

Equity in School Breakfast: A Case Study at Chapel Hill-Carrboro City Schools

Noa Borkan

A paper submitted to the faculty of the University of North Carolina at Chapel Hill in
partial fulfillment of the requirements for the degree of Master of Public Health in the
Department of Nutrition

Chapel Hill, NC

December 6, 2019

Approved by:


Dr. Alice Ammerman

I. Background

The objective of this paper is to evaluate the breakfast program at Chapel Hill-Carrboro City Schools (CHCCS) and understand how to increase participation, especially among students eligible for free or reduced-price (FRP) meals. I evaluated the work at CHCCS that aimed to increase participation in school breakfast, focusing on the impact of the Breakfast After the Bell (BAB) program. Through this work, I have come to understand that the important issues around school breakfast at CHCCS may relate more to equity than to increasing total participation. To understand school meals at CHCCS, I spent ten weeks as a dietetic intern with the Child Nutrition Department. I worked under the supervision of the district dietitian Lynne Privette, and Child Nutrition Director Liz Cartano, and assisted on projects with the Sustainability Director Dan Schnitzer and District Chef Jordan Keyser. I worked with multiple cafeteria managers and staff around the district: assisting with meal preparation, serving students at breakfast kiosks and on the lunch line, and eating meals with students.

II. Introduction

The School Breakfast Program (SBP) was established in 1966 as a two-year pilot project designed to provide grants to assist schools serving breakfasts to "nutritionally needy" children. In 1975, Congress granted the program permanent authorization to make breakfast available at all schools and continues to emphasize participation and push for higher reimbursement at high-need schools.¹ The breakfast program added capacity to the existing National School Lunch Program (NSLP) that was established under the National School Lunch Act, signed by President Harry Truman in 1946.² The SBP ensures that students are fed at the start of each school day and has been shown to be associated with improved student test scores, behavior, attendance, and physical well-being. Multiple studies have looked at the benefits to students eating school breakfast. One study found that especially among non-Hispanic, white students, consuming school breakfast was associated with significantly lower BMI and could be a protective factor against childhood obesity.³ Several studies have found that breakfast consumption had positive effects on academic performance; citing improved memory⁴, increased math grades, and better standardized test scores⁵. Additionally, a 1999 study confirmed the positive effects of participating in the SBP on academic performance, showing reduced rates of absenteeism and

tardiness.⁶ Similarly, a study in the *Journal of School Health* synthesized research that recognized the negative effects of skipped breakfast on cognitive performance, including decreased alertness, attention, memory, and ability to problem solve.⁷

The standard model for the SBP features eligible students lining up in the cafeteria before the start of school, receiving a tray, and eating their meal with peers. However, many students do not end up eating breakfast at school even when they are eligible for FRP meals. Data from the National Health and Nutrition Examination Study (NHANES 2001-2002) showed that 2- to 5-year-olds were most likely to eat any breakfast (95% participation), with the lowest participation among 12- to 19-year-olds (down to 70%).⁸ Gleason (1995) discusses the choice of whether to eat school breakfast as a two-step process: the choice about whether to eat breakfast at all and the choice of whether or not to eat school breakfast.⁹ Each choice requires different considerations, elaborated on by a 2016 study in the *Journal of School Health* that looked at barriers and benefits of eating breakfast. Students who responded to an anonymous survey reported that the biggest reasons to skipping breakfast altogether was that they were not hungry in the morning and a perception that skipping breakfast could lead to losing weight (overwhelmingly a response from girls). Responses also discussed reasons for skipping school breakfast in particular. Convenience of school breakfast was not as big of a factor for skipping breakfast as most students felt that bus arrival time and the ease of getting school breakfast did not contribute to whether or not they would eat it. However, students were split on whether they liked the taste of breakfast, feeling that it cost too much, and feeling uncomfortable to eat breakfast in the classroom.¹⁰

