

A National Strategy to Combat the Childhood Obesity Epidemic

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Abstract

Childhood obesity has become a veritable epidemic in the United States: with over a quarter of Americans and seventeen percent of children and adolescents weighing in as obese, obesity has become the most expensive preventable healthcare cost. Such high incidences of obesity have caused today's children to be the first generation in American history to have a shorter life expectancy than their parents.

Like in the battle against tobacco use before it, the government has now taken up the fight against childhood obesity, enacting the Healthy, Hunger-Free Kids Act of 2010. By modifying the existing National School Lunch Program to create a unified, federal baseline for school food provision, nutrition education, and physical education, this Act essentially authorizes a nationally implemented obesity intervention in all public schools. This Article argues that this Act is an important step in the right direction, but that because it does not address the market failures that contribute to childhood obesity, it will not suffice as its remedy. This Article proposes two additional mechanisms designed to target these market failures: fiscal policies that realign food prices with long-term health preferences, and marketing regulations

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that prevent the food industry from manipulating the preferences and consumption choices of children.

Until food prices are aligned with the obesity-reduction agenda, and until food companies are unable to manipulate children's consumption habits, obesity will remain a singularly prevalent, dangerous, and preventable condition among children in the United States.

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Introduction

Regulation of the tobacco industry has passed a certain threshold in the United States: we are comfortable taxing the sale of tobacco,¹ happy to prevent smokers from lighting up in public,² eager to vilify the industry,³ and willing to tell smokers that their habits are unacceptable.⁴ While the use of

¹ See Children's Health Insurance Program Reauthorization Act of 2009, 26 U.S.C. § 5701 et seq. (raising federal taxes on cigarettes); Eric Lindblom, Campaign for Tobacco-Free Kids, *State Cigarette Excise Tax Rates & Rankings*, (August 3, 2010)

<http://tobaccofreekids.org/research/factsheets/index.php?CategoryID=18> (showing an average state tax rate on cigarettes of \$1.45 per pack).

² Robert C. McMillen et al., *US Adult Attitudes and Practices Regarding Smoking Restrictions and Child Exposure to Environmental Tobacco Smoke: Changes in the Social Climate From 2000–2001*, 112 PEDIATRICS 55, 58 (2003); see also SMOKE FREE ENVIRONMENTS LAW PROJECT, PUBLIC OPINION ON SMOKE FREE ENVIRONMENT, <http://www.tcsg.org/sfelp/public.htm> (last visited Jan. 15, 2010) (listing a number of studies from Michigan and California that show public opinion supporting bans on smoking in public places).

³ See, e.g. Opening Statement from Chairman Henry A. Waxman, Hearing on the Regulation of Tobacco Products House Committee on Energy and Commerce Subcommittee on Health and the Environment (April 14, 1994) available at <http://senate.ucsf.edu/tobacco/executives1994congress.html>. Rep. Waxman opened the 1994 congressional hearings on tobacco by discussing the tobacco industry's evasion of accountability regarding the harms caused by tobacco use:

For decades the tobacco companies have been exempt from the standards of responsibility and accountability that apply to all other American corporations. Companies that sell that sell aspirin, cars, and soda are all held to strict standards when they cause harm. We don't allow those companies to sell goods that recklessly endanger consumers. We don't allow them to suppress evidence of dangers when harm occurs. We don't allow them to ignore science and good sense. And we demand that when problems occur, corporations and their senior executives be accountable to Congress and the public. This hearing marks the beginning of a new relationship between Congress and the tobacco companies. *Id.*

⁴ See, e.g., Ryan Dodge, *Is Smoking A Dating Deal Breaker?*, Single-ish Daily Dating Blog (Jan. 9, 2009), <http://www.glamour.com/sex-love-life/blogs/single-ish/2009/01/is-smoking-a-dating-deal-break.html> (The blog's author cites smoking as a "deal breaker," and results of an informal

tobacco has shifted from being a cultural norm to being viewed with distaste and condemnation, the current attitude toward tobacco did not emerge overnight: it is the product of years of advocacy, research, and litigation exposing the horrific effects of tobacco on people's health.

While America continues its battle against tobacco, a new public health concern has come to the fore; America's "obesity epidemic" has now become the most expensive preventable healthcare cost, with over a quarter of Americans and seventeen percent of children and adolescents weighing in as obese.⁵ Of particular concern is this increased prevalence of obesity among children "because behaviors learned in childhood may track into adulthood":⁶ eighty percent of obese children grow up to be obese adults.⁷

Just as in the battle against tobacco use, the American government has taken up the fight against obesity: on December 13, 2010, President Obama signed the Healthy, Hunger-Free Kids Act of 2010 (the "Kids Act"),⁸ also known

poll find that 53% of respondents would not date a smoker, "no way, no how."); Gallup, *More Smokers Feeling Harassed by Smoking Bans*, (July 25, 2007) <http://www.gallup.com/poll/28216/More-Smokers-Feeling-Harassed-Smoking-Bans.aspx> ("Nearly half [of smokers] feel unjustly discriminated against by public smoking restrictions.").

⁵ Joshua Logan Pannel, *Big Food's Trip Down Tobacco Road: What Tobacco's Past Can Indicate About Food's Future*, 27 *BUFF. PUB. INT. L. J.* 101, 101 (2008-09); *Vital Signs: State-Specific Obesity Prevalence Among Adults—United States, 2009*, 59 *MORBIDITY & MORTALITY W. REP.* 1, 1 (2010); *Childhood Overweight and Obesity*, CENTERS FOR DISEASE CONTROL AND PREVENTION, <http://www.cdc.gov/obesity/childhood/index.html> (last updated March 31, 2010, last viewed Feb. 26, 2011).

⁶ Karen J. Coleman et al., *Prevention of the Epidemic Increase in Child Risk of Overweight in Low-Income Schools, The El Paso Coordinated Approach to Child Health*, 159 *ARCHIVES PEDIATRIC & ADOLESCENT MED.* 217, 217 (2005).

⁷ Ashley B. Antler, *The Role of Litigation in Combating Obesity Among Poor Urban Minority Youth: A Critical Analysis of Pelman v. McDonald's Corp.*, 15 *CARDOZO J. L. & GENDER* 275, 278 (2009).

⁸ Healthy, Hunger-Free Kids Act of 2010, Pub. L. No. 111-296 (codified mostly in 42 U.S.C.S § 1751 et seq. (LexisNexis 2011)).

as the Child Nutrition Reauthorization Bill, into law.⁹ This Act, largely an amendment to the Richard B. Nelson National School Lunch Program enacted in 1946, expands the need-based school lunch program to 115,000 additional students and sets out to tackle the obesity epidemic increasingly felt by children in the United States.¹⁰ The Kids Act is a much needed step in the fight against childhood obesity, concentrating on the two elements with the most evidence of success in reducing the prevalence of obesity in studies of school-based interventions: limiting the unhealthy foods that are available at schools and instituting guidelines for nutrition and physical education.

This Article will consider the Kids Act in light of the empirical research on reduction of obesity, concluding that the Act, as written, has the *potential* to go a long way in reducing childhood obesity across America, but that the outcome remains unsure. To solidify the certainty of reducing the prevalence of overweight and obesity in American children, this Article proposes that further measures are required; specifically, a combination of supportive fiscal policies and protective advertising limitations. Taxes and subsidies could align the economic incentives of children (and their parents) with the nutrition education they receive at school, and limiting the advertising that targets children could redefine childhood consumption preferences to support, rather than oppose, the wider goals of the Kids Act.

This Article will begin, in Part I, with a summary of the impacts of childhood obesity to emphasize the magnitude of the problem and the dire need for national action. Part II will then review research of school-based interventions, which is the type of obesity intervention that the Kids Act imposes

⁹ Open Congress, S.3307 - Healthy, Hunger-Free Kids Act of 2010, <http://www.opencongress.org/bill/111-s3307/show> (last visited Jan. 9, 2010).

¹⁰ Office of the Press Secretary, The White House, *Child Nutrition Reauthorization, Healthy, Hunger-Free Kids Act of 2010* (Dec. 13, 2010), available at http://www.whitehouse.gov/sites/default/files/Child_Nutrition_Fact_Sheet_12_10_10.pdf.

upon public schools. Using the studies from Part II as a framework, Part III will provide an overview of the National School Lunch Program, present the changes that the Kids Act will bring to this program, and end with an assessment of the Kids Act and its potential importance in the fight against childhood obesity. Finally, in Part IV, this Article will consider additional measures that would contribute to reducing the prevalence of obesity among American children.

I. The Problem of Childhood Obesity

The high prevalence of overweight and obesity among American children has become a veritable epidemic.¹¹ The percentage of children and adolescents (ages two to nineteen) at risk of becoming overweight or already overweight increased from 28.2% in 2000 to 33% in 2004.¹² As a result, one in every three American children is at risk of becoming obese, if they are not obese already.¹³ Such high incidences of obesity are associated with a whole range of problems that are increasingly felt across the nation.

As a starting matter, childhood obesity is dangerous because of its immediate health consequences. Childhood obesity is associated with orthopedic complications, metabolic disturbances, type-two diabetes, sleep disorders, poor immune function, skin problems, impaired mobility, and increased blood pressure and hypertension.¹⁴ Beyond these immediate problems, a host of later complications arise because the vast majority of obese children grow up to be obese adults.¹⁵ Therefore, long-term health risks also include increased incidence of coronary heart disease, various cancers, high

¹¹ “Overweight” is generally defined, for children, as having a body mass index, or BMI, above the eighty-fifth percentile. “Obesity” is a more serious version of the same condition, generally defined for children as having a BMI above the ninety-fifth percentile.

¹² Antler, *supra* note 7, at 277–78.

¹³ *Id.*

¹⁴ Colleen Doak et al., *The Prevention of Overweight and Obesity in Children and Adolescents: A Review of Interventions and Programmes*, 7 OBESITY REV. 111, 112 (2006).

¹⁵ Antler, *supra* note 7.

cholesterol, stroke, liver and gallbladder disease, sleep apnea and respiratory problems, osteoarthritis, gynecological problems (such as abnormal menses and infertility),¹⁶ as well as “all-cause mortality.”¹⁷ Worse yet, even if obese children beat the odds and grow up to be adults of normal weight, those who were obese as children have increased morbidity and mortality risks, regardless of their adult weight.¹⁸

Aside from the purely physical aspects of obesity, childhood obesity can influence a child’s self-esteem and can be the root of social alienation, discrimination, and in some cases (particularly girls), depression.¹⁹ Studies have shown that students of a normal weight have “higher scholastic achievement [and] less absenteeism . . . than their obese counterparts.”²⁰ Should their obesity continue into adulthood, these obese individuals may suffer from social stigmatization: studies have shown connections between obesity and “discrimination in employment opportunities, college acceptance, less financial aid from their parents in paying for college, job earnings, rental availabilities, and opportunities for marriage.”²¹

While being overweight has long been associated with the overindulgence of the wealthy, the current American obesity epidemic is largely a problem of poor minorities: there

¹⁶ *Overweight and Obesity: Health Consequences*, CENTERS FOR DISEASE CONTROL AND PREVENTION, <http://www.cdc.gov/obesity/causes/health.html> (last updated Aug. 9, 2009, last viewed Nov. 5, 2010).

¹⁷ NATIONAL INSTITUTES OF HEALTH, CLINICAL GUIDELINES ON THE IDENTIFICATION, EVALUATION, AND TREATMENT OF OVERWEIGHT AND OBESITY IN ADULTS, xi (1998) [hereinafter NIH GUIDELINES].

¹⁸ Doak et al., *supra* note 14.

¹⁹ *See id.*

²⁰ American Heart Association, *Learning for Life, Physical Education in Public Schools* (2009), available at <http://www.americanheart.org/presenter.jhtml?identifier=3049248> [hereinafter AHA *Learning for Life*].

