Competitive Foods, Discrimination, and Participation in the National School Lunch Program

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Meals served through the National School Lunch Program (NSLP) must meet rigorous nutritional standards; however, barriers to student participation may limit the program's health and social equity benefits. Unsubsidized meals and food offerings competing with the NSLP offerings in school lunch environments may be lowering qualified student participation either directly or via identification of subsidized low-income students or stigmatization of the NSLP.

We document a pilot intervention conducted in San Francisco in 2009 and 2010 that demonstrated gains in NSLP participation after removal of separate competitive à la carte lunch meal offerings.

Our observations suggest the need for greater attention to the potential discriminatory effects of competitive foods and to the issue of stigma by school nutrition program administrators, researchers, regulators, and policymakers. (*Am J Public Health.* 2011;101:1380–1386. doi:10.2105/AJPH.2011.300134)

THE NATIONAL SCHOOL LUNCH Program (NSLP), first authorized by the National School Lunch Act (NSLA) of 1946, operates in more than 96 000 public and nonprofit private schools and provides low-cost or free lunches meeting nutritional standards to more than 31 million children daily.[1–3] The NSLP in itself is a significant accomplishment with respect to child health and social equity[4–7]; furthermore, the US Department of Agriculture (USDA) is continuing to strengthen nutritional standards for meals served under the program.[8] However, realizing improved childhood nutrition through the NSLP requires equal attention to ensuring the participation of the qualified low-income students the program intends to benefit.

Participation in the NSLP varies substantially among schools and age groups. USDA data for the 2004–2005 school year show that on average, 85% of students at the middle school level and 79% of students at the high school level who qualified for free and reduced-price lunches usually participated[9]; however, according to a 2009 national survey 25% of high schools had less than a 32% participation rate, and 10% had less than a 14% participation rate among qualified students.[10]

Barriers to participation are numerous, including those related to enrollment and outreach, limited menu options, student preferences, lunch service capacity, and open campuses. The widespread availability of unsubsidized foods competing with the NSLP, ranging from snacks to à la carte entrees and meals, may represent a further barrier to program participation.[11,12] Practices that identify low-income students who have received subsidized meals under the NSLP, which could inhibit participation by stigmatizing program participants, are officially prohibited. However, in schools where there are few nonsubsidized students participating in the NSLP meal program, participation itself may be an easily visible marker of income status.

Competitive foods may contribute to the stigma associated with NSLP participation. As Shirley Watkins, a former undersecretary of the USDA, acknowledged in her report to Congress in 2001,

> [C]ompetitive foods undermine the nutrition integrity of programs and discourage participation. . . . Since only children with money can purchase competitive foods, children may perceive that school meals are primarily for poor children rather than nutrition programs for all children.[13]

School food quality has been a long-standing public priority in San Francisco, California. In 2004, the San Francisco Unified School District (SFUSD) adopted nutritional standards for competitive food and also banned sales of sugared beverages in cafeterias and vending machines.[14] In 2007, the city and county of San Francisco began providing financial support to augment NSLP offerings with salad bars.[15]

Although the nutritional quality of all foods offered has improved locally over the past decade, low participation has remained a persistent challenge. Fifty-four percent (31 321) of SFUSD students qualified for free or reduced-price meals in 2007; however, NSLP participation rates of qualified students in elementary, middle, and high schools were only 77%, 42%, and 34%, respectively.[16] In 2007, concerns regarding the impact of out-of-school competitive foods on child nutrition and school lunch participation led to local legislation to prohibit mobile food vendors within 1500 feet of schools.[17]

In this context, staff of the San Francisco Department of Public Health (SFDPH) evaluated other causes of low participation. Through field observations at school sites, staff identified a 2-tiered system with NSLP meals and a cash-only à la carte competitive meal available in separate lunch lines.[18] Although the NSLP status of students purchasing à la carte foods could not be identified, few nonsubsidized students consumed NSLP meals. These observations suggested that competitive

foods and stigma might be acting cumulatively to reduce the participation of qualified students in the NSLP.

