON DIETARY ANTIOXIDANTS AND RELATED COMPOUNDS, INST. OF MED., DRI DIETARY REFERENCE INTAKES FOR VITAMIN C, VITAMIN E, SELENIUM, AND CAROTENOIDS 22 (2000) (stating that daily values are based on average daily nutrient intake of individuals over time, and that actual daily intake "may vary substantially without ill effect").

[86] 21 C.F.R. § 101.9(d)(1)(v) (2010).

[87] *See* Kerri N. Boutelle & Daniel S. Kirschenbaum, *Further Support for Consistent Self-Monitoring as a Vital Component of Successful Weight Control*, 6 OBESITY RES. 219, 222 (1998) (finding that successful weight control is associated with regular self-monitoring of daily consumption); K. Elfhag & S. Rössner, *Who Succeeds in Maintaining Weight Loss? A Conceptual Review of Factors Associated with Weight Loss Maintenance and Weight Regain*, 6 OBESITY REVIEWS 67, 77 (2005) (finding that successful weight maintenance is associated with regular daily meal rhythm); Rena R. Wing & Suzanne Phelan, *Long-Term Weight Loss Maintenance*, 82 AM. J. CLINICAL NUTRITION 222S, 224S (2005) (finding that successful weight maintenance is associated with a consistent daily eating pattern); E-mail from Vicki Taylor, Corp. Affairs Representative, Weight Watchers Int'l, Inc., to Christina Shifton, J.D. Candidate, May 2011, Albany Law Sch. (Feb. 16, 2010, 1:35 PM) (on file with author) (stating that it is easier to track food consumption on a daily basis).

[88] *See supra* note 90–91 and accompanying text.

[89] 7 C.F.R. § 210.10(c) (2010). NSLP standards do not include limits on sugar, but existing software could easily incorporate them if desired.

[90] *Id.* § 210.10(h)(3)–(4); U.S. DEP'T OF AGRIC., NUTRIENT ANALYSIS PROTOCOLS: HOW TO ANALYZE MENUS FOR USDA'S SCHOOL MEALS PROGRAMS 34–35 (2007) [hereinafter NUTRIENT ANALYSIS PROTOCOLS], *available at* http://www.fns.usda.gov/tn/

simply enter recipe ingredients or nutrition information from the labels on processed foods and the software provides a nutrient analysis.[91] Label information from foods served in vending machines, school stores, fundraisers, and class parties could similarly be entered into a menu-planning program.[92] For homemade goods, parents could provide ingredient information.

The nutrient profile of each food available in school would be stored in a central database. This might sound like a lot of data entry, requiring additional human resources that most school foodservices do not have. Regulatory compliance, however, already requires that schools provide nutrient profiles of the meals they serve and maintain sales records of what is sold.[93] For competitive foods not covered by USDA nutrition standards, data entry would not require much effort since most competitive food offerings are the same each day. There is relatively little change in the á la carte foods served in cafeterias and the snack foods, sweets, and drinks sold in vending machine and school stores, which tend to be foods with a consistently high demand among students.[94]

D. Applying Daily Aggregate Nutrition Standards at the Point of Sale or Distribution

Applying DANS to individual food purchases would occur at the point of sale (POS). Almost all large urban school districts, and an increasing number of small and rural districts, currently employ some form of computerized POS technology

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Resources/nutrientanalysis.html (follow "Chapter 3: Selecting Software and Hardware for Nutrient Analysis" hyperlink).

[91] NUTRIENT ANALYSIS PROTOCOLS, *supra* note 90, at 56–58 (2007), *available at* http://www.fns.usda.gov/tn/Resources/nutrientanalysis.html (follow "Chapter 6: Entering Food Items (Ingredients) into the Local Database" hyperlink). For foods that are not processed, the USDA maintains a detailed nutrient database that food manufacturers and school menu planners rely upon when composing nutrition facts labels for products or planning school menus. *Id.* at 40–42 (follow "Chapter 4: Overview of Conducting Nutrient Analysis" hyperlink); *id.* at 50 (follow "Chapter 5: Preparing for Nutrient Analysis" hyperlink).

[92] The Snackwise Nutrition Rating System currently offers an online service to schools that provides a nutrient profile for any snack food by simply entering in product information from the label. Nat'l Children's Hosp., SNACKWISE NUTRITION RATING SYS., http://www.snackwise.org (last visited Sept. 22, 2010).

[93] SCHOOL MEALS, *supra* note 30, at 193–94.

[94] E-mail from Julie Ann Boettger, Dir. of Operations for inTeam Consultants, School-Link Techs., to author (Apr. 26, 2010, 9:19 AM) (on file with author) (stating á la carte offerings "stay the same from day to day"); E-mail from Eric Goldstein, Chief Exec. Officer, Office of Sch. Food, N.Y.C. Dep't of Educ., to author (May 27, 2010, 6:34 PM) (on file with author) (stating á la carte offerings are "mainly the same" from day to day); E-mail from Ed Marra, Food Serv. Dir., White Plains Sch., N.Y., to author (May 27, 2010, 1:25 PM) (on file with author) ("[Á] la [c]arte offerings at our schools are pretty much the same on a daily basis.").

to determine NSLP eligibility and keep track of sales.[95] At the cafeteria check out, students present a bar-coded card or swipe card or enter a personal identification number (PIN).[96] The card or code indicates the student's eligibility for a free or reduced-price meal and enables the cashier to charge purchases to the student's personal account. Some POS systems indicate to the cashier the student's available balance and may even provide allergy information or other dietary restrictions.[97] The cashier uses a computer touch screen to record items purchased by the student.[98] POS systems generate transaction records for accounting purposes and for calculating the nutrient profile of the average meal served which is used by schools using nutrient standard menu planning to establish compliance with USDA nutrition standards.[99] In some POS systems, schools also provide parents with a complete purchase history for their child that they can access online using a Web interface.[100] This kind of technology has already been applied in the United Kingdom to track food purchases by children in school cafeterias, from which a nutrient analysis of foods chosen by each child was produced.[101]

DANS would incorporate all food sold or served in school into such a POS system. School stores would be provided with POS terminals, and vending

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[95] Boettger, *supra* note 19, at 50.

