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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*²

ABSTRACT

This article proposes a novel approach to school food reform that promotes healthy dietary habits. Daily aggregate nutrition standardization (DANS) assigns each student an individualized standard to monitor the nutritional quality of all food provided to that student in school at any time of the day, including meals and snacks, whether from the cafeteria, vending machines, bake sales, or in class. DANS would enable schools to track all foods purchased by or served to a student each day and to compare the nutritional content of those foods to a nutrition standard appropriate for that student. Cafeteria registers and vending machines could easily be programmed to carry out DANS with only minor modifications to existing software currently used for menu planning, nutrient analysis, account management, and sales transactions. DANS could 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. DANS could also block purchases of foods that are inconsistent with a student’s daily aggregate nutrition standard. Rather than instituting an outright ban on “bad” foods, DANS would help children develop healthy dietary habits in a more realistic environment that includes many of the temptations they face outside of school. DANS uses school food as an educational resource to equip students with the critical thinking skills and good judgment that they need to survive in the contemporary industrial food system.

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² Laura Pappano, *The Chalkboard: Biting Criticism: School Lunch Nutrition Called into Question*, BOSTON GLOBE, Oct. 6, 2002, at A30.

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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. These items—pizza, burgers, French fries, cakes, snack foods, soda, and candy—are sold in cafeterias, vending machines, and school stores. In addition, students sell these foods to raise funds for extra-curricular activities, parents provide them for in-class birthday parties, and teachers give them out as rewards. 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 such as heart disease later in life.³

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.⁴ In addition, federal regulations prohibit the sale of soda and candy in foodservice areas during mealtimes.⁵ Many state and local governments have imposed their own stricter nutrition standards and sales restrictions on school foods.⁶

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. Moreover, most schools sell these foods individually as a la carte items outside of the NSLP and SBP and, as such, they are not subject to federal nutrition standards. 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. Stricter state and local sales restrictions and nutrition standards have been resisted by school officials who rely on the often considerable revenue from the sale of these foods for which there is high student demand.⁷ And

³ See, e.g., Ellen Fried and Michele Simon, *The Competitive Food Conundrum: Can Government Regulations Improve School Food?*, 56 Duke L.J. 1491, 1491-1493 (2007); KELLY D. BROWNELL & KATHERINE BATTLE HORGAN, *FOOD FIGHT* 129-177 (2004); INSTITUTE OF MEDICINE, *PREVENTING CHILDHOOD OBESITY: HEALTH IN THE BALANCE* 237-244 (2005); Two Angry Moms, *The Movie and the Mission*, at <http://www.angrymoms.org/inner/about.html> (last visited Oct. 11, 2009).

⁴ 7 CFR § 210.10 (2008).

⁵ 7 CFR § 210.11 (2008).

⁶ JANET POPPENDIECK, *FREE FOR ALL: FIXING SCHOOL FOOD IN AMERICA* 113-114, 125 (2010); see e.g., N.Y. PUB. HEALTH LAW § 2599-c (McKinney's 2005); CAL. EDUC. CODE §§ 49430-49431.5 (West 2009); N.J. Admin. Code tit. 2, §§ 36-1.1 to 36-1.11 (current through Oct. 5, 2009) (proposed readoption 41 N.J. Reg. § 2749 (a) (July 20, 2009)).

⁷ See e.g., Jennifer Medina, *New Policy Outlaws Bake Sales in Schools*, N.Y. TIMES, Oct. 3, 2009, at A17, available at 2009 WLNR 19519163; Carolyn Jones, *Nutrition Rules Ambush School Bake Sales*, SAN FRANCISCO CHRONICLE, Oct. 27, 2008, at B1, available at 2008 WLNR 20468997; 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, available at 2008 WLNR 18099927.

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.⁸

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 providing free and reduced-price meals, revenues from a la carte sales are essential to the survival of many food service programs.⁹ 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 some range of choice 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 techniques: stricter nutrition standards, a wider

⁸ See e.g., Mary MacVean, *Schools Violate Junk Food Ban*, L.A. TIMES, May 9, 2009, at 9, available at 2009 WLNR 8854027; Patricia Leigh Brown, *As School Food Slims Down, Bake Sales Are Out*, N.Y. TIMES, Nov. 10, 2008, at A16, available at 2008 WLNR 21454380; Debbie Pfeiffer Trunnell, *Sweet Smuggling*, SAN BERNARDINO CO. SUN, April 1, 2008, available at 2008 WLNR 6180960.

⁹ GOVERNMENT ACCOUNTING OFFICE, SCHOOL MEAL PROGRAMS: COMPETITIVE FOODS ARE WIDELY AVAILABLE AND GENERATE SUBSTANTIAL REVENUES FOR SCHOOLS 7 (Aug. 2005), [hereinafter "GAO Competitive Foods"], available at <http://www.angrymoms.org/inner/about.html>; KATHERINE RALSTON ET AL., THE NATIONAL SCHOOL LUNCH PROGRAM: BACKGROUND, TRENDS, AND ISSUES iv, 2, 29 (July 2008), available at <http://www.ers.usda.gov/Publications/ERR61/ERR61.pdf>; POPPENDIECK *supra* note 6, at 5-6, 41, 74-75.