In order to address some of these barriers, Breakfast After the Bell (BAB) programs have been implemented across the country to get breakfast into the hands of more students, especially low-income students eligible for FRP meals at school. Three alternative BAB models have been promoted by the USDA: Breakfast in the Classroom, Grab-and-Go Breakfast, and Second Chance Breakfast. Breakfast in the Classroom is a program where breakfast is delivered straight to the classroom for students to eat at the start of the school day. Grab-and-Go is a similar model that lets students pick up pre-packaged breakfast from kiosk in high traffic areas such as the entrance of school to eat in class. Second Chance Breakfast allows students a second chance to pick up breakfast during a break in the morning, often after first period. This can capture students

who may not be hungry first thing in the morning or have a late bus. All of these models have been shown by No Kid Hungry studies to increase breakfast participation by at least 60%.¹¹

III. Breakfast After the Bell at CHCCS

CHCCS Child Nutrition began to expand its SBP and address low breakfast participation numbers in 2010 with a Grab-and-Go program at Ephesus Elementary. School administrators co-signed the program in order to address behavioral problems in the cafeteria that were occurring at Ephesus. Students were often fighting on buses on the way to school and continuing their issues in the cafeteria. With the implementation of Grab-and-Go breakfast, students were being separated and could easily grab breakfast after getting off the bus, which saw a large improvement in behavior in the morning. CHCCS Child Nutrition Director Liz Cartano also pushed for this program in order to improve students' experiences in the morning and let students get situated in the classroom with their friends in the morning, instead of isolated in the cafeteria. With the success of this program and support from other administrators, the program has spread and evolved. The district now runs Breakfast After the Bell Grab-and-Go programs at 11 of its 19 schools, with breakfast kiosks in the entrance of school or high traffic hallways. In the 2018-2019 school year, a big push by the Child Nutrition Department provided all middle school and high schools in the district with Grab-and-Go kiosks.

The advantages of this program have been increased convenience and a chance for students to eat with their friends in the classroom. I interviewed students and took anonymous surveys at Phillips middle school during Family and Consumer Science class. Students felt that breakfast served at the entrance of the school was helpful and had all seen the breakfast kiosk on their way to class. Students reported that they were more likely to get breakfast at the kiosk than if they had to go to the cafeteria. Most students did not regularly get breakfast at school, though. Additionally, the Family and Consumer Science teacher Ms. Marquis was happy with the Grab-and-Go format of breakfast that was available at Phillips. This allowed all students to come to her class early and do homework or hang out with their friends from 8-8:20. She felt that the breakfast program encouraged students to eat breakfast instead of skipping it to spend time with their friends or get extra help before school. The program can also motivate cafeteria staff to see the impact they can make at a school. The Phillips cafeteria manager is the biggest proponent of

the BAB program and is motivated by the increase in participation at breakfast at her school. As a result, she is excited about the program and motivated to improve it, thinking of new ways to promote breakfast and get students excited about the meal.

Some of the challenges of Breakfast After the Bell have been around buy-in from school administration and staff. At the start of the Breakfast After the Bell program at Scroggs Elementary, school administration promised cafeteria staff to coordinate school staff volunteers to serve breakfast and check off student rosters for students who had picked up breakfast. However, once school was in session for a few weeks, staff volunteers were inconsistent about showing up early to serve breakfast and cafeteria staff were burdened with having to serve breakfast in the halls. Staff at Northside Elementary, who serve the most breakfasts of any elementary school in the district, felt that this program was a hassle and did not add value to the breakfast program. They felt that the BAB program forced them to spend time outside the cafeteria to serve breakfast when they needed to be working on lunch. At Northside, teaching assistants helped with serving breakfast the entrance of the school, but cafeteria staff were still in charge of the POS system and setting up and breaking down the kiosk each day.

