



Serving Healthy School Meals

North Carolina Schools Need Updated Equipment and Infrastructure

North Carolina at a glance

- 100 percent of school districts in North Carolina, compared with 86 percent nationwide, are successfully serving healthy meals that meet strong nutrition standards. However, this often requires schools to work around equipment and infrastructure challenges in ways that are expensive, inefficient, and unsustainable.
- 93 percent of school districts in North Carolina, compared with 88 percent nationwide, need at least one piece of equipment to better serve nutritious foods.
- 75 percent of school districts in North Carolina have at least some budget for kitchen equipment upgrades. Model approaches for financing these improvements are outlined in *Serving Healthy School Meals: Financing strategies for school food service*.
- 70 percent of the districts in North Carolina, compared with 55 percent nationwide, need kitchen infrastructure changes in at least one school.

School foods play an important role in children's diets. On average, more than 30 million children participate in the National School Lunch Program daily, with more than 70 percent qualifying for free or reduced-price meals based on family household income.¹ At the same time, one-third of the children in the United States are overweight or obese, putting them at increased risk for heart disease, Type 2 diabetes, and other chronic diseases.² Because many children consume up to half of their daily calories at school, the foods served there have a significant impact on the health and well-being of students across the country.

Given the concerns about children's health, the U.S. Department of Agriculture, or USDA, has issued updated school meal nutrition standards that call for increasing servings of fruit, vegetables, low-fat dairy products, and whole grains while limiting fat, sugar, salt, and excess calories. Schools across the country are stepping up to the plate.

Nationwide, 86 percent of school districts are successfully serving healthy meals, and in North Carolina, 100 percent of schools are serving such meals, according to USDA.³ Meeting the updated standards qualifies school districts for increased reimbursement from USDA. Many, however, lack the right tools for preparing these meals and are therefore relying on workarounds that are expensive, inefficient, and unsustainable.

To assess these needs in each state and the District of Columbia, the Kids’ Safe and Healthful Foods Project—a collaboration of The Pew Charitable Trusts and the Robert Wood Johnson Foundation—commissioned a survey of the school food authorities, or SFAs, that administer the National School Lunch Program and the School Breakfast Program. Results of the survey provided insights into how schools are complying with the updated USDA meal standards and the challenges they must overcome to reach full implementation.* According to the survey, most school districts in the United States (88 percent) need at least one piece of kitchen equipment, and more than half (55 percent) need some infrastructure update to serve healthier school meals.

To better understand this need and potential solutions, the project convened a meeting of stakeholders from schools, industry, government, and the private sector to brainstorm about ways that schools can finance equipment and infrastructure upgrades. The model approaches developed, which include partnerships, sponsorship funding, and low-interest loans, are detailed in *Serving Healthy School Meals: Financing strategies for school food service*, the summary of proceedings from the workshop.⁴

Table 1
Snapshot of North Carolina School District Characteristics

Across the country, school districts’ equipment and infrastructure needs vary based on factors such as a district’s size, number of schools, and community type. Larger districts (those with more than 2,500 students), for example, were more likely to report needing walk-in refrigerators and freezers, while districts with fewer than 1,000 students were more likely to need software programs for menu planning and nutrient analysis.

North Carolina		
School district characteristics	North Carolina	United States
Student enrollment* (median per SFA)	4,408	1,017
Number of public schools* (median per SFA)	9	3
Location of most schools		
Urban/suburban	42%	38%
Rural	58%	62%
Students approved for free/reduced-price lunch* (mean per SFA)	59%	49%
Food service management company used	10%	17%
Central production facilities	4%	9%

* Data from 2010-2011 SFA Verification Summary Report, Form FNS 742.

Source: Kitchen Infrastructure and Training for Schools Survey, 2012
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* The information presented is part of the *Serving Healthy School Meals* series of reports. The first report summarized districts’ readiness to meet updated nutrition standards. The second report addressed national school food service equipment and infrastructure needs. For more detailed state findings and to read earlier reports, visit healthyschoolfoodsnow.org.

