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NO KID HUNGRY SHARE OUR STRENGTH center for BEST PRACTICES

Ending childhood hunger: A social impact analysis

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Deloitte's work on Ending childhood hunger

Background

Big problems require big solutions. Share Our Strength®, a national nonprofit based in Washington, D.C., wants to solve a big problem: it aims to end childhood hunger in America. In order to reach this goal, Share Our Strength must address the underlying causes of food insecurity, a social issue that has worsened during recent tough economic times.

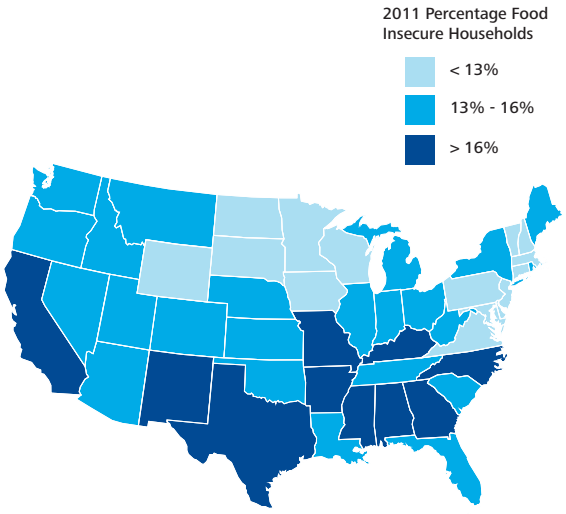
Through its No Kid Hungry® campaign, Share Our Strength is connecting kids in need with nutritious food and teaching their families how to cook healthy, affordable meals. The No Kid Hungry campaign helps to connect kids with healthy food offered through Federal food and nutrition programs, such as the School Breakfast Program (SBP) and Summer Meals programs. Through its Cooking Matters® program, the No Kid Hungry campaign equips low-income families with food skills to stretch their food budgets so their kids get healthy meals at home. Cooking Matters participants learn to shop smarter, use nutrition information to make healthier food choices, and cook delicious, affordable meals. These skills enable families to stretch their limited food dollars to eat healthy food.

Deloitte is committed to helping Share Our Strength achieve its goal to end childhood hunger in America. As part of our long-standing relationship with Share Our Strength, Deloitte conducted a pro-bono social impact and strategic growth analysis to help Share Our Strength develop a compelling case for its continued efforts to end childhood hunger in America. Through this analysis, Deloitte shared its strength in data analytics by using innovative techniques to visualize large quantities of demographic and program data, in order to draw insights about the No Kid Hungry campaign's potential impact on its target communities.

Deloitte conducted the social impact analysis for Cooking Matters and the School Breakfast Program by analyzing publically available data and linking relevant academic research findings. Utilizing academic research, Deloitte developed several frameworks that connected outcomes from Cooking Matters and the School Breakfast Program with long-term health, education, and economic benefits. Deloitte also analyzed publically available data from Maryland public schools, as well as data the No Kid Hungry campaign's Maryland grantee schools, to assess the impact that alternative school breakfast models, such as Breakfast in the Classroom, have on low-income schools and students.

Food insecurity: A national crisis

According to the U.S. Department of Agriculture (USDA), a family is "food insecure" if it faces "limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways."[1] In 2011, 17.9 million U.S. households were food insecure – 14.9% of all households in the country.[2] More importantly, households with children are nearly twice as likely to be food insecure as households without children. Although children are often shielded from hunger in food insecure households, over 3.9 million American families have children that have not had access to adequate, nutritious food.[3] The



[1] "Food Security in the US." US Department of Agriculture, Economic Research Service. <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement.aspx#insecurity>

[2] Coleman-Jenson, Alisha; Nord, Mark; Andrews, Margaret and Steven Carlson. United States Department of Agriculture. Economic Research Service. "Household Food Security in the United States in 2011." ERS Report Number 141. September, 2012.

[3] Ibid.