[96] POS terminals providing these services are sold by a variety of companies. *See FASTRAK School Point of Sale Systems*, PCS REVENUE CONTROL SYS., http://www.pcsrevenuecontrol.com/products/cafeteria.html (last visited Sept. 22, 2010) [hereinafter *FASTRAK*]; *Lunchbox Point of Sale (POS) School Software*, PENN CENTER SYS., http://www.penncentersystems.com/school-LunchBox-pos.php (last visited Sept. 22, 2010) [hereinafter *LunchBox*] (information on file with author); *MealTime Local Point of Sale*, CLM GROUP INC., http://www.mealtimeclm.com/products/pos.aspx (last visited Sept. 22, 2010) [hereinafter *MealTime*]; *POS Software for School Lunch*, FOOD SERVICE SOLUTIONS, http://www.foodserve.com/pos.htm (last visited Sept. 22, 2010).

[97] *See MealTime*, *supra* note 96 (selling terminals that display students' names and photos during every transaction, allowing staff to verify each student, as well as view the student's diet restrictions and account information).

[98] *Id.*; *LunchBox*, *supra* note 96; *see also FASTRAK*, *supra* note 96 (employing a three-dimensional touch screen).

[99] *See Inventory, Nutrition, and Warehouse Systems*, PCS REVENUE CONTROL SYS., http://www.pcsrevenuecontrol.com/products/inventory.html (last visited Sept. 22, 2010) (selling TrakNOW, a USDA-approved nutrition and inventory monitoring system that provides USDA-approved receipts and nutrient analysis); *see also LunchBox*, *supra* note 96 (giving schools the ability to track nutrient differences and percentages of recommended dietary allowances that have been filled for each nutrient during a selected date range of the school's choosing).

[100] *See LunchBox*, *supra* note 96 (allowing parents real time online access to the student account in order to deposit money and monitor their child's eating history, impose spending limits, and control á la carte purchases).

[101] N. Lambert et al., *Using Smart Card Technology to Monitor the Eating Habits of Children in a School Cafeteria: 1. Developing and Validating the Methodology*, 18 J. HUM. NUTRITION AND DIETETICS 243, 243 (2005).

machines would be equipped to accept cards or PINs.[102] Bake sales would also be run out of the cafeteria or school store in order to subject purchases to the POS system. Food for in-class parties would be registered with the cafeteria or school store, and a portable POS terminal could be available for classroom use to record student participants.[103]

E. Promoting Healthy Dietary Habits Using Daily Aggregate Nutrition Standards

By monitoring the foods sold and served to each student during the course of the school day, DANS would promote healthy dietary habits. Schools could use DANS to provide dietary information to parents and health professionals. Parents would have a better sense of what their children are eating in school. Since school is a place where children make food choices more independently than at home, school is an especially useful venue in which to monitor children's dietary habits and to teach children to be self-regulating. Parents could share dietary information generated by DANS with health professionals to help address concerns about obesity, diabetes, or other health risks and conditions.

DANS could also generate aggregate information that would be useful to school food administrators, government regulators, public health officials, and researchers in assessing the impact of regulatory interventions on children's dietary habits. While calls for improving the nutritional quality of school food have produced a wide variety of reforms across the country, evaluation of these reforms has focused primarily on institutional changes rather than the effect of reforms on student dietary habits, food consumption, or particular health outcomes.[104] DANS

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[102] *See LunchBox*, *supra* note 96 ("Transform a vending machine into a POS device and deliver reimbursable meals from virtually anywhere on the school campus."); *see also New 'Smart' Vending Machines Promote Healthy Eating*, ESCHOOL NEWS (May 15, 2007), http://www.eschoolnews.com/
2007/05/15/new-smart-vending-machines-promote-healthy-eating/ (noting how students can enter a pin number or swipe a card to purchase healthy foods like fruits and vegetables in school vending machines).

[103] DANS could thereby ensure that parents have accurate information about the foods served at in-class parties. DANS could also be used to restrict the types of foods and portion sizes served at in-class parties. The application of DANS in classroom settings, however, raises special concerns. In contrast to other settings, such as the cafeteria or vending machines, it would probably not be a good idea for teachers to serve different foods to different students or to serve some students more than others based on individual daily aggregate nutrition standards or to serve some students while denying others, since this might stigmatize some students within the classroom setting and create problems within the student-teacher relationship.

[104] COMM. ON PROGRESS IN PREVENTING CHILDHOOD OBESITY, INST. OF MED., PROGRESS IN PREVENTING CHILDHOOD OBESITY: HOW DO WE MEASURE UP? 286 (Jeffrey P. Koplan et al. eds., 2007) [hereinafter HOW DO WE MEASURE UP] ("Most evaluations conducted to date have focused on outcome measures related to developing and implementing policy changes at the school or school district level . . . .").

could help to generate this type of information, leading to better evaluation of school food reforms and providing feedback to improve their effectiveness.