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.¹⁰

In this article, I propose a novel regulatory technique that would complement these existing reform efforts to promote healthy dietary habits while maintaining revenues, respecting parent control, and preserving student choice. I propose that schools institute *daily aggregate nutrition standardization* (DANS) that would monitor the nutritional quality of all food provided to a 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 so as to keep track of all food sold or served to a student during the day. School 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. School could also use DANS to block purchases of foods that are inconsistent with a student's daily aggregate nutrition standard. 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 school or other public authorities.

¹⁰ USDA, MAKING IT HAPPEN! SCHOOL NUTRITION SUCCESS STORIES (Jan. 2005), Executive Summary, *available at* http://www.fns.usda.gov/TN/Resources/c_execsum.pdf.

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 for those who desire them. DANS seeks to manage these guilty pleasures rather than attempting to eliminate them. DANS also provides parents with more information about and, potentially, control over the foods that their children are being served in school. DANS leaves some room for school food services 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 to block purchases would both restrict choice and reduce revenues by making it harder for students to over consume unregulated a la carte cafeteria offerings and vending machine snacks. Under DANS, students would not be permitted to purchase three servings of French fries or eat 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.¹¹ 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.¹² DANS standards could be tailored to accommodate the different dietary needs of children within an age group. Thus, the food purchases of a 16 year-old, 185-pound football player would be measured against

¹¹ Under the School Meals Initiative (SMI), the USDA requires states to conduct reviews every five years of school food services participating in the NSLP and SBP to determine whether they are in compliance with USDA nutritional standards. TEXAS DEPT. OF AGRICULTURE, SCHOOL MEALS INITIATIVE REVIEW 24.1, 24.18 (July 2009), *available at* http://www.squaremeals.org/vgn/tfa/files/2348/20739_Section%2024-SMI.pdf.

¹² 7 CFR § 210.10.

a different DANS standard than the food purchases 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 food services 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 these reforms require costly investments in educational programming and marketing campaigns. 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 districts.¹³ Computerization is an increasingly common strategy for cutting costs and increasing the efficiency of school lunch programs.¹⁴ 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. The software also helps schools manage accounts, track inventory, and maintain an individualized purchasing history for each student. 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. 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.

¹³ 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) (on file with author).

¹⁴ *Id.* at 1-9.

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, I believe, is a goal shared by stakeholders on all sides of current debates about school food reform, including parents, teachers, food service 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—I respond that there is value in teaching children to deal with the existing food system in the meantime. To those who oppose any restrictions on the marketing and sale of foods in schools regardless of their nutritional value, I reply that there is a growing trend toward banning whole categories of food from schools and that DANS preserves a place for less healthy foods within an overall healthy diet. I wish neither to promote nor to prohibit pizza, burgers, French fries, soda, cookies, and candy. I wish instead to help students develop healthy dietary habits in a world where these foods are legal, available, and tempting.

My elaboration of DANS proceeds in four parts. Part I identifies features of the current school food regulatory regime that undermine healthy dietary habits. Part II 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 III 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. Part IV concludes by highlighting several aspects of DANS that make it an especially attractive regulatory technique.

I. 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. School food services sell these foods as a la carte items in the cafeteria to make up for inadequate school meal subsidies.¹⁵ School food services have also incorporated these popular foods into the subsidized meals themselves in order to avoid losing student participation in the meal program.¹⁶ 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.¹⁷

A second feature of the current system that makes it easy for students to avoid healthier foods are 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.¹⁸ This rule, designed to provide school food administrators greater flexibility in menu planning, allows food service 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.¹⁹ A second rule is the byproduct of a federal policy designed to reduce food waste. Under the "Offer versus Serve" rule, school

¹⁵ GAO Competitive Foods, *supra* note 9, at 7; RALSTON ET AL., *supra* note 9, at iv, 2, 29; POPPENDIECK, *supra* note 6, at 5-6, 41, 74.-5

¹⁶ POPPENDIECK, *supra* note 6, at 41.

¹⁷ RALSTON ET AL., *supra* note 9, at 30-31; GAO Competitive Foods, *supra* note 9, at 21-25, 32-33.

¹⁸ 7 CFR § 210.10; GAO Competitive Foods, *supra* note 9, at 6.

¹⁹ SUSAN LEVINE, SCHOOL LUNCH POLITICS: THE SURPRISING HISTORY OF AMERICA'S FAVORITE WELFARE PROGRAM 184 (2008).

food services 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. This rule is mandatory for high schools and optional but widely used in middle and elementary schools. The rule allows students to avoid the fruit and vegetable components of school meals.²⁰

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.²¹ 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.²² 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. In this section, I analyze 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.²³ The

²⁰ RESOURCE GUIDE: OFFER VERSUS SERVE IN THE SCHOOL NUTRITION PROGRAMS *available at* <http://teamnutrition.usda.gov/resources/ovs%20resource%20guide.pdf>; POPPENDIECK, *supra* note 6, at 40; INSTITUTE OF MEDICINE, SCHOOL MEALS: BUILDING BLOCKS FOR HEALTHY CHILDREN 5:11 (2009).

²¹ BROWNELL & BATTLE HORGAN, *supra* note 3, at 12.

²² POPPENDIECK, *supra* note 6, at 138.

