 Journal of Pediatric Endocrinology & Metabolism, 21, 717-725 (2008)

Public Policy to Prevent Childhood Obesity, and the Role of Pediatric Endocrinologists

Roberta R. Friedman and Marlene B. Schwartz

Yale University, Rudd Center for Food Policy and Obesity, New Haven, CT, USA

ABSTRACT

Childhood overweight and obesity prevalence rates in the United States are steadily increasing. Public health experts consider a host of overarching and powerful influences beyond any one person's control to be the pivotal causes of childhood obesity. Consequently, it is more useful from a prevention and policy standpoint to examine the increasingly 'toxic environments' in which we live, consider a comprehensive strategy, and introduce, implement, and enforce public health policy to change those environments. In this paper we give an overview of different types of public policies that have been proposed as pieces of the complex solution to the growing problem of childhood obesity. We review some of the strategies needed, and the barriers to overcome, in order to pass effective policy, and discuss the important role pediatric endocrinologists can play in the fight to win effective policy campaigns to reverse the epidemic of childhood obesity.

KEY WORDS

childhood obesity, obesity policy, policy, public health policy

Reprint address:
Roberta R. Friedman
Director of Public Policy
Yale Rudd Center for Food Policy and Obesity
309 Edwards St. PO Box 208369
New Haven, CT 06520-8369
e-mail: Roberta.friedman@yale.edu

INTRODUCTION

Childhood overweight and obesity prevalence rates in the United States are steadily increasing. Between 1971 and 2003, rates of overweight for 2-5 year-olds have risen from 5% to 14%; for 6-11 year-olds, from 4% to 19%, and for 12-19 year-olds, from 6% to 17%[1]. While the rates of childhood obesity in the general population are dangerously high, they are even higher in low-income and ethnic minority populations[2]. The related medical risks for children include type 2 diabetes mellitus[3], cardiovascular disease[4], orthopedic complications[5], new-onset asthma[6], sleep apnea[7], and a shortened life expectancy[8]. The psychosocial consequences of overweight contribute to an overall decreased quality of life and include poor self-esteem, depression, and learning and behavioral problems[4]. In addition, overweight and obese children are vulnerable to teasing, bullying, social exclusion, and other manifestations of stigma and weight bias[9]. Approximately 80% of overweight children become overweight and obese adults, and so will continue to deal with the issue and its consequences throughout their lives[10].

The causes of the childhood obesity epidemic are multi-factorial. The simplest and most reductive explanation given is the 'energy gap', an ever-growing imbalance between excess energy intake and energy expenditure[11]. The complex question is: Why has this energy gap occurred and how can it be remedied? One explanation puts the onus on individuals, blaming them for a lack of will-power, and their inability to resist high-calorie foods and the lure of sedentary entertainment (or in the case of children, blaming the parents for their inability to control their children's behavior). The remedy then seems obvious: individuals should stop eating so much and get more exercise. While a focus on individual responsibility may be useful in a treatment setting, society-wide efforts to change

individual behavior through education have been unsuccessful[12]. Public health experts consider a host of overarching and powerful influences beyond any one person's control to be the pivotal causes of childhood obesity. Consequently, it is more useful from a prevention and policy standpoint to examine the increasingly 'toxic environments'[13] in which we live, consider a comprehensive strategy[14], and introduce, implement, and enforce public health policy to change those environments.

THE TOXIC ENVIRONMENT

The current food environment inescapably envelops children and adults alike in the United States. Inexpensive, calorie-dense, nutrient-poor (and to many, very tasty), processed foods are never far from reach. These foods are sold not just in supermarkets and grocery stores, but also in convenience stores, gas stations, drug stores, and vending machines in schools, malls, bus stations, and other public places. Fast food restaurants offering super-sized portions of high-fat, high-calorie meals are conveniently located near (and sometimes in) schools, highway rest stops, and hospital lobbies, and are most concentrated in low income neighborhoods[15]. The desire for fast food is reinforced by a media-saturated environment that constantly barrages children with messages encouraging them to buy it for themselves, or if they are too young to do so, to nag their parents for it[16].

Concurrently, opportunities for children to expend this excess energy are fraught with obstacles. Schools are eliminating physical education classes and time for recess. Parents living in low-income neighborhoods are reluctant to let their children play out of doors because of safety concerns. New housing developments are built without sidewalks, making it difficult for children to ride their bikes or walk to school. Taken together, these and other environmental factors contribute to the epidemic of childhood obesity, and require effective and enforceable public policies to remedy the situation.

