

Provided for non-commercial research and education use.
Not for reproduction, distribution or commercial use.



This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/authorsrights>

Elementary School Participation in the United States Department of Agriculture's *Team Nutrition* Program Is Associated With More Healthful School Lunches

Punam Ohri-Vachaspati, PhD, RD¹; Lindsey Turner, PhD²; Frank J. Chaloupka, PhD²

ABSTRACT

Objective: To assess school-level characteristics associated with *Team Nutrition* (TN) program participation, and compare the availability of food items in school lunches in participating vs nonparticipating schools.

Methods: Cross-sectional study with a nationally representative sample of 2,489 elementary schools in the United States. A mail-back survey was used to collect school administrator-reported annual data on availability of selected healthful and unhealthful lunch items between 2006-2007 and 2009-2010. Multivariate regression analyses was used to predict the availability of food items in school lunches based on TN participation.

Results: *Team Nutrition* participation was higher among schools in the south, in rural areas, and in states with stronger nutrition policies. Program participation was higher in schools with mostly low-income students and where a dietitian was on staff. Participating schools were more likely to offer healthful items and less likely to serve unhealthful items during lunch.

Conclusions and Implications: The TN program has the potential to help schools offer healthier school meals.

Key Words: Team Nutrition Program, USDA Food and Nutrition Programs, school food environment (*J Nutr Educ Behav.* 2013;45:733-738.)

INTRODUCTION

The United States Department of Agriculture (USDA)'s National School Lunch Program (NSLP) provides nutritious meals to over 31.6 million school children in the United States (US) daily.¹ The program accounted for \$11.1 billion in federal spending in FY 2011;² additional funding is provided by some states to support the program. The USDA sets nutrition standards for meals served as part of the NSLP, and until recently, these standards were based on the 1995 Dietary Guidelines for Americans. In January, 2012, the USDA released updated nutritional standards for reimbursable school meals that were mandated by the Healthy, Hunger-

Free Kids Act of 2010.³ The new standards require schools to add more fruit, vegetables, and whole grains to school meals; to limit milk to lower-fat options; and to reduce saturated fats, trans fats, sodium, and calories.⁴

School food environments play a critical role in affecting students' food consumption⁵⁻⁸ and weight status.^{9,10} Many children, especially those from lower-income families, depend on school meal programs for up to half of their daily calories.¹¹ However, prior research has demonstrated that the nutritional quality of school meals falls short of meeting dietary guidance; that the school meals were too high in fat and sodium; and that few schools regularly offered fresh raw vegetables, salads, and whole

grains.¹²⁻¹⁴ Students in schools in which energy-dense food items are available consume fewer fruits and vegetables and more saturated fat and calories from energy-dense food.^{6,15} Improving school meals could, therefore, help improve food consumption patterns among a large number of children. Promising intervention studies^{16,17} have led to the recognition of school-based initiatives as a viable childhood obesity-prevention strategy.^{18,19}

One such effort is the USDA's *Team Nutrition* (TN) program, which provides training and technical assistance to improve the nutritional quality of school meals.²⁰ The program encourages school-aged children (1) to eat a variety of food; (2) to eat more fruit, vegetables, and grains; (3) to eat lower-fat food more often; (4) to eat calcium-rich food; and (5) to be physically active.²⁰ The TN program aims to enable school nutrition professionals to prepare and serve nutritious meals that appeal to students; promote nutrition education in schools; and build support for creating school environments conducive to healthful eating and physical activity.

¹School of Nutrition and Health Promotion, Arizona State University, Phoenix, AZ

²Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, Chicago, IL

Address for correspondence: Punam Ohri-Vachaspati, PhD, RD, School of Nutrition and Health Promotion, Arizona State University, 500 N 3rd St, Phoenix, AZ 85004; Phone: (602) 827-2270; Fax: (602) 827-2253; E-mail: pohrivac@asu.edu

©2013 SOCIETY FOR NUTRITION EDUCATION AND BEHAVIOR
<http://dx.doi.org/10.1016/j.jneb.2012.12.006>

The TN program provides educational and promotional materials, technical assistance, and training materials. In addition, state agencies managing federal school meals programs can apply for TN training grants that provide training opportunities for school nutrition professionals within the state. The total amount of funding provided for training grants and the number of states funded varies from year to year. In 2010, a total of \$5,437,646 was awarded to 19 states.²¹

The current study uses nationally representative samples of public elementary schools in the US to examine school-level characteristics associated with TN participation. The availability of healthful and unhealthful food items in school lunches in TN vs non-TN schools is also examined.