²³ GAO Competitive Foods, *supra* note 9, at 7; RALSTON ET AL., *supra* note 9, at 2, 29; POPPENDIECK, *supra* note 6, at 5-6, 41, 74-75. The NSLP reimburses states for meals served in schools, and the states administer the program in

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 percent 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 \$2.68 per meal served. Students with household income between 130 and 185 percent of the federal poverty level are entitled to a reduced-price meal for which schools may charge no more than 40 cents and for which they receive a NSLP reimbursement of \$2.28 per meal. 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 and for which the school receives a NSLP subsidy of 25 cents per meal.²⁴ In addition to these reimbursements, 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.²⁵ 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 food service programs. While some states provide additional subsidies, they are inadequate to make up the shortfall. Many local districts provide no funding at all, expecting food services to be financially independent.²⁶

accordance with USDA regulations through agreements with local school food authorities. In 2006, ninety-four percent of schools, both public and private, participated in NSLP which spent \$8 billion in federal funds to feed 30 million children—60 percent of school-age children once per week—making it the second largest U.S. food and nutrition assistance program. See RALSTON ET AL., *supra* note 9, at 1-3.

²⁴ FEDERAL FOOD PROGRAMS: NATIONAL SCHOOL LUNCH PROGRAM *available at* http://www.frac.org/html/federal_food_programs/programs/nslp.html (reimbursement rates for FY 2008).

²⁵ RALSTON ET AL., *supra* note 9, at 16-19; USDA, Commodity Processing, http://www.fns.usda.gov/FDD/processing/about_processing.htm.

²⁶ SHIRLEY R. WATKINS, FOODS SOLD IN COMPETITION WITH USDA SCHOOL MEAL PROGRAMS: A REPORT TO CONGRESS (Jan. 12, 2001), *available at* http://www.fns.usda.gov/CND/Lunch/_private/CompetitiveFoods/report_congress.htm.

Schools attempt to make up this shortfall by selling food outside of the NSLP and SBP on an a la carte basis.²⁷ Foods sold to students in school outside of federally-subsidized meal programs are known as “competitive foods.”²⁸ Competitive foods range from more nutritious foods such as fruit, salad, and milk to less nutritious foods such as French fries, soda, and candy.²⁹ They may be sold by the food service program as a la carte items, by the school administration in vending machines and school stores, or by student groups in fundraisers.³⁰ A 2005 survey conducted for the USDA found that competitive foods were sold in cafeterias as a la carte items in 75 percent of elementary schools and over 90 percent of middle and high schools and in vending machines in 27 percent of elementary schools, 97 percent of middle and junior high schools, and 98 percent of high schools.³¹ A 2005 United States Government Accountability Office (GAO) report found that many schools generated substantial revenues from the sale of competitive foods. The GAO estimated that in 2003-2004, thirty percent of all high schools generated more than \$125,000 per school from the sale of competitive foods, 27 percent of middle schools generated more than \$50,000 per school and 32% of elementary schools generated more than \$5,000 per school.³²

Revenues from a la carte sales of competitive foods help offset food service operating losses due to inadequate public funding.³³ The GAO reported that in 2003-2004, twenty percent of food service programs that sold a la carte items made over \$125,000 per school, and over 65% made over \$25,000.³⁴ Revenue from a la carte sales does not help to offset operating losses,

²⁷ GAO Competitive Foods, *supra* note 9, at 7; RALSTON ET AL., *supra* note 9, at 2, 29; POPPENDIECK, *supra* note 6, at 5-6, 41, 74-75.

²⁸ GAO Competitive Foods, *supra* note 9, at 5.

²⁹ GAO Competitive Foods, *supra* note 9, at 12.

³⁰ GAO Competitive Foods, *supra* note 9, at 13-14.

³¹ RALSTON ET AL., *supra* note 9, at 31.

³² GAO Competitive Foods, *supra* note 9, at 27-28.

³³ The information in this paragraph is drawn from RALSTON ET AL., *supra* note 9, at 1-5 unless otherwise specified.

³⁴ GAO Competitive Foods, *supra* note 9, at 30.

however, if it merely shifts students from reimbursable lunches to a 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 a la carte sales. This leads schools to offer the popular a la carte items—pizza, burgers, French fries, etc.—in reimbursable school lunches.³⁵ Thus, there is an incentive to include less healthy food within NSLP meals while selling it also a 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.³⁶ Like school food service 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 food are made by many different people, including food service directors, school officials, parents, teachers, and students.³⁷ There have been efforts to centralize decision making about competitive foods. 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.³⁸ Today, the USDA regulates a subset of competitive foods known as “foods

³⁵ POPPENDIECK, *supra* note 6, at 41.

³⁶ GAO Competitive Foods, *supra* note 9, at 33.

³⁷ GAO Competitive Foods, *supra* note 9, at 21.

³⁸ MARION NESTLE, *FOOD POLITICS* 207-8 (2002).

of minimal nutritional value” (FMNV). These are foods that provide less than five percent of the recommended daily intake of any of eight specified nutrients per serving, and NSLP regulations prohibit their sale in foodservice areas during mealtimes.³⁹ Examples of FMNV include soda, chewing gum, and hard candy.⁴⁰ In addition to federal regulation, by 2003, more than half of the states imposed additional restrictions on competitive foods, and an estimated 60 percent of schools had instituted school-level policies on the sale of competitive foods.⁴¹ 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.⁴² 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.⁴³ As we shall see, DANS offers regulators—at the federal, state, and local level—an additional tool by which to keep track of and control less healthy foods in schools served in federally-subsidized 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

³⁹ RALSTON ET AL., *supra* note 9, at 31.

⁴⁰ GAO Competitive Foods, *supra* note 9, at 7.

⁴¹ RALSTON ET AL., *supra* note 9, at 31; GAO Competitive Foods, *supra* note 9, at 22.