Given the value of information about student food preferences to food marketers and the potential for conflicts of interest, it would be important for schools to develop protocols for the disclosure and use of information generated by DANS. Individual student information would be covered by the Family Educational Rights and Privacy Act (FERPA), which grants rights to students and parents to access school records and imposes a duty on schools to protect the confidentiality of such records.[105] For DANS information that identifies individual students, schools would likely be allowed to share this information with people other than parents only after obtaining parental consent.[106] For information that does not identify individual students—for example, coded data that makes individual purchase records anonymous—FERPA would allow disclosure of information for research purposes without parental consent.[107]

Beyond merely generating information, DANS could be used to structure students' food choices throughout the day. DANS limits on sugar, saturated fat, and sodium could be used as the basis for blocking certain food purchases, and threshold minimums for calcium and fiber could be used as a basis for suggesting alternatives. At parents' request, students could be blocked from purchasing too many snacks, candy, or soda from vending machines. Consumption during the morning of bake sale and in-class party "treats" would prevent the later purchase of less healthy foods at lunch or afternoon snack times. In the cafeteria line, cashiers would be in the position of enforcing DANS, informing children in some instances that they could not purchase certain foods, such as chips or cookies, and suggesting alternatives such as vegetables and fruits. Cashiers already perform similar enforcement functions, making sure that students who qualify for federally subsidized meals select foods that make up a reimbursable meal and making sure that paying students have sufficient funds in their electronic accounts.[108] DANS would prevent students from purchasing only vending machine snack foods, bake sale goods, á la carte items, and less nutritious school meal components. DANS would also help steer students towards whole grain foods, fruits, and vegetables.

It is important to note that DANS regulates only the sale and service of food, not what children actually eat. DANS directly affects food *choice*, not food consumption. One might question whether merely ensuring that students are sold or served a balanced variety of foods is likely to influence their actual eating

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[105] *See* 20 U.S.C. § 1232g(a)(1)(A) (2006) (requiring schools to make educational records available to parents of students); *id.* § 1232g(b)(1) (requiring parental consent for the release of educational records to third parties).

[106] *See* 34 C.F.R. § 99.30–31 (2010). There are exceptions to the consent requirement for the disclosure of personally identifiable student records for studies related to improving instruction, administering student aid programs, and validating predictive tests. *See id.* § 99.31(a)(6)(i)(A)–(C). The application of these exceptions to the disclosure of personally identifiable DANS information is beyond the scope of this Article.

[107] *See id.* § 99.31(b)(2).

[108] POPPENDIECK, *supra* note 8, at 30–31, 217–18.

habits. Recent studies indicate that the availability and accessibility of foods increases children's consumption of them.[109] After repeated exposure to new foods, younger children are more likely to accept them, and peer influence plays a significant role in what older children consume.[110] These findings suggest that by making healthier foods more available in the school environment and repeatedly exposing students to them, DANS could increase consumption of these foods. By limiting the availability and restricting the purchase of less healthy foods, DANS could decrease children's consumption of them.

DANS would complement the efforts of parents at home. For children whose parents already structure their food choices in order to promote good dietary habits, DANS would reinforce in school the nutrition education that children are receiving at home. For children whose food choices are unsupervised by their parents or whose parents allow or encourage nutritionally poor choices, DANS would at least provide some guidance, which is better than none.

DANS would have a feedback effect on the quality of food sold and served in schools. Insofar as DANS restricts the purchase of less healthy foods, it would give food manufacturers an incentive to produce healthier products for the school market. Under DANS, school foodservice directors eager to maintain or increase revenues from the sale of competitive foods would have an incentive to promote foods with higher nutrient profiles or to provide enough healthy food to offset the lower nutrient profile of highly profitable less healthy foods. School administrators, parents, and students would have a similar incentive to improve the nutritional quality of vending machine offerings and bake sale foods. By setting limits on sugar, fat, and salt, DANS would also provide an incentive to reduce the serving sizes of less healthy foods.

DANS addresses the three features of existing school food regulation discussed in Part I that undermine healthy dietary habits. First, by using POS technology to centralize all school food purchases, DANS extends nutrition standards to competitive foods. DANS limits consumption of less healthy competitive foods without banning them altogether as a source of revenue, and DANS provides an incentive to improve the nutritional quality of competitive foods more generally.

Second, DANS forecloses opportunities for students to evade NSLP nutrition standards made possible by weekly compliance standards and Offer versus Serve. Whereas compliance with NSLP menu planning nutrition standards requires merely that the *average* meal served over the course of a week meet the standards, DANS focuses on whether a student's *actual* food selections each day comply with the student's daily aggregate nutrition standard. DANS could be used to block the

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[109] PREVENTING CHILDHOOD OBESITY, *supra* note 5, at 243, 291–92 (listing studies indicating that increased exposure to healthy foods in school and at home increases their acceptance among children); SCHOOL MEALS, *supra* note 30, at 185 (listing studies indicating that repeated exposure to new foods increases their acceptance among children).

[110] PREVENTING CHILDHOOD OBESITY, *supra* note 5, at 291–92; SCHOOL MEALS, *supra* note 30, at 185.

purchase of meals that are high in sugar, fat, or sodium acceptable under NSLP menu planning compliance standards. DANS would also indicate the inadequacy of meals permitted under Offer versus Serve that do not include sufficient healthy foods, and DANS could be used by foodservice personnel to discourage student avoidance of healthier meal components such as fruits and vegetables.