In this paper we give an overview of different types of public policies that have been proposed as pieces of the complex solution to the growing problem of childhood obesity. We review some of the strategies needed, and the barriers to overcome, in order to pass effective policy, and discuss the important role pediatric endocrinologists can play in the fight to win effective policy campaigns to reverse the epidemic of childhood obesity.

Obesity policy takes various forms. It includes federal, state, and local legislation and regulation, introduced by legislators or concerned activists. It is the self-regulatory policy written by the food, beverage, and entertainment industries, whose products are most closely implicated in the epidemic. It is the position statements written by professional associations which are meant to guide the practices of their members and educate and influence legislators. Policy may be initiated by a school superintendent, approved by his or her school board and instituted district-wide. It is also a teacher's informal rule to not allow food to be the focus of classroom celebrations. A common element among these policies is the intent to change the environment, thereby influencing an entire group at once.

OPTIMAL DEFAULTS

A key concept in developing obesity-related policies is creating 'optimal defaults'[17]. When there is an optimal default, the health promoting behaviors are those that come most easily, require the least effort or thought, and offer the more healthful option. In contrast, the less healthful behaviors are those that take more time, energy, and effort. For example, one current default option for a working mother with hungry children is to go through a fast food drive-through on the way home from child care, picking up chicken nuggets, French fries and soda for dinner. The solution is fast, easy, inexpensive, and will not likely result in complaints from her children. And it is certainly less time consuming, expensive, and stressful than shopping for groceries and preparing a home-made meal. But it also means that the meals she gives her children are typically high in fat, salt, and sugar. With the optimal default in play, the fast food restaurant would offer a wide variety of menu items low in fat, salt, and sugar from which she could choose, either in the restaurant or at the drive-

through window.

Many federal, state, local, and organizational policies have been proposed over the past decade which address environmental changes to combat childhood obesity. Examples of these are listed in Table 1. The policies can be grouped into four broad categories: school nutrition and education, physical education and activity, advertising to children, and general policies, including some that may have an impact on adults as well as children. Each category is discussed below.

SCHOOL NUTRITION AND EDUCATION

Schools are ideal environments in which to make changes that will help children form lifelong, healthful habits. It is only in recent history that they have become suppliers of nutrient-poor, high-calorie food and beverages to children. For decades, the only beverages available to students at school were milk from the cafeteria and water from the fountain. USDA data from the late 1970s show that soda intake among children ages 6-11 years was about 15% and milk intake was 61%. Among teenagers soda intake was 29%, milk 51%. By 2002, these percentages were reversed: for children ages 6-11 years, soda intake increased to 33% and milk decreased to 33%; for teenagers, soda intake increased to 50% and milk decreased to 23%[18]. What changed from the late 1970s to the early 2000s? Facing ever-diminishing resources, administrators sought new ways to fill the gap between their needs and actual budgets. Seeing marketing and branding opportunities, the food and beverage industries stepped in to fill those gaps by providing schools with seemingly lucrative contracts[19]. In exchange for selling their products, the industries offered, among other things, cash, gym equipment, and athletic field scoreboards. As a result of introducing vending machines into schools, sugar-sweetened beverages, salty snacks, and candy became the default foods and beverages for children.

As childhood obesity prevention advocates began to raise their voices about this situation, federal, state, and local policy makers heard the cry and took policy steps toward its remediation. Congress amended the Child Nutrition and WIC Reauthorization Act of 2004 to include a mandate to every school district in the country to form wellness committees and produce School Wellness Policies defining their nutrition standards for all foods sold in school. In addition, the Wellness Policies had to address nutrition education, physical education, opportunities for physical activity, and a plan for implementation and evaluation of the policy.

The problem, however, is that the degree to which districts across the country successfully wrote a policy, and subsequently implemented and evaluated that policy is unknown. There are a few studies underway in different states to examine these questions[20], but there is no national effort to evaluate whether the policy strategy of requiring local districts to create and enforce their own policies resulted in actual change in the school nutrition environment or children's level of physical activity. These policies provide an excellent opportunity, however, for interested parents and health professionals within districts to join their wellness committee and work with the superintendent and Board of Education to examine whether, and how well the policy is being implemented, and assist in evaluating its success. In addition, the federal bill is due for re-authorization in 2009, and activists could advocate the addition of enforcement language.