²¹ NIH GUIDELINES, *supra* note 17, at 20; *see also* Adam Benforado et al., *Broken Scales: Obesity and Justice in America*, 53 EMORY L. J. 1645, 1716 (2004).

are higher rates of obesity among poor Americans.²² Low-income neighborhoods have few grocery stores, parks, and recreation facilities, but generally have a relatively high concentration of fast food restaurants.²³ As cost and convenience are the two most important elements in food choice,²⁴ low-income food shoppers are faced with a double threat: high-energy-density foods (high calorie by weight, and thus the most fattening) are generally *both* low price and high convenience.²⁵ While obesity rates are high for poor Americans generally, minority women are hit particularly hard: while approximately 30% of white American women are obese, 40% of Mexican-American women and 50% of black American women are obese.²⁶ This alarming trend has led to various calls to action against obesity. The next Part of this Article will consider one possible method for reducing the prevalence of obesity, the method implemented by the Kids Act: school-based interventions.

²² David Burnett, *Fast-Food Lawsuits and the Cheeseburger Bill: Critiquing Congress's Response to the Obesity Epidemic*, 14 VA. J. SOC. POL'Y & L. 357, 361 (2007).

²³ See Penny Gordon-Larsen et al., *Inequality in the Built Environment Underlies Key Health Disparities in Physical Activity and Obesity*, 117 PEDIATRICS 417, 421(2006); Kimberly Morland et al., *Neighborhood Characteristics Associated with the Location of Food Stores and Food Service Places*, 22 AM. J. PREV. MED. 23, 26–27 (2002).

²⁴ See Morland, *supra* note 23, at 23, 27.

²⁵ See Adam Drewnowski & Nicole Darmon, *The Economics of Obesity: Dietary Energy Density and Energy Cost*, 82 AM. J. CLINICAL NUTRITION 265, 265 (2005); see also Pablo Monsivais & Adam Drewnowski, *The Rising Cost of Low-Energy-Density Foods*, 107 J. AM. DIETETIC ASS. 2071, 2071, 2074 (2007).

²⁶ John Cawley, *An Economic Framework for Understanding Physical Activity and Eating Behaviors*, 27 Am. J. Prev. Med. 117, 122 (2004); see also Regina Austin, *Super Size Me and the Conundrum of Race/Ethnicity, Gender, and Class for the Contemporary Law-Genre Documentary Filmmaker*, 40 LOY. L.A. L. REV. 687, 695 (2007).

II. School-Based Interventions: A Possible Solution?

The Center for Disease Control has recognized school programs as a vital weapon in the fight against childhood obesity.²⁷ Because most children consume a large portion of their daily caloric intake at school, school cafeterias provide a natural setting for children to learn healthy eating habits. Moreover, because they already have sports equipment, playing fields, and exercise facilities, schools provide a cost-effective opportunity to pair physical activity with healthy eating habits on an ongoing basis.²⁸ Schools thus provide the ideal setting to institutionalize programs that teach children how to maintain a healthy and active lifestyle.

The scientific community has devoted countless hours (and dollars) to testing possible interventions to prevent the onset of childhood obesity. School and community programs have long been a focus of research because such programs, if well-designed and implemented, have been successful in promoting physical activity and healthier eating. Together, increased exercise and food education represent the best way to reduce the prevalence of obesity among children.²⁹

Even following previously successful formulas, however, school and community programs cannot guarantee results. A review of twenty five interventions, all attempting to influence diet, and/or physical activity in school-aged children, found that only fifty-six percent of such programs showed a statistically significant improvement in the children's BMI or skin-folds (a measure of body fat), compared to a control group:³⁰ only about *half* of the reviewed

²⁷ See Centers for Disease Control and Prevention, *Key Strategies for Schools to Prevent Obesity*, <http://www.cdc.gov/Features/ChildhoodObesity/> (last visited Jan. 7, 2011) [hereinafter CDC's *Key Strategies*].

²⁸ Mary Story, *School-Based Approaches for Preventing and Treating Obesity*, 23 INT'L J. OBESITY 43, 43 (1999); CDC's *Key Strategies*, *supra* note 27.

²⁹ CDC's *Key Strategies*, *supra* note 27.

³⁰ Doak et al., *supra* note 14, at 113. This review replicated (approximately) results found in K. Campbell et al., *Interventions for*

interventions were successful. Even among successful studies, in some cases much of the success was concentrated in a sub-population (such as girls, or non-Hispanic black children), and not evenly spread among all tested children.³¹ Thus, it is clear that the childhood obesity problem requires a nuanced and multi-faceted approach; there is no magic elixir that will ensure success.

This Article will review several representative studies to illustrate strategies employed in successful school-based interventions: nutrition education, physical activity, a school nutrition policy (regarding the foods that can be sold or distributed at school), student involvement, community outreach, and institutionalization. However, to illustrate the difficulties inherent in school-based interventions, this Part will also review a program that employed proven tactics, but that did not achieve the desired results.

A. Representative Studies

1. Planet Health

One program, called Planet Health, used an interdisciplinary approach in ten Boston-area middle schools to target four goals:

- (1) “reducing television viewing to less than [two] hours per day;”
- (2) “increasing moderate and vigorous physical activity;
- (3) “decreasing consumption of high-fat foods; and”

Preventing Obesity in Childhood. A Systematic Review, 2 OBESITY REV. 149 (2001). This review found that of the seven obesity interventions studied, four of them resulted in a (statistically significant) reduction in the prevalence of obesity. *Id.* at 155.

³¹ Steven L. Gortmaker et al., *Reducing Obesity Via a School-Based Interdisciplinary Intervention Among Youth: Planet Health*, 153 ARCHIVES PEDIATRICS & ADOLESCENT MED. 409, 413 (1999) (school-based intervention successful at reducing obesity indices among girls but not boys).

- (4) “increasing consumption of fruits and vegetables to [five] a day or more.”³²

This program sought to insert the Planet Health message into the existing Massachusetts curriculum framework, using teachers with minimal health education to implement “student-centered teaching methods to engage students, including demonstrations, debates, case studies, group projects, games, and student presentations.”³³

While only a two-year program, the results of this study showed promise, particularly for girls. While obesity among girls increased by 2.2% at control schools (without the Planet Health program), obesity among girls *decreased* by 3.3% at the intervention schools. Moreover, previously-obese girls at the intervention schools were more likely to lose weight (and maintain their decreased weight) than at the control schools. While overall energy intake increased at both the intervention and the control schools, overall energy intake increased *less* among girls at the intervention schools, while these girls showed an increase in fruit and vegetable consumption.

Unfortunately, there was no significant decrease in obesity rates among boys at the intervention schools, although both boys and girls at intervention schools were found to watch less television than those at control schools.³⁴ The authors of this study hypothesized that the lack of an intervention effect among boys suggests that different causal mechanisms may be at play for obesity in boys and in girls, or perhaps that girls are more attuned to issues of diet and thus more responsive to the education-based intervention;³⁵ both of these possibilities merit further study to develop effective obesity-reduction plans. However, the boys’ responsiveness to the television-reduction education suggests an avenue for greater potential.

³² Gortmaker et al., *supra* note 31, at 410.

³³ *Id.* at 411.

³⁴ *Id.* at 413–14.

³⁵ *Id.* at 415–16.

Despite the ineffectiveness of this intervention at obesity prevention among boys, the effects of the intervention were “largest among those most at risk for obesity,” African American girls, and were sufficient to influence obesity even in the short timeframe of the two-year study.³⁶

2. School Nutrition Policy Initiative

The School Nutrition Policy Initiative sought to prevent obesity among fourth, fifth, and sixth graders in ten Philadelphia schools over a period of two years.³⁷ The initiative incorporated five main components:

- (1) Self-assessment: schools rated themselves on their students’ consumption and exercise habits and developed an action-plan for change.
- (2) Nutrition education: students received fifty hours of interdisciplinary nutrition education per year, to “show how food choices and physical activity are tied to personal behavior, individual health, and the environment.”³⁸
- (3) Nutrition policy: all foods sold and served at school were designed to meet the nutrition standards of the Dietary Guidelines for Americans:

[A]ll of the beverages were limited to 100% juice (recommended 6-oz serving size), water (no portion limits), and low-fat milk (recommended 8-oz serving size). Snack standards allowed ≤7 g of total fat, 2 g of saturated fat, 360 mg of sodium, and 15 g of sugar per serving.³⁹

³⁶ *Id.* at 416.

³⁷ Gary D. Foster et al., *A Policy-Based School Intervention to Prevent Overweight and Obesity*, 121 *PEDIATRICS* 794, 795 (2008).

³⁸ *Id.*

³⁹ *Id.*

Prior to the intervention, unhealthy snacks such as soda and chips that did not meet these guidelines had been sold at the schools.

(4) Social marketing: schools used incentives (such as raffle tickets) to encourage students to buy healthy foods, and used marketing tools (such as memorable slogans and recognizable characters) to incentivize healthy choices.⁴⁰

(5) Family outreach: schools held meetings, report card nights, and weekly nutrition workshops to encourage parents to purchase healthy snacks and to support students in their attempts to be less sedentary, to be more physically active, and to eat more fruits and vegetables each day.⁴¹

While 15% of students became overweight (but not necessarily obese) at control schools during the two-year initiative, only 7.5% of students became overweight in intervention schools.⁴² Moreover, while the prevalence of overweight children increased by 25.9% at control schools, it *decreased* by 10.3% at intervention schools.⁴³

Despite these results, there was no difference between the intervention and control schools in the incidence of *obesity* (as opposed to overweight), nor in the overall prevalence of obesity after the two-year program.⁴⁴ These findings suggest that obesity may be more intractable and less easily controlled than overweight, and that perhaps different or additional mechanisms may be required to fully address the epidemic of overweight and obesity.

⁴⁰ *Id.* at 796.

⁴¹ *Id.*

⁴² *Id.* at 800.

⁴³ *Id.* at 798.

⁴⁴ *Id.* at 796, 798.

3. *The Annapolis Valley Health Promoting School Project*

The Annapolis Valley Health Promoting School Project (the AVHPSP) began as a grassroots initiative started by concerned parents in 1997. The AVHPSP soon expanded to a two and a half year program sponsored by several Canadian agencies, and was so successful that it has been implemented as a provincial program in Nova Scotia, Canada. Throughout, the AVHPSP sought to make healthy choices in physical activity and eating easier for students as a way to prevent chronic disease by “creating a culture and environment that supports the health of the school community.”⁴⁵

The AVHPSP is coordinated by a health promotion Leader at each school. This Leader develops a health promotion school Team to create and implement each school’s strategic plan.⁴⁶ This Team then develops programs to promote a healthy culture throughout the school and seeks to establish partnerships within the community.⁴⁷ Such programs encouraged student involvement (through surveys and taste tests) and community outreach (through parent education and links to outside organizations),⁴⁸ and recognized that “a committed team . . . and leadership from the school principal

⁴⁵ Annapolis Valley Regional School Board, *Annapolis Valley Health Promoting Schools Program*, <http://www.avrsb.ca/content/annapolis-valley-health-promoting-schools-program> (last visited Jan. 13, 2010) [hereinafter AVHPSP Website].

⁴⁶ Jessie-Lee Langile et al., *Developing an Educational Tool to Support Planning and Tracking of Health Promoting Schools*, 2 PHENEX J., no. 3, 2010 at 1, 7; *Annapolis Valley Health Promoting Schools Program, Making the Healthy Choice the Easy Choice*, 1 (Sept. 2006), available at www.ssdha.nshealth.ca/AVHPSP%20Program%20Update%20%20September%202006.pdf [hereinafter AVHPSP Outline].

⁴⁷ *Id.* at 6, 7; Annapolis Valley Health Promoting Schools, *Making the Healthy Choice the Easy Choice*, available at <http://www.avrsb.ca/forms/AVHPSP.pdf> [hereinafter *Making the Healthy Choice the Easy Choice*].

⁴⁸ AVHPSP Website, *supra* note 45; *Making the Healthy Choice the Easy Choice*, *supra* note 47.