Subsequently, SFDPH and SFUSD implemented a pilot intervention during 2009 and 2010 to remove competitive à la carte offerings in 3 schools while providing greater diversity of meal offerings for all students. Here, we describe the preliminary field observations motivating the intervention. We also detail the intervention and its evaluation. Finally, we consider stigma and competitive food as potential factors mediating observed changes in participation rates. Our observations suggest the need for greater attention to the potential discriminatory effects of competitive foods and to the issue of stigma by school nutrition program administrators, researchers, regulators, and policymakers.

BACKGROUND

We conducted detailed surveys of the food environment in 7 of the 28 SFUSD middle and high schools that offered both NSLP meals and competitive à la carte lunch alternatives.[18] In each of these schools, there was at least 1 service line for the NSLP lunch and at least 1 separate line for à la carte selections. In 4 schools, the à la carte food was sold in separate lines in the same cafeteria as the NSLP lunch; in 3 schools, à la carte offerings were provided in separate rooms; and in 1 school, there was both a separate à la carte line in the cafeteria and a separate à la carte room.

Preferred Meal Systems, an institutional meal service provider based in Chicago, Illinois, provided most of the food served in the NSLP lunches. Alternatively, SFUSD purchased à la carte lunch items from local companies. The range of food choices was different for NSLP meals and those in à la carte lines. Whereas the NSLP line might include 1 or 2 traditional meals such as baked chicken with rice, salad, bread, fruit, and milk, the à la carte offerings typically would include varieties of pizza, hot and cold sandwiches, burritos, chow mein, hamburgers, bagels, diverse snacks, confections, and drinks.

Although nonqualified students (those not eligible for free or reduced-price lunches) could also participate in the NSLP meal program, records indicate that only a minority did so. Specifically, during the 2007–2008 school year 84% of meals in the NSLP line in all SFUSD elementary, middle, and high schools were served to students who qualified for free or reduced-price meals.[19] By contrast, nationally 59.3% of all lunches served through the NSLP were served to qualified students.[2]

In the NSLP lunch lines, servers determined student eligibility for free or reduced-price meals through a meal card. Students who qualified for either free or reduced-price lunches did not pay for the meals; however, servers asked nonqualified students for a cash payment. Servers required cash payments from all students for all food purchased in à la carte lines. Interestingly, food servers anecdotally reported that some qualified students regularly paid cash for food purchased in à la carte lines. Interviews with students conducted by SFDPH staff revealed that the NSLP was perceived as being for poor children; one 8th grader at Francisco Middle School commented that "only the poor kids eat here" when asked why she had not eaten at the cafeteria before.

A financial analysis conduced by one of the authors (Z.R.) revealed that the à la carte program had an annual operating deficit of more than $1 million. According to the analysis, potential causes of the deficit included underpricing of foods, overstaffing of the à la carte program, and incorrect portioning of à la carte items. The analysis suggested that the SFUSD general fund was subsidizing the purchase of à la carte food at middle and high schools.

In 2007, SFDPH offered its assessment of à la carte foods to school district leadership, with the interpretation that the à la carte offerings were discriminatory, representing a separate class of food service not accessible to low-income children as well as potentially contributing to low participation in the NSLP. Although district officials expressed the desire to dismantle the 2-tiered system, they also concluded that the practice was legal and that they did not have the financial, technical, and infrastructure resources to change the system. However, after the financial analysis and media reports negatively portraying separate à la carte services,[20] the SFUSD nutrition services administrator committed to exploring a pilot study that would eliminate competitive à la carte foods.

METHODS

Beginning in 2008, SFDPH and SFUSD staff collaboratively planned and implemented changes in the lunch programs at 3 schools: Balboa High School, Francisco Middle School, and Lowell High School. SFDPH provided a grant to support project management as well as staff to help design, implement, and evaluate these pilot initiatives. The intervention included a number of components (Table 1). Most significantly, the intervention increased the number and diversity of NSLP full meal choices and eliminated à la carte offerings outside the NSLP meal program.

The implementation of a point-of-service payment system at all schools to improve fiscal accountability and protect low-income students' identity had been planned as an independent initiative but occurred simultaneously with our intervention. Other components of the intervention included changes to service and storage areas and food handling equipment, training of food service personnel, and engagement of students through taste testing and student surveys.