METHODS

Study Design

Analyses were based on nationally representative survey data collected from US public elementary schools during the 2006-2007, 2007-2008, 2008-2009, and 2009-2010 school years. These data were gathered as part of an annual survey of school administrators conducted by the *Bridging the Gap* research program at the University of Illinois at Chicago. Survey items were selected and adapted from prior published work, from existing surveys already in use with secondary schools,²¹ and by seeking expert advice. Detailed study information is available at the *Bridging the Gap* Web site.²²

Data collection occurred between February and June of each school year. The 2-part survey was mailed to the school principal, with a request that the second part (from which the items used here were drawn) would be completed by school-level food service staff. Response rates²³ were 54.6%, 70.6%, 61.8%, and 64.5% across the 4 years, respectively. This study was approved by the University of Illinois at Chicago's Institutional Review Board.

The nationally representative samples of elementary schools were drawn using sampling frames based on datasets from the National Center for Education Statistics²⁴ data for all contiguous US states. Because elemen-

tary schools vary in grade composition, all schools were required to include a third grade.

The vast majority of schools in the sample (95.2%) participated in the NSLP; however, because the non-NSLP schools would not have been subject to the same regulations as the NSLP-participating schools, they were omitted from these analyses. From the total of 2,489 NSLP-participating schools, 198 schools were excluded from these analyses because of missing data.

Measures

Survey respondents were asked whether their school participated in the TN program; answers were coded 1 = yes and 0 = no or do not know. Respondents were asked to indicate how often selected food items and beverages were offered in school lunches; all responses were made on a 3-level ordinal scale on which 1 = never, 2 = some days, and 3 = most days or every day. Food items defined as "healthful options" for the analysis were fresh fruit, whole grains, and salad bar or premade main course salads. These items were coded 1 if available most days or every day vs 0 otherwise. Food options defined as "unhealthful" for the analysis were regular-fat versions of salty snacks such as regular potato chips; cookies, crackers, cakes, or other baked goods; and ice cream or frozen yogurt. These items were coded 1 if available some days, most days, or every day vs 0 otherwise. A variable was computed to indicate whether the school offered only lower-fat milk (1% or nonfat) but not higher-fat milk (2% or whole). These food items were selected because of their current limited availability (for healthful items) or abundance (for unhealthful items) in the school lunch meals.^{15,25}

School-level demographic and socioeconomic data, obtained from the National Center for Education Statistics Common Core of Data²⁴ files for the corresponding year of survey data, included school size (number of students); locale; region; race/ethnicity of students; and percentage of students eligible for free or reduced-price lunch. For these control variables, data were collapsed into categories, as described in Table 1.

The school administrator section of the survey asked whether a dietitian or nutritionist worked at the school, coded as 1 = yes and 0 = no.

As part of the larger *Bridging the Gap* project, data on state laws and district wellness policy provisions pertaining to school meals were collected and coded for each of the schools in this study.^{26,27} These data were included in the current analyses as controls, not to examine the impact of state law or district policy on meals. State laws and district policies were coded to indicate whether guidelines for reimbursable school meals were required to meet USDA school meal regulations. These responses were coded 1, where specific language was used and action was implied; or 0, where the statement was vague or only suggested, or the topic was not addressed.

Analyses

Analyses were conducted in STATA/SE (version 12.0, StataCorp LP, College Station, TX, 2011) and accounted for the clustering of schools within districts. Data were weighted for nonresponse bias and to provide inference to all US public elementary schools. All statistical tests were considered significant at $P < .05$.

Multivariate logistic regression analyses were used to test for differences in TN participation by school characteristics, while controlling for all other covariates. Since participation in the TN program did not change over the 4-year period (Table 1), comparisons of TN participation by school demographic characteristics were pooled across all years. Multivariate logistic regression models were used to examine the association between TN participation and availability of healthful and unhealthful lunch meal items, controlling for contextual school-level characteristics, state and district policy covariates, and year of data collection.