At the state level, in 2006, 23 states initiated school nutrition legislation and 11 enacted it[21]. The intent of the legislation varied widely, and only a handful of states, such as California and Connecticut, were able to orchestrate the optimal default and ban all sales of sugar-sweetened beverages and/or calorie-dense, nutrient-poor snacks from their schools. While state-level legislative initiatives continue to be advocated, Senator Tom Harkin of Iowa has written a bill to mandate the application of national nutrition standards to food and beverages sold outside the National School Breakfast and National School Lunch Programs. These items raise revenue from sales in vending machines, school stores and fundraisers. A key component of this legislation, written with the cooperation of the food and beverage industries, is the preemption of any existing state laws containing standards stricter than the federal law. Pre-

emption is troubling to many public health

TABLE 1

Many federal, state, local and organizational policies have been proposed over the past decade that address environmental changes to combat childhood obesity

Category	Policy proposed
School nutrition and education	Improve nutrition standards for foods and beverages sold outside the National School Breakfast and Lunch Programs; ban the sale of soda, sports drinks, other sweetened beverages, and high-fat, high-sugar snacks
	Set stricter nutritional standards for school breakfast and lunch programs than USDA mandate
	Write school wellness policies addressing nutrition, nutrition education, physical activity, and physical education
	Mandate standardized collection of data on body mass index; implement risk-screening of students for diabetes mellitus
	Provide fresh and dried fruits and fresh vegetables free to children in elementary and secondary schools through the Fruit and Vegetable Pilot Program. Expand program to all 50 states
	Ban the use of trans fat in foods sold in school cafeterias
	Increase time allotment for meals in school
	Allow students to eat breakfast in class
	Increase farm-to-school connections, allowing food service to purchase more local produce
	Switch the focus of classroom celebrations from food to activities
	Prohibit teachers from using candy as a reward in classrooms
Physical education and activity	Increase time spent on physical education in all schools
	Establish Walk to School programs; increase funding for crossing guard placement around schools
	Institutionalize time for recess in elementary and middle schools
	Label school menus with nutrition information, including trans fat
	Open school athletic facilities to children and community in evenings
Advertising to children	Ban advertising of junk foods and sugar-sweetened beverages in schools on scoreboards, vending machines, in textbooks, through Channel One contracts, and on school buses
	Ban advertising of junk foods and sugar-sweetened beverages to children under age 12 years, in all forms of media
General policies	Enforce anti-bullying and obesity stigma laws
	Enact menu labeling at fast food chain restaurants
	Improve access to healthful food in low-income neighborhoods
	Enact taxes on soda and processed, low-nutrition foods; earmark funds for obesity research or grants to address overweight
	Fund education and intervention through Medicaid for nutrition, activity, behavior management and support for overweight children
	Encourage physicians to engage parents in conversation about their child’s weight, diet, and level of activity
	Improve and expand the number of parks, rails-to-trails areas, playgrounds, and sidewalks in communities

advocates as it would cause some states, such as California and Connecticut, to lose the gains they have made.

Prior to the Harkin legislation the food and beverage industries, reacting to increasingly negative publicity, and in an effort to avoid further federal regulation, initiated their own voluntary, self-regulated set of standards in an agreement with the American Heart Association, brokered by President Clinton's Alliance for a Healthier Generation[22].

PHYSICAL EDUCATION AND ACTIVITY IN SCHOOLS

Physical education classes are required to be taught in public schools in 49 states, but those regulations are interpreted in widely varying ways[23]. Unfortunately, in many districts, less time is spent in physical education in order to allow more time for academic studies, in an effort to meet the federal testing requirements in the No Child Left Behind Act of 2001. Time for active recess, in which children get unstructured physical activity, is also being lost to academic studies. The result is a sedentary day for most school children. Policy can create the optimal environment by requiring children to attend daily physical education classes taught by credentialed teachers, in which all the children are active for the majority of the class period. Senator Harkin introduced the FIT Kids Act (in October, 2007) which would encourage schools to increase time for physical education classes by, among other things, requiring them to publicly report on the amount of time, and quality of their courses. In 2006, 26 states introduced legislation considering physical education and activity[23] and ten were enacted. But of the ten, only three (Indiana, Tennessee, and West Virginia) mandate that time be allotted weekly for teaching physical education, and only one (Indiana) mandates it daily, and then only for elementary schools.