[are] critical.”⁴⁹ Programs included: universal breakfast programs, healthy menu choices with increased offerings of fruit and vegetables, displaying of food items such that the healthiest options are the most visible and appealing, daily physical activity through increased access to physical activity opportunities during non-class hours, encouragement of non-traditional physical activities, and professional development for staff.⁵⁰

A study comparing excess body weight, diet, and physical activity of fifth graders in 282 public schools in Nova Scotia was done to determine the effectiveness of AVHPSP. The study compared AVHPSP schools to schools either (1) without any nutrition program, or (2) with policies in place to offer healthy menu alternatives, but short of the AVHPSP.⁵¹ The study assessed participation in physical and sedentary activities using a questionnaire, and calculated BMI using height and weight measurements.⁵² The students at AVHPSP schools came out ahead of the other two groups tested, with lower incidence overweight (17.9%, compared to 32.8% and 34.2%) and of obesity (4.1%, compared to 9.9% and 10.4%). Students at AVHPSP schools also reported more participation in physical activities, less participation in sedentary activities, and slightly better dietary habits (6.7 servings of fruits/vegetables per day compared to 5.8 and 5.7, 29.4% calories from fat compared to 30.3%).⁵³

Also noteworthy from this study is the finding that students at schools that provided healthy menu alternatives but that did not incorporate a broader health program did *not* have substantially healthier body weights than students where no such healthy alternatives were available. While unaccounted for differences among the schools that implement such programs may have influenced the results, this finding

⁴⁹ AVHPSP Outline, *supra* note 46, at 2.

⁵⁰ AVHPSP Website, *supra* note 45; AVHPSP Outline, *supra* note 46, at 2.

⁵¹ Paul J. Veugelers & Angela L. Fitzgerald, *Effectiveness of School Programs in Preventing Childhood Obesity: A Multilevel Comparison*, 95 AM. J. PUB. HEALTH 432, 432 (2005).

⁵² *Id.* at 433.

⁵³ *Id.* at 433–34.

suggests that schools need to do more than just offer healthy food in order to impact obesity among students.⁵⁴

4. *Pathways*

The Pathways intervention was a three-year program in 41 schools that used a school-based, multi-component approach to target BMI among American Indian students.⁵⁵

The program consisted of four components:

(1) Classroom curriculum: students were provided with two 45-minute lessons per week for eight to twelve weeks from third to fifth grade intended to promote healthful eating and physical activity.⁵⁶

(2) Food service: schools were provided with nutrition guidelines for school meals, based on the Dietary Guidelines for Americans.⁵⁷

(3) Physical activity: the physical education program sought to increase energy expenditure at school with at least three 30-minute sessions per week of moderate-to-vigorous physical activity, and with two-minute to ten-minute “exercise breaks,” either in class or at recess.⁵⁸

(4) Family involvement: the Pathways program sought parent involvement through take-home materials such as snack packs, food samples, and tips, and through family events at schools, such as cooking and activity demonstrations.⁵⁹

The primary aim of the intervention was to “reduce the rate of body fat gain in intervention schools.”⁶⁰ Unfortunately,

⁵⁴ *Id.* at 434.

⁵⁵ Benjamin Caballero et al., *Pathways: A School-Based, Randomized Controlled Trial for the Prevention of Obesity in American Indian Schoolchildren*, 78 AM. J. CLINICAL NUTRITION 1030, 1030 (2003).

⁵⁶ *Id.* at 1031.

⁵⁷ *Id.*

⁵⁸ *Id.* at 1031–32.

⁵⁹ *Id.* at 1032.

⁶⁰ *Id.* at 1035.

the program was not successful—the percentage of body fat in both intervention and control groups “was essentially identical at the end of the [three-year] intervention period.”⁶¹ Thus, despite the similarity of the Pathways program to the other interventions reviewed above, Pathways was unsuccessful at reducing obesity indices among children in the intervention group. This result may be based on some particularity of the sub-population assessed in this program; it is possible that, like the boys in the Planet Health study above, the American Indian children who underwent the Pathways intervention have other causal relationships at play when it comes to obesity. The authors hypothesized that one of the weaknesses of in intervention was that the National School Lunch Program has minimum caloric requirements for school meals, and thus the nutrition guidelines could not cut calories below this threshold. Note, however, that this variable was likely at play in the more successful interventions as well.⁶²

B. Considerations for School-Based Interventions

The above studies show that a school intervention can reduce the prevalence of overweight and obesity among children, but not in all instances. While three of the four studies cited above were successful, the fourth study shows that interventions designed with tactics similar to those in successful studies can fail to have any effect on BMI or other obesity indices.⁶³ Superficially similar studies often have drastically different outcomes when implemented because of

⁶¹ *Id.*

⁶² Excluding the AVHPSP, an intervention that occurred in Canada and not the United States.

⁶³ See, e.g., Caballero et al., *supra* note 55 (school-based intervention unsuccessful at reducing percentage body fat among American Indian schoolchildren); Russell V. Luepker et al., *Outcomes of a Field Trial to Improve Children's Dietary Patterns and Physical Activity: The Child and Adolescent Trial for Cardiovascular Health (CATCH)*, 275 JAMA 768 (1996) (school-based intervention including school food service modifications, enhanced physical education, and classroom health curricula did not lead to significantly different BMI among children in intervention or control groups).

the innumerable variables at play in any elementary school and its surrounding community.

However, the risk of failure doesn't preclude the possibility of a "best practices" approach that incorporates the features that are associated with success. Despite the many uncertainties, the research reviewed above suggests that effective programs incorporate: (1) education about food and nutrition, (2) a school policy on the foods available at school (possibly limiting the calories available in school meals and snacks), (3) increased physical activity (along with decreased sedentary activity), (4) student, parent, and community involvement, and (5) institutionalization of the program through school or school-board program leaders and through continuous (and not research-grant based) funding. None of the programs reviewed above included *all* of these elements: the Planet Health study and the AVHPSP did not prevent unhealthy foods from being sold at schools, and none of the programs other than the AVHPSP used school leaders and government agencies to establish permanence and stability.

Besides just these best practices, other studies have also shown that unexpected and unconventional methods may also be effective with children⁶⁴—video-games have, at least in one study, acted as a tool in obesity prevention, not just one of the trends that has contributed to its prevalence.⁶⁵

Possibly even more than the specific elements of a study, the tailoring, implementation, and time period of a study can have a great impact. Studies have shown that

⁶⁴ See, e.g., Michael I. Goran & Kim Reynolds, *Interactive Multimedia for Promoting Physical Activity (IMPACT) in Children*, 13 OBESITY RES. 762, 769 (2005) (A computer game that encourages increased physical activity and decreased sedentary activity was incorporated into a school curriculum and was successful at improving obesity indices among girls.); Thomas N. Robinson, *Reducing Children's Television Viewing to Prevent Obesity, A Randomized Controlled Trial*, 282 JAMA 1561, 1561 (1999) (In a randomized controlled trial, children who were exposed to eighteen lessons over six months designed to reduce television, video, and video game use, without encouraging any alternative activity, exhibited significantly improved obesity outcomes compared to a control group.).

⁶⁵ See Goran & Reynolds, *supra* note 64.

tailoring programs to the needs of each gender, ethnicity, and age group can influence the overall result.⁶⁶ Moreover, the short-term nature of each of the interventions described above (except for the AVHPSP) suggests the need for an institutionalized and permanent program, one not dependent on the funding of a particular group of researchers.

Beyond these observations that successful studies tend to have certain features in common, the precise details of the “best practices” program need not be discussed here. It is sufficient to note that successful interventions to combat the obesity epidemic do exist, that they provide us with lessons on the implementation of this type of program, but that following the “best practices” alone do not ensure results. Thus, if one is dissatisfied with only the *possibility* of results, perhaps school interventions are not enough: policies and tactics outside the realm of school food and school programs should be considered to address obesity.

The remainder of this Article will examine the Kids Act, a statutory intervention that seems modeled on the school programs reviewed above, in light of the best practices established in school-intervention studies. Moreover, this Article suggests stepping outside of the framework of school food policies and goes on to consider two additional policies, food taxes and food marketing, which may increase the likelihood of successfully reducing the prevalence of childhood obesity.

III. The Healthy, Hunger Free Kids Act

The Kids Act fundamentally changes the existing landscape of the government’s control over the meals and

⁶⁶ Doak et al., *supra* note 14, at 128; Goran & Reynolds, *supra* note 64. The Goran & Reynolds study implemented an interactive multimedia curriculum (in the form of a computer game) to increase physical activity and decrease sedentary activity, and was shown to decrease obesity in girls, but not in boys. This may have been because boys in the study employed more “gaming” techniques to speed through the game, causing them to absorb and understand less of the message than the girls. *Id.* This outcome reinforces the importance of considering gender differences when developing any intervention.

nutrition of children in public schools. This Part will set out the basics of the school food arena by describing the National School Lunch Program (the “NSLP”) as it existed prior to the Kids Act. This Part will then move to a review of the Kids Act to show the extent to which it changes this food environment, and then, using the best practices set out above, will consider the potential of this Act as a mechanism for obesity prevention.

A. The Baseline

1. The National School Lunch Program

The NSLP is a federally funded program to provide meals to low-income students in public and non-profit private schools. Schools that take part in the NSLP, as well as in the similar breakfast and after-school snack programs (referred to here as “NSLP meals”), receive subsidies from the United States Department of Agriculture (the “USDA”) for each NSLP meal served, on the condition that the school provides meals that meet federal requirements, that any child at a participating school may purchase NSLP meals, and that the school provide free or reduced-price meals to eligible children.⁶⁷ While the initial purpose of the Act was both to “safeguard the health and well-being of the Nation’s children”⁶⁸ and to create an outlet for surplus farming commodities,⁶⁹ the nutritional content of NSLP meals has potential to influence the diet and health of school children across the nation.

⁶⁷ USDA FOOD AND NUTRITION SERVICE, NATIONAL SCHOOL LUNCH PROGRAM, ¶¶ 2, 4, *available at* <http://www.fns.usda.gov/cnd/Lunch/AboutLunch/NSLPFactSheet.pdf> [hereinafter NSLP FACTSHEET]; USDA FOOD AND NUTRITION SERVICE, THE SCHOOL BREAKFAST PROGRAM, ¶ 2, *available at* <http://www.fns.usda.gov/cnd/breakfast/AboutBFast/SBPFactSheet.pdf>. “Children from families with incomes at or below 130 percent of the poverty level are eligible for free meals. Those with incomes between 130 percent and 185 percent of the poverty level are eligible for reduced-price meals. . .” NSLP FACTSHEET at ¶ 4.

⁶⁸ 42 U.S.C.S. § 1751 (LexisNexis 2011)

⁶⁹ *See id.*

As a core component of the NSLP program, the Department of Agriculture sets a nutritional baseline for the NSLP meals. The National School Lunch Act⁷⁰ and the Child Nutrition Act⁷¹ require that meals provided under the above programs meet minimum nutritional requirements as decided by the Secretary of Agriculture.⁷² Since 1994, when Congress enacted an amendment to the National School Lunch Act which required that meals served through the above programs comply with the Dietary Guidelines for Americans,⁷³ NSLP meals and snacks must also be consistent with the goals of the most recent “federal dietary guidelines.”⁷⁴ This requires that NSLP lunches provide one third of a child’s recommended daily allowance of protein, vitamin A, vitamin C, calcium, iron, and calories, and that fat and saturated fat should not exceed 30% and 10% of calories, respectively.⁷⁵

Thus, while the NSLP was originally developed to ensure that school children had at least one full meal per day, over time this program has expanded beyond its original mandate to include considerations of nutrition and healthy eating habits. As discussed below, however, these changes have been haphazard and isolated, applicable only to certain foods, sold at particular times and in particular locations, without a unified structure or overarching set of guidelines.

2. *Competitive Foods*

The healthy school meals and snacks provided through the NSLP do not make up all food that has traditionally been provided at school: “competitive foods,” know in the Kids Act as “nonprogram foods,” are frequently sold in cafeterias, school stores, snack bars, and vending machines outside of the

⁷⁰ 42 U.S.C.S. §§ 1751 et seq. (LexisNexis 2011).

⁷¹ 42 U.S.C. §§ 1771 et seq. (LexisNexis 2011).

⁷² 42 U.S.C. § 1758(a)(1) (LexisNexis 2011).

⁷³ 7 C.F.R. §§ 210.10, 220.8 (2011); NSLP FACTSHEET, *supra* note 67 at ¶¶ 3, 9 (“School lunches must meet the applicable recommendations of the Dietary Guidelines for Americans, which recommend that no more than 30 percent of an individual’s calories come from fat, and less than 10 percent from saturated fat.”); Story, *supra* note 28, at 48.