Factors contributing to food insecurity
Low-income families can experience food insecurity due to several factors, including:

- Low incomes and strained budgets
- Volatile income and expenses
- Only part of a family's food needs are typically covered by Federal food assistance

crisis becomes even more pressing for families facing severe economic hardships. Over two-thirds of food insecure families have household incomes that are below $42,000 for a family of four (an income level that equals approximately 185% of the Federal poverty line for 2012), and over eighty percent of food insecure families participate in Federal food assistance programs, such as the Supplemental Nutrition Assistance Program (SNAP) or free/reduced-price school meals.[4]

Like poverty, food insecurity is a dynamic, intensely complex issue. For many families, seemingly small changes to income, expenses, or access to federal or state assistance programs may instantly reduce the ability to purchase healthy food and result in increased vulnerability to food insecurity. Moreover, families and children do not feel the impact of hunger at just the dinner table; food insecurity manifests itself in many other social outcomes, including health, education, and economic prosperity. Combined, these negative impacts can contribute to a less competitive workforce for the nation and higher healthcare costs borne by the U.S. government and employers.[5]

Food insecurity can have negative impacts on children's health and academic achievement. These impacts on individual children can add up to significant consequences for American society as whole.

Food insecurity in early childhood (ages 0-3) is associated with impaired cognitive development, which can negatively impact a child's future potential academic and economic success.

Across children of all ages, food insecurity is linked with lower academic achievement.

Hungry children are sick more often and are 31% more likely to be hospitalized, at an average cost of approximately $12,000 per pediatric hospitalization.

Food insecure children are 3.4 times more likely to be overweight or obese.

The No Kid Hungry Campaign: Tackling food insecurity from many angles

Share Our Strength's No Kid Hungry campaign connects kids in need to effective Federal nutrition programs like school breakfast and summer meals and teaches low-income families to cook healthy, affordable meals through its Cooking Matters® program. By helping low-income families obtain access to food and financial resources, as well as learn how to maximize food resources and prepare healthy meals, the No Kid Hungry campaign plays a critical role in addressing childhood hunger.

Programs like Cooking Matters and the School Breakfast Program address two of the major obstacles low-income families face in overcoming food insecurity: access to and affordability of nutritious meals. Through education, outreach, and advocacy, the No Kid Hungry campaign connects low-income children with free or low-cost meals while also providing families with the tools to avoid food insecurity by maximizing food benefits and budgets. These programs can have significant societal impacts, as improving access to affordable meals can be linked to long-term health, education, and economic outcomes. Combined, No Kid Hungry efforts to provide nutrition education through Cooking Matters and increase participation in the School Breakfast Program can support families in maximizing nutrition, reducing healthcare spending, improving educational achievements, and achieving greater economic prosperity. By improving families' access to affordable, nutritious meals, Share Our Strength helps children and their families reduce their vulnerability to food insecurity and also benefit society as a whole.

[4] Nord, Mark and Mark Prell. United States Department of Agriculture. Economic Research Service. "Struggling to Feed the Family: What Does it Mean to be Food Insecure?". Amber Waves. June 2007

[5] Cook, John and Karen Jeng. Feeding America. "Child Food Insecurity: The Economic Impact on our Nation." 2009. < http://feedingamerica.org/SiteFiles/child-economy-study.pdf>

Combined, Cooking Matters and the School Breakfast Program could offer the following benefits to low-income families

Maximized nutrition per food dollar:
Eating healthy food using the limited resources available to low-income families

Healthcare cost savings:
Preventing or reducing chronic disease and illness to reduce healthcare costs incurred by a family by eating healthier foods

Greater educational achievement:
- Improved academic achievement and school attendance
- Increased likelihood of high school graduation through improved nutrition

Increased potential economic productivity:
- High school graduates have the potential to earn higher wages
- Improved health can avoid income lost due to sick days taken by parents

School breakfast: Feeding students at school

The US Department of Agriculture (USDA) administers the National School Lunch Program (NLSP) and the School Breakfast Program (SBP), both of which offer free and reduced-price meals to low-income students. Historically, more low-income students eat school lunch than school breakfast, with NLSP reaching over 20 million low-income students to the SBP's 10.5 million in 2011.[6,7] Share Our Strength's No Kid Hungry campaign recognizes the need to increase the number of low-income students who eat school breakfast, addressing children's need for nutrition, and also contributing to academic and economic benefits that reduce long-term vulnerability to food insecurity.