We evaluated this pilot intervention by tracking average daily participation in the meal program disaggregated by the student's NSLP subsidy status (free, reduced price, or paid) before and after integration. Daily participation is normally recorded through the point-of-service system and reported to the California Department of Education in the process of school reimbursement. SFUSD

TABLE 1—School Food Environment Changes at Pilot Schools: San Francisco Unified School District, San Francisco, CA, 2009–2010

School Food Environment	Changes Implemented
Food choices	Removed à la carte options
	Expanded reimbursable lunch menu options
Equipment and physical layout	Added salad bars and refrigerators
	Implemented point-of-service systems
	Reconfigured cafeterias and à la carte stations to serve only NSLP reimbursable lunches
	Provided an additional serving line at 1 school
Labor and operations	Secured additional staffing for line control
	Trained staff on NSLP rules
Culture	Installed a new student-designed mural at 1 school
	Designed and posted new menus
	Branded and marketed former à la carte locations

Note. NSLP = National School Lunch Program.

provided data on daily participation and student enrollment disaggregated by NSLP status for each school.

RESULTS

Before our intervention, the percentage of qualified students eating NSLP meals varied substantially among schools and was comparatively low relative to national figures. For example, the percentage of qualified students eating free lunches ranged from 31% to 60% at the intervention sites. Among nonqualified students, 3% to 30% participated in the lunch program, with participation highest at the middle school site. The number of students eating à la carte meals varied but was substantially less than was the number in the NSLP lines at all sites; because all students paid cash, qualified students purchasing à la carte meals could not be enumerated.

With the elimination of à la carte options and the integration of all meal offering and service areas within the NSLP, average daily participation of qualified students eating the NSLP lunch increased at all school sites (Table 2). Specifically for students who qualified for free lunches, increases in the percentages of participating students were 13% at Francisco Middle School, 41% at Lowell High School, and 73% at Balboa High School. Among students who qualified for reduced-price meals, participation increased by 23%, 38%, and 154%, respectively, at the 3 sites. The participation of nonqualified students eating NSLP meals increased substantially at 1 high school but decreased modestly at the other 2 schools.

DISCUSSION

Our intervention, conducted in a major urban school district, demonstrates that a school lunch program can successfully remove competitive à la carte lunch offerings while increasing NSLP participation among students qualified for a free or reduced-price lunch. On the basis of the success of this pilot intervention, SFUSD made the policy decision to remove all à la carte lunch services and most competitive foods in all middle and high schools during the 2010–2011 school year. A proposed evaluation of this systemwide change may provide an important case study for policymakers considering the role of competitive foods in schools.

The design and scope of this pilot intervention did not allow us to establish the specific causes of increased participation. However, the low NSLP participation rates historically observed in San Francisco and the positive effects of our intervention suggest several significant questions for future research.

The increases in NSLP participation we observed may be potentially explained by several of the components of the intervention: the removal of competitive lunch choices, the related effort to increase the diversity and quality of offerings at the schools, a point-of-service payment system, and the elimination of different standards of food service for subsidized and unsubsidized students. The first 2 explanations reflect the effects on demand of available choices. With the removal of à la carte options, students can choose only among available NSLP options.

However, in our case student participation in the NSLP after the intervention was greater than was the combined participation in the NSLP and à la carte programs before the intervention, suggesting that à la carte offerings may affect NSLP participation beyond their competitive effects alone. Increases in the diversity of alternatives offered under the NSLP and reduced wait times related to increasing the points of service, as occurred in this intervention, may also have independently increased demand for the NSLP option.