⁷⁴ 42 U.S.C. § 1758(f) (LexisNexis 2011).

⁷⁵ NSLP FACTSHEET, *supra* note 67, at ¶ 3.

federal program and make up a significant part of students' diet.⁷⁶ The term "competitive foods" applies to an assortment of meal and snack options, including second servings of the NSLP lunch, à la carte meals like name brand burgers and pizza, carbonated beverages, chips, ice creams, and other treats.⁷⁷

Competitive foods have been found to negatively influence student-eating habits, likely contributing to the increased incidence of obesity. Children who eat NSLP school lunches have higher daily intakes of various nutrients and milk and lower intakes of added sugars and soda than other students.⁷⁸ Schools that provide à la carte lunch options (in addition to the aforementioned school lunches) are associated with students who have "lower intakes of fruits and vegetables and a higher percentage of calories from total and saturated fat,"⁷⁹ and the presence of vending machines in schools is correlated with a decline in fruit intake.⁸⁰

Prior to December of 2010, the USDA did little to regulate competitive foods, which fall into two categories: foods of minimal nutritional value (such as carbonated drinks, chewing gum, and hard candies),⁸¹ and all other foods not a part of the federal programs.⁸² The USDA has prohibited the availability of foods of minimal nutritional value in the food

⁷⁶ Laura E. Ward, *Chapter 235: Strict Nutrition Standards in California Public Schools*, 38 MCGEORGE L. REV. 85, 85 (2007).

⁷⁷ Sarah Fox et al., *Competitive Food Initiatives in Schools and Overweight in Children: A Review of the Evidence*, 104 WIS. MED. J. 38, 39 (2005).

⁷⁸ See USDA, FOOD SOLD IN COMPETITION WITH USDA SCHOOL MEAL PROGRAMS: A REPORT TO CONGRESS (2001), available at <http://www.fns.usda.gov/cnd/> (available under "National School Lunch Program" link); Susan Lynn Roberts, *School Food: Does the Future Call for New Food Policy or Can The Old Still Hold True?*, 7 DRAKE J. AGRIC. L. 587, 605 (2002).

⁷⁹ Martha Y. Kubik et al., *The Association of the School Food Environment With Dietary Behaviors of Young Adolescents*, 93 AM. J. PUB. HEALTH 1168, 1171 (2003).

⁸⁰ See *id.*

⁸¹ 7 C.F.R. §§ 210, 220, appendix B (2011).

⁸² Fox et al., *supra* note 77.

service area during meal periods,⁸³ but a vending machine could sell sugared sodas and candies just outside the cafeteria even during mealtimes.⁸⁴ Prior to the Kids Act, there was no limitation on other competitive foods that schools could offer. This created a system where children had *mealtime* access to NSLP meals (regulated by USDA dietary guidelines), but where students had *easy and constant* access to unhealthy and energy-dense competitive foods (often at vending machines, where there was no need to wait in a cafeteria line). Such discrepancy in access likely contributed to the current childhood obesity epidemic by allowing, and even encouraging, students to choose fast, cheap, and tasty energy-dense foods. As discussed below, the effect that access to unhealthy options had on the incidence of childhood obesity was likely compounded by the insufficient nutrition education and minimal physical activity provided by schools.

3. *Nutrition and Physical Education*

Education programs have been used before to deal with an American public health problem: the “malnutrition crisis” of the early twentieth century.⁸⁵ During this period, such significant portions of American children and adolescents were underfed that “huge numbers of men drafted for World War I [were] rejected because of ill health.”⁸⁶ With the tripartite goals of “raising the standard of living, the Americanization of immigrants, and the ability to recruit physically fit young men for the U.S. military,”⁸⁷ government and civil society groups came together in the 1920s to teach proper nutrition to “American schoolchildren and[,] through

⁸³ Letter from Stanley C. Garnett, Director of the Child Nutrition Division of the USDA, to all Regional Directors of Child Nutrition Programs, on the National School Lunch Program/School Breakfast Program: Foods of Minimal Nutritional Value, 1 (January 16, 2001), *available at* www.fns.usda.gov/cnd/lunch/_private/CompetitiveFoods/fmnv.pdf.

⁸⁴ Fox et al., *supra* note 77.

⁸⁵ Laura Lovett, *The Popeye Principle: Selling Child Health in the First Nutrition Crisis*, 30 J. HEALTH POL. POL'Y & L. 803, 804 (2005).

⁸⁶ *Id.* at 813.

⁸⁷ *Id.* at 804.

them, their families.”⁸⁸ These programs brought nutrition and hygiene into the classroom, making it a part of everyday lessons to naturalize health education. Students practiced their script by writing “we brush our teeth” and teachers phrased “health messages in children’s own terms and experiences,” using “strong emotional messages [to] produce[] a lasting impact.”⁸⁹ The propaganda used by these programs, now well-known phrases such as “eat your vegetables” and “don’t drink coffee; it will stunt your growth,”⁹⁰ created peer pressure to eat spinach, drink milk, and finish the food on their plate.⁹¹ These programs partnered teachers, nurses, dentists, and physicians, along with in-school “weigh-ins” and growth charts, to standardize behavior and health awareness among an entire generation.⁹²

Since the surge in the 1920s, however, significantly less attention has been paid to nutrition education in American schools. Prior to the Kids Act, there were no federal requirements for nutrition education in public schools; while almost all schools offer some form of nutrition education (often mandated by a school district or state),⁹³ the number of hours spent on nutrition education in elementary schools was significantly lower than the 50 hours thought to be required to impact a child’s behavior.⁹⁴

⁸⁸ *Id.* at 813.

⁸⁹ *Id.* at 815.

⁹⁰ *Id.* at 805.

⁹¹ The latter of these health messages, while relevant in an environment of *underweight* children, may have played a part in creating the *current* public health crisis.

⁹² See Lovett, *supra* note 85, at 805 (Because of these health initiatives, the producers of Popeye the Sailor were able to exploit a social norm, the connection between spinach and strength, that had been “instilled in the course of the malnutrition crisis.”).

⁹³ NATIONAL CENTER FOR EDUCATION STATISTICS, U.S. DEPARTMENT OF EDUCATION, NUTRITION EDUCATION IN PUBLIC ELEMENTARY AND SECONDARY SCHOOLS, iii (1996), *available at* <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=96852>.

⁹⁴ NATIONAL CENTER FOR EDUCATION STATISTICS, U.S. DEPARTMENT OF EDUCATION, NUTRITION EDUCATION IN PUBLIC ELEMENTARY SCHOOL CLASSROOMS, K-5, iii (2000), *available at*

With regards to physical activity, in the public school system “[o]nly 3.8% of elementary schools, 7.9% of middle schools and 2.1% of high schools provide daily physical education” to students for the entire school year, and 22% of schools do not require any physical education at all.⁹⁵ Despite research that has shown that children of normal weight have higher scholastic achievements than obese children and that there is a correlation between academic performance and time spent in physical education, many schools have recently cut back on physical education programs due to budgetary constraints and to heightened academic requirements.⁹⁶

A. *The Kids Act*

1. *The Basic Structure*

The Kids Act of 2010 sought to unify and update the way in which schools develop policies regarding food provision, nutrition education, and physical education, in an attempt to fight the increasing prevalence of obesity among American children. The Act sets out a baseline requirement that “each local educational agency shall establish a local school wellness policy for all schools under [its] jurisdiction.”⁹⁷ Moreover, the Act delegates to the USDA the duty to promulgate “regulations that provide the framework and guidelines” for these local school wellness policies.⁹⁸

Specifically, the Secretary of Agriculture is charged with instituting the five best practices outlined above: (1) developing nutritional guidelines for “all foods available on each school campus;”⁹⁹ (2) setting “goals for nutrition

<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2000040> (“The mean number of hours spent in a school year on nutrition education by elementary school teachers who taught nutrition was 13, below the minimum of 50 hours thought to be necessary for impact on behavior . . .”).

⁹⁵ AHA *Learning for Life*, *supra* note 20.

⁹⁶ *Id.*

⁹⁷ Healthy, Hunger-Free Kids Act of 2010, *supra* note 8, at 42 U.S.C.S. § 1758b(a).

⁹⁸ *Id.* at § 1758b (b).

⁹⁹ *Id.* at 42 U.S.C.S. § 1758b(b)(2).

promotion and education;”¹⁰⁰ (3) setting “goals for . . . physical activity, and other school-based activities that promote student wellness;”¹⁰¹ (4) requiring local education agencies to permit parent, student, and community involvement “in the development, implementation, and periodic review and update of the local school wellness policy;”¹⁰² and (5) requiring local education agencies to designate “local educational agency officials or school officials . . . to ensure that each school complies with the local school wellness policy.”¹⁰³

With regards to the first of these five elements, the Kids Act is quite detailed in charging the USDA with setting the nutritional standards of any food that is made available to students. This mandate extends broadly to foods “(i) outside the school meal programs; (ii) on the school campus; and (iii) at any time during the school day.”¹⁰⁴ Thus, *all* foods that children can access at school are covered by this legislation, including competitive foods. The USDA guidelines must be “consistent with the most recent Dietary Guidelines for Americans” and should consider “(I) authoritative scientific recommendations for nutrition standards; (II) existing school nutrition standards . . . ; (III) the practical application of the nutrition standards; and (IV) special exemptions for school-sponsored fundraisers . . .”¹⁰⁵

As part of the mandate allowing the USDA to control almost all the food on public school campuses, the Kids Act also empowers the USDA to control the *presentation* of foods, as in the AVHPSP, above.¹⁰⁶ Embracing the principles of behavioral economics, the Kids Act explicitly recognizes the importance of food presentation, placement, portion size,

¹⁰⁰ *Id.* at 42 U.S.C.S. § 1758b(b)(1).

¹⁰¹ *Id.*

¹⁰² *Id.* at 42 U.S.C.S. § 1758b(b)(3).

¹⁰³ *Id.* at 42 U.S.C.S. § 1758b(b)(5)(B).

¹⁰⁴ *Id.* at 42 U.S.C.S. § 1779(b)(1)(B).

¹⁰⁵ *Id.* at 42 U.S.C.S. § 1779(b)(C).

¹⁰⁶ See sources cited *supra* note 50 and accompanying text.

labeling, and convenience.¹⁰⁷ In particular, the Act provides that

“The Secretary [of Agriculture] . . . shall establish a research, demonstration, and technical assistance program . . . to reduce the prevalence of obesity . . . by applying the principles and insights of behavioral economics research in schools, childcare programs, and other settings. . . . The Secretary shall . . . encourage adoption of the most effective strategies through outreach and technical assistance.”¹⁰⁸

This policy seems particularly insightful considering the recent attention given to the possible effects that food placement may have on the purchasing habits of both adults and children.¹⁰⁹

With regards to the other four elements, the statute goes into less detail: once the USDA has promulgated guidelines, local school agencies must develop wellness programs for each school within its jurisdiction, in compliance with the federal standards.¹¹⁰ Thus, the Kids Act creates a unified federal system that implements all five of the best practices of school-based interventions in an attempt to remedy the childhood obesity epidemic.

¹⁰⁷ *Id.* at 7 U.S.C.S § 3179.

¹⁰⁸ *Id.*

¹⁰⁹ *See, e.g.* RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE* 1–4 (2009) (This book introduces the reader to Carolyn, a fictional character who is the director of food-services for school cafeterias who discovers that “[s]imply by rearranging the cafeteria, [she] was able to increase or decrease the consumption of many food items by as much as 25 percent.”); TOM FARLEY & DEBORAH A. COHEN, *PRESCRIPTION FOR A HEALTHY NATION* 71–74 (2005) (“Grocery shopping is not something we humans do very well. . . . People grab what is available The more frequently people bump into products in the store, the more likely they are to buy them.”).

¹¹⁰ Healthy, Hunger-Free Kids Act of 2010, *supra* note 8, at 42 U.S.C.S § 1758b.