⁴² Child Nutrition and WIC Reauthorization Act of 2004, Pub. L. No. 108-265, §204, 118 Stat. 729, 780-81 (2004); RALSTON ET AL., *supra* note 7, at 33; GAO Competitive Foods, *supra* note 9, at 12.

⁴³ See JAMIE CHIRIQUI, 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 school year 2007–08, more 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 18. More 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 only 10 percent of all students were enrolled in a district with a policy that had specific evaluation requirements, including measureable outcomes. *Id.* at 84.

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.⁴⁴ 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 in sugars and salt.⁴⁵ Since these standards apply to the meal as a whole, meals containing entrees such as pizza or side dishes such as 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.⁴⁶ Indeed, in annual surveys of school food services, pizza is regularly reported to be the most popular entrée and potatoes the most popular vegetable.⁴⁷

Local school food services must plan daily menus based on these standards. USDA regulations provide for five methods of menu planning.⁴⁸ 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

⁴⁴ 7 CFR § 210.10(b) (2008). There are additional standards for the SBP, but in the interest of simplicity, I will focus exclusively on the NSLP standards.

⁴⁵ 7 CFR § 210.10(b) (2008).

⁴⁶ LEVINE, *supra* note 19, at 185.

⁴⁷ POPPENDIECK, *supra* note 6, at 84.

⁴⁸ The information in this paragraph is drawn from the UNITED STATES DEPARTMENT OF AGRICULTURE, MENU PLANNING IN THE NATIONAL SCHOOL LUNCH PROGRAM (2000), http://www.fns.usda.gov/cnd/menu/menu_planning.doc. See 7 CFR § 210.10 (2008) for a list of the regulations.

conduct their own nutrient analysis. It allows schools to rely on an outside source, such as another school district or 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 food services 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.”⁴⁹ This allows school food services 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, “Where 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.”⁵⁰ Students can avoid USDA nutrition standards by purchasing lunch only on the days when more popular, less healthy meals are served and eat a 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

⁴⁹ 7 CFR § 210.10 (2008). 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 INSTITUTE OF MEDICINE, SCHOOL MEALS: BUILDING BLOCKS FOR HEALTHY CHILDREN, *supra* note 20, at 5:1.

⁵⁰ Melissa Alexander, Pizza in the School Lunch Program, BakingBusiness.com, June 18, 1996, http://bakingbuyer.com/feature_stories_print.asp?ArticleID=8971; LEVINE, *supra* note 19, at 184.

the food included in school lunches. In subsequent years, the rule was made optional for middle and elementary schools, and it is in widespread use in most schools today.⁵¹ 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.⁵² While allowing students to decline foods may reduce plate waste, it undermines the standards that govern the nutritional content of NSLP meals.⁵³ 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.⁵⁴

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 begun to implement federally-mandated local wellness policies that cover all foods consumed in school.⁵⁵ Many schools have attempted to impose restrictions on the content,

⁵¹ POPENDIECK, *supra* note 6, at 66-67.

⁵² 7 CFR § 210.10 (2008).

⁵³ POPENDIECK, *supra* note 6, at 67. *See also* INSTITUTE OF MEDICINE, SCHOOL MEALS, *supra* note 20, at 1:10, 5:10-13 (2009).

⁵⁴ 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. 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. *See* 7 § CFR 210.10 (2008).

⁵⁵ *See* CHIRIQUI, *supra* note 43, at 38-39. Ninety-three percent of elementary-school students, 92 percent of middle-school students, and 89 percent 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. Sixty-five percent of elementary-school students, 62 percent of middle-school students, and 59 percent 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.⁵⁶ 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 food service program.⁵⁷ 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.⁵⁸

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 is an important childhood experience and to denounce school restrictions as an overzealous reaction to anxiety about childhood obesity.⁵⁹ 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

⁵⁶ *Id.* at 44-45. By the first day of the 2007–08 school year, 65 percent 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.*

⁵⁷ See BLAND COUNTY PUBLIC SCHOOLS, STUDENT WELLNESS POLICY 4 (March 27, 2006), *available at* <http://www.bland.k12.va.us/documents/Local%20Policy%20Manual/Student%20Wellness%20Policy%20-%20JHCF.pdf>; ADMINISTRATIVE PROCEDURES OF THE MILWAUKEE PUBLIC SCHOOLS, ADMINISTRATIVE PROCEDURE 4.07: STUDENT NUTRITION & WELLNESS PROCEDURES 2-3 (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 AREA SCHOOL DISTRICT 742, ADMINISTRATIVE PROCEDURES 533A 9 (July 29, 2006), *available at* <http://isd742.org/schoolboard/Policies/ap533a.pdf>. See 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. NUTR. DIET. 420 (2008), <http://www3.interscience.wiley.com/cgi-bin/fulltext/120747995/PDFSTART>, for a study of nutrient intakes of UK primary school children eating a school meal with those taking a packed lunch.

⁵⁸ MARLO R. MIURA, 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 percent of high school districts and 73.1 percent 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, and 65.9 and 73.4 percent, respectively, in 2000. *Id.* at 22.

⁵⁹ See e.g., Cupcake Wars, Goodyblog (Sept. 26, 2007), http://www.goodyblog.com/playing_house/2007/09/cupcake-wars.html. Some have even labeled those who favor restrictions “food Nazis.” Hamilton Nolan, Meet New York’s Worst Food Nazi Mom, *gawker.com*, June 16, 2009, <http://gawker.com/5292891/meet-new-yorks-worst-food-nazi-mom>.