RESULTS

As shown in Table 1, participation in the TN program was significantly higher among elementary schools in the southern region of the country (48.6% of schools) compared to

Table 1. Participation in United States Department of Agriculture *Team Nutrition* Program as Reported by School Administrators and Results From Multivariate Logistic Regression to Test Associations Between School Characteristics and Program Participation

| | Bivariate Cross-tabulations by School Characteristics ^a | | Results of Multivariate Logistic Regression to Predict Participation in <i>Team Nutrition</i> Program (n = 2,291) ^b | | |
|--|--|---------------------------|--|------------|--------|
| | n | Schools Participating (%) | OR | 95% CI | P* |
| Overall | 2,489 | 38.9 | | | |
| Year | | | | | |
| 2006-2007 | 539 | 39.2 | 1.00 | – | |
| 2007-2008 | 718 | 42.8 | 1.15 | 0.88, 1.48 | .31 |
| 2008-2009 | 612 | 37.7 | 0.89 | 0.66, 1.19 | .43 |
| 2009-2010 | 620 | 35.9 | 0.82 | 0.61, 1.10 | .19 |
| Region | | | | | |
| South (referent) | 942 | 48.6 | 1.00 | – | |
| West | 595 | 30.4 | 0.57 | 0.43, 0.76 | < .001 |
| Midwest | 587 | 34.2 | 0.62 | 0.46, 0.83 | .001 |
| Northeast | 365 | 37.7 | 0.83 | 0.59, 1.18 | .30 |
| Locale | | | | | |
| Urban (referent) | 706 | 36.1 | 1.00 | – | |
| Suburban | 887 | 33.9 | 1.00 | 0.77, 1.30 | .99 |
| Town | 308 | 44.8 | 1.39 | 0.95, 2.02 | .09 |
| Rural | 588 | 45.3 | 1.39 | 1.00, 1.93 | .05 |
| Race/ethnicity of students | | | | | |
| Majority (≥ 66%) white (referent) | 1,201 | 40.1 | 1.00 | – | |
| Majority (≥ 50%) black | 248 | 39.8 | 0.63 | 0.41, 0.98 | .04 |
| Majority (≥ 50%) Latino | 444 | 37.3 | 0.76 | 0.51, 1.14 | .19 |
| Diverse | 596 | 37.3 | 0.81 | 0.59, 1.13 | .21 |
| School size | | | | | |
| Large (> 621 students; referent) | 781 | 42.3 | 1.00 | – | |
| Medium (451-621 students) | 823 | 37.1 | 0.95 | 0.74, 1.21 | .68 |
| Small (< 451 students) | 884 | 38.6 | 1.13 | 0.87, 1.46 | .37 |
| Percentage of students eligible for free or reduced-price meals | | | | | |
| Low (≤ 33%; referent) | 785 | 33.4 | 1.00 | – | |
| Medium (> 33% to ≤ 66%) | 908 | 40.1 | 1.22 | 0.94, 1.58 | .14 |
| High (> 66%) | 787 | 42.9 | 1.80 | 1.26, 2.58 | .001 |
| State law ^c | | | | | |
| No | 1,546 | 35.6 | 1.00 | – | |
| Yes | 931 | 45.1 | 1.30 | 1.04, 1.62 | .02 |
| District policy ^c | | | | | |
| No | 337 | 35.3 | 1.00 | – | |
| Yes | 2,093 | 39.7 | 1.18 | 0.88, 1.59 | .26 |
| School has a full- or part-time dietitian or nutritionist on staff | | | | | |
| No | 1,666 | 35.7 | 1.00 | – | |
| Yes | 683 | 44.6 | 1.35 | 1.08, 1.69 | .009 |

CI indicates confidence interval; OR, odds ratio.

*P was considered significant at < .05; ^aNumber of cases shown are the unweighted number of schools per cell in bivariate cross-tabulations between each school characteristic and school *Team Nutrition* participation status. Percentages are weighted at the school level; weighted data were used for regression analysis; ^bNumber of cases reduced from those shown in column 1 for bivariate tabulations because of listwise deletion for logistic regression analysis and multivariate regression controlled for other variables in the table; ^cState law and district policy coded yes if requiring that guidelines for reimbursable school meals shall not be less restrictive than United States Department of Agriculture school meal regulations.

schools in the West (30.4%, $P < .001$) and Midwest (34.2%, $P = .001$). Almost 43% of the schools with highest enrollment of students eligible for free or reduced-price meals participated in TN, compared to 33.4% of schools in the lowest free or reduced-price meal category ($P = .001$).

Schools in states with a strong state law were significantly ($P = .02$) more likely to participate in the TN program compared to schools in states that did not have a strong law (45.1% vs 35.6%). Schools with a dietitian or nutritionist were significantly more likely to participate in the TN program compared to schools that did not have a dietitian or nutritionist on staff (44.6% vs 35.7%, $P = .01$).