Limited research has been done on the effects of competitive foods on NSLP participation among qualified students. Research on competitive foods has focused on their presence and formats (vending machines, à la carte, snack bars), types, nutritional quality, and relationship to caloric intake.[11,12,21–25] One available evaluation of a Connecticut program that provides monetary incentives to school districts that implement nutrition standards for competitive foods did not show increases in student NSLP participation.[26]

In our pilot study, the elimination of competitive à la carte offerings and the implementation of a point of service system may have contributed to participation gains through a reduction in stigma. However, our evaluation did not assess students' perceptions of stigma or their motives for NSLP participation. Nationally, limited formal knowledge is available on the existence of stigmatization, the mechanisms by which it occurs, and its effects on participation.[27–29]

Limited evidence suggests that NSLP lunch environments may allow identification of low-income participants. According to national data from the Third School

TABLE 2—Student Participation in NSLP Meals Before and After Removal of À La Carte Offerings at 3 Public Schools, San Francisco, CA, 2009–2010

	Preintervention			Postintervention		
	Student Enrollment, No.	Students Purchasing À La Carte, %	Students Participating in NSLP, %	Student Enrollment, No.	Students Participating in NSLP, %	Change in NSLP Participation, %
Balboa High School[a]						
Free	452	. . .	31	512	54	73
Reduced	194	. . .	19	231	48	154
Not qualified	379	. . .	6	570	5	–9
Total	1025	6.9	19	1313	32	63
Francisco Middle School[b]						
Free	533	. . .	60	533	68	13
Reduced	91	. . .	53	91	65	23
Not qualified	76	. . .	30	76	22	–26
Total	700	10.0	56	700	62	12
Lowell High School[c]						
Free	514	. . .	52	514	73	41
Reduced	419	. . .	53	419	72	38
Not qualified	1646	. . .	3	1646	11	230
Total	2579	6.5	21	2579	33	58

Note. NSLP = National School Lunch Program. The elimination of à la carte services occurred on 3 different dates at the 3 schools: March 31, 2009, at Balboa High School; January 14, 2010, at Francisco Middle School; and April 12, 2010, at Lowell High School. The ellipses indicate that data were not available to disaggregate competitive food purchases by student NSLP status (e.g., students who qualified for free or reduced-price lunches).

[a]The evaluation of participation at Balboa High School spanned 2 different school years: preintervention average participation reflects data from January 2009 to March 2009, and postintervention data are from August 2009 to May 2010.

[b]At Francisco Middle School, preintervention average participation reflects data from August 2009 to January 2010, and postintervention data are from January 2010 to May 2010.

[c]At Lowell High School, preintervention average participation reflects data from August 2009 to April 2010, and postintervention data are from April 2010 to May 2010.

Nutrition Dietary Assessment Study, 68% of surveyed students knew that some students pay less or receive lunches for free, and 17% of all students and 13% of higher income students could identify which students were receiving free or reduced-price lunches.[9] Among students who could identify those receiving free or reduced-price lunches, 20.8% knew because different forms of payment were used, 9% knew because items or portion sizes were different, and 5% knew because lines were separate.

According to more recent data from a national survey, 10% of high schools have food program designs that are likely to identify students as being from low-income families.[30] One survey revealed that 20% of eligible parents cited stigma as their main reason for nonparticipation.[31] Research on barriers to participation in other federal food assistance programs (e.g., food stamps) has also identified program stigma as a barrier.[32]

Rationale for Restricting Competitive Food

The potential nutritional consequences of competitive food have clearly become public health concerns[33]; however, because greater choice is conventionally associated with improved welfare, policymakers may be reluctant to restrict the food options available at schools.[34] Indeed, only a few states have regulated competitive food, and regulations focus primarily on nutritional concerns.[12] Before 2011, federal law prevented regulators from limiting the sales of competitive foods during lunch periods so long as the proceeds benefited schools.[35] Only recently has legislation authorized the secretary of agriculture to establish nutrition standards for competitive foods in schools.[36,37]

As reflected in the motivations underlying the SFDPH intervention, the discriminatory aspects of à la carte food services suggest an additional, independent rationale for concern about competitive foods in schools. The very existence of à la carte foods not accessible to low-income qualified students within a public school lunch environment might be viewed as a discriminatory practice. Lunch is a nondiscretionary part of the school day for most students. Offering different lunch services whose access is based on a child's financial status appears contrary to norms of equality in public school services.

If à la carte offerings do contribute to reduced NSLP participation among otherwise qualified students, this would have major significance with respect to health disparities. Low-income students who qualify for NSLP benefits already may be at increased risk of nutrition- and diet-related diseases. For example, in lower income households there may be less discretionary income for healthy food options, less parental supervision of food behaviors, lower-quality neighborhood food, and fewer physical activity resources.