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.⁶⁰

To summarize, I have suggested that three features of the current regulatory regime undermine efforts to promote healthy dietary habits. 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.

II. 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. 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,

⁶⁰ POPPENDIECK, *supra* note 6, at 158-159. 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 prompting different stakeholders to think about the overall food environment in schools and about how to improve it.

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.⁶¹ The federal No Child Left Behind Act is a prominent example of performance-based regulation. The act sets academic standards for student achievement and leaves schools to figure out the best way to meet those standards.⁶² Performance-based regulation is already part of school food regulation. Menu planning regulations, for example, set standards for NSLP meals and leave school food service 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 food service 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

⁶¹ Stephen D. Sugarman & Nirit Sandman, *Fighting Childhood Obesity Through Performance-Based Regulation of the Food Industry*, 56 Duke L.J. 1403, 1412 (2007).

⁶² *Id.* at 1422.

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, DANS could be imposed by federal, state, or local authorities. 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. To begin with, DANS requires adoption of a standard for daily nutrition in school. As we have seen, school food services use the federal Recommended Daily Allowances and Dietary Guidelines for Americans for the purpose of NSLP and SBP compliance.⁶³ 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.

⁶³ 7 CFR § 210.10 (2008).

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 K-6 and grades 7-12 or K-3 and grades 4-12, depending upon the method of menu planning used.⁶⁴ 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 effect 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.⁶⁵ 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

⁶⁴ 7 CFR § 210.10 (2008).

⁶⁵ See Boettger, *supra* note 13, at 50 (finding that the overwhelming majority of large, urban school districts employ POS technology); Telephone interview with Julie Anne Boettger, (September 16, 2009) (discussing how Point of Sale (POS) systems maintain student profiles that include identifying, eligibility, and allergy information).

nutrient standards defined by the federal government. DANS standards 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 standards might focus on overconsumption of sugar, saturated fat, and sodium and encourage students to eat foods with more fiber. Simplified standards might include only on 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 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 time, an individual consumes a nutritionally a balanced diet.⁶⁶ 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.⁶⁷ 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.⁶⁸

⁶⁶ Daily values are based on average daily nutrient intake of individuals over time, and actual daily intake “may vary substantially from day to day without ill effect in most cases.” INSTITUTE OF MEDICINE, DRI DIETARY REFERENCE INTAKES FOR VITAMIN C, VITAMIN E, SELENIUM, AND CAROTENOIDS 22 (2000).

⁶⁷ 21 CFR § 101.9(d)(1)(v).

⁶⁸ K. Elfhag and S. Rossner, *Who Succeeds in Maintaining Weight Loss? A Conceptual Review of Factors Associated with Weight Loss and Weight Regain*, 6 *Obes. Rev.* 67-85 (2005) (successful weight maintenance associated with regular daily meal rhythm); K. N. Boutelle and D. S. Kirschenbaum, *Further Support for Consistent Self-Monitoring as a Vital Component of Successful Weight Control*, 6 *Obes. Res.* 219-224 (1998) (successful weight control associated with regular daily self-monitoring of daily consumption); R. R. Wing and S. Phelan, *Long-Term Weight Loss Maintenance*, 82 *Am J. Clin. Nutr.* 222S-225S (2005) (successful weight maintenance associated with consistent daily eating pattern); Email message from Vicki Taylor, Corporate Affairs Representative, Weight

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 in use in many schools. 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.⁶⁹ School food programs that use nutrient standard menu planning employ USDA-approved software that generates this information.⁷⁰ Menu planners simply enter recipe ingredients or nutrition information from the labels on processed foods, and the software provides a nutrient analysis.⁷¹ Label information from foods served in vending machines, school stores, fundraisers, and class parties could similarly be entered into a menu-planning program.⁷² For homemade goods, ingredient information could be provided.

Thus, 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

Watchers International, Inc. to Christina Tripoli, (February 16, 2010) (on file with author) (easier to track food consumption on a daily basis).

⁶⁹ 7 CFR § 210.10 (2008). NSLP standards do not include limits on sugar, but existing software could easily incorporate them if desired.

⁷⁰ 7 CFR § 210.10 (2008); UNITED STATES DEPARTMENT OF AGRICULTURE, NUTRIENT ANALYSIS PROTOCOLS: HOW TO ANALYZE MENUS FOR USDA'S SCHOOL MEALS PROGRAMS 33-37, *available at* <http://www.fns.usda.gov/TN/Resources/NAP3.pdf>.

⁷¹ 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 53-58.

⁷² 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. Nationwide Children's Hospital Snackwise Nutrition Rating System, <http://www.snackwise.org>.

most school food services do not have. Regulatory compliance, however, already requires that schools provide nutrient profiles of the meals they serve and maintain sales records of what was sold.⁷³ 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 a la carte foods served in cafeterias and the snack foods, sweets, and drinks sold in vending machine and school stores.

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

Applying DANS standards 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 to determine NSLP eligibility and keep track of sales.⁷⁴ At the cafeteria check out, students present a bar-coded card or swipe card or enter a personal identification number (PIN).⁷⁵ 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.⁷⁶ The cashier uses a computer touch screen to record items purchased by the student.⁷⁷ POS systems generate transaction records for accounting purposes and for calculating the nutrient profile of

⁷³ INSTITUTE OF MEDICINE, SCHOOL MEALS, *supra* note 20, at 10:13-10:14.