ADVERTISING TO CHILDREN

A newly emerging and important target of federal, state, and even global policy that promises to change the media environment for children is the restriction of direct marketing to them of calorie-dense, low-nutrition foods. In 1978 the Federal Trade Commission (FTC) issued a proposal to ban all television advertisements aimed at young children, but as a result of powerful lobbying by the food and beverage industries, Congress in 1980 passed a law barring the FTC from writing industry-wide regulations. The industries were allowed to regulate themselves through the Children's Advertising Review Unit which is coordinated by the Council of Better Business Bureaus. Despite their claims of wanting to be part of the childhood obesity solution, the industries spend a total of approximately $15 billion per year on advertising calorie-dense, nutrient-poor foods to children in a wide variety of media[24]. A recent study found that the majority of food advertisements watched by American children on television are for foods of poor nutritional value[25]. Television commercials are no longer the only outlet that must be monitored for children's advertisements. Product placement in the television shows themselves (cans of Coca-Cola on the desk of the American Idol judges, for example) and in movies, is fast becoming the norm[26]. Children's cartoon movie characters are paired with fast food, such as the Shrek Happy Meals at McDonalds. On the Internet, marketers enter children's chat rooms to promote products, embed advertising on social networking sites such as Facebook and MySpace, and use 'advergaming'[27] -video games to advertise products - on specially designed children's pages on their websites. Children receive cell phone advertisements, and in school are exposed to advertising in cafeterias, on vending machines, on athletic field scoreboards, in books, and on school buses. Children under the age of 6 years do not understand the persuasive intent of advertising, and so are particularly vulnerable[28].

Organizations such as the Institute of Medicine[29], the American Psychological Association[30], and the World Health Organization[31] have issued policy statements calling for a ban on food and beverage advertisements to children, especially those under age 12 years. Twelve major food companies recently announced their intention to limit their advertising to children, but as a self-regulated measure it remains to be seen whether it

will be enforced. If these voluntary measures do not work, the Institute of Medicine recommends that Congress enact legislation "mandating the shift on both broadcast and cable television" away from advertising calorie-dense, low-nutrient foods to healthful foods and beverages[29]. Legislation has in fact been filed in the current Congress calling for the restoration of authority to the Federal Trade Commission to issue regulations on advertising to children[32,33]. While this is a global and national-level issue, local advocates can contribute to policy change by alerting their legislators to the problem.

GENERAL POLICIES

Many other policies can be enacted to improve the nutrition and physical activity environments for children. Some of them would also improve those environments for adults as well. For example, several municipalities around the country are attempting to mandate that fast food chains make nutrition information readily available at the point of purchase in their restaurants. In support of this strategy, some studies have found that people will change their purchasing habits, making more healthful choices, if they are aware of the nutritional content of their food[34,35]. Knowing calorie information might make an impact on what parents order for their children, or what older children order for themselves, as well. A secondary effect of enforcing menu labeling policies around the country may be to encourage fast food chains to improve the nutritional content of their foods, and perhaps reduce serving sizes. This would represent a significant environmental shift toward an optimal default, with the potential of substantially changing what people eat when they are outside of the home.

The issue of 'food deserts' - low-income neighborhoods and rural areas in which access to fresh, affordable, healthful food is limited - is one that is ripe for public policy around the country and could have a significant impact on both children and parents. A number of studies have reported that low-income households pay more for food due to the absence of larger chain supermarkets in their neighborhoods[36,37]. Smaller food markets and convenience stores are more typically stocked with highly processed calorie-dense foods and few fresh vegetables or fruit. There is some evidence showing that an increase in the availability of chain supermarkets could prove beneficial to adolescents' weight[38]. Both statewide and local policy can address this problem. Solutions are highly complex and must include an investment of public funds, and considerations of land use, transportation, and grassroots community participation, among others[39]. Despite seemingly insurmountable obstacles, cities such as New York, Detroit, Chicago, and Philadelphia, are achieving change in this area.

As the number of overweight and obese children increases in the country, so does their exposure to the many forms of weight bias, such as bullying and teasing. Among the most overweight children, about 60% report being victimized by peers[40]. Teachers exhibit bias as well, having lower expectations for overweight students[41], describing them as untidy, less likely to succeed at work, and more likely to have family problems[42]. Eighteen states have no laws prohibiting bullying, and the adequacy and enforcement of existing laws in the remaining 32 states have been called into question[43]. While we need to work to change the environments causing childhood obesity, we must also pay attention to the effect that stigma is having on children's lives, and promote policy to ease the burden.

