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## The School Breakfast Program: A View of the Present and Preparing for the Future—A Commentary

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Eating breakfast has been linked to positive outcomes for children, including improved cognitive function and academic performance<sup>1,2</sup> and better diet quality, possibly leading to obesity prevention.<sup>3,4</sup> Still, 10–25% of children aged 5–14 do not eat breakfast.<sup>5</sup> Given the benefits of eating breakfast, and considering that an average of 35% of children's daily calories are consumed at school,<sup>6</sup> school breakfasts have potential to provide nutritionally balanced meals to the estimated 50 million children attending US elementary and secondary schools.<sup>7</sup> The School Breakfast Program (SBP) is a federal effort to increase regular consumption of a healthful breakfast among school-aged children in the United States. This report reviews the status of the SBP and summarizes discussions about possible expansions and improvements.

The SBP started as a pilot program in 1966. In 1975, the US Department of Agriculture (USDA) Food and Nutrition Service (FNS) permanently authorized the program based on the belief that “good nutrition is essential to good learning.”<sup>8,9</sup> The SBP goal was to provide a nutritious breakfast to “nutritionally needy” children, to those who do not have time to eat at home before school, and to those with long periods between breakfast at home and lunch.<sup>10</sup> State education agencies administer the program at the state level and local school authorities operate it in schools.<sup>11</sup> Any child attending a school participating in the SBP may purchase a meal, with children from low-income families receiving free or reduced-price meals: those with family income under 130% and 130–185% of the federal poverty level are eligible for free and for reduced-priced school breakfast, respectively.<sup>9</sup> In 2010, 11.7 million children participated in the SBP, 9.7 million of whom (83.5%) received free or reduced-price breakfasts.<sup>12</sup>

Although eligibility criteria are the same for the SBP as for the National School Lunch Program (NSLP), in the 2010–2011 school year, only 48% of students who participated in the NSLP participated in the SBP.<sup>13</sup> About 22% of children participated in the SBP on a typical day in the 2009–2010 school year.<sup>10</sup> Participation is higher among boys than girls and among minority children than non-Hispanic white children. Students who are eligible for free meals are more likely to participate than are higher-income children, and children living in rural areas are more likely to participate than those living in urban areas.<sup>14</sup>

In addition to availability of breakfast, nutritional quality is also important.<sup>15,16</sup> For example, children who were offered low-sugar cereal consumed more fresh fruit and lower quantities of cereal than did children offered high-sugar cereal.<sup>14</sup> Thus, by offering more nutritious options, school meals can provide opportunities to improve children's nutrition or can increase unhealthful eating.

Several studies have found associations among the SBP, healthier nutritional intake, and body weight. Children attending SBP-participating schools consumed fewer calories from fat, were more likely to have adequate potassium and iron intake, had fewer vitamin and mineral deficiencies, and had better diet quality than students attending nonparticipating schools.<sup>17</sup> A study of participating district-level school food authorities, children, and parents found that, compared with the NSLP, the SBP was more likely to meet School Meal Initiatives (SMI) standards for target nutrients, including fat and saturated fat.<sup>18</sup> Also, non-Hispanic white children who reported "usually participating" in the SBP had significantly lower body mass indexes (BMIs) than those who did not typically participate.<sup>19</sup>

Other studies have shown neutral or unfavorable associations between the SBP and child health. Among fourth graders in South Carolina, there was no association between daily SBP participation and BMI.<sup>20</sup> A national study of elementary, middle, and high school students showed that whereas total energy intake was comparable among SBP participants and nonparticipants, participation was associated with higher prevalence of excessive sodium intake and lower prevalence of nutrient adequacy of vitamin A, phosphorous, magnesium, and zinc.<sup>21</sup> These findings are consistent with national data from breakfast menus, showing that high-fat foods, including sausage and doughnuts, were commonly served, while fresh fruits were only offered in one fourth of menus.<sup>22,23</sup> The implications of the SBP for child nutrition likely depend on the menu offerings and on children's lifestyles beyond breakfast.<sup>8,23</sup>

The most recent guideline for the nutritional quality of school breakfasts, established by the USDA in 2012, was the final rule on Nutrition Standards in the NSLP and SBP.<sup>24</sup> The rule revised school meal programs to align them with the 2010 Dietary Guidelines for Americans, requiring increases in fruits, vegetables, whole grains, and fat-free and low-fat milk. By July 2014, school breakfast offerings must include at least 1 cup of fruit and/or vegetables to meet regulations. For a meal to be reimbursable, students must select at least half a cup of fruits or vegetables.<sup>24</sup> These changes, based on recommendations by the Institute of Medicine of the National Academies, are expected to enhance children's diet and health and help mitigate childhood obesity.<sup>24</sup> Some schools and districts have taken additional steps to improve meal quality by involving registered dietitians in planning

breakfast menus. In 2005, 40% of SBP schools menus were planned by registered dietitians.<sup>25</sup>

In spite of efforts to ensure the availability and quality of school breakfast, only 20% of children eat school breakfast<sup>10</sup> and up to 25% of children do not eat breakfast at all.<sup>5</sup> Some reports indicate that a major barrier to participation is that students view the SBP as a program for low-income people and worry about being stigmatized by participating.<sup>5,21,26</sup> One solution is a move to a universal breakfast program, under which breakfast would be offered free for all students, regardless of family income.<sup>26,27</sup> In 29 urban school districts participating in the SBP, universal breakfasts had higher participation rates than the standard means-tested breakfasts.<sup>28</sup>