2. *Overcoming Criticism: The Kids Act Is a Solid Step Forward*

The Kids Act represents a phenomenal step forward in the nation's fight against obesity. When viewed in light of the research on school-based interventions, the future seems promising: as noted above, the Kids Act implements many of the components found in successful programs. Beyond just mandating wellness programs across the country, the Kids Act ensures the institutionalization of these programs by creating roles dedicated to their implementation and enforcement. This element of institutionalization is magnified because the Kids Act school-intervention is government-run: unlike the short-term interventions funded by research grants in the above studies (except for the Canadian AVHPSP), the Kids Act's wellness policies incorporate considerations of health and physical well-being into the existing school-system in a permanent manner. The long-term funding and stability generated by legislative action ensures that the wellness policies instituted by the Kids Act will not be cut short on a whim. Moreover, like the program leaders in the AVHPSP, charging individual officials with ensuring implementation of and compliance with the Kids Act guidelines in each local agency creates a constituency of people personally invested in the continuation, maintenance, and success of the program.

However, various critics of the Kids Act have suggested that this statute has gone too far in regulating the foods that can be purchased at schools. These criticisms stem from two central complaints with the Kids Act: first, that it further reduces already scarce school funding, and second, that it impermissibly hinders individual choice. This Article will address each of these criticisms in turn, and will suggest that neither one is fully founded.

One potential problem with the Kids Act is that it limits the competitive foods that schools can sell, an important part of many schools' funding. This is serious concern: a study of the effects of California's statewide nutritional

standards in schools¹¹¹ found that “[f]ood and beverage sales decreased at most venues,” and even though “à la carte revenue losses were usually offset by increased meal program participation[, i]ncreased food service expenditures outpaced revenue increases.”¹¹² Competitive food policies, however, need not reduce school revenues.¹¹³ A review of competitive food policies enacted in six high schools across the United States found that certain policies were actually profitable for schools.¹¹⁴ While any change in school policy, if mismanaged, can lead to reduced revenues, “limiting competitive foods in schools is possible without financial loss”¹¹⁵—the burden rests upon the USDA and on local school agencies to ensure the development of and compliance with food policies that will lead to healthful eating and that leave schools on sound financial footing.

The second criticism that has been leveled at the Kids Act sounds as a populist cry against government intervention in private affairs. Conservative politicians and critics have called the Act “an example of government over-reaching,”¹¹⁶

¹¹¹ California’s Chapter Laws 235, 236, and 237 regulate the food provided in schools with a 35/10/35 standard:

(A) Not more than 35 percent of . . . total calories shall be from fat. (B) Not more than 10 percent of . . . total calories shall be from saturated fat. (C) Not more than 35 percent of . . . total weight shall be composed of sugar, including naturally occurring and added sugar. CAL. EDUC. CODE § 49431(a)(2)(A)–(C) (Deering 2010).

The statute also limits the total number of calories per individual snack item, *Id.* at §§ 49431(a)(2)(D), 49431.2(a)(1)–(4), and per entrée sold outside of the USDA meals program, *Id.* at § 49431.2(b).

¹¹² Gail Woodward-Lopez et al., *Lessons Learned From Evaluations of California’s Statewide School Nutrition Standards*, 100 AM. J. PUB. HEALTH 2137, 2137 (2010)

¹¹³ See Fox et al., *supra* note 77, at 38.

¹¹⁴ *Id.* at 41, table 2.

¹¹⁵ *Id.* at 42.

¹¹⁶ Nia-Malika Henderson, *After Delays, Final Vote Set for Child Nutrition Bill*, THE WASHINGTON POST (Dec. 2, 2010), <http://www.washingtonpost.com/wp-dyn/content/article/2010/12/02/AR2010120201407.html?hpid=topnews> (quoting former governor of Alaska, Sarah Palin).

have claimed that the Kids Act “is not about child nutrition . . . [but] about an expansion of the federal government” and that the “federal government has no business setting nutritional standards and telling families what they should and should not eat.”¹¹⁷ While compelling fodder for the media, the argument that the Kids Act is an infringement on personal choice ignores two issues: that the legal doctrine of *parens patriae* may in fact warrant (and arguably compel), such an infringement; and that absent the Kids Act, it is the food industry (and not parents) that dictates what food is available at school. Each of these matters will be reviewed in turn.

First, there is some argument that the doctrine of *parens patriae* provides for independent justification of Congressional involvement in the childhood obesity epidemic.¹¹⁸ *Parens patriae*, originally a British common law doctrine, “refers to the government’s role as guardian for persons legally unable to act for themselves, such as juveniles and the insane.”¹¹⁹ When anti-smoking advocates brought suit against R.J. Reynolds challenging the Joe Camel advertising campaign targeting children in the 1990s, the California Supreme Court referred to the *parens patriae* doctrine in dismissing a summary judgment challenge: “For over a century, with watchful eye, in its role as *parens patriae*, [the Legislature] has maintained a paternalistic vigilance over this vulnerable segment of our society.”¹²⁰ It seems reasonable to

¹¹⁷ Robert Pear, *Congress Approves Child Nutrition Bill*, N.Y. TIMES, A16 (December 3, 2010) available at <http://www.nytimes.com/2010/12/03/us/politics/03child.html> (quoting Representative Paul Broun, Republican of Georgia, and a physician).

¹¹⁸ See, e.g., Edith Y. Wu, *McFat—Obesity, Parens Patriae, and the Children*, 29 OKLA. CITY U. L. REV. 569 (2004) (“[N]ational policymakers are in the unique position to act on behalf of the entire nation, especially the children. As a result, Congress must assume its role as *Parens Patriae*.”).

¹¹⁹ Allan Kanner, *The Public Trust Doctrine, Parens Patriae, and the Attorney General as the Guardian of the State’s Natural Resources*, 16 DUKE ENV. L. & POL’Y F. 57, 100 (2005); see also Alfred L. Snapp & Son, Inc. v. Puerto Rico ex rel. Barez, 458 U.S. 592, 600 (1982); Hawaii v. Stanford Oil Co. of Cal., 405 U.S. 251, 257 (1972).

¹²⁰ *Mangini v. R.J. Reynolds Tobacco*, 875 P.2d 73, 83 (Cal. 1994).

extend this “paternalistic vigilance” to the obesity epidemic through legislation like the Kids Act.

Second, critics of the Kids Act are correct in claiming that it is an example of further government encroachment into matters of individual choice. However, even prior to the Kids Act, parents have not been the ones to choose what foods their children ate at school; underfunded school districts contracted with soft drink companies for exclusive beverage “pouring rights” and subcontracted lunch programs to corporate food services who “encourag[ed] the sale of high profit, low quality foods, including fast food.”¹²¹ Between the federal government and corporate America, who better to decide what foods may be provided at schools?

Moreover, a close reading of the Kids Act shows that the choice of what foods children eat remains, in large part, in parents’ hands. The Kids Act allows the USDA to set a baseline, and then local education agencies must develop, *with* parent and community involvement, school food policies.¹²² Parents, should they so desire, may influence the USDA guidelines through the notice and comment period that is required for all regulation,¹²³ and if they are displeased with the final result, they may opt-out completely of the federal guidelines and send their children to school with whatever food they choose in a brown-bag lunch. Thus, while government expansion is a legitimate concern, the Kids Act arguably *augments* parental influence in the foods made available to their children at school.

¹²¹ Cara B. Ebbeling et al., *Childhood Obesity: Public-Health Crisis, Common Sense Cure*, 360 THE LANCET 473, 478 (2002).

¹²² Healthy, Hunger-Free Kids Act, *supra* note 8, at 42 U.S.C. § 1758b(b)(3) (“The Secretary shall promulgate regulations that provide the framework and guidelines for local educational agencies to establish local school wellness policies, including, at a minimum . . . a requirement that the local educational agency permit parents, students, representatives of the school food authority, teachers of physical education, school health professionals, the school board, school administrators, and the general public to participate in the development, implementation, and periodic review and update of the local school wellness policy . . .”).

¹²³ Administrative Procedure Act, 5 U.S.C.S § 553 (LexisNexis 2011).

3. Will the Kids Act Be Enough?

The Kids Act sends a clear message that the government has taken up the fight against childhood obesity by implementing a program largely based on the best practices of school interventions, but with the added benefit of institutional permanence. However, there is no way of knowing at this early juncture how effective the Kids Act will be in achieving its obesity-prevention goals due to potential problems with (1) compliance and (2) the particular guidelines enacted by the USDA and the local education agencies.

Compliance has long been problematic for the NSLP: even after regulating the nutritional content of school lunches with amendments to the National School Lunch Act in 1994, by 2005, few schools met these nutritional guidelines.¹²⁴ Thus, despite the requirement that NSLP lunches meet the goals of the Dietary Guidelines for Americans, studies have found that students who consume school lunches eat from 40 to 120 more calories per day than students who eat brown-bag lunches, and that this difference is based *only* on food consumed at lunch due to noncompliance with NSLP requirements.¹²⁵ Moreover, among children who enter kindergarten with equivalent obesity rates, “children who consume school lunches are about [two] percentile points more likely to be obese than those who brown bag their lunches,” even when controlling for maternal employment, physical activity, and various family-level variables.¹²⁶ To avoid this outcome, it will be up to the local school agencies to monitor and review individual schools to ensure that all school foods comply with the standards set by the Kids Act of 2010.

Even with full compliance, much of the Kids Act’s success at obesity reduction depends on the specific policies that are developed. The Kids Act leaves significant leeway for the USDA to develop its guidelines for competitive foods and

¹²⁴ Diane Whitmore Schanzenbach, *Do School Lunches Contribute to Childhood Obesity?*, University of Chicago, 2 (October 2005).

¹²⁵ *Id.* at 6.

¹²⁶ *Id.* at 9–10.

wellness programs¹²⁷ and all further policy development is left to local education agencies. Thus the successful reduction of the prevalence of obesity rests in the hands of these federal and local agencies. That students who eat school lunches have been found to eat more calories at lunch than students who bring brown-bag lunches suggests that portion control may be an important aspect of the USDA guidelines and the local wellness policies. Beyond just defining the *type* of foods consumed (and what percentage of these foods may be composed of fats, proteins, or carbohydrates), the USDA must limit the *amount* of food provided as a part of NSLP meals and snacks. Americans tend to eat not until satiety or fullness, but until some external cue tells them that the meal is done;¹²⁸ these cues can include an empty plate, the end of a television show, or the end of the lunch hour. Thus, to avoid the problem of *overeating*, NSLP portions (and perhaps plate sizes) should be controlled such that children have an external cue to stop eating.

In addition to portion control, the USDA must ensure that their guidelines are stringent enough to ensure a minimum level of wellness programs in all local education agencies. Otherwise, the fear of decreased revenues may induce some of these agencies to provide lax wellness policies, thereby precluding the intended results of the Kids Act. However, while the Kids Act suggests a promising start to the government's battle against childhood obesity, the fickle results of the studies cited above suggest that even with well-conceived policies and perfect compliance, success is far from guaranteed. Thus, this Article suggests that further obesity-reduction policies could and should be enacted.

¹²⁷ Healthy, Hunger-Free Kids Act of 2010, *supra* note 8, at 42 U.S.C. § 1758b (b)(1).

¹²⁸ See MICHAEL POLLAN, *IN DEFENSE OF FOOD*, 185 (2008); see, e.g. Brian Wasink et al., *Bottomless Bowls: Why Visual Cues of Portion Size May Influence Intake*, 13 *OBESITY RESEARCH* 93, 93 (2005) (Diners who were served soup in bowls that were continually refilled through concealed tubing ate 73% more than those eating from normal bowls.).

IV. Supplementing the Kids Act: Marketing Regulations and Fiscal Policy

A. Filling in the Gaps in the Kids Act

The Kids Act is a great victory for the future of American children, but this policy is far from perfect. As discussed above, even with perfect implementation and compliance, a school-based intervention can only go so far. Thus, this Article proposes stepping outside the framework of school-based interventions to supplement the Kids Act by addressing the market failures that contribute to childhood obesity. Free-market economists argue against regulation because well-functioning markets best allow individuals to make rational choices. Even among market-economists, however, there are economic justifications for regulation.¹²⁹

First is the problem of imperfect information.¹³⁰ Obesity is frequently seen as a problem of poor choices and poor self-control.¹³¹ However, these “choices” may not be thoroughly informed. The ubiquitous “nutrition facts” panels on all packaged foods, as prescribed by the Nutrition Label and Education Act,¹³² are notoriously hard to understand; research has shown that even those who attempt to use the nutrition panels have a hard time interpreting the information correctly.¹³³ One study reported that 41% of surveyed individuals stated that “their poor understanding of diet and nutrition was a key reason that they did not do more to achieve a healthy diet.”¹³⁴ Not only do many lack an understanding of

¹²⁹ See Kelly D. Brownell et al., *The Public Health and Economic Benefits of Taxing Sugar-Sweetened Beverages*, 361 NEW ENG. J. Med. 1599, 1601 (2009); Cawley, *supra* note 26, at 120.