PHYSICIANS CAN PLAY A ROLE IN OVERCOMING BARRIERS TO THE PASSAGE OF POLICY

Introducing and enacting public policy to create healthful environments for children is a complicated process that requires time and effort from many stakeholders. Researchers must be involved because successful policy campaigns should be based on sound science that examines the problems, tests for the best solutions, and can guide activists and policy makers toward policy which will not only be feasible, but have the greatest impact[44]. Successful campaigns also require considerable time, energy, and effort on the part of advocates. Strategic plans must include (a) media campaigns to raise awareness and garner support among the general public; (b) legislative advocacy and education; and (c) identifying and addressing those who may be threatened by change. Further, competing interests

of industries, politicians, communities, schools, public health organizations, advocates, and individuals must be considered. For goals to be reached, stakeholders must give of their time, energy, and expertise.

Physicians can play an important role. A crucial 'trigger' that prompts government to intervene with policy is having a strong scientific base of support[45]. But research findings must be conveyed to legislators by 'policy entrepreneurs'[45] who can get the attention of policymakers and convey the messages in a convincing manner. Physicians' public roles have been defined as "advocacy for and participation in improving the aspects of communities that affect the health of individuals" and they have a "…primary ethical and professional responsibility for the health of the community members they serve."[46]. In the case of childhood nutrition legislation, physicians can act as policy entrepreneurs by bringing their professional authority, "veracity, and legitimacy"[46] to a policy campaign by communicating with legislators in support of legislation. This may be accomplished by calling, emailing, writing a letter to, or visiting a legislator, or by submitting written or oral testimony in support of legislation at a committee's public hearing. It is crucial that physicians' voices be heard in Congress, in State Houses, and at local school boards or town meetings, to counteract those of the beverage and processed food industries. While industry giants, such as Kraft Foods, McDonalds, Coca-Cola, and others, have made some efforts to change their business practices to benefit the health of children, their ultimate corporate responsibility is to protect and nurture their economic growth by selling their products and creating brand loyalty in young children. It is not to protect their health. Therefore, avoiding regulations that curtail growth is a priority[47]. To that end, they have lobbied legislators vigorously against such state proposals as banning the sale of sugar-sweetened beverages and sports drinks in public schools[47]. Legislators may be unduly influenced by the lobbyists; advocates must overcome this barrier to passing good public policy by making sure the countervailing arguments are heard. Table 2 lists other ways for physicians to get involved in public policy campaigns.

Physicians can also contribute by helping to write the position statements made by such

TABLE 2

Physicians can get involved in public policy campaigns in a variety of ways

- Write a letter or opinion piece to a local, state, or prominent national newspaper. Don't underestimate the importance of local newspapers, as state legislators often pay special attention to their district's papers.
- Post an opinion on a website in support of policy.
- Volunteer as a speaker at public meetings in support of legislation.
- Write a policy endorsement, gather signatures of other physicians, and publish it in a newspaper or on-line.
- Work for, or at the very least vote for, a candidate who supports legislative initiatives to prevent childhood obesity. Ask candidates to address the issue of childhood obesity in their campaigns.
- Add your name to a list of public figures who endorse legislation.
- Work with the advocacy organization leading the campaign for legislation you are interested in.
- Post information on policy on a bulletin board in your practice's office.
- Encourage your colleagues to get involved.

professional organizations as the American Medical Association, the American Academy of Pediatrics, or the American Association of Clinical Endocrinologists, or by gaining the endorsement of the organization for a specific bill.

Meaningful change in public health policy can be difficult and slow to accomplish. But physicians and public health advocates can take heart in the significant progress that was made in the 20th century. One need only look at the shift in policy (and public opinion) toward smoking in public places, seatbelt use, or fluoridation of water, for example. Early efforts to impose government regulation in these areas were met with resistance by those with a vested interest in maintaining the status quo. Change came about through a variety of orchestrated efforts, not the least of which was grassroots campaigns fought by concerned citizens, organizations, and physicians and other health professionals. By taking their message to the public, to legislators, and to the media, these advocates played a significant role in the social and political movements necessary to achieve public health goals. Much work needs to be done to educate the public and policy makers about the environmental causes of childhood obesity so the dire predictions for our children's futures do not come true. Physicians, with their credibility, professionalism, and the earned trust of legislators and other policy makers, have a key role to play in that fight.