Overview of North Carolina kitchen equipment needs and costs

Ninety-three percent of the state's school districts needed at least one piece of equipment.

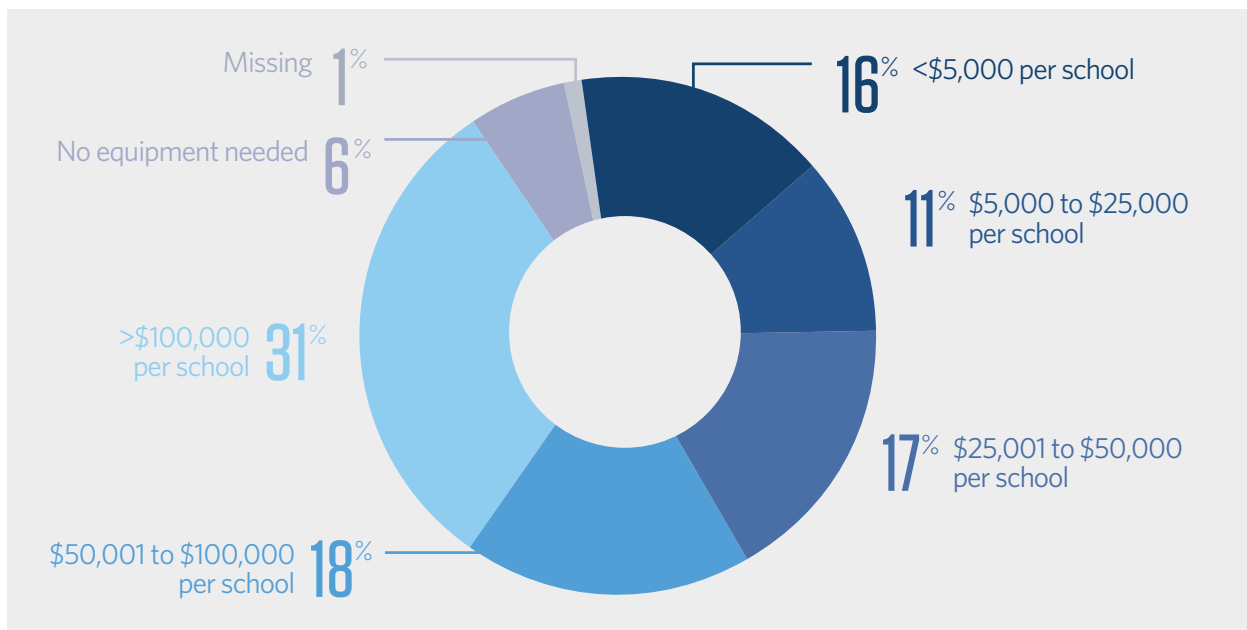
- The median cost of this equipment is \$49,000 per school, compared with approximately \$37,000 per school nationally.
- Overall, \$140 million worth of food service equipment is needed in North Carolina to better serve healthy foods.

Seventy-five percent of school districts in North Carolina reported having budgets for kitchen equipment purchases.

- Of the districts with budgets, 36 percent expected the resources to be adequate.
- 15 percent of SFAs in North Carolina were unsure whether they had a budget to purchase equipment.

Figure 1

The Cost of Food Service Equipment Needed by North Carolina Schools



Source: Kitchen Infrastructure and Training for Schools Survey, 2012
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Top school kitchen equipment needs in North Carolina

When asked about their needs in relation to meeting nutrition standards, the majority of respondents said that serving a greater variety of fruits and vegetables presented the greatest equipment challenges.