In order to assess the impact of BAB on breakfast participation, I collected and calculated participation data from CHCCS mealsplus software. For middle schools, I compared breakfast participation data from October 2017 (before the implementation of the program at any middle school) and compared it to October 2019 data. I calculated the average participation from the entire month from FRP meals and total participation, as well as FRP-eligible students and total enrollment. I also calculated the percent increase of breakfasts served among FRP students from October 2017 to October 2019 as well as the percent increase for total breakfasts served.

	Before BAB (October 2017)		After BAB (October 2019)		% Increase of FRP Breakfasts Served	% Increase of Total Breakfasts Served
	FRP student breakfast participation	Total breakfast participation	FRP student breakfast participation	Total breakfast participation		
Culbreth MS	45/165 (27%)	54/692 (8%)	59/238 (25%)	78/804 (10%)	31%	44%
McDougle MS	37/178 (21%)	46/654 (7%)	43/192 (22%)	54/688 (8%)	16%	17%

Phillips MS	55/171 (32%)	65/668 (10%)	70/205 (43%)	94/746 (13%)	28%	45%
Smith MS	46/177 (26%)	55/818 (7%)	57/158 (36%)	77/806 (10%)	24%	40%

Table 1: SBP Participation data at CHCCS middle schools from October 2017, October 2019

When comparing SBP participation data from before and after the implementation of the BAB program, the rate of participation does not significantly increase at Culbreth or McDougle Middle Schools, at Culbreth participation actually decreased from 27% to 26% among FRP students. At Phillips, the participation increased from 32% to 43% and at Smith from 26% to 36% among FRP students. The number of breakfasts served, both among FRP students and total students increases with the implementation of BAB, but the total enrollment and FRP students increases at Culbreth, McDougle, and Phillips Middle Schools. I decided to look at the percent increase of breakfasts served because of this increased enrollment. While the participation rate may not significantly improve, serving more breakfasts overall is a significant accomplishment of the program. At Culbreth MS, adding breakfast kiosks leads to a 31% increase in breakfasts served to FRP students and 44% increase in total breakfasts served. While the participation may be still 25%, this is a significant increase, not to mention the addition of 100+ more students at the school that need to be accommodated. This data was also used to create a progress report for middle school principals to show the impact of the BAB breakfast kiosks and encourage principals to continue to support this program.

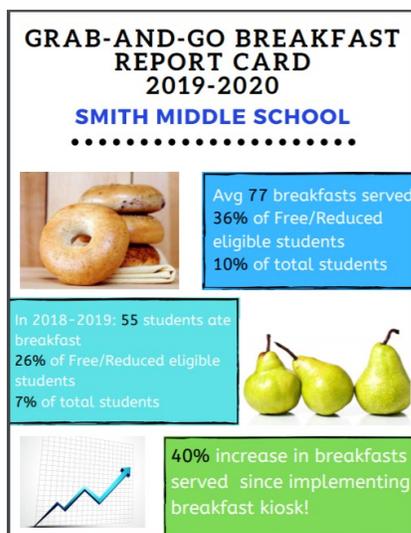


Image 1: An example of the progress report sent to middle school principals

For elementary schools, I compared schools with BAB to schools without the program:

October 2019	Schools with BAB		
	FRP student breakfast participation	Total breakfast participation	FPRL
McDougle ES	92/191 (49%)	116/589 (20%)	191/589 (32%)
Northside ES	118/252 (49%)	150/491 (31%)	252/491 (51%)
Rashkis ES	79/173 (45%)	96/510 (19%)	173/510 (34%)
Scroggs ES	59/109 (53%)	76/438 (17%)	109/438 (25%)
Schools without BAB			
Carrboro ES	70/188 (38%)	83/558 (15%)	188/558 (34%)
Estes Hills ES	66/138 (47%)	68/446 (15%)	138/446 (31%)
Morris Grove ES	16/92 (17%)	30/543 (5%)	92/543 (17%)
Seawell ES	66/155 (43%)	80/553 (14%)	155/553 (28%)
Glenwood ES	35/96 (36%)	51/458 (11%)	96/458 (21%)
Ephesus ES	76/140 (54%)	97/421 (23%)	140/421 (33%)
FPG ES	71/266 (27%)	101/619 (16%)	266/619 (43%)