REFERENCES

1. NHANES Data on the Prevalence of Overweight Among Children and Adolescents: United States, 2003-2004. CDC National Center for Health Statistics, Health E-Stat. (http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overweight/overwght_child_03.htm).
2. Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. Prevalence of overweight and obesity in the United States, 1999-2004. JAMA 2006; 295: 1549-1555.
3. Fagot-Campagna A, Narayan KMV, Imperatore G. Type 2 diabetes in children: exemplifies the growing problem of chronic diseases [Editorial]. BMJ 2001; 322: 377-378.
4. Dietz W. Health consequences of obesity in youth: childhood predictors of adult disease. Pediatrics 1998; 101: 518-525.
5. Taylor ED, Theim KR, Mirch MC, Ghorbani S, Tanofsky-Kraff M, Adler-Wailes DC, Brady S, Reynolds JC, Calis KA, Yanovski JA. Orthopedic complications of overweight in children and adolescents. Pediatrics 2006; 117: 2167-2174.
6. Gilliland FD, Berhane K, Islam T, McConnell R, Gauderman WJ, Gilliland SS, Avol E, Peters JM. Obesity and the risk of newly diagnosed asthma in school-age children. Am J Epidemiol 2003; 158: 406-415.
7. Slyper AH. Childhood obesity, adipose tissue distribution, and the pediatric practitioner. Pediatrics 1998; 102: 4-12.
8. Olshansky SJ, Pasaro DJ, Hershow RC, Layden C, Layden J, Carnes BA, Brody J, Hayflick L, Butler RN, Allison DV, Ludwig DS. A potential decline in life expectancy in the United States in the 21st Century. N Engl J Med 2005; 352: 1138-1145.
9. Schwartz MB, Puhl RM. Childhood obesity: a societal problem to solve. Obes Rev 2003; 4: 57-71.
10. Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting obesity in young adulthood from childhood and parental obesity. N Engl J Med 1997; 37: 869-873.
11. Hill JO. Commentary: Preventing excessive weight gain. Obes Res 2005; 13: 1302.
12. Schwartz MB, Brownell KD. Actions Necessary to prevent childhood obesity: creating the climate for change. J Law Med Ethics 2007; 35: 78-89.
13. Brownell KD, Horgen KB. Food Fight. The Inside Story of the Food Industry, America's Obesity Crisis, and What We Can Do About It. New York: McGraw Hill, 2004; 7.
14. Ludwig, DS. Childhood obesity–the shape of things to come. N Engl J Med 2007; 357: 2325-2327.
15. Block JP, Scribner RA, DeSalvo KB. Fast food, race/ethnicity, and income: a geographic analysis. Am J Prev Med 2004; 27: 211-217.
16. Wootan MG. Pestering Parents: How Food Companies Market Obesity to Children. Washington, D.C.: Center for Science in the Public Interest, 2003.
17. Choi JJ, Laibson D, Madrian BC, Metrick A. Optimal Defaults. Am Econ Rev 2003; 93: 180-185.
18. Sebastian RS, Cleveland LE, Goldman JD, Moshfegh AJ. Trends in the Food Intakes of Children 1977-2002 USDA Consumer Interests Annual Volume 52, 2006. http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/Trends_in_Food_Intakes_Children_1977-2002.pdf. Accessed 01.10.08.
19. Pinson, N. School Soda Contracts: A Sample Review of Contracts in Oregon Public School Districts, 2004. Oregon: Community Health Partnership. http://www.communityhealthpartnership.org/images/pages/soda_report/full_report.pdf. Accessed 11.29.07.
20. Robert Wood Johnson Foundation, Healthy Eating Research Awards Summary. http://www.healthyeating