¹³⁰ See *id.*

¹³¹ See Benforado et al., *supra* note 21, at 1708–11; see also Pennel, *supra* note 5, at 105.

¹³² INSTITUTE OF MEDICINE, EXAMINATION OF FRONT-OF-PACKAGE NUTRITION RATING SYSTEMS AND SYMBOLS: PHASE I REPORT ix (Ellen A. Wartella et al. eds., 2010) available at <http://www.nap.edu/catalog/12957.html>.

¹³³ *Id.* at 5-1.

¹³⁴ *Id.*

what constitutes healthful eating, a recent study has shown that some obese Americans may misperceive their own weight, believing that they are not unhealthily heavy.¹³⁵ The nutrition education policies in the Kids Act respond directly to this problem, seeking to implement national guidelines that would inform students about the dangers of poor eating habits that can lead to obesity. However, whatever information is provided through schools under the Kids Act wellness policies must compete with the marketing tactics of the food industry, a behemoth of information manipulation that spends billions of dollars to influence the preferences and consumption habits of children well before they begin their schooling.¹³⁶ Studies of the effectiveness of television advertising targeted towards children suggest that children make food consumption choices based not on rational choice but rather on the television advertisements they have seen.¹³⁷ Thus, limiting the ability of industry to target their advertisements towards children is justified as a mechanism to remedy this market failure.

A second economic justification for government intervention is the cognitive errors that cause irrational decisions and “time-inconsistent preferences (i.e., decisions that provide short-term gratification but long-term harm).”¹³⁸ Consumers are often characterized as “dispassionate information processors, evaluating alternatives in a boundedly rational fashion” to make each purchase decision based on

¹³⁵ Meredith Melnick, *Study: Many Obese People Think They Look Great the Way They Are*, TIME HEALTHLAND, October 19, 2010, <http://healthland.time.com/2010/10/19/study-many-obese-people-think-they-look-great-the-way-they-are/?iid=WBmostpopular>.

¹³⁶ See Cawley, *supra* note 26, at 121 (“[I]n 1996, the advertising budget for McDonald’s was \$599 million, while that for the National Cancer Institute’s 5-A-Day promotion of fruit and vegetable consumption was less than \$1 million.”); Lee J. Munger, *Is Ronald McDonald the Next Joe Camel? Regulating Fast Food Advertisements That Target Children in Light of the American Overweight and Obesity Epidemic*, 3 CONN. PUB. INT. L. J. 390, 400 (2004).

¹³⁷ See text accompanying notes 190 to 196, *infra*.

¹³⁸ Brownell et al., *supra* note 129; see also Cawley, *supra* note 26.

clearly defined preferences.¹³⁹ However, research in behavioral psychology and economics has shown that people, particularly children, do not always base their decisions on rational analysis,¹⁴⁰ and a fuller understanding of consumer behavior acknowledges that long-term rational preferences can give way to short term desires.¹⁴¹ Thus, a person who cares about their health and even knows enough about nutrition to understand the consequences of particular habits may succumb to food cravings and choose to snack on chocolate instead of carrots (and may make this choice every time, leading to the prevalence of obesity). There is evidence of these time-inconsistent preferences regarding obesity-related behaviors, where people “expressly desire to behave otherwise but find themselves unable to without external ‘help.’”¹⁴² By limiting the unhealthy foods that are accessible at school, the Kids Act will force students to make better choices while in school, despite their short-term preferences. However, students only spend a portion of their day at school: as discussed below, their consumption choices the rest of the day are influenced by a number of variables, including price and advertising.¹⁴³ Therefore, government intervention in food marketing and in food prices, resulting in price incentives and consumption preferences that are better-aligned with people’s rational, long-term health goals, are warranted to help fix this market failure.

The rest of this Article will consider, first, a tax and subsidy policy designed to realign incentives to encourage healthier behavior, and second, regulation of food advertising directed towards children, to reduce the disproportionate

¹³⁹ Stephen J. Hoch & George F. Lowenstein, *Time-Inconsistent Preferences and Consumer Self-Control*, 17 J. CONSUMER RES. 492, 492 (1991).

¹⁴⁰ See Cawley, *supra* note 26.

¹⁴¹ Hoch & Lowenstein, *supra* note 139.

¹⁴² Derek Yach et al., *Epidemiological and Economic Consequences of the Global Epidemics of Obesity and Diabetes*, 12 NATURE MED. 62, 65 (2006); see also David M. Cutler et al., *Why Have Americans Become More Obese?*, 17 J. ECON. PERSP. 93, 112–13 (2003).

¹⁴³ See *infra* text accompanying notes 147–156 and 186–196.

influence that the food industry has on children's consumption habits.

B. Taxes and Subsidies

The Kids Act only limits the food available to children during school hours; taxation has the potential to enhance the effect of the Kids Act by changing food consumption patterns outside of schools. Taxation has been cited as “the most effective policy for reducing tobacco use[,]”¹⁴⁴ particularly among the teen and young adult populations,¹⁴⁵ and a recent study has found that a tax on certain foods may have similarly impressive results.¹⁴⁶ Thus, this Article will argue for a well-designed and targeted tax policy, one that will impact not only the purchasing habits of children deciding how to spend their disposable income, but also the grocery-shopping habits of their families.

1. Effect of Food Price on Purchasing Habits

At root, taxation is able to decrease consumption of goods because consumers are willing to shift away from goods that are too expensive to similar goods at a lower price. Generally speaking, “[i]ncreasing the price of a commodity should reduce consumption of that commodity, a phenomenon termed *same-price elasticity*.”¹⁴⁷ This phenomenon applies to

¹⁴⁴ Tatiana Andreyeva et al., *The Impact of Food Prices on Consumption: A Systematic Review of Research on the Price Elasticity of Demand for Food*, 100 AM. J. PUB. HEALTH 216, 220 (2010).

¹⁴⁵ *Id.* at 220; Frank J. Chaloupka et al., *Tax, Price and Cigarette Smoking: Evidence from the Tobacco Documents and Implications for Tobacco Company Marketing Strategies*, 11 TOBACCO CONTROL i62, i65 (2002).

¹⁴⁶ See Andreyeva et al., *supra* note 144 (noting that studies on the elasticity of demand for food have found ranges of elasticity from 0.27 to 0.81); compare Chaloupka et al., *supra* note 145 (reviewing impact of taxation on tobacco consumption, finding an elasticity of demand for cigarettes of 0.5).

¹⁴⁷ Leonard H. Epstein et al., *Purchases of Food in Youth: Influence of Price and Income*, 17 PSYCH. SCIENCE 82, 82 (2006) [hereinafter *Purchases of Food in Youth*] (emphasis added).

food: as the price of a particular food increases, consumption of that food decreases.¹⁴⁸

For example, soft drinks and fast food have relatively high elasticities of demand.¹⁴⁹ These elasticity ranges mean that for soft drinks, a 10% increase in price can create a 7.9% to 10% decrease in consumption, and that for food away from home, a 10% increase in price can decrease consumption by 8.1%. The lower levels of price elasticity for sugars and sweets (0.34) may justify a higher tax on these items to decrease consumption. Moreover, the relative high elasticity of demand for fruit (0.70) suggests that a relatively small decrease in price could do much to increase consumption.¹⁵⁰

Personal characteristics may come into play in determining the level same-price elasticity, as well as in determining *cross-price elasticity*, which is when “[i]ncreasing the price of one commodity . . . increase[s] consumption of a substitute commodity.”¹⁵¹ Children have been found to be sensitive to price changes in foods, exhibiting both same- and cross-price elasticity.¹⁵² While the relationship between price

¹⁴⁸ Leonard H. Epstein et al., *Price and Maternal Obesity Influence Purchasing of Low- and High-Energy-Dense Foods*, 86 AM. J. CLIN. NUTRITION 914, 920 (2007) [hereinafter *Price and Maternal Obesity*].

¹⁴⁹ See Andreyeva et al., *supra* note 144, at 219, table 1 (2010). The elasticity of demand for soft drinks was found to range from 0.79 to 1.0, depending on the definition of “soft drink” used, and the elasticity of demand for food away from home was found to be 0.81. *Id.* Note that while technically an elasticity of demand of less than 1 is considered “inelastic,” here we are considering *relative* elasticity.

¹⁵⁰ See *id.*; FARLEY & COHEN, *supra* note 109, at 81–82; see also *Price and Maternal Obesity*, *supra* note 148 (“The price elasticity of fruit and vegetables is higher than that for snack foods such as potato chips, which suggests that at the same percentage price change, there may be a bigger effect on health by reducing prices of healthy foods by subsidies than by increasing prices of less healthy foods.”).

¹⁵¹ *Purchases of Food in Youth*, *supra* note 147. In one study, when the price of high-energy-density foods increases, leaner mothers were found to be more willing to replace these unhealthier foods for cheaper (and healthier) low-energy density foods than obese mothers, and that “leaner mothers are more sensitive to price changes in [high-energy-density] foods.” *Price and Maternal Obesity*, *supra* note 148.

¹⁵² *Purchases of Food in Youth* *supra* note 147, at 86.

and children's demand for foods supports increasing the price of high-energy-density foods and decreasing the price of low-energy-density foods, cross-price elasticity was dependent on the amount of money available to spend.¹⁵³ This suggests that substitution of high-energy-density foods with low-energy-density foods (when the price of energy-dense foods is increased) is most likely to occur among those with less disposable income.

Price-sensitivity has been demonstrated in various studies. In one, researchers sought to examine the effect of price reductions on lower-fat vending machine snacks at work sites and schools in Minnesota, finding that "[p]rice reduction was associated with a significant increase in percentage of lower fat snack sales."¹⁵⁴ Specifically, a price reduction of 10%, 25%, and 50% on lower fat snacks led to increases in sales of these snacks by 9%, 39%, and 93%, respectively.¹⁵⁵ These results were confirmed in a study examining price reductions on fresh fruit and vegetables in a high school cafeteria that found that sales of fruit increased four-fold and sales of vegetables increased two-fold when the price of these items was reduced by 50%.¹⁵⁶

2. Designing the Policy

Energy-dense foods are the most cost-effective way of obtaining energy; not only do foods made of refined grains, added sugars, or added fats provide more energy per gram than foods that are less energy-dense, these foods are generally cheaper than their healthier counterparts.¹⁵⁷ As a result of this cost disparity, "poverty and food insecurity are associated with lower food expenditures, low fruit and

¹⁵³ *Id.*

¹⁵⁴ Simone A. French, *Pricing Effects on Food Choices*, 133 J. NUTRITION SUPP. 841, 842 (2002).

¹⁵⁵ *Id.*

¹⁵⁶ *Id.* at 842-43.

¹⁵⁷ See Drewnowski & Darmon, *supra* note 25; see also Adam Drewnowski & S.E. Specter, *Poverty and Obesity: The Role of Energy Density and Energy Costs*, 79 AM. J. CLINICAL NUTRITION 6, 6 (2004).

vegetable consumption, and lower-quality diets.”¹⁵⁸ If the goal of taxation in this instance is not only to raise government revenue, but also to change particular behaviors, this tax should be targeted to maximize benefits. For example, a tax based solely on the amount of saturated fat in a product may lead to a decrease in the consumption of beef and dairy products and an increase in consumption of processed fats (like “trans fatty acids[, which] have worse health characteristics than saturated fat”) or refined grains (“a food category almost universally disfavored by nutrition experts”).¹⁵⁹ Similarly, a tax based solely on the energy density of foods would lead to high prices of some healthy foods that we may not want to discourage (such as avocados or nuts).¹⁶⁰ Moreover, taxing food without concomitant subsidies or other income assistance would increase the price of food overall, potentially causing “[poor] individuals’ nutritional status [to] deteriorate.”¹⁶¹

The most politically- and practically-feasible tax is one on sugared drinks; such a tax already exists in 33 states at relatively low levels (with a mean tax rate of 5.2%) as attempts to raise revenue, but the tax rates are too low to change consumption habits.¹⁶² A tax of a few cents per ounce of beverage with *any* added caloric sweetener, or a tax on every beverage above a certain threshold sugar content, both have potential to generate significant income (up to \$14.9 billion with a tax of one cent per ounce of sugar-sweetened drink).¹⁶³ Moreover, the relatively high elasticity of demand for soft drinks suggests that the behavioral effects of a higher tax on sugared beverages could be considerable.¹⁶⁴

¹⁵⁸ Drewnowski & Specter, *supra* note 157.