Third, DANS includes regulation of foods that are not sold by schools but served for free in school by teachers or parents. These foods, which have traditionally escaped regulation in many schools, are increasingly subject to regulation under local wellness policies, and DANS can help give those efforts teeth. DANS can monitor foods served for free in school in order to determine compliance with local wellness policies, and DANS could be used to place restrictions on such foods to enforce these policies. DANS does little, admittedly, to regulate foods purchased off campus or brought from home. Schools eager to broaden the impact of DANS to include foods purchased off campus might consider inviting outside vendors to sell on campus under the umbrella of the school's POS system. More restrictive measures might include prohibiting students from purchasing food off campus during the school day and limiting the types and amounts of less healthy foods allowed in bag lunches.

F. Costs

DANS is a high-tech strategy for improving children's dietary habits. One might wonder whether most school foodservices, struggling to break even, could ever afford to implement it. Computerized menu planning and POS systems cost tens of thousands of dollars depending upon the size of a school district and the number of sites in the district.[111] Cost is not, however, as much of a barrier to implementing DANS as it might appear to be. A recent study found that over 98% of large urban school districts surveyed employ POS technology, over 87% use nutrient analysis software, and over 82% rely on computerized menu planning.[112] Such systems for accounting, regulatory compliance, and menu planning are increasingly viewed as sound investments for foodservices seeking to modernize.[113] DANS could be implemented using these existing systems with only minor software modifications that could be included at little, if any, additional cost in the initial purchase of a computer system or in a software upgrade for an existing system.[114]

There are, however, other costs associated with DANS that should not be ignored. One cost is a loss of flexibility in menu planning—a complex task already burdened by extensive federal, state, and local policies and regulations. By

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[111] POPPENDIECK, *supra* note 8, at 42 ("[A] computer system and software would cost the district about $70,000 . . . ."); Interview with Julie Ann Boettger, *supra* note 84 (discussing how the size of the district affects the cost of implementing a POS system).

[112] Boettger, *supra* note 19, at 50.

[113] *See id.* at 2–7, 48–51, 69–78.

[114] Interview with Julie Ann Boettger, *supra* note 84.

focusing on the nutritional content of foods sold and served each day, DANS deprives foodservice administrators of the flexibility that weekly compliance standards are designed to provide in menu planning. A second cost is a likely increase in plate waste. Insofar as DANS encourages students to take foods that they do not intend to eat, it would increase plate waste, the very problem which Offer versus Serve was designed to reduce. Moreover, foods that students have handled could not be put back if purchase of them was blocked by a cafeteria cashier; such foods would have to be discarded.[115] A third potential cost of DANS is reduced revenue from competitive food sales resulting from limits on highly profitable less healthy items. While there are examples of schools that have improved the nutritional quality of competitive foods without losing revenue, these examples are not a sufficient basis to conclude that DANS would not cause revenue losses in some schools.[116]

G. Logistical Challenges

Schools attempting to implement DANS would face two significant logistical challenges: additional delay in lunch lines and strategic behavior by students to circumvent restrictions. The time required at the point of sale to input each item on a lunch tray could impose additional delay in lunch lines. In many existing POS systems, cashiers need only push one touch-screen button for "lunch" or "sandwich" that covers different lunch options or varieties of sandwiches.[117] Under DANS, a cashier would have to specify each item in the lunch and distinguish between different sandwiches. Additional delay could result from disallowed purchases at cafeteria cash registers. Delays at registers are a major concern in school foodservice since they hold up already slow serving lines, limiting the time that students have to eat and even deterring some students from obtaining lunch.[118]

Delay may be less of a problem now than in the past, and it may be even less of a problem in the future. Computerized POS systems have already helped to

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[115] *See, e.g.*, N.Y. COMP. CODES R. & REGS. tit. 10, § 14-1.41(a) (2010). ("Unused, unprotected food which has been served may not be served again."); *see also* POPPENDIECK, *supra* note 8, at 218 (illustrating how school foodservice staff "throw the lunch away because [they] cannot give it to other children" when a child attempts to purchase food with no money in their account).

[116] *See* MAKING IT HAPPEN, *supra* note 15 (follow "Quick Guide" hyperlink; scroll to Revenue section for an index of schools that either had increased revenue or had no change in revenue when implementing healthy food options); *see also* GAO, COMPETITIVE FOODS, *supra* note 11, at 34–45 (recognizing school principals' concerns that changing competitive foods would lead to lost revenue).

[117] Interview with Julie Ann Boettger, *supra* note 84 (discussing how current POS systems have one button for "lunch" or "sandwich"); Telephone Interview with Colin Sheridan, President, Nutrikids (Sept. 1, 2009) (discussing how POS software needs to minimize the number of screen touches in order to speed up the line).

[118] POPPENDIECK, *supra* note 8, at 42, 148–52 (discussing the problem of long lunch lines and students not having enough time to eat).

alleviate slow cafeteria lines.[119] While delay caused by more detailed input cannot be eliminated, it can be reduced as touch-screen technology becomes more user-friendly and widespread. We might expect that over time cashiers will become increasingly adept at using touch-screen technology at work as they are more and more likely to encounter it in other venues such as ATMs, ticketing terminals, and supermarkets.