Multivariate logistic regression models examined the association between school participation in the TN program and selected lunch meal items. In a separate analysis, it was found that the availability of selected food items changed over the 4 years of data collection (data not shown). Given these trends, in addition to covariates shown in Table 1, models included a set of interaction terms to control for potential interactions between time and TN participation; however, none was significant, and they were removed from the final model.

Team Nutrition participation was significantly associated with a variety of lunch characteristics (Table 2). Schools that participated in TN were significantly more likely to offer fresh fruit (odds ratio [OR] = 1.38, 95% confidence interval [CI] 1.11-1.72, $P = .003$), whole grains (OR = 1.73, 95% CI 1.34-2.22, $P < .001$), and salads (OR = 1.33, 95% CI 1.07-1.65, $P = .01$) on most days or every day compared to schools that did not participate in TN. *Team Nutrition* schools were also significantly less likely to offer unhealthy options such as salty snacks (OR = 0.80, 95% CI 0.64-0.99, $P = .04$) and cookies (OR = 0.74, 95% CI 0.60-0.91, $P = .01$).

DISCUSSION

Among a nationally representative sample of NSLP-participating public elementary schools, TN schools had 30%-70% higher odds of offering more healthful options and 20%-30%

Table 2. Results of Multivariate Logistic Regression Analyses to Predict Availability of Items in Lunches by *Team Nutrition* Participation Status

| | OR | 95% CI | P* |
|--|------|------------|--------|
| Healthful (offered most days/every day) | | | |
| Fresh fruit | 1.38 | 1.11, 1.72 | .003 |
| Whole grains | 1.73 | 1.34, 2.22 | < .001 |
| Salad | 1.33 | 1.07, 1.65 | .01 |
| Only low-fat milk offered | 1.07 | 0.85, 1.34 | .59 |
| Unhealthy (offered some/most days/every day) | | | |
| Cookies | 0.74 | 0.60, 0.91 | .004 |
| Ice cream | 0.84 | 0.68, 1.05 | .12 |
| Salty snacks | 0.80 | 0.64, 0.99 | .04 |

CI indicates confidence interval; OR, odds ratio.

* P was considered significant at $< .05$.

Note: Analysis data weighted at the school level (all 4 years of data included). Odds ratios are for participation in *Team Nutrition* (1 = yes, 0 = no) as predictors of availability of each food type in a series of multivariate logistic regressions controlling for: year of data collection, school size, race/ethnicity, percentage free/reduced price lunch eligibility, locale, region, state law and district policy, and presence of a dietitian on staff. Outcomes for healthful items coded 1 = offered most or every day vs 0; outcomes for unhealthy items coded 1 = offered some, most days or every day vs 0.

lower odds of offering unhealthy options during lunch. Thomson et al, using School Health Policies and Programs Study data from 2006, also reported that TN schools offered healthful options and food preparation.²⁸ Although a longitudinal study examining changes in meal quality as a result of TN program participation would be necessary to establish causal linkages, significant results from this cross-sectional study suggest that expanding the TN program may be an effective way to support schools in their efforts to improve school lunches. This step is particularly important because TN reaches schools in areas where children are at higher risk of overweight and obesity.

As such, the positive association observed in this study between TN participation and more healthful lunches can possibly be explained on account of (a) the resources, training, and technical assistance provided by the TN program leading to healthier school lunches or (b) 1 or more common factors leading schools to both participate in TN and to offer more healthful lunches. A number of potential common factors such as availability of trained nutrition professionals, sociodemographics of the school population, and nutrition-related state or district policies were

controlled for in the analysis. Controlling for these common factors in the model did not eliminate the significant association between TN participation and healthful meals, suggesting a possible independent association between the 2.

The extensive reach of the school meals programs makes them an important target in the effort to improve children's diets.²⁹ School-based strategies including curricula promoting healthful behaviors, improvements in nutritional quality of food offered, and support for school staff are effective options for preventing obesity among children.²⁰ The TN program provides training and technical assistance to address all of these components, and it therefore can play an important role in school-based obesity-prevention efforts. Further, the TN program's technical assistance and training are likely to be key resources in helping schools meet the recently revised school meal standards as part of the Healthy, Hunger-Free Kids Act.³

Although this study did not investigate the type and extent of TN resources used among participating schools, data from School Health Policies and Programs Study 2006 indicated that the most commonly used TN resources included posters

(38.3%), recipes (29.5%), teaching materials (29.4%), TN special events (16.0%), and resources for parents (14.4%).²⁴ The training component of the TN program at the local level is coordinated by state agencies. Higher rates of TN participation among schools in states with stronger nutrition policies may indicate that these states, in addition to having stronger policies, were also seeking federal resources to help schools improve school meals.