⁷⁴ Boettger, *supra* note 13, at 50.

⁷⁵ See, e.g., PCS Revenue Control Systems, FASTRAK, <http://www.pcsrscs.com/products/cafeteria.html> [*hereinafter* FASTRAK]; Penn Center Systems, LunchBox Food Service, <http://www.penncentersystems.com/school-LunchBox-pos.php> [*hereinafter* LunchBox]; Food Service Solutions, POSitive ID System III, <http://www.foodserve.com/>; MealTime, Point of Sale, <http://www.mealtimeclm.com/products/> [*hereinafter*, MealTime]. MealTime POS terminals allow students to purchase their meals with cash or with their pre-paid debit accounts using either barcode IDs, rosters or by entering their pin numbers on a numeric keypad. MealTime, at <http://www.mealtimeclm.com/products/pos.aspx>.

⁷⁶ MealTime displays students' names and photos during every transaction and at every terminal, allowing staff to verify each student, view diet restrictions and the student's account. MealTime, *supra* note 74.

⁷⁷ See MealTime, *supra* note 74; LunchBox, *supra* note 74; FASTRAK, *supra* note 74 (employing 3-D touch screen).

the average meal served which is used by schools using nutrient standard menu planning to establish compliance with USDA nutrition standards.⁷⁸ In some POS systems, schools also provide parents with a complete purchase history for their child that parents can access online using a web interface.⁷⁹ 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.⁸⁰

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 machines would be equipped to accept cards or PINs.⁸¹ 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.⁸²

⁷⁸ See PCS Revenue Control Systems, TrakNOW, <http://www.pcsrscs.com/products/inventory.html>. TrakNOW is USDA approved nutrition and inventory monitoring system and provides USDA-approved receipts and nutrient analysis. See also LunchBox, *supra* note 74. LunchBox gives schools the ability to track nutrient differences and percentages of RDA that has been filled for each nutrient during a selected date range of the school's choosing. *Id.*

⁷⁹ LunchBox allows parents real-time online access to the student account in order to monitor their child's eating history, impose spending limits, and control the a la carte items purchased. LunchBox, *supra* note 74.

⁸⁰ N. Lambert et al., *Using Smart Card Technology to Monitor the Eating Habits of Children in a School Cafeteria*, 18 J. HUM. NUTR. DIET. 243, 243 (2005).

⁸¹ See LunchBox, *supra* note 74 (transforming a vending machine into a POS device and providing reimbursable meals from virtually anywhere on the school campus); see also Eschoolnews, *New 'smart' Vending Machines Promote Healthy Eating*, May 15, 2007, <http://eschoolnews.org/news/top-news/index.cfm?i=46108&CFID=22755734&CFTOKEN=67901295>.

⁸² 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, since this might stigmatize some students within the classroom setting and create additional problems within the student-teacher relationship.

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.⁸³ 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 in schools 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.⁸⁴ DANS could help to generate this type of information, leading to better evaluation of school food reforms and providing feedback to improve their effectiveness.

⁸³ Individual dietary information would be covered by the Family Educational Rights and Privacy Act (FERPA), which grants students and parents rights to access school records and imposes on schools a duty to protect the confidentiality of such records. For dietary information that does not identify individual students, FERPA would allow disclosure of information without parental consent. And even for dietary information that does identify individual students, FERPA would allow disclosure for certain educational purposes. Given the value of dietary information 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 dietary information generated by DANS. A full analysis of these issues is beyond the scope of this article. *See* 20 USC § 1232g (FERPA statutory provisions); 34 CFR §99.30-31 (FERPA regulations regarding parental consent).

⁸⁴ INSTITUTE OF MEDICINE, *PROGRESS IN PREVENTING CHILDHOOD OBESITY: HOW DO WE MEASURE UP?* 286 (2007).

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.⁸⁵

DANS would prevent students from purchasing only vending machine items, bake sale goods, a la carte items, and less nutritious school meal components. DANS would also help steer students towards whole grain foods, fruits, and vegetables. Recent studies indicate that the availability and accessibility of foods increases children's consumption of them.⁸⁶ 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.⁸⁷ These findings suggest that by making healthier foods more available and repeatedly exposing students to them, DANS could increase consumption of these foods.

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

⁸⁵ POPPENDIECK, *supra* note 6, at 30-31, 217-218.

⁸⁶ PREVENTING CHILDHOOD OBESITY, *supra* note 3, at 243, 291-292; SCHOOL MEALS, *supra* note 20, at 10:6.

⁸⁷ PREVENTING CHILDHOOD OBESITY, *supra* note 3, at 291-292; SCHOOL MEALS, *supra* note 20, at 10:6.

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 food service 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 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 food service 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 brought from home or purchased off campus. Schools eager to broaden the impact of DANS to include these foods, however, could consider restrictions such as requiring students to participate in the school lunch program, prohibiting students from purchasing food off campus during the school day, or inviting outside vendors to sell on campus under the umbrella of the school's POS system.