Delays caused by disallowing purchases or sending students back to take additional items could be addressed by arranging and signposting food selections appropriately. For example, chips and sweets could be placed at the register so that cashiers could inform students as to whether they were eligible to purchase these items at the time of checkout, *before* the student actually placed the chips or sweet on their tray. Schools might also try to provide guidance prior to checkout, indicating with signs or symbols which foods should be taken sparingly and which foods should be taken liberally in order to comply with a student's DANS standard.[120] One might expect that delays would diminish over time as students learn to balance what they place on their trays. Developing creative ways such as these to reduce delay occasioned by DANS is essential to its implementation.

Strategic behavior presents a second logistical challenge to implementing DANS. Students might engage in straw purchasing—where one student purchases food for another who does not qualify for the purchase. Personalized cards or PINs would reduce the incidence of straw purchasing by making straw purchasers pay for food from their own account.[121] Purchases of less healthy foods would also be recorded on the straw purchaser's account and reported to parents, which might further deter straw purchasing. Thus, schools could mitigate both delays in lunch lines and student behavior attempting to circumvent restrictions.

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[119] *Id.* at 216 ("Faster line speeds are another selling point [of POS systems], since long, slow lines are widely recognized to deter some children from participating.").

[120] In the past few years, the food industry has begun to employ a variety of front-of-package symbols that indicate the nutritional value of a food. One prominent symbol employs a traffic light color coding system: green for the most nutritious foods, yellow for less nutritious foods, and red for the least nutritious foods. *See* Timothy D. Lytton, *Signs of Change or Clash of Symbols? FDA Regulation of Nutrient Profile Labeling*, 20 HEALTH MATRIX 93, 100 (2010) (discussing the United Kingdom Food Standards Agency's traffic light front-of-package labeling system using green, red, and yellow to indicate nutritional content).

[121] Cards are easily personalized with photos or personal identification numbers (PINs) or, in some schools, replaced with biometric fingerprint scanners. *See, e.g.*, Michael Levin-Epstein, *Tech Streamlines School Food Service*, ESCHOOL NEWS (June 20, 2006), http://www.eschoolnews.com/news/topnews/index.cfm?i=37041&CFID=13881610&CFTOKEN=27754196 (discussing new technologies being utilized in school cafeterias, including cards with PINs and biometric scanners); Pauline Vu, *Schools Embrace Fingerprint Scanning*, STATELINE.ORG (Mar. 18, 2008), http://www.stateline.org/live/details/story?contentId=292262 (focusing on the use of biometrics in schools).

H. A Simplified Version for Elementary Schools

Middle and high schools offer a greater variety of foods and more opportunities to choose than elementary schools.[122] There is less need for DANS to encourage certain food choices over others where foodservice menus are fixed or where there are no vending machines or school stores selling snack foods, as is frequently the case in elementary schools.[123] In schools that already restrict food choices, a simplified version of DANS could be implemented. Where there are no opportunities for choice, or where the choices offered are essentially nutritionally equivalent (such as a choice of different flavors of popsicle or a choice of fruit), DANS might still be useful to provide parents with the nutritional profile of the food sold and served to their children during the day and an indication of how that food contributes to a healthy daily diet as defined by the child's daily aggregate nutrition standard. DANS could also be used to help parents determine whether to limit or block the serving of certain foods to their child. For example, parents who serve their child sweets for dessert at dinner may decide, based on the child's daily aggregate nutrition standard, to limit or block the serving of sweets to the child at school. As choice becomes more available in higher grades, DANS could be used increasingly to structure those choices through limiting certain foods and encouraging others based on each student's daily aggregate nutrition standard.

IV. OBJECTIONS

At this point I will respond to two potential objections to DANS as a means of improving children's dietary habits.

A. Nutritionism

The first objection views DANS's focus on the nutrient content of school food as perpetuating an unhealthy approach to food called "nutritionism." As Michael Pollan explains in his book *In Defense of Food: An Eater's Manifesto*, nutritionism is a reductionist ideology that views foods as essentially the sum of their nutrient parts and sees the purpose of eating as first and foremost a means of promoting health.[124] From the perspective of nutritionism, processed foods that contain the appropriate quantity of desirable nutrients are no worse, and potentially even better

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[122] *See* GAO, COMPETITIVE FOODS, *supra* note 11, at 3, 18–19 (discussing the availability of competitive foods; that is, foods sold to students that are not part of a school meal, and finding that high schools and middle schools sell more competitive foods than elementary schools).

[123] *See id*. at 3, 14.

[124] MICHAEL POLLAN, IN DEFENSE OF FOOD: AN EATER'S MANIFESTO 31–32 (2008).

than whole foods.[125] Using nutrition standards and nutrient profiles to improve school food, one might argue, is likely to have the opposite effect by exacerbating what is wrong with school food in the first place—the overabundance of industrially processed foods.[126] Instead, school food reform should focus on shifting away from industrially processed foods to locally prepared whole foods. The real educational opportunity of school food, according to this critique, lies not in training children to better optimize their nutrient intakes but in teaching them about the art of cultivating food, the history of different cuisines, the environmental implications of what we eat, the politics of the food system, and the fellowship of shared meals.