There are several limitations to this study. First, these data are based on school administrators' reports regarding TN participation and do not include details on the frequency or types of TN program resources used. Second, the analyses are based on cross-sectional data and can therefore only show the association of school lunch food availability with TN participation rather than causation. Third, the availability of different food items during lunch is based on school administrators' report of a limited number of items offered, and not on objective measurements. Finally, it is possible that the positive associations observed in the analyses result from selection bias. Although the analyses adjusted for a number of covariates to control for such a bias, it is possible that other unmeasured variables could explain the observed associations.

IMPLICATIONS FOR RESEARCH AND PRACTICE

Schools can play an important role in changing the trajectory of the childhood obesity epidemic by improving students' access to healthier food. Initiatives such as the USDA's TN program can be effective tools toward that end. The results from this study show that slightly over a third of all public elementary schools participated in the TN program. Participation in the TN program was associated with offering of healthier school lunches, as TN schools were more likely to serve fresh fruit, salads, and whole grains, and less likely to serve unhealthful options. Increasing participation in the TN program could help accelerate the changes needed to improve students' access to healthful school lunches and help schools

meet the recently revised school meal standards.

ACKNOWLEDGMENTS

Funding for this study was provided by the Robert Wood Johnson Foundation.

REFERENCES

1. USDA Economic Research Service. Child Nutrition Programs: National School Lunch Program. <http://www.ers.usda.gov/Briefing/ChildNutrition/Lunch.htm>. Updated June 6, 2012. Accessed January 24, 2013.
2. USDA Food and Nutrition Service. National School Lunch Program. <http://www.fns.usda.gov/cnd/lunch/AboutLunch/NSLPFactSheet.pdf>. Updated August 2012. Accessed January 24, 2013.
3. USDA Food and Nutrition Service. Nutrition Standards in the National School Lunch and Breakfast Programs. FNS-2007-0038. <http://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf>. Published January 26, 2012. Accessed January 24, 2013.
4. USDA Food and Nutrition Service. USDA Unveils Critical Upgrades to Nutritional Standards for School Meals. <http://www.fns.usda.gov/cga/pressreleases/2011/0010.htm>. Published January 13, 2011. Updated November 27, 2012. Accessed January 24, 2013.
5. Neumark-Sztainer D, French SA, Hannan PJ, Story M, Fulkerson JA. School lunch and snacking patterns among high school students: associations with school food environment and policies. *Int J Behav Nutr Phys Act*. 2005;2:14. <http://www.ijbnpa.org/content/2/1/14>. Accessed February 7, 2013.
6. Kubik MY, Lytle LA, Hannan PJ, Perry CL, Story M. The association of the school food environment with dietary behaviors of young adolescents. *Am J Public Health*. 2003;93:1168-1173.
7. Story M, Kaphingst KM, French S. The role of schools in obesity prevention. *Future Child*. 2006;16:109-142.
8. Perry CL, Bishop DB, Taylor GL, et al. A randomized school trial of environmental strategies to encourage fruit and vegetable consumption among children. *Health Educ Behav*. 2004;31:65-76.
9. Fox MK, Dodd AH, Wilson A, Gleason PM. Association between school food environment and practices and body mass index of US public school children. *J Am Diet Assoc*. 2009;109(2 suppl):S108-S117.
10. Kubik MY, Lytle LA, Story M. Schoolwide food practices are associated with body mass index in middle school students. *Arch Pediatr Adolesc Med*. 2005;159:1111-1114.
11. Gleason PM, Suiitor C. Children's Diets in the Mid-1990s: Dietary Intake and Its Relationship with School Meal Participation. Report No. CN-01-CD1. <http://www.fns.usda.gov/ora/menu/published/CNP/FILES/ChilDiet.pdf>. Published January 2001. Accessed January 24, 2013.
12. Crepinsek MK, Gordon AR, McKinney PM, Condon EM, Wilson A. Meals offered and served in US public schools: do they meet nutrient standards? *J Am Diet Assoc*. 2009;109(2 suppl):S31-S43.
13. Clark MA, Fox MK. Nutritional quality of the diets of US public school children and the role of the school meal programs. *J Am Diet Assoc*. 2009;109(2 suppl):S44-S56.
14. Condon EM, Crepinsek MK, Fox MK. School meals: types of foods offered to and consumed by children at lunch and breakfast. *J Am Diet Assoc*. 2009;109(2 suppl):S67-S78.
15. Briefel RR, Crepinsek MK, Cabili C, Wilson A, Gleason PM. School food environments and practices affect dietary behaviors of US public school children. *J Am Diet Assoc*. 2009;109(2 suppl):S91-S107.
16. French SA, Story M, Jeffery RW. Environmental influences on eating and physical activity. *Annu Rev Public Health*. 2001;22:309-335.
17. French SA, Story M, Fulkerson JA, Hannan P. An environmental intervention to promote lower-fat food choices in secondary schools: outcomes of the TACOS Study. *Am J Public Health*. 2004;94:1507-1512.
18. United States Centers for Disease Control and Prevention. Obesity Prevention and Control: School-Based Programs. The Community Guide Web site. <http://www.thecommunityguide.org/obesity/schoolbased.html>. Updated January 12, 2012. Accessed January 24, 2013.
19. Waters E, de Silva-Sanigorski A, Hall BJ, et al. Interventions for preventing obesity in children. In: Waters E, ed. *The Cochrane Collaboration. Cochrane Database of*