Furthermore, additional evidence suggests that in certain cases cross-subsidization of competitive foods by NSLP subsidies may be negatively affecting the fiscal health of the NSLP. Although the NSLA explicitly prohibits the use of NSLP revenues for any purpose other than program meals, the USDA reported that 41% of the costs of operating a competitive food program in the average school district are being subsidized by federal funds that provide reimbursable NSLP meals.[38] This research also showed that the typical school district is using 25% of the federal funds it receives to provide reimbursable lunches to offset losses in for-profit competitive food sales. Such evidence stands in contrast with conventional wisdom about competitive food being an important source of revenue for schools.[12]

Need for Attention to Stigma

Stigma is considered a harmful, health-adverse outcome regardless of its effects on NSLP participation, and the NSLA recognized this harm. The NSLA explicitly prohibits actions that publicly identify the income status of a child (i.e., overt identification) through his or her participation in the NSLP.[39–41] If à la carte meals are contributing to stigma, state and federal agencies may need to augment the NSLP regulations and standards to address this mechanism of overt identification.

Notably, SFUSD officials determined the separated and exclusive à la carte lunch services to be technically legal (A. Miller, written correspondence to J. Affelt, San Francisco Unified School District, March 2008). Similarly, state and federal officials unofficially suggested to SFDPH staff that current regulations do not consider a separate à la carte food program as a segregated meal service; the regulations prevent overt identification of the child only while he or she is in the NSLP line (vs elsewhere in school). These conclusions suggest a significant gap between the policy goals of the NSLA, which appear to recognize the harm of stigma, and regulatory practices that consider overt identification only in limited forms.

Addressing stigma as a consequence or barrier to NSLP participation has not yet been a focus of public health efforts to assess and improve school food environments. For example, Finkelstein et al. identified 17 variables to determine a summary score indicating the healthiness of the school food environment.[42] Although the presence of competitive food was considered, situations that might lead to the stigmatization of students, such as segregated school meal service locations, were not. Because stigma may occur through diverse, unidentified mechanisms, further research on stigma as a barrier to NSLP participation is needed along with research on practices designed to reduce stigma. School districts could more proactively identify sources of barriers to participation and include antidiscriminatory provisions in school wellness policies.

Recent policy attention has been given to the issue of stigma in the NSLP. Public interest organizations that supported policy attention to the issue in San Francisco subsequently conducted national research on the issue and provided a comprehensive set of recommendations to lawmakers and federal officials.[30] Citing those recommendations, the White House Task Force on Obesity issued one of the first public calls for attention to the issue of lunch line stigma.[43] According to recommendation 3.13 of the task force's report to the president,

> Schools should be encouraged to ensure that choosing a healthy school meal does not have a social cost for a child. . . . In schools where most meals are served free or at reduced price, separating lines can create a perception that program meals are intended only for lower-income students, potentially creating a stigma that prevents children who cannot afford a la carte food from eating at all. Schools should be encouraged to examine their operational practices to ensure that all students have a full opportunity to consider and choose a school meal.[43(p45)]

The recent congressional reauthorization of the NSLA, the Healthy, Hunger-Free Kids Act of 2010,[44] also recognized the need to consider emerging mechanisms of stigma. Section 143 of the act requires the USDA to review the compliance of local policies on meal charges and the provision of alternate meals with requirements for preventing overt identification. In his remarks to Congress supporting the act, Representative George Miller (D–A) called attention to the issue of separate lines for children with cash for nonreimbursable food and meals and children selecting reimbursable meals, and he urged the secretary of agriculture to use this review to "identify ways in which the modern school food environment may inadvertently stigmatize children or fail to protect their privacy."[45]

Other Interventions Supporting School Lunch Equity

Several other complementary interventions may also increase participation in the program and reduce the stigma associated with participation. One alternative is to provide NSLP lunches as a universal benefit to all students without regard to family income. Existing federal regulations allow some schools to serve all children meals without routinely evaluating income status or collecting payments from any student.[46] However, the schools and districts providing universal lunch programs under this option must find their own supplemental funding for the loss of revenue from full and reduced-price meals, and thus this option is generally used at schools (typically elementary schools) where a high percentage of

students are eligible for free or reduced-price meals. The benefits of these programs with respect to NSLP participation have not been confirmed.