There is something to be said for this objection. To be sure, one result of more stringent nutrition standards has been the reformulation of processed foods through additional processing. Food manufacturers can produce low-fat and low-sodium pizza that satisfies nutrition standards but does little to improve the eating habits of children.[127] Fortification of candy and soda can transform foods of minimal nutritional value currently banned from cafeterias during mealtimes into permissible á la carte items.[128] By contrast, more radical initiatives across the country have reformed school food by shifting away from industrially processed foods toward locally grown whole foods prepared on-site. Executive Chef Alice Waters and Chef Ann Cooper have transformed the Berkeley Unified Public School district foodservice, preparing 8,000 meals per day in a central kitchen from scratch with "wholesome, fresh, and seasonal ingredients."[129] The Farm to School movement has promoted the use of locally sourced farm produce in school food programs in nearly 9,714 schools in forty-six states and offered learning opportunities to students about agricultural production and the larger food system.[130] Such reform efforts have reportedly had an impact on not only food sourcing and production but also children's dietary choices and consumption.[131]

For all of their considerable success, many of these reforms have relied on substantial funding from private foundations, often in the form of one-time competitive grants. Alice Waters's program was subsidized by a $3.8 million grant from her own foundation, and virtually all of the Farm to School programs in

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[125] *Id.* at 31–32; *see also* JESSICA MUDRY, MEASURED MEALS 1–19 (2009) (discussing the rhetoric of quantification in nutrition and the USDA subsequently ignoring other factors).

[126] *See* POPPENDIECK, *supra* note 8, at 132, 281.

[127] *Id*. at 132, 281; LEVINE, *supra* note 28, at 184–85.

[128] LEVINE, *supra* note 28, at 164, 169–71.

[129] *School Lunch Reform*, CHEZ PANISSE FOUND., http://www.chezpanissefoundation.org/school-lunch-reform (last visited Sept. 22, 2010).

[130] FARM TO SCHOOL, http://www.farmtoschool.org/ (last visited Sept. 22, 2010).

[131] *See, e.g.*, KEVIN MORGAN & ROBERTA SONNINO, THE SCHOOL FOOD REVOLUTION: PUBLIC FOOD AND THE CHALLENGE OF SUSTAINABLE DEVELOPMENT 61–62 (2008).

California have also been subsidized.[132] This raises questions about the sustainability of such programs and more importantly, whether they are a viable model for all schools.[133]

Unlike these more radical efforts, the aim of DANS is not to overturn the current food system but instead to equip students to deal with it. The food environment for many students does not offer local produce, whole foods, or home cooking. Exposing students in school to these alternatives is, of course, highly beneficial. But so too is helping them navigate through a world dominated by industrially processed foods. Learning how to make better dietary choices by limiting sugar, fat, and salt and seeking out less caloric nutrient-dense foods, such as fruits and vegetables, is a valuable enterprise worthy of school food reform efforts. In *Free for All: Fixing School Food in America*, Janet Poppendieck relates the comment of a New York City hunger activist on the ambitious reforms of Alice Waters and the Farm to School movement:

> I don't think there is anything wrong with trying to get stuff that's local . . . . It's the Alice Waters approach. It's nice. I don't object to that. Really, who would object to that? Having good food, local food or whatever else? . . . It's just so far from what the reality is for most families and most kids, who are not high-income. . . . There's got to be something between McDonalds and that, and I would like to focus more on what goes in between. . . . What happens in the South Bronx? What happens to these places that you still can't buy any of that stuff? But you're telling me that the people in Washington Heights are going to start eating locally? If it's cheaper [to buy] Washington State apples, they are going to buy Washington State apples. It's money.[134]

DANS is mindful of this reality. What DANS lacks in ambition, it makes up in realism. And by contrast to more radical reforms, DANS relies on technology and institutional practices—such as computerized POS systems and nutrient standard menu planning—that are already widely in use in schools and actively promoted and supported by the NSLP.

Finally, a focus on nutrients need not be incompatible with a shift toward less processed foods. The criteria included in nutrition standards and nutrient profiles can be designed to favor whole and locally grown foods.[135] Thus, DANS need not

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[132] LEVINE, *supra* note 28, at 190; Patricia Allen & Julie Guthman, *From "Old School" to "Farm-to-School": Neoliberalization from the Ground Up*, 23 AGRIC. & HUM. VALUES 401, 407 (2006).

[133] Allen & Guthman, *supra* note 132, at 407.

[134] POPPENDIECK, *supra* note 8, at 243.

[135] The food industry has recently begun to use front-of-package and store-shelf labels to rate the nutritional quality of food sold in the supermarket. At least one, the NuVal Nutritional Scoring System, discounts nutrients that are put into foods through fortification. *See* FDA Public Hearing, Document No. 2007N-0277, at 38 (Sept. 11, 2007) (statement of Ann Marie Krautheim) (transcript available at http://www.regulations.gov/search/Regs/

endorse industrially processed foods in the way that the critique of nutritionism suggests. DANS simply aims to equip students to make better dietary choices in a food environment where industrially processed foods are ubiquitous.

B. Neo-Liberalism

The second objection to DANS views its concern for generating revenue and preserving choice as a means of perpetuating the transformation of schools into product markets and children into consumers—what has been called the "neo-liberalization" of schools.[136] Critics condemn food industry marketing in schools that takes the form of product sales in school cafeterias and vending machines; advertisements in hallways, sports facilities, and school buses; educational materials that promote products, and distribution of coupons and free samples.[137] In the name of raising revenues and giving students choices, schools open their doors to food manufacturers who use the opportunity to build brand loyalty among a captive and highly impressionable audience.[138] Some critics have gone so far as to argue that junk food and junk food marketing exert such a powerful influence that children (and adults) are essentially addicted to junk food and do not really choose it in any meaningful sense.[139] Insofar as DANS allows brand name food sales in schools, it can be criticized as facilitating food industry marketing efforts.