¹⁵⁹ See Jeff Strnad, *Conceptualizing the “Fat Tax”: The Role of Food Taxes in Developed Economies*, 78 S. CAL. L. R. 1221, 1312 (2005).

¹⁶⁰ *Id.* at 1314.

¹⁶¹ *Id.* at 1317.

¹⁶² See Andreyeva et al., *supra* note 144, at 220; Brownell et al., *supra* note 129, at 1599.

¹⁶³ Brownell et al., *supra* note 129, at 1602, 1603.

¹⁶⁴ *Id.* at 1602 (“With the use of a conservative estimate that consumers would substitute calories in other forms for 25% of the reduced calorie

While a tax on sugared drinks may be an important first step, a broader tax on energy-dense foods would likely be necessary to change general consumption habits.¹⁶⁵ This Article proposes that a tax and subsidy system that is based on both the nutritional quality and the energy density of foods could function as such a broad-ranging tax. This system could use the NuVal System as a model: the NuVal System uses a privately owned algorithm (developed by a group of independent nutrition and medical experts) to rank foods on a scale of one to 100 based on their nutrition content.¹⁶⁶ While the actual algorithm is privately owned and thus unknown, it seems to take into account the fat, fiber, protein, vitamin, and mineral content of foods to assess their overall nutrition. The number-rankings of the NuVal System are currently being sold to grocery stores throughout America, giving shoppers the information they need to make health-conscious decisions.¹⁶⁷ A similar system could be developed and specifically tailored to address the current obesity epidemic, by making energy-density the most salient characteristic used to determine ranking from one to 100, but allowing energy-dense but healthy foods to move up the ranks based on other elements (like the presence of fiber or mono-unsaturated fats).

An administratively-complicated but theoretically-sound method of implementing such a tax would use the rankings to tax all foods below a certain threshold in decreasing amounts (largest tax on lowest-ranked foods, smaller taxes on higher-ranked foods), to fund increasing subsidies on all foods ranked above a certain threshold. Alternatively, a coarser, but more practical method would levy a single-rate tax on the lowest-ranked foods (below a threshold

consumption, an excise tax of 1 cent per ounce would lead to a minimum reduction of 10% in calorie consumption from sweetened beverages, or 20 kcal per person per day, a reduction that is sufficient for weight loss . . .”).

¹⁶⁵ Strnad, *supra* note 159, at 1322.

¹⁶⁶ Nuval, *How it Works*, <http://www.nuval.com/How> (last visited November 17, 2010); *See also* Timothy W. Martin & Ilan Brat, *The New Nutritionist: Your Grocer*, WALL ST. J., July 27, 2010, at D1.

¹⁶⁷ *See* Martin & Brat, *supra* note 166.

of perhaps 30) to pay for single-rate subsidies on the highest-ranked foods (those ranked above 70).

The numbered ranking could be listed with food cost in grocery stores and restaurants, and the tax or subsidy should be included in the posted price of food, rather than tabulated at the point of sale. In this way, consumers could consider rankings when making purchase decisions, and could take the added price into account when comparing foods. Not only would this incentivize consumers to purchase the lower-priced, higher-ranked foods, it would also provide shoppers with easily accessible nutrition information and would encourage the food industry to improve the nutritional makeup of their products to increase their ranking and escape the taxable category of foods.

Aside from taxation of food, other fiscal initiatives could be developed that would provide incentives for children (and their families) to be physically active outside of their school's physical education class. Tax credits for those who purchase sports equipment or gym memberships, tax incentives for employers who provide health promotion programs to employees, and funding bonuses to schools who make their recreational facilities available to the community outside of school hours all may increase physical activity during leisure time.¹⁶⁸ Changing zoning requirements to favor mixed-use development that provides for easy walking or biking, along with other incentives such as walk-to-school busses and parking "cashouts" (where employees are given the cash value of their parking space from their employer instead of the parking space itself) would encourage a physically-active mode of transportation rather than driving.¹⁶⁹ While not the primary focus of this Article, such interventions would support the Kids Act in its attempt to reduce the prevalence of obesity among children in the United States.

¹⁶⁸ See Michael Pratt et al., *Economic Interventions to Promote Physical Activity: Application of the SLOTH Model*, 27 AM. J. PREV. MED. 136, 138 (2004).

¹⁶⁹ See *id.* at 141, 142.

3. Arguments against Taxation

While taxes and subsidies may provide a fruitful mechanism to encourage healthful eating and reduce obesity, any argument for government intervention faces myriad criticisms. First, the tax above may be denigrated as regressive and thus detrimental to the poor, similar to the arguments that were made with regard to tobacco taxes:¹⁷⁰ because the amount of the tax is independent of the purchaser's socio-economic status, the tax costs poor purchasers a greater proportion of their income than their wealthy counterparts. However, the effect on income may not tell the whole story; an economic model of tobacco taxes that takes time-inconsistent preferences into account (by calculating the utility of taxes as a mechanism of self-control) found that cigarette taxes are much less regressive than generally assumed.¹⁷¹ This is because of the higher price elasticities of lower income smokers:¹⁷² with higher elasticity of demand, a tax will exert greater self-control, and therefore greater utility for one hoping to quit or reduce their smoking habit. Thus, when considering time-inconsistent preferences of smokers, cigarette taxes may in some instances actually be progressive, rather than regressive, by providing more overall utility to those with lower incomes.¹⁷³ The same results may hold true with regards to food consumption.

Moreover, even when income is the only factor considered, the regressive tax outlined above would be implemented in conjunction with a progressive subsidy program, which together should create an approximately-neutral system overall. In addition, poor minorities are the most affected by the obesity epidemic, and thus "have the

¹⁷⁰ Brownell et al., *supra* note 129, at 1603.

¹⁷¹ See Jonathan Gruber & Botond Koszegi, *Tax Incidence When Individuals Are Time-Inconsistent: The Case of Cigarette Excise Taxes*, 88 J. PUB. ECON. 1959, 1980 (2004).

¹⁷² *Id.*

¹⁷³ *Id.*

most to gain from [the] healthier eating”¹⁷⁴ that may be thrust upon them through the increased prices of energy-dense foods.

A second argument against using tax policy to deal with the obesity epidemic is that it “will not solve the obesity crisis and is a blunt instrument that affects even those who consume small amounts of [energy-dense foods].”¹⁷⁵ That a policy is an imperfect solution to the problem it seeks to address does not make it an unsound policy.¹⁷⁶ As research on food prices has suggested,¹⁷⁷ the tax policy described above would likely have the effect of reducing the purchases of energy-dense foods; even a small change in caloric consumption could have a great effect on the health of Americans.¹⁷⁸

A final, and critical problem with the tax policy outlined above is that it would likely face such strong opposition that it would be practically impossible to implement. Similar to the tobacco industry in its heyday, “the food industry seems to have overwhelming support from the public, the legislature, and the judiciary,”¹⁷⁹ with many people attributing obesity to the poor personal choices of the individual and not to the food industry or food environment in the United States.¹⁸⁰

The food industry has important influence in the political and regulatory process as an industry lobby.¹⁸¹ Marion Nestle, a participant in government efforts to promulgate nutrition guidelines, holds the food industry responsible for the general confusion among the American

¹⁷⁴ Strnad, *supra* note 159, at 1317.

¹⁷⁵ Brownell et al., *supra* note 129, at 1603.

¹⁷⁶ *Id.* (“Seat-belt legislation and tobacco taxation do not eliminate traffic accidents and heart disease but are nevertheless sound policies.”).

¹⁷⁷ See *supra* text accompanying notes 147–156.

¹⁷⁸ Brownell et al., *supra* note 129, at 1603 (“Reducing caloric intake by 1 to 2% per year would have a marked impact on health in all age groups . . .”).

¹⁷⁹ Pennel, *supra* note 5, at 106–7.

¹⁸⁰ See *supra* note 131.

¹⁸¹ Strnad, *supra* note 159, at 1296.

population regarding nutrition.¹⁸² According to Nestle, the food industry, acting in its own self-interest, has insisted upon ambiguous and “permissive principles that encourage consumption of all foods regardless of nutritional value” with vague guidelines that suggest that “there is no such thing as a good or bad food; [that] all foods can be part of healthful diets; [and that] it’s the total diet that counts.”¹⁸³ Moreover, seven states that had imposed taxes on junk foods repealed them between 1991 and 2001 due to pressures from the food industry,¹⁸⁴ illustrating the might of the food industry when its interests are at stake. However, this practical argument, that the food industry lobby is strong enough to prevent a comprehensive tax policy from ever being passed, is fatalist and counter-productive. While likely true for the foreseeable future, the Kids Act itself demonstrates that change in the food landscape of America is in fact possible.

The tax and subsidy policy described above is intended to realign short-term economic incentives of consumers with their long-term health preferences. The next section, which discusses advertising directed towards children, seeks to remedy both time-inconsistent preferences and another market-failure: the imperfect information that influences a child’s and his or her family’s food consumption decisions.

C. Regulating Advertising towards Children

The Kids Act seeks to teach American students about nutrition and healthy eating habits, and seeks to change the qualitative makeup of the foods they eat in school. These changes will limit the foods available for children at school, and will make them better-informed consumers with regards

¹⁸² MARION NESTLE, FOOD POLITICS 51–92 (2002); *see also* Strnad, *supra* note 159, at 1296.

¹⁸³ NESTLE, *supra* note 182, at 91.

¹⁸⁴ Michael F. Jacobson & Kelly D. Brownell, *Small Taxes on Soft Drinks and Snack Foods to Promote Health*, 90 AM. J. PUB. HEALTH 854, 856 table 2 (2000). For example, the 5% snack food tax enacted in Maryland in 1992 was repealed after Frito-Lay threatened not to build a local plant, and in Ohio the soft drink industry spent seven million dollars in advertising to obtain a constitutional amendment to repeal a tax on carbonated beverages.

to food purchasing decisions. However, the \$11 billion spent annually by the food industry on advertisements directed towards children¹⁸⁵ work against the Kids Act through two of the market failures discussed above: (1) junk-food marketing fills the market with manipulative messages, contributing to the already imperfect information that children have about food and nutrition, with a particularly strong impact before they begin school, and (2) the food industry profits from children's time-inconsistent preferences, telling children what foods they *want*, regardless of what might be good for them. This Part will first address the effect that marketing has on children, and will then consider the potential for reform in this area.

1. Effects of Advertising on Children

Like the tobacco industry before it, the food industry spends billions of dollars on advertising directed at particular target populations. Beginning with McDonald's and soon expanding to much of the industry, food companies specifically target children (even as toddlers) in an attempt to influence not only current consumption, but to develop lifelong brand loyalty and consumption habits.¹⁸⁶ The average child views 40,000 television advertisements per year, which likely contributes to the \$630 billion of household spending per year that results from child-focused advertising.¹⁸⁷ Children in the early 1990s recognized Joe Camel as easily as Mickey Mouse,¹⁸⁸ and the same was true for Ronald McDonald in the early 2000s.¹⁸⁹ The food industry adopts this tactic not only to influence future preferences, but because children are *particularly* susceptible to advertising; research in the 1970s showed that children cannot discern truth from

¹⁸⁵ Pennel, *supra* note 5, at 108.

¹⁸⁶ Munger, *supra* note 136.

¹⁸⁷ Alderman et al., *Application of Law to the Childhood Obesity Epidemic* at 97 (Northeastern Public Law And Theory Faculty Working Papers Series, No. 17-2007, 2007).