Broadening the program would offer more children the benefits of eating breakfast,<sup>17,29</sup> in addition, costs to schools could be reduced. Schools face fixed costs in preparing meals, including equipment, labor, and administration.<sup>13</sup> A national study examining the cost of the 2005–2006 school year SBP found that it cost schools on average \$1.92 to produce 1 breakfast meal, while the reimbursement rate that schools received per free breakfast was \$1.27. Thus, federal subsidies did not cover the full costs incurred.<sup>13</sup> If schools reached more students eligible for free or reduced-price breakfasts, the fixed cost of producing a meal would be amortized across more meals, leading to a lower average cost per meal. Thus, in 2009–2010, an estimated \$611 million of additional funding would have been distributed to states if the SBP participation goal of distributing 60 school breakfasts per 100 school lunches had been met.<sup>5</sup> A universal program could also lower administrative costs by allowing schools to collect applications once every 4 years for the purpose of meal counting, under Provision 2 of the NSLP.<sup>30</sup>

A concern about the expansion to universal free delivery is that, although many schools would see lower average costs, schools with large proportions of students not eligible for free and reduced-priced meals would see increased costs because they would be responsible for paying the difference between federal reimbursement and the cost of providing free meals.<sup>29</sup> Reductions in administrative costs would not offset the cost difference for schools where fewer than 60% of students are low-income students.<sup>29</sup> An additional concern is that some students eat breakfast at home, and the SBP would either replace a home breakfast or some children would consume 2 breakfasts.<sup>28</sup>

Another debate pertains to when and where school breakfasts should be served.<sup>5,27</sup> A common approach is to serve breakfast in the cafeteria before the start of the school day. However, this may lead to low participation because students may not wish to stand out as being low-income by eating in the cafeteria and because bus schedules may not permit some students to arrive in time.<sup>31</sup> Alternative delivery modes include breakfast in the classroom, breakfast after first period, and "grab-n-go" breakfast.<sup>32</sup> Studies suggest that participation is higher when breakfast is offered in the classroom rather than in the cafeteria<sup>21,27,30</sup> because it is convenient, does not conflict with bus schedules, nor requires students to alter morning commutes.<sup>28</sup> Universal breakfast in the classroom has shown particularly high participation: in elementary schools, 29% of students participated in the SBP when served in the cafeteria; when served in the classroom, 71% of students ate school breakfast.<sup>27</sup> On the other hand,

classroom breakfasts may affect cleanliness in classrooms and increase the workload of custodial staff.<sup>5,26,27,30</sup> It may also decrease instruction time and increase disruptions in the class<sup>5,26,27</sup> as well as increase the use of prepackaged foods and disposable packaging, limit the variety of foods,<sup>33</sup> and expose children with food allergies to allergens.<sup>21</sup>

A critical issue is the relationship between SBP participation and competitive foods, which are “foods and beverages, regardless of nutritional value, sold at a school separate from the USDA school meals program”,<sup>31</sup> and are available in 73% of elementary schools and 97% of middle schools.<sup>18,34</sup> The 2010 Child Nutrition Reauthorization Act requires that competitive foods sold in schools participating in the SBP be consistent with the 2010 Dietary Guidelines for Americans and that they be limited.<sup>7</sup> Most participating schools have established nutritional guidelines for competitive foods, as required, but often guidelines are not enforced or lack strength.<sup>35</sup> When unhealthful snacks are available, students purchase and consume them,<sup>36</sup> so it is important to understand whether competitive foods reduce SBP participation.

Support for the SBP has grown in response to evidence of the benefits of breakfast.<sup>26</sup> In 2010, President Obama signed the Healthy, Hunger-Free Kids Act, strengthening the promise made in the Child Nutrition and Women, Infants, and Children (WIC) Reauthorization Act of 2004 that federally funded school programs would reach more children and offer more nutritious foods.<sup>37,38</sup> The Local School Wellness Policy Implementation provision of the act highlights the role of school meal programs in promoting student wellness,<sup>39,40</sup> requiring schools to plan wellness policies including specific nutritional guidelines for competitive foods.<sup>21</sup> The Academy of Nutrition and Dietetics issued a statement highlighting the potential of the SBP to provide nutritious food and drink to students and supporting greater funding for school breakfasts.<sup>41</sup> Together with the School Nutrition Association (SNA) and the Society for Nutrition Education (SNE), the Academy has reinforced schools’ role as an “important partner in health promotion” and highlighted the need to “strengthen comprehensive, integrated nutrition services in schools.”<sup>42</sup>

A priority for research in the immediate future is to evaluate which components of the SBP should be expanded and which should be modified or eliminated based on systematic data collection and analysis. Debates about stigma barriers and menu quality are based largely on anecdotal evidence; to understand the magnitude of these challenges and the approaches to address them, large-scale qualitative data on perceptions of quality, accessibility, and stigma should be collected from representative samples of students. Data should also incorporate the perspectives of parents regarding the nutritional, academic, and cost considerations of the SBP. Complementary data from superintendents and school principals involved in SBP decision-making are necessary to understand administrative perspectives. Together with data from teachers on how the SBP impacts the classroom, such data can inform SBP improvements that can systematically be tested in schools. With obesity as a major current focus for funding and policies around child health, researchers collaborating with local and national Departments of Education, school officials, and parents can more effectively evaluate the SBP’s potential as a tool to address obesity. Nonprofit agencies with missions to

improve child health and nutrition should also consider allocating additional funds to collect empirical evidence and test initiatives that can be beneficial to children and schools alike.

The SBP can ensure that all school-aged children consume breakfast and has been linked to better nutrition and body weight. Despite the benefits, only 25% of children participate in the SBP. Although there is program support from professional and governmental agencies, expansion of the SBP has challenges and will require rigorous research to evaluate the nutritional content of SBP meals, to determine whether further regulations are needed, and to quantify and address the perspectives of the multiple stakeholders.

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