When asked what specific equipment they need to meet all of the nutrition standards, districts responded:

1. **62 percent:** Utility carts. This equipment is used to transport items within a kitchen or cafeteria. Without enough carts, food service personnel must carry items and make multiple trips that waste valuable time. Cost to meet statewide need: \$572,000.
2. **58 percent:** Walk-in refrigerators. These are used to safely and efficiently store large quantities of perishable foods and beverages. Cost to meet statewide need: \$11.4 million.
3. **52 percent:** Serving-portion utensils. Serving utensils determine appropriate portion sizes. Without them, servings could be measured inaccurately. Cost to meet statewide need: \$174,000.
4. **52 percent:** Walk-in freezers. Schools need walk-in freezers to store large quantities of frozen foods and beverages. Cost to meet statewide need: \$10.6 million.
5. **50 percent:** Hot holding cabinets. These cabinets keep food fresh for hours, allowing meals prepared in advance to be kept hot until served. Cost to meet statewide need: \$3.3 million.

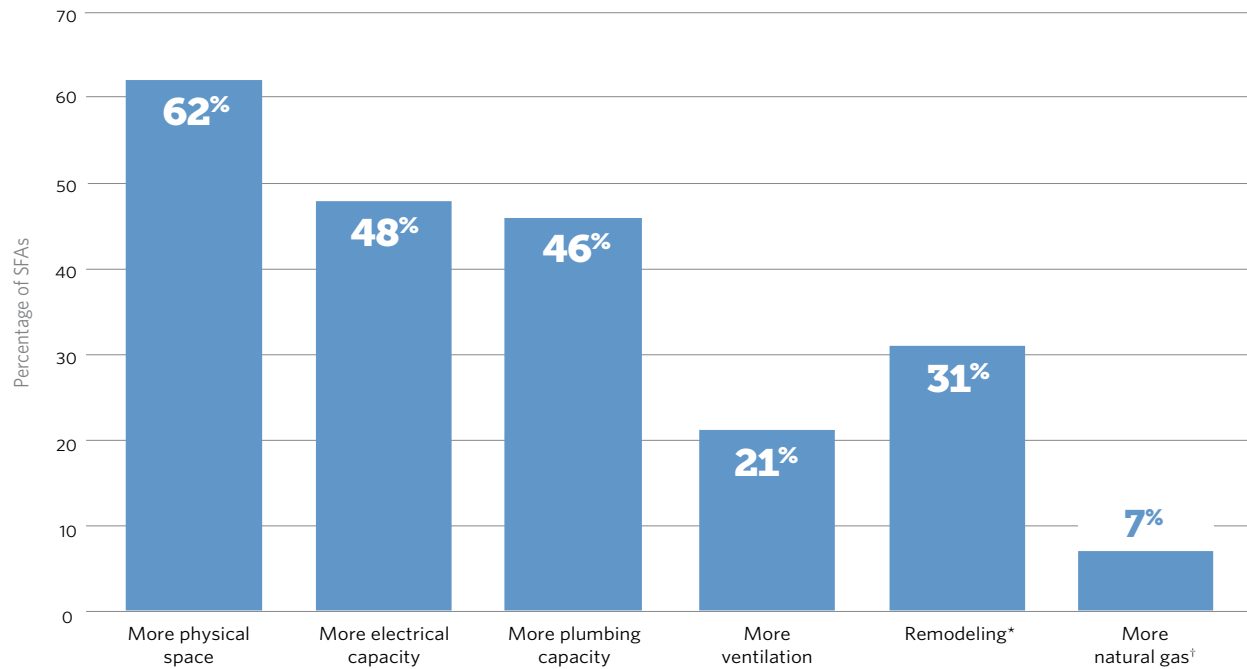
School kitchen infrastructure upgrades

In addition to equipment upgrades, food service infrastructure capacity must be considered in the effort to effectively implement the nutritional standards. For example, new equipment such as walk-in refrigerators and freezers may require more physical space or improvements to electrical systems. SFAs in 70 percent of the districts in North Carolina need kitchen infrastructure changes in at least one school to better serve healthy foods, with “more physical space” being the most commonly reported issue. Without adequate space, school districts are making do with less-efficient processes, such as scheduling daily deliveries of fresh produce, a more costly option.

Figure 2

Food Service Infrastructure Upgrades Needed in North Carolina School Districts

'More physical space' was the most commonly reported infrastructure issue



Note:

* "Remodeling" indicates that the facility needs updating to meet revised local health department codes.