Conclusions

Although competitive foods in schools have been criticized as a nutritional hazard, their discriminatory nature and their potential effects on NSLP participation have not been widely appreciated or researched as a public health issue. Our limited pilot intervention demonstrates that eliminating competitive à la carte offerings may increase NSLP participation among qualified low-income students and that this effect may be mediated in part by reductions in stigma. The harmful effects of à la carte lunch lines and stigma on NSLP participation deserve further research as well as further regulatory attention. ■

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This article was accepted January 24, 2011.

Contributors

R. Bhatia initiated the intervention and wrote the article. P. Jones managed the overall intervention and cowrote the article. Z. Reicker designed and implemented the pilot project and provided the evaluation data.

Acknowledgments

Funding for the study intervention was provided by the San Francisco Department of Public Health through San Francisco Food Systems.

Ed Wilkins and his staff at the San Francisco Unified School District Student Nutrition Services provided managerial and operational support for the intervention. Louise Stephens conducted several of the school site assessments. We thank Mitch Katz, Tara Kini, and Colleen Kavanagh for their thoughtful reviews of this article.

Note. The views expressed herein do not necessarily reflect the official policies of the city and county of San Francisco, nor does mention of the San Francisco Department of Public Health imply its endorsement.

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The Prevention of Global Chronic Disease: Academic Public Health's New Frontier

Henry Greenberg, MD, Susan U. Raymond, PhD, and Stephen R. Leeder, MD, PhD

A confluence of stimuli is propelling academic public health to embrace the prevention of chronic disease in developing countries as its new frontier. These stimuli are a growing recognition of the epidemic, academia's call to reestablish public health as a mover of societal tectonics rather than a handmaiden to medicine's focus on the individual, and the turmoil in the US health system that makes change permissible.

To enable graduating professionals to participate in the assault on chronic diseases, schools of public health must allocate budgets and other resources to this effort. The barriers to chronic disease prevention and risk factor modulation are cultural and political; confronting them will require public health to work with a wide variety of disciplines.

Chronic disease will likely become the dominant global public health issue soon. In addressing this issue, academia needs to lead, not follow. (*Am J Public Health.* 2011;101:1386–1391. doi:10.2105/AJPH.2011.300147)

THE TIME SEEMS RIGHT FOR a new wave of innovation and invention to energize academic public health (which, for our purposes, consists of the curriculum-defining components of the US members of the Association of Schools of Public Health). Three discrete, unrelated stimuli have aligned to harness energy to benefit both new constituencies and the profession itself. The first is the global epidemic of chronic disease, especially cardiovascular disease (CVD) and its associates—hypertension, stroke, type 2 diabetes, and kidney disease. The impact of this epidemic has evolved gradually but inexorably since Omran identified it with stunning clarity nearly 4 decades ago.[1]

However, with a surge in obesity and diabetes, the trajectory has changed, and the epidemic poses a threat to economic development in developing and developed countries alike. The global epidemic of CVD is real and growing. It has been recognized by the World Health Organization (WHO)[2] and is slowly making its way into the consciousness of other agencies. India has inaugurated a new public health initiative to address it[3]; important studies and persuasive data on CVD are pouring out of China[4]; and African investigators are finding powerful evidence of disturbing trends in hypertension and a broad array of CVD risk factors.[5,6]

Perhaps even more important than the accumulating data is the epidemiological timing of the burden these diseases will place on emerging economies. The dependency ratio—the ratio of the sum of the very young and elderly to the working-age population—is falling now because fertility rates are down and the elderly population remains small in much of the developing world. This trend will continue for another decade or so. But then the elderly contribution to the population will rise substantially, adding expenses related to the complications of stroke, diabetes, and myocardial infarction. The dependency door will close soon.[7,8] The current era of relatively low health costs for acute care needs to be seen as an opportunity to invest in the public health infrastructure of CVD prevention. Now is the time to act.