¹⁸⁸ Paul M. Fischer et al., *Brand Logo Recognition by Children Aged 3 to 6 Years, Mickey Mouse and Old Joe the Camel*, 266 JAMA 3145, 3145 (1991).

¹⁸⁹ See Pennel, *supra* note 5, at 109; Munger, *supra* note 186.

falsehood,¹⁹⁰ that young children cannot differentiate between television programming and commercials, and that they trust advertisements to be true.¹⁹¹

These early findings have stood the test of time:¹⁹² in a review of 123 published, peer-reviewed studies, the Institute of Medicine (the “IOM”) recently found that there are links between food marketing to children and children’s food preferences, food requests, consumption habits, and beliefs about nutrition.¹⁹³ Moreover, the IOM reconfirmed the earlier findings that children under eight years old “do not effectively comprehend the persuasive intent of marketing messages.”¹⁹⁴ When young children see television advertisements, they do not understand that they are an attempt to persuade them to purchase particular products, and thus may not “discount” the claims and appeals in these ads, the way adults generally do.¹⁹⁵ The IOM found “strong evidence that exposure to television advertising” is *associated* with overweight or obesity in children ages two to eighteen,¹⁹⁶ and noted that the idea that food advertising is a *cause* of this excess bodyweight “cannot be rejected on the basis of the current evidence.”¹⁹⁷

Thus, even once schools implement the wellness programs mandated by the Kids Act, children will remain vulnerable to targeted-marketing for two reasons: first, ads are directed at children at a very young age, even before entering school, and they influence childrens’ preferences before they have the benefit of the information provided through the wellness programs. Second, even when children (and adults)

¹⁹⁰ Munger, *supra* note 186, at 409.

¹⁹¹ *Id.* at 408.

¹⁹² INSTITUTE OF MEDICINE, FOOD MARKETING TO CHILDREN AND YOUTH: THREAT OR OPPORTUNITY? 298 (J. Michael McGinnis et al. eds., 2006) [hereinafter IOM, FOOD MARKETING TO CHILDREN].

¹⁹³ *Id.* at 258–70; *see also* Alderman et al., *supra* note 187; Marion Nestle, *Food Marketing and Childhood Obesity — A Matter of Policy*, 354 NEW ENG. J. MED. 2527, 2528 (2006).

¹⁹⁴ IOM, FOOD MARKETING TO CHILDREN, *supra* note 192, at 298.

¹⁹⁵ *Id.* at 296.

¹⁹⁶ IOM, FOOD MARKETING TO CHILDREN, *supra* note 192, at 279.

¹⁹⁷ *Id.* at 290.

are armed with full information, they remain susceptible to messages in advertisements that influence their preferences in the short term. These findings strongly support regulating the ability of industry actors to target advertising toward children, as even with the Kids Act, children remain vulnerable to the messages in ads. Thus, modifying or limiting the food industry's ability to manipulate children in this way would be an important step in rectifying these market failures.

2. *Regulating Commercial Speech in the United States*

Limiting the food industry's ability to market their products to children could be accomplished through various types of regulations. Such regulations could include limiting the times of day when advertising junk-foods are allowed, banning junk-food advertisements during children's programming, or even limiting all junk-food advertisements to "tombstone" formatting (where the ads may include "plain letters, perhaps a simple picture, against a plain background, describing a limited, prescribed set of information regarding the advertised junk-food item"),¹⁹⁸ as was the case with securities ads.¹⁹⁹

Implementing restrictions on junk-food advertising that targets children could have an immediate and important effect on the prevention of obesity among American children, and such regulations should be applied throughout the country. However, despite the potential benefits of restricting advertising to children, there are significant impediments to implementation. As early as the 1970s, advocacy groups such as the Action for Children's Television and the Center for Science in the Public Interest began petitioning the Federal Trade Commission (the "FTC") and the Federal Communications Commission (the "FCC") to regulate advertising directed towards children.²⁰⁰ These efforts

¹⁹⁸ David G. Yosifon, *Resisting Deep Capture: The Commercial Speech Doctrine and Junk-Food Advertising to Children*, 39 LOY. L.A. L. REV. 507, 541 (2006).

¹⁹⁹ *Id.* at 585.

²⁰⁰ Alderman et al., *supra* note 187.

resulted in limited restrictions on advertising that targeted children,²⁰¹ and in 1978 the FTC sought to ban all television advertisements targeted to young children; Michael Pertschuk, then head of the FTC, believed that children should be shielded from industry manipulation.²⁰² This proposal was shelved, however, after significant industry lobbying.²⁰³ Congress subsequently threatened to abolish the FTC, cut its budget under the Reagan Administration,²⁰⁴ and passed legislation in 1980 that *blocked* the FTC from preventing advertisers from targeting children.²⁰⁵ This law remains in effect today, but efforts at regulation could (and according to the IOM, should) be reconsidered.

While various other countries have implemented policies to limit advertising to children,²⁰⁶ the particularities of the American system make such legislation more difficult. Specifically, the First Amendment protects “commercial speech,” and the Supreme Court delineated a four-part test in *Central Hudson v. Public Service Commission*²⁰⁷ to determine if limiting such speech can be upheld under the Constitution: (1) the speech must be protected by the First Amendment (and thus must not be misleading), (2) the governmental interest must be substantial, (3) the regulation must directly serve that interest, and (4) the regulation must be narrowly tailored.²⁰⁸

²⁰¹ *Id.*

²⁰² Munger, *supra* note 189.

²⁰³ *Id.*

²⁰⁴ Ross D. Petty, *FTC Advertising Regulation: Survivor or Casualty of the Reagan Revolution?*, 30 AM. BUS. L. J. 1, 9 (1992); Alderman et al., *supra* note 187.

²⁰⁵ Munger, *supra* note 189.

²⁰⁶ Norway, Sweden, and the Canadian province of Quebec all ban broadcast advertising to children; EU member states do not allow ads to interrupt children’s television shows that are less than 30 minutes long; and some Asian and European countries ban product placement and restrict some sales promotions and in-school marketing techniques. Yach et al., *The World Health Organization's Framework Convention on Tobacco Control: Implications for Global Epidemics of Food-related Deaths and Disease*, 24 J. PUB. HEALTH. POL’Y 274, 283 (2003).

²⁰⁷ 447 U.S. 557 (1980).

²⁰⁸ *Id.* at 566 (“For commercial speech to [be protected by the First Amendment], it at least must concern lawful activity and not be

In much commercial speech litigation, the government defending the regulation waived the first prong of the *Central Hudson* test,²⁰⁹ and thus did not attempt to show that the commercial speech was illegal or misleading. In these cases, the government focused instead on the balancing and tailoring aspects of the test in prongs two, three, and four.

If the first prong of the *Central Hudson* test is waived in litigation over food-marketing regulation, then it seems likely that only narrowly-tailored restrictions of junk-food ads on or around school grounds would survive a court's inquiry.²¹⁰ The second element of the test would likely be satisfied by the government's clear interest in the health of American children, and the evidence reviewed by the IOM would likely be sufficient for the third prong, which requires that the proponent of the regulation use empirical data to demonstrate the relationship between the regulation and the policy it serves.²¹¹ For legislation to survive the final prong, however, the proponent must show that less restrictive means are unavailable or ineffective.²¹² In *Lorillard Tobacco Co. v. Riley*, the state regulation of tobacco advertisements in specific outdoor locations (for the purpose of combating underage smoking) was invalidated under this fourth prong.²¹³ Thus, although Justice Thomas acknowledged the "deleterious

misleading. Next, we ask whether the asserted governmental interest is substantial. If both inquiries yield positive answers, we must determine whether the regulation directly advances the governmental interest asserted, and whether it is not more extensive than is necessary to serve that interest.").

²⁰⁹ Yosifon, *supra* note 198 at 560 ("Litigants, perhaps looking wide-eyed at the intermediate balancing standard promised in the test's second part, have routinely skipped over the first part of the test, waiving the issue of whether the commercial speech at issue is 'misleading.'") See, e.g. *Thompson v. Western States Medical Center*, 535 U.S. 357 (2002) (striking down a ban on advertising of "compound" drugs that are exempt from the FDA review process); *Lorillard Tobacco Co. v. Reilly*, 533 U.S. 525 (2001) (striking down a Massachusetts law banning tobacco billboard advertising within one thousand feet of schools).

²¹⁰ Munger, *supra* note 189, at 407.

²¹¹ *Id.* at 404.

²¹² *Id.* at 405.

²¹³ 533 U.S. 525, 533 (2001).

consequences” of advertising directed at children,²¹⁴ state and local governments have only limited ability to regulate advertising when the first prong of the *Central Hudson* test is waived.

Waiving the first prong, that considers whether the speech is misleading, has arguably weakened the government’s position in commercial speech cases.²¹⁵ Advertising influences children’s preferences and consumption habits in such a way that may, in fact, be manipulative and misleading. One particular scholar has in fact suggested that the Court has been more likely to uphold regulation when the effect of commercial speech on consumption behavior is brought to the forefront.²¹⁶ Thus, if advertising tactics that market junk-food to children are to be limited through government regulation, perhaps the way forward is to change the way that governments litigate commercial speech cases. If waiving the first prong constrains the Court’s ability to uphold broad-based regulation in this area, perhaps the government should not waive, but rather should *focus* on the first element of the *Central Hudson* test.

Regulations limiting the ability of industry actors to advertise would undoubtedly face significant opposition from the powerful food industry lobby, and the vast influence of this interest group in the political arena would certainly act as an obstacle to such a development. However, both the American government and population have come to realize the magnitude and immediacy of the childhood obesity epidemic; moreover, the passage of the Kids Act has demonstrated the feasibility of bipartisan government action in this area, suggesting that perhaps there is hope for national or state action on marketing tactics directed towards children. Regulators should seize on this urgency, combined with the

²¹⁴ *Id.* at 588 (Thomas, J., concurring).

²¹⁵ See Yosifon, *supra* note 198, at 558–59.

²¹⁶ Yosifon, *supra* note 198, at 559–560 (“[W]here the Court has occasion to recognize the situational power of advertising to influence human thinking and behavior in unseen, potentially manipulative ways, the Court sustains the advertising regulation, or at least indicates that it would be willing to do so if the case for the situational character were made.”).

litigation strategy reviewed above, to push for changes that will make a difference in the consumption preferences and habits of children. While there may be significant difficulties involved in regulating the marketing tactics of food companies, and while no litigation strategy can ensure the desired results, such efforts would be well worth the trouble as a mechanism to reduce the prevalence of childhood obesity.

Conclusion

This Article has suggested that the Healthy, Hunger-Free Kids Act of 2010 marks a turning point for the childhood obesity epidemic. The studies reviewed in this Article demonstrate that a school-based intervention can work to reduce the prevalence of obesity, and that the best practices of such programs include (1) limitations on the foods available in schools, (2) nutrition education, (3) increasing physical activity while decreasing sedentary activity, (4) student, parent, and community participation in developing the program, and (5) program institutionalization. The Kids Act, by incorporating each of these components, presents an opportunity for unprecedented change in the food environment of American students.

Progress, however, is not guaranteed, and depends on the guidelines enacted by the USDA and the cooperation of local education agencies nationwide in implementation and enforcement of these nutrition policies. Moreover, the lofty goal of reducing childhood obesity may face challenges even if the Kids Act is perfectly executed, because this legislation does not fully address the market failures that contribute to the obesity epidemic. Outside of schools, energy-dense foods remain the cheapest and most easily attainable snacks for children, whose food preferences are undeniably influenced by the thousands of television commercials they watch each year, many of which are designed specifically to encourage poor eating habits among young viewers. This Article has suggested two policy additions: First, initiating a tax and subsidy program that aligns food prices with consumers' long-term health preferences (rather than their short-term cravings or convenience preferences) would help solve the problem of

time-inconsistent preferences. Second, limiting the exposure of children to junk-food advertisements would better enable children to make consumption choices based on the nutrition information provided by the Kids Act, and not the manipulative messages provided in ads that take hold long-before they begin school. Until food prices are aligned with the obesity-reduction agenda, and until food companies are unable to manipulate children's consumption habits, obesity will remain a singularly prevalent, dangerous, and preventable condition among children in the United States.