The traditional school breakfast delivery model, where students can receive breakfast from their school cafeteria before school begins, has not been widely effective in getting students to eat breakfast at school. This may be due to the social stigma associated with the program as being for "poor kids" as well as the difficulty of getting students to school early enough to eat breakfast in the cafeteria. The No Kid Hungry campaign aims to increase SBP participation by advocating that schools implement "alternative breakfast models," in which breakfast is made part of the school day, thereby

The No Kid Hungry campaign's impacts on food insecurity

The No Kid Hungry campaign helps children and their families reduce their vulnerability to food insecurity by:
- Offering nutrition education to low-income families through its Cooking Matters program
- Advocating for and increasing participation in Federal food and nutrition programs that connect children and their families to food resources, such as:
  - School Breakfast Program (SBP)
  - Summer Meals
  - Supplemental Nutrition Assistance Program (SNAP)
  - Supplemental Assistance for Women, Infants and Children (WIC)

[6] United States Department of Agriculture. Food and Nutrition Service. "National School Lunch Program: Participation and Lunches Served." July 2012.

[7] United States Department of Agriculture. Food and Nutrition Service. "School Breakfast Program: Participation and Meals Served." July 2012.

increasing student access to breakfast and reducing the stigma associated with the program.

School breakfast can have far-reaching impacts on low-income students' health, academic achievements and economic prospects. Studies have indicated that students who eat breakfast see fewer vitamin deficiencies, are less likely to experience chronic illnesses and are more likely to maintain a healthy BMI [8,9]. Additionally, research has shown that eating school breakfast can contribute to increased attendance and greater academic achievement. Students who participate in the SBP attend 1.5 more days of school annually, score 17.5% higher on math tests, and are less likely to have disciplinary issues.[10] These academic benefits can not only help students to achieve proficiency in the short term, but they can also help low-income students elude poverty and lessen vulnerability to food insecurity later in life. Current education research indicates that improved academic achievement increases the likelihood that a student will obtain a high-school diploma and subsequently have greater earning potential as an adult.[11]

Case study: Impact of alternative breakfast in Maryland

A case study of the potential positive impacts of expanding school breakfast to reach more low-income elementary and middle school students in Maryland shows that increasing SBP participation can have significant benefits. Maryland has an estimated 81,000 low-income elementary and middle school students who eat school lunch, but do not eat school breakfast. Based on the estimates of potential academic improvements referenced above, increasing school breakfast participation among these students to be 70% of the number of elementary and middle school students participating in school lunch could lead Maryland to see up to 56,000 additional students achieving math

Higher Academic Achievement		Greater Economic Productivity
Students who eat school breakfast on average: Attend 1.5 more days of school per year Score 17.5% higher on standardized math tests	Students who attend class regularly (miss <5 days per semester) have 20% higher high school graduation rates Students achieving at least a B average are 25% more likely to graduate high school[12]	High school graduates are shown to have greater long-term economic productivity than those who do not receive high school diplomas. High school graduates: Earn $10,090 higher annual wages[13] Have a 4.0% higher employment rate[14]

[8] Brown, Larry J; William H Beardslee, Deborah Prothrow-Stith. Food Research Action Center (FRAC). "Impact of School Breakfast on Children's Health and Learning." Breakfast for Health Fall (2011): 1-4.

[9] Block Joy, Amy; Goldman, George and Vijay Pradhan. "Cost-benefit analysis conducted for nutrition education in California." California Agriculture 60.4 (2006): 185-191. <http://www.escholarship.org/uc/item/7kz1r9cv

[10] Murphy JM. "Breakfast and Learning: An Updated Review." Journal of Current Nutrition and Food Science 3.1 (2007): 3-36. Murphy, J. Michael, et al. "The Relationship of School Breakfast to Psychosocial and Academic Functioning." Arch Pediatr Adolesc Med 152 (2008): 899-907.

[11] Pinkus, Lyndsay. Alliance for Excellent Education. "Using Early-Warning Data to Improve Graduation Rates: Closing Cracks in the Education System." August 2008

[12] Ibid.