Again, there is something to be said for this objection. The food industry has taken advantage of school administrators' need for revenue to intensively market products to children. One of the most egregious and widely cited industry practices is the making of exclusive pouring rights agreements. In a typical agreement, a soft drink company shares sales revenues with a school and donates needed items such as athletic equipment, school supplies, and educational materials—all with brand name logos. In return, school administrators grant the company an exclusive right to sell within the school. Such arrangements have in some cases led school

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home.html#documentDetail?R=090000648042a9d5) (discussing the value of giving a preference for naturally occurring nutrients in labeling food).

[136] *See generally* Allen & Guthman, *supra* note 132, at 411 (observing that one of the goals of school lunch reform is to develop students as consumers); *see also* LEVINE, *supra* note 28, at 180–91 (discussing the privatization of school lunch and marketing practices employed by those administering school lunch programs).

[137] *See* BROWNELL & HORGEN, *supra* note 2, at 129–40; COMM. ON FOOD MKTG. & THE DIETS OF CHILDREN & YOUTH, INST. OF MED., FOOD MARKETING TO CHILDREN AND YOUTH 187–90 (J. Michael McGinnis et al. eds., 2006) [hereinafter FOOD MARKETING]; NESTLE, *supra* note 54, at 188–96.

[138] *See* BROWNELL & HORGEN, *supra* note 2, at 129–40; FOOD MARKETING, *supra* note 137, at 187–90; LEVINE, *supra* note 28, at 181–82; NESTLE, *supra* note 54, at 188–96.

[139] *See* Jon Hanson, Adam Benforado, & David Yosifon, *Broken Scales: Obesity and Justice in America*, 53 EMORY L.J. 1645, 1697–98, 1700–07 (2004); *see also* DAVID A. KESSLER, THE END OF OVEREATING: TAKING CONTROL OF THE INSATIABLE AMERICAN APPETITE 145–53 (2009).

officials to aggressively promote soft drink sales within the school.[140] Many schools have also opened their cafeterias to brand name food corporations such as McDonalds and Pizza Hut, and these companies have worked hard to build brand loyalty among school age children.[141] The food industry is keenly aware of the buying power of school age children who, in the aggregate, spend at least $159 billion each year, influence up to another $670 billion in purchases made by adults, and represent a significant percentage of the market for many foods.[142] Food companies have even insinuated their products into educational materials, such as the *Oreo Cookie Counting Book* and the *Prego Thickness Experiment*.[143] A health sciences poster provided by the National Soft Drink Association informs students that: "As refreshing sources of needed liquids and energy, soft drinks represent a positive addition to a well-balanced diet . . . . These same three sugars also occur naturally, for example, in fruits . . . . In your body it makes no difference whether the sugar is from a soft drink or a peach."[144]

Some critics have drawn on biology and cognitive psychology to suggest that rather than offering students a choice of what to eat, marketing manipulates them into eating what the food industry wants them to eat. Jon Hanson, Adam Benforado, and David Yosifon have argued that the food industry formulates its products in a way that taps into our genetic predisposition to prefer sweet, rich, salty, energy-dense foods and leads children to consume them by making them readily available in schools.[145] They explain that "what is understood as 'choice' driven may more accurately be understood as . . . addiction-driven conduct."[146] Former FDA Commissioner David Kessler relies on neuroscience to make a similar point, arguing that the food industry formulates "hyperpalatable" products high in sugar, fat, and salt that trigger neurochemical responses that make them

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[140] *See* BROWNELL & HORGEN, *supra* note 2, at 161–65; NESTLE, *supra* note 54, at 197–213.

[141] *See* LEVINE, *supra* note 28, at 182.

[142] *See* INT'L CLEARINGHOUSE ON CHILDREN, YOUTH AND MEDIA, NORDICOM, REGULATION, AWARENESS, EMPOWERMENT: YOUNG PEOPLE AND HARMFUL MEDIA CONTENT IN THE DIGITAL AGE 103 (Ulla Carlsson ed., 2006), *available at* http://www.nordicom.gu.se/common/publ_pdf/232_Regulation_Awareness_Empowerment.pdf; Anup Shah, *Children as Consumers: Advertising to Children Is Big Business*, GLOBAL ISSUES, http://www.globalissues.org/article/237/children-as-consumers (last updated Jan. 8, 2008); *see also* FOOD MARKETING, *supra* note 137, at 153–55 (showing that young people have a very high influence on the purchase of food when compared to other nonfood spending categories); NESTLE, *supra* note 54, at 176–78 (reporting that a large number of children engage in discretionary spending on unhealthy foods).

[143] *See* BROWNELL & HORGEN, *supra* note 2, at 136–38; NESTLE, *supra* note 54, at 183–88.

[144] Hanson et al., *supra* note 139, at 1704–05.

[145] *See id.* at 1698.

[146] *Id.* at 1697.

literally irresistible.[147] He compares attraction to these foods to nicotine and cocaine addiction.[148]

Hanson et al. argue further that consumer choice is a myth propagated by the food industry in order to shift responsibility for the health consequences of consuming their products onto consumers and to defeat efforts to regulate the industry or hold it liable.[149] This myth is widely believed due to a widespread cognitive bias that leads individuals to underestimate the influence of outside forces on their decisions and to overestimate the extent to which they are free to choose.[150] Hanson et al. explain that the food industry's success in avoiding stricter regulation and liability, by convincing the public and government officials that consumption of its products is a matter of personal choice, goes beyond capture of the legislative process and administrative agencies to capture of the perceptions and worldviews of the vast majority of society—a phenomenon which they term "deep capture."[151] Industry claims that manufacturers merely produce what consumers demand mask the true reality: manufacturers produce products and promote them in ways that foster addiction among consumers.[152]