F. Costs

DANS is a high-tech strategy for improving children's dietary habits. One might wonder whether most school food services, struggling to break even, could ever afford to implement it. Computerized menu planning and POS systems costs tens of thousands of dollars depending upon the size of a school district and the number of sites in the district.⁸⁸ Cost is not, however, as much of a barrier to implementing DANS as it might appear to be. A recent study found that over ninety-eight percent of large urban school districts surveyed employ POS technology, over

⁸⁸ Poppendieck, *supra* note 6, at 42; Telephone interview with Julie Boettger, *supra* note 65.

eighty-seven percent use nutrient analysis software, and over eighty-two percent rely on computerized menu planning.⁸⁹ Such systems for accounting, regulatory compliance, and menu planning are increasingly viewed as sound investments for food services seeking to modernize.⁹⁰ 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.⁹¹

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 focusing on the nutritional content of foods sold and served each day, DANS deprives food service 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.⁹² 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 example are not a sufficient basis to conclude that DANS would not cause revenue losses in some schools.⁹³

⁸⁹ Boettger, *supra* note 13, at 50.

⁹⁰ Boettger, *supra* note 13, at 2–7, 50.

⁹¹ Telephone interview with Julie Boettger, *supra* note 65.

⁹² See, e.g., Poppendieck, *supra* note 6 at 218.

⁹³ See generally, Making It Happen!, *supra* note 10; GAO Competitive Foods, *supra* note 9, at 34–45.

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.⁹⁴ 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 food service since they hold up already slow serving lines, limiting the time that students have to eat and even deterring some students from obtaining lunch.⁹⁵

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 alleviate slow cafeteria lines.⁹⁶ While delay caused by more detailed input cannot not 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 go 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

⁹⁴ Telephone interview with Julie Boettger, *supra* note 65; Telephone interview with Colin Sheridan (September 1, 2009).

⁹⁵ POPPENDIECK, *supra* note 6, at 42, 148-152.

⁹⁶ POPPENDIECK, *supra* note 6, at 216.

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.⁹⁷ 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 to pay for food from their own account.⁹⁸ 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.

H. A Simplified Version for Grade Schools

Middle and high schools offer a greater variety of foods and more opportunities to choose than grade schools.⁹⁹ For this reason, DANS is better suited to middle and high schools. Tracking food choices and encouraging students to select items that contribute to a balanced diet over the

⁹⁷ 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 symbols employs a stoplight 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*, 19 HEALTH MATRIX (2010).

⁹⁸ 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/top_news/index.cfm?i=37041&CFID=13881610&CFTOKEN=27754196 (discussing new techologies being utilized in school cafetrias, including cards with PINs and biometric scanners); Pauline Vu, *Schools Embrace Fingerprint Scanning*, STATELINE.ORG, March 18, 2008, <http://www.stateline.org/live/details/story?contentId=292262> (focusing on the use of biometrics in schools).

⁹⁹ See, GAO Competitive Foods, *supra* note 9, at 3 (discussing the availability of competative foods; that is, foods sold to students that are not part of a school meal, and finding that high school and middle schools sell more competative foods than elementary schools).

course of a school day makes less sense in grade schools where breakfast, snack, and lunch menus are fixed and there are no school stores, bake sales, or vending machines. For grade schools, a simplified version of DANS could be implemented. Where there are no opportunities for choice in a grade school, 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 desert 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.

III. 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 *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. From the perspective of nutritionism, processed foods that contain the appropriate quantity of desirable nutrients are no worse, and potentially even better than whole foods.¹⁰⁰ 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.¹⁰¹ 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.¹⁰² Fortification of candy and soda can transform foods of minimal nutritional value currently banned from cafeterias during mealtimes into permissible a la carte items.¹⁰³ 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 food service, preparing 8,000 meals per

¹⁰⁰ MICHAEL POLLAN, *IN DEFENSE OF FOOD: AN EATER'S MANIFESTO* 27–32 (The Penguin Press 2008); *See also*, JESSICA MUDRY, *MEASURED MEALS* 1–19 (SUNY Press 2009).

¹⁰¹ *See* POPPENDIECK, *supra* note 6, at 132, 281.

¹⁰² POPPENDIECK, *supra* note 6, at 132, 281; LEVINE, *supra* note 19, at 184–185.

¹⁰³ LEVINE, *supra* note 19, at 164–165, 168–171; POPPENDIECK, *supra* note 6, at 68.

day in a central kitchen from scratch with “wholesome, fresh, and seasonal ingredients.”¹⁰⁴ The Farm to School movement has promoted the use of locally sourced farm produce in school food programs in nearly 9,000 schools in 42 states and offered learning opportunities to students about agricultural production and the larger food system.¹⁰⁵ These types of reform efforts have reportedly had an impact on not only food sourcing and production but also children’s dietary choices and consumption.¹⁰⁶

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 California have also been subsidized.¹⁰⁷ This raises questions about the sustainability of such programs and, more importantly, whether they are a viable model for all schools.¹⁰⁸

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 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*

¹⁰⁴ Chez Panisse Foundation, School Lunch Reform, <http://www.chezpanissefoundation.org/school-lunch-reform> (last visited October 12, 2009).

¹⁰⁵ Farm to School, Statistics, <http://www.farmtoschool.org/> (last visited October 12, 2009).

¹⁰⁶ See, e.g., KEVIN MORGAN & ROBERTA SONNINO, THE SCHOOL FOOD REVOLUTION: PUBLIC FOOD AND CHALLENGE OF SUSTAINABLE DEVELOPMENT 61 (Earthscan 2008); Farm to School in Hartford County Public Schools, <http://www.hartfordneighbors.net/index.php?section=1&subtype=83&id=2776> (last visited October 12, 2009).