[13] United States Department of Commerce. Census Bureau. "Table A-3: Mean Earnings of Workers 18 and Over, by Educational Attainment, Race, Hispanic Origin and Sex: 1975-2012.

[14] United States Department of Labor. Bureau of Labor Statistics. "Economic News Release: Table A-4 Employment status of the civilian population 25 years and over by educational attainment." August 2012.

[15] Estimation of low-income elementary and middle school students who participate in NSLP but not SBP was calculated by applying the percentage of public school students in Maryland enrolled in elementary and middle school to the NSLP/SBP gap in Maryland.

[16] United States Department of Education. National Center for Education Statistics. "Table 1 – Public School Membership, by grade and state or jurisdiction: School Year 2009-2010.

[17] The number of students likely to graduate from the original cohort of students reached by the SBP increase, assuming they continue to benefit from SBP through the 12th grade.

Potential impacts of increasing school breakfast participation to 70% of school lunch participation

84,890 fewer absences

56,590 students with highter math test scores

14,140 more high school graduates

proficiency and 14,000 more high school graduates over time[15,16,17]:

Alternative breakfast models can help increase SBP participation

Recognizing the importance of school breakfast, Share Our Strength provides small grants to schools across the country to help provide the infrastructure and start-up costs associated with implementing alternative breakfast models. In Maryland, 17 schools were able to implement alternative breakfast models by September 2011, and reported data throughout the school year. These schools included eight elementary schools, five middle schools, three high schools and one school that spans all grade levels (K-12). Combined, these schools saw an increase in SBP participation of 35% between September 2011 and March, 2012, suggesting that alternative breakfast models are significantly more effective at enabling low-income students to partake in the SBP than the traditional breakfast model.

Alternative models may positively impact chronic absenteeism and improve proficiency

Schools with alternative breakfasts are less likely to have students that are chronically absent than similar schools with traditional models.[18] Furthermore, students with access to alternative breakfasts are more likely to achieve proficiency on standardized math and reading tests[19], as evidenced by proficiency and absenteeism data from Maryland's public schools. The State of Maryland sponsors the Maryland Meals for Achievement (MMFA) program, in which schools can apply for supplemental funding to support in-class breakfasts for all students. As the graphs below illustrate, in 2010 MMFA schools had significantly lower rates of chronic absenteeism and higher levels of proficiency on standardized tests in comparison with schools using traditional SBP models. The analysis also reveals that the gap in academic performance and absenteeism between MMFA schools and schools with a traditional SBP model widens as the school's percentage of free or reduced-price eligible students increases. This suggests that alternative breakfast models have the greatest impact in high-poverty schools where school breakfast can be provided to students at greatest risk of food insecurity. These findings are associations and do not necessarily illustrate a causal link between alternative breakfast models and improved proficiency and reduced absenteeism. However, as alternative breakfast models reduce the obstacles facing many low-income children from accessing breakfast in the morning, these alternative models may lead to positive outcomes as they encourage children to arrive on time and provide adequate nutrition essential for learning.

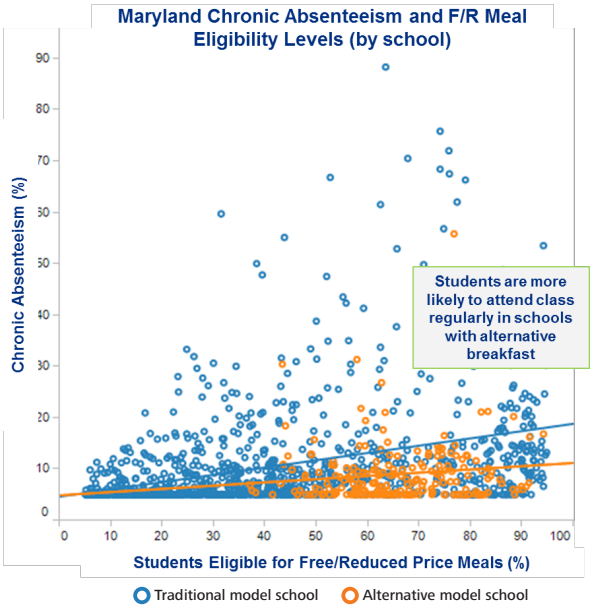
[18] The Maryland State Department of Education considered students who have missed more than 20 days of class between September and June of a school year to be "chronically absent"