research.org/uploads/Round1GranteeInformation.pdf. Accessed 01.10.08.
21. National Conference of State Legislatures website. http://www.ncsl.org/programs/health/ChildhoodObesity-2006.htm. Accessed 11.30.07
22. The Alliance for a Healthier Generation website. http://www.healthiergeneration.org/companies.aspx?id=296. Accessed 11.30.07.
23. National Conference of State Legislatures website. http://www.ncsl.org/programs/health/ChildhoodObesity-2006.htm#phy. Accessed 11.29.07.
24. Schor J. Born to Buy. New York: Scribner, 2004; 21.
25. Powell LM, Szczypka G, Chaloupka FJ, Braunschweig CL. Nutritional content of television food advertisements seen by children and adolescents in the United States. Pediatrics 2007; 120: 576-583.
26. Elliot S. A Column on (Your Product Here) Placement. The New York Times, 2006, August 16; p C2.
27. Moore ES. It's Child's Play: Advergaming and the Online Marketing of Food to Children. Menlo Park, CA: Henry J. Kaiser Family Foundation, 2006.
28. Kunkel D. Children and television advertising. In: Singer DG, Singer JL, eds. The Handbook of Children and Media. Thousand Oaks, CA: Sage, 2001.
29. McGinnis MJ, Appleton Gootman J, Kraak VI, eds. Food Marketing to Children and Youth. Threat or Opportunity? Committee on Food Marketing and the Diets of Children and Youth. Institute of Medicine of the National Academies. Washington: The National Academies Press, 2006.
30. Wilcox B, Cantor J, Dowrick P, Kunkel D, Linn S, Palmer E. Report of the APA Task Force on Advertising and Children. Recommendations. American Psychological Association, February 20, 2004. www.apa.org/releases/childrenads_recommendations.pdf. Accessed 12.11.08.
31. WHO Forum on the Marketing of Food and Non-alcoholic Beverages to Children. Marketing of food and non-alcoholic beverages to children: report of a WHO Forum And Technical Meeting, Oslo, Norway, 2-5 May 2006.
32. House Bill 2278, Children's Health Federal Trade Commission Authority Restoration Act. http://www.thomas.gov/cgi-bin/query/D?c110:1:./temp/~c110npE5Mc Accessed 01.10.08;
33. Senate Bill 1342, A bill to improve the health of Americans and reduce health care costs by reorienting the Nation's health care system toward prevention, wellness, and self care. http://www.thomas. gov/cgi-bin/bdquery/z?d110:s.01342. Accessed 01.10.08.
34. Burton S, Creyer EH, Kees J, Huggins K. Attacking the obesity epidemic: the potential health benefits of providing nutrition information in restaurants. Am J Public Health 2006; 96: 1669-1675
35. Levy AS. Derby BM. The Impact of NLEA on Consumers: Recent Findings from FDA's Food Label and Nutrition Tracking System. Washington DC: Center for Food Safety and Applied Nutrition, Food and Drug Administration, 1996.
36. Powell LM, Slater S, Mirtcheva D, Bao Y. Chaloupka FJ. Food store availability and neighborhood characteristics in the United States. Prev Med 2007; 44: 189-195.
37. Moore LV, Diez Roux AV. Associations of neighborhood characteristics with the location and type of food stores. Am J Public Health 2006; 96: 325-331.
38. Powell LM, Auld C, Chaloupka FJ, O'Malley PM, Johnston LD. Associations between access to food stores and adolescent body mass index. Am J Prev Med 2007; 33 (Suppl): S301-S307.
39. American Planning Association Policy Guide on Community and Regional Food Planning 2007. www.planning.org/policyguides/food.htm. Accessed 01.14.08.
40. Eisenberg ME, Neumark-Sztainer D, Story M. Associations of weight based teasing and emotional well-being among adolescents. Arch Pediatr Adolesc Med 2003; 157: 733-738.
41. O'Brien KS, Hunter JA, Banks M. Implicit anti-fat bias in physical educators: physical attributes, ideology, and socialisation. Int J Obes 2007; 31: 308-314.
42. Neumark-Sztainer D, Story M, Harris T. Beliefs and attitudes about obesity among teachers and school health care providers working with adolescents. J Nutr Educ 1999; 31: 3-9.
43. High, Brenda. Statements and Purpose of Bully Police USA. http://www.bullypolice.org/. Accessed 11.29.07.
44. Brescoll VL, Kersh R, Brownell KB. Assessing the feasibility and impact of federal childhood obesity policies. Ann Am Acad Pol Soc Sci 2008; 615: 178-194.
45. Kersh R, Morone J. The politics of obesity: seven steps to government action. Health Aff 2002; 21: 142-153.
46. Gruen R, Pearson S, Brennan T. Physician-citizens–public roles and professional obligations. JAMA 2004; 291: 94-98.
47. Simon M. Appetite for Profit. New York: Nation Books, 2006; xvi.