- Systematic Reviews*. Chichester, United Kingdom: John Wiley & Sons, Ltd; 2011. <http://summaries.cochrane.org/CD001871/interventions-for-preventing-obesity-in-children>. Accessed January 24, 2013.
20. USDA Food and Nutrition Service. Team Nutrition: Join the Team. <http://www.fns.usda.gov/tn/team.html>. Updated January 9, 2013. Accessed January 24, 2013.
21. Johnston LD, O'Malley PM, Terry-McElrath YM, Freedman-Doan P, Brenner JS. *School Policies and Practices to Improve Health and Prevent Obesity: National Secondary School Survey Results, School Year 2006-07 and 2007-08*. Vol 1. Ann Arbor, MI: Bridging the Gap Program, Survey Research Center, Institute for Social Research; 2011.
22. Bridging the Gap Research Project. <http://www.bridgingthegapresearch.org>. Accessed January 27, 2013.
23. The American Association for Public Opinion Research. Standard Definitions. Final Dispositions of Case Codes and Outcome Rates for Surveys. 6th ed. http://www.aapor.org/AM/Template.cfm?Section=Standard_Definitions1&Template=/CM/ContentDisplay.cfm&ContentID=1814. Updated 2009. Accessed January 24, 2013.
24. National Center for Education Statistics. Common Core of Data. <http://nces.ed.gov/ccd/index.asp>. Accessed January 27, 2013.
25. O'Toole TP, Anderson S, Miller C, Guthrie J. Nutrition services and foods and beverages available at school: results from the School Health Policies and Programs Study 2006. *J Sch Health*. 2007;77:500-521.
26. Chriqui JF, Schneider L, Kristen I, Gourdnet C, Bruursema A. Bridging the Gap (BTG) Program: School District Wellness Policy Coding Tool, v. 2. http://www.bridgingthegapresearch.org/_asset/6g5t8y/WP_2009_coding_tool.pdf. Published 2010. Accessed January 30, 2013.
27. Chriqui JF, Chaloupka FJ, Gourdnet C, Bruursema A, Ide K, Pugach O. School District Wellness Policies: Evaluating Progress and Potential for Improving Children's Health Three Years After the Federal Mandate. Vol 2. http://www.bridgingthegapresearch.org/_asset/r08bgt/WP_2010_report.pdf. Published August 2010. Accessed January 24, 2013.
28. Thomson JL, Tussing-Humphreys LM, Martin CK, LeBlanc MM, Onufrak SJ. Associations among school characteristics and foodservice practices in a nationally representative sample of United States schools. *J Nutr Educ Behav*. 2012;44:423-431.
29. Koplan JP, Brownson RC, Bullock A, et al. Preventing Childhood Obesity: Health in the Balance. <http://www.iom.edu/Reports/2004/Preventing-Childhood-Obesity-Health-in-the-Balance.aspx>. Published September 29, 2004. Accessed January 24, 2013.