[19] Proficiency is defined by each state according to No Child Left Behind guidelines

Schools with alternative breakfast have lower chronic absenteeism rates [20]

In Maryland, schools serving in-class breakfasts have 2.9% - 7.2% lower rates of chronic absenteeism. While chronic absenteeism increases as the percentage of low-income students in a school rises, the increase is less severe in schools with alternative breakfast models. Students in schools with 80% low-income students that serve in-class breakfast are 6% less likely to be chronically absent than students in similar schools with a traditional model.

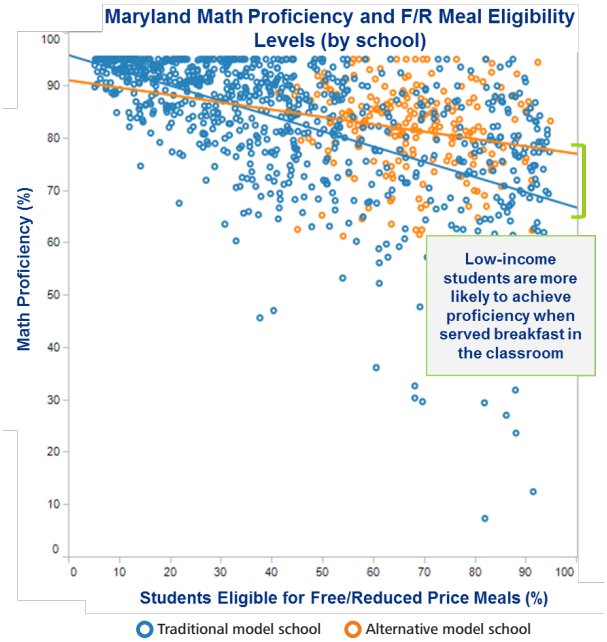
*Chronic absenteeism is defined as a student missing more than 20 days of class in a school year. [21]



Alternative breakfast is linked to higher levels of math proficiency

Schools with in-class breakfast have 2.2% - 12.5% more students achieving math proficiency. While math proficiency decreases as the percentage of low-income students in a school rises, the decrease is lower in schools with alternative breakfast models. Alternative SBP model schools with 80% low-income students have 9.7% more students achieving math proficiency than similar "traditional" model schools.

*A student who achieves proficiency has met a threshold on state-wide tests to demonstrate grade-level math skills.



[20] The analysis was conducted using data from Maryland State Report Card (2010) and Maryland Meals for Achievement (2010)

[21] The Maryland State Department of Education considered students who have missed more than 20 days of class between September and June of a school year to be "chronically absent"

Federal food programs such as SBP are essential in the fight to end childhood hunger. Giving school breakfast to a low-income child does more than just provide essential nutrition to which they might not otherwise have access; school breakfast can also improve a student's ability to focus in class, excel at their school work, and increase their likelihood to attend class, thereby raising their chance of obtaining a high school diploma. By increasing access to breakfast through alternative breakfast models, schools can reach more free/reduced-eligible students who are vulnerable to food insecurity, and consequently improve their chances at leading healthier lives, achieving higher academic performance, and avoiding food insecurity in adulthood.

About Share Our Strength

No child should grow up hungry in America, but one in five children struggles with hunger. Share Our Strength's No Kid Hungry® campaign is ending childhood hunger in America by ensuring all children get the healthy food they need, every day. The No Kid Hungry campaign connects kids in need to effective nutrition programs like school breakfast and summer meals and teaches low-income families to cook healthy, affordable meals through Cooking Matters. This work is accomplished through the No Kid Hungry network, made up of private citizens, public officials, nonprofits, business leaders and others providing innovative hunger solutions in their communities. Join us at NoKidHungry.org.

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Deloitte helps its communities thrive by leveraging innovative thinking to strengthen nonprofit capacity by helping with strategic, operational and financial challenges, so nonprofits can help more people and communities faster and better; complementing innovative thinking with an investment of financial resources at the national and regional level; and creating and sharing new research, content and insights on ways organizations can leverage skills-based volunteerism.

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