† "More natural gas" refers to increased pressure or location of pipes.

Source: Kitchen Infrastructure and Training for Schools Survey, 2012

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About the survey of SFAs

The findings presented in this issue brief are based on a survey, conducted by Mathematica Policy Research, of school food service directors or their designees (those deemed to be most knowledgeable about the district's equipment, infrastructure, and training needs) from a nationally representative sample of public SFAs. In most cases (67 percent), respondents were food service or nutrition directors. Other respondents included food service, kitchen, or cafeteria managers (17 percent) and those who held other positions within the SFA (14 percent). The questionnaire was developed with assistance from a consultant who works with SFAs to implement the updated meal requirements. In addition, a panel of child nutrition and food service experts from across the country helped identify and frame the issues to be measured. The questionnaire covered topics focusing on the needs of SFAs relative to implementing the updated requirements for school lunches.

Recommendations

Additional funds are needed to assist North Carolina's school districts in upgrading their kitchen equipment and infrastructure to serve healthy meals that students will enjoy. In light of these findings, the project recommends:

Recommendation 1: School officials and local policymakers should work collaboratively with parents, teachers, students, and funders to identify and implement innovative strategies for meeting equipment, infrastructure, and training needs.

Recommendation 2: Federal, state, and local governments should make funds available to school districts for upgrading their kitchen equipment and infrastructure to ensure that they are able to efficiently and reliably serve healthy and appealing meals.

Recommendation 3: Nonprofit and for-profit organizations interested in improving children's health, education, school infrastructure, and community wellness should assist schools in acquiring the necessary equipment.

Schools in North Carolina and across the country are doing what they can to serve healthy meals that meet the updated meal standards, but they need help. Investments in equipment and infrastructure upgrades would go a long way toward helping schools efficiently store, prepare, and serve healthy and appealing foods to students.

Endnotes

- 1 U.S. Department of Agriculture, Food and Nutrition Service, "National School Lunch Program: Participation and Lunches Served (Data as of March 7, 2014)," accessed March 21, 2014, <http://www.fns.usda.gov/pd/slsummar.htm>.
- 2 J.C. Han, D.A. Lawlor, and S.Y. Kimm, "Childhood Obesity," *Lancet* 375, no. 9727 (2010): 1737-48; D.S. Freedman et al., "Cardiovascular Risk Factors and Excess Adiposity Among Overweight Children and Adolescents: The Bogalusa Heart Study," *Journal of Pediatrics* 150, no. 1 (2007): 12-17; E. Whitlock et al., "Screening and Interventions for Childhood Overweight: A Summary of Evidence for the US Preventive Services Task Force," *Pediatrics* 116, no. 1 (2005): e125-44; E.R. Sutherland, "Obesity and Asthma," *Immunology and Allergy Clinics of North America* 28, no. 3 (2008): 589-602; E.D. Taylor et al., "Orthopedic Complications of Overweight in Children and Adolescents," *Pediatrics* 117, no. 6 (2006): 2167-74; W.H. Dietz, "Health Consequences of Obesity in Youth: Childhood Predictors of Adult Disease," *Pediatrics* 101, suppl. 2 (1998): 518-25.
- 3 U.S. Department of Agriculture, Food and Nutrition Service, "Percent of School Food Authorities (SFA) certified for the performance based reimbursement by State (Data as of December 2013)," accessed March 18, 2014, <http://www.fns.usda.gov>.
- 4 The Pew Charitable Trusts, Kids' Safe and Healthful Foods Project, *Serving Healthy School Meals: Financing strategies for school food service*, (2013), http://www.healthyschoolfoodsnow.org/wp-content/uploads/2013/12/KITES_Proceedings.pdf.

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The Kids' Safe and Healthful Foods Project, a collaboration between The Pew Charitable Trusts and the Robert Wood Johnson Foundation, provides nonpartisan analysis and evidence-based recommendations to make sure that all foods and beverages sold in U.S. schools are safe and healthful.