While appreciating that individual choice is always constrained by context and susceptible to cognitive bias and neurological conditioning, one must be careful not to overstate the case. A strictly deterministic account of human behavior—whether grounded in historical materialism, cognitive psychology, or neuroscience—undermines the widely shared educational aspiration to teach children critical thinking and good judgment. DANS seeks to equip students to think critically about food choices and to develop good judgment about how to eat within a food system that currently offers an abundance of processed foods high in sugar, fat, and salt and subjects consumers to intensive food industry marketing. DANS seeks to build healthy dietary habits that can protect students from the temptation to overindulge in unhealthy foods. Good habits are a traditional way to equip children to resist excess, whether it be in the form of too much screen entertainment, inadequate attention to studies, or eating poorly.[153] Our commitment to equipping students with these capacities of critical thinking and good judgment presupposes that individuals have some measure of autonomy and that human action cannot be explained solely in terms of responses to external stimuli. Thus, some measure of consumer choice, while difficult to prove, is what philosophers

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[147] *See* KESSLER, *supra* note 139, at 58–60, 74–77, 104–10.

[148] *See id.* at 58–59, 239–41.

[149] *See* Hanson et al., *supra* note 139, at 1708–11.

[150] *See id.* at 1658–62, 1711–13.

[151] *Id.* at 1757, 1765.

[152] *Id.* at 1757–69.

[153] *See* 2 ARISTOTLE, *Nicomachean Ethics*, *in* THE COMPLETE WORKS OF ARISTOTLE 1742–43 (Jonathan Barnes ed., 1984) ("[M]oral excellence comes about as a result of habit . . . .").

call a "practical truth"—a presupposition that is necessary to sustain our practical commitments to educating children.[154]

DANS does perpetuate the liberal belief in individual choice as critics of neoliberalism charge. But in doing so, it offers students training in how to resist attempts by the food industry to encourage overconsumption of highly profitable less healthy foods. Achieving this aim requires that schools provide an environment where intensive marketing does not overwhelm the critical capacities and judgment of students. For this reason, DANS may require some restrictions on marketing in schools. At the same time, in order to teach media literacy and offer students opportunities to exercise good judgment, the school food environment ought not to be entirely insulated from the larger food system. DANS presupposes that schools ought, in some measure, to reflect the larger culture in order to equip students to deal with it. This is not to say that radical change in the food system is undesirable, but only that until such change occurs, one task of schools is to equip students to deal with the realities of the current system in the meantime.

V. CONCLUSION

In this Article, I have argued that assigning each student a daily aggregate nutrition standard for all foods sold or served to the student in school would improve children's dietary habits. I conclude by highlighting four features of DANS that make it an especially attractive regulatory technique. First, DANS respects the competing values that different stakeholders bring to the issue of school food. DANS aims to improve dietary habits without ignoring the need to use school food as a revenue source, undermining parental control, or eliminating student choice.

Second, DANS distributes the regulatory burdens and the responsibility for improving dietary habits among several regulated parties rather than focusing on only one group. DANS regulates students by tracking their choices and setting limits. DANS regulates food service administrators, school officials, teachers, students, and parents by tracking and limiting the amount of less healthy foods they can sell or serve to any one child in school. DANS also regulates food industry suppliers by limiting the market for their less healthy products and providing incentives for the formulation of healthier products. As in many policy controversies, there is too much finger-pointing and scapegoating in debates over school food reform, and DANS offers an opportunity to share the burdens and responsibility for reform.

Third, DANS offers flexibility and adaptability. DANS standards can be tailored to different types of students and set at any level, allowing schools to set their own goals for improving dietary habits. Moreover, nutrition standards and

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[154] For an introduction to the concept of practical truth, *see* Gertrude Ezorsky, *Pragmatic Theory of Truth*, *in* 6 THE ENCYCLOPEDIA OF PHILOSOPHY 427–30 (1967). For a history of the concept in American philosophical pragmatism, see generally LOUIS MENAND, THE METAPHYSICAL CLUB: A STORY OF IDEAS IN AMERICA (2001).

food profiles can incorporate criteria that allow for the pursuit of a variety of goals. For example, calorie criteria could be used to influence dietary choices with the aim of preventing and reducing obesity. Focusing standards and profiles on the level of processing in foods could be used to develop dietary habits that favor whole foods. Taking the source of foods or their carbon footprint into account could be used to promote dietary habits mindful of environmental concerns. In addition, DANS standards could be tailored to fit students with special dietary needs like diabetes and allergies.

Finally, DANS offers accountability and opportunities for feedback and policy revision. DANS tracks individual student food selections over time, allowing school officials, government policymakers, and researchers to set specific benchmarks and evaluate progress.[155] This kind of detailed, quantitative and qualitative information is relatively rare in other areas of school food reform.[156]

DANS does not offer the radical change that many school food reform advocates seek. Neither does it merely reinforce the worst aspects of the current situation as critics of nutritionism and neoliberalism might object. DANS could have a marginal influence on improving the nutritional quality of school food, changing students' attitudes about food and eating, and limiting the influence of consumer marketing in schools. But these are not DANS's primary aims. DANS is, instead, first and foremost an educational approach to school food that sees school food as an opportunity to equip students with skills and habits that will allow them to survive in a food system that falls short of our aspirations.

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[155] For a brief discussion of privacy concerns related to the use of information generated by DANS, *see supra* notes 105–107 and accompanying text.

[156] *See* HOW DO WE MEASURE UP?, *supra* note 104, at 26–28, 282.