¹⁰⁷ LEVINE, *supra* note 19, at 190; Patricia Allen and Julie Guthman, *From “Old School” to “Farm-to-School”*: Neoliberalization from the Ground Up, 23 AGRIC. AND HUM. VALUES 4, 7 (2006).

¹⁰⁸ Allen & Guthman, *supra* note 104, at 7.

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.¹⁰⁹

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.¹¹⁰ Thus, DANS need not 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.

¹⁰⁹ POPPENDIECK, *supra* note 6, at 243.

¹¹⁰ 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 on Nutritional Labeling*, Docket ID FDA-2007-N-0198, 21, 75, 80 (2007), (testimony of Dr. David Katz, Yale University), transcript available at <http://www.regulations.gov/search/Regs/home.html#documentDetail?R=090000648042a9d4>.

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.¹¹¹ 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.¹¹² 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.¹¹³ 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.¹¹⁴ 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

¹¹¹ See generally, Allen and Guthman, *supra* note 104; see also, LEVINE, *supra* note 19, at 180–191.

¹¹² BROWNELL & BATTLE HORGAN, *supra* note 3, at 129–140; NESTLE, *supra* note 38, at 188–195; INSTITUTE OF MEDICINE, FOOD MARKETING TO CHILDREN AND YOUTH 187–190 (2006) [hereinafter FOOD MARKETING TO CHILDREN AND YOUTH].

¹¹³ LEVINE, *supra* note 19, at 181–182; BROWNELL & BATTLE HORGAN, *supra* note 3, at 129–140; NESTLE, *supra* note 38, at 188–195; FOOD MARKETING TO CHILDREN AND YOUTH, *supra* note 109, at 187–190.

¹¹⁴ Adam Benforado, Jon Hanson, and David Yosifon, *Broken Scales: Obesity and Justice in America*, 53 EMORY L.J. 1645, 1697, 1700–1708 (2004); see also, DAVID A. KESSLER, THE END OF OVEREATING: TAKING CONTROL OF THE INSATIABLE AMERICAN APPETITE 145 (Rodale 2009).

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 officials to aggressively promote soft drink sales within the school.¹¹⁵ 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.¹¹⁶ The food industry is keenly aware of the buying power of school age children who, in the aggregate, spend \$178 billion each year, influence another \$670 billion in purchases made by adults, and represent a significant percentage of the market for many foods.¹¹⁷ Food companies have even insinuated their products into educational materials, such as the *Oreo Cookie Counting Book* and the *Prego Thickness Experiment*.¹¹⁸ 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.”¹¹⁹

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

¹¹⁵ BROWNELL & BATTLE HORGAN, *supra* note 3, at 161–165; NESTLE, *supra* note 38, at 197–213.

¹¹⁶ LEVINE, *supra* note 19, at 182.

¹¹⁷ Advertising to Children is Big Business, *available at* <http://www.globalissues.org/article/237/children-as-consumers> (estimates as of 2008). *See also*, NESTLE, *supra* note 38, at 178; FOOD MARKETING TO CHILDREN AND YOUTH, *supra* note 109, at 153–155.

¹¹⁸ NESTLE, *supra* note 38, at 186; Brownell and Battle Horgen, *supra* note 3, at 137.

¹¹⁹ Benforado et al., *supra* note 111, at 1704–1705.

them readily available in schools. “[W]hat is understood as ‘choice’ driven,” they explain, “may more accurately be understood as ... addiction-driven conduct.”¹²⁰ 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 literally irresistible.¹²¹ He compares attraction to these foods to nicotine and cocaine addiction.¹²²

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. 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.¹²³ 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.”¹²⁴ Industry claims that manufacturers merely produce what consumers demand mask the true reality: that manufacturers produce products and promote them in ways that foster addiction among consumers.

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,

¹²⁰ Benforado et al., *supra* note 111, at 1687, 1697.

¹²¹ KESSLER, *supra* note 114, at 60, 118–121.

¹²² KESSLER, *supra* note 114, at 59, 67, 240.

¹²³ Benforado et al., *supra* note 111, at 1658–1662, 1708–1713.

¹²⁴ Benforado et al., *supra* note 111, at 1757.

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.¹²⁵ 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 call a “practical truth”—a presupposition that is necessary to sustain our practical commitments to educating children.¹²⁶

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

¹²⁵ See Aristotle, *Nicomachean Ethics*, Book II:1 in 2 *The Complete Works of Aristotle* 1742 (Jonathan Barnes, ed., 1984) (“...moral excellence comes about as a result of habit...”).

¹²⁶ For an introduction to the concept of practical truth, see Ezorsky G., *Pragmatic Theory of Truth*, in 6 *Encyclopedia of Philosophy* 427 (Macmillan, 1967). For a history of the concept in American philosophical pragmatism, see generally, LOUIS MENAND, *THE METAPHYSICAL CLUB: A STORY OF IDEAS IN AMERICA* (Farrar, Straus and Giroux 2002).

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 not desirable, only that until it occurs in the culture at large, one task of schools is to equip students to deal with the realities of the current system in the meantime.

IV. 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 three 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 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 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 in a way aimed to prevent or reduce 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. This kind of detailed, quantitative and qualitative information is relatively rare in other areas of school food reform.¹²⁷

DANS does not offer the radical change that many school food reform advocates seek. To be fair, 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 the falls short of our aspirations.

¹²⁷ PREVENTING CHILDHOOD OBESITY, *supra* note 3, at 26–28, 282, 286.