Table 2: SBP Participation data from CHCCS Elementary Schools with Breakfast After the Bell (BAB) programs compared with those without the program, October 2019

Average breakfast participation at schools with BAB was 49% while the average participation at schools without BAB was 37%. Three of the seven schools without BAB already have participation rates among FRP students that is close to the BAB school average; Estes Hills at 47%, Seawell at 43%, and Ephesus at 54%. Looking at these numbers, I wondered about the value of pushing for a BAB at these schools to increase breakfast participation: would the program make an impact? Would it be worth the increased effort? Additionally, I discussed these numbers with Liz Cartano and the breakfast program in schools with the lowest participation, such as Morris Grove at 17% among FPR students. Currently only 30 students in the school are eating breakfast on average each day. Cartano felt that it would be difficult to convince administrators to implement a new program for only 30 students.

IV. Expanding Beyond Breakfast After the Bell

When looking at breakfast participation data, I expected a bigger increase as a result of the BAB program, as seen in the NC No Kid Hungry reports that projected that Grab-and-Go programs could reach 63% participation.¹¹ Additionally, the low numbers of breakfast served at many elementary schools suggested that administrator motivation to implement new programs might be low. I sought the advice of partners at North Carolina No Kid Hungry, an organization that focuses on breakfast programs across the state and has provided resources, funding, and guidance toward alternative breakfast models at CHCCS, including grant funding for the breakfast kiosks at Phillips and Smith Middle Schools. With the No Kid Hungry team, we discussed the challenges of the CHCCS breakfast participation and looked at solutions beyond Breakfast After the Bell.

The No Kid Hungry team suggested focusing more on reducing the stigma of eating school breakfast over attempting to influence dramatic increases in participation. With low free and reduced rates in the district, few students in each class eat breakfast, increasing the likelihood of being singled out among their peers and being identified as low-income students. The Chapel Hill-Carrboro school district is the most affluent district in the state, largely benefitting from the affluence of Orange county and the legacy of Chapel Hill-Carrboro as a separate district from rural, less affluent parts of Orange County that make up the Orange County School District. Still, in the 2018-2019 school year, 26.89% or 3,390 children in the Chapel Hill/Carrboro City School District (CHCCS) were food insecure.¹² The divide between affluent and less-affluent families makes its way into the classroom regardless, but becomes more evident when some kids bring fancy lunches in bento boxes and others line up to get school meals. A study by the School Nutrition Association looked at perceptions of teachers and School Nutrition Directors on the SBP and found that Directors were concerned that “some students [were] not participating in the SBP because students are embarrassed to say that they didn’t have breakfast at home,” (Lampert, 2007).¹³ A 2013 study of the SBP in middle school found that parents and students agreed that there is a social cost associated with SBP participation. Students confirmed that they would be “called names by their peers when they participated in the SBP” (Bailey-Davis, et. al., 2013) and would instead choose to eat before coming to school or be hungry.¹⁴

While the district hoped to reduce stigma through making breakfast more accessible, BAB primarily resulted in shifting the location for breakfast without a significant impact on the perception of school meals. The No Kid Hungry team suggested that efforts to get more students to pay for breakfast could help encourage greater participation among FRP students. If more students overall ate breakfast at school, students would be less likely to feel stigmatized for eating breakfast or feel that by eating breakfast they were identified as low-income. The No Kid Hungry team recommended that the push for breakfast at CHCCS could be best packaged as a push toward equity than focused on participation numbers alone. Focusing efforts and funds around breakfast could be an opportunity for the district to commit to equity in school meals, even if the efforts do not make a significant dent in breakfast numbers or increased reimbursement funds.

CHCCS has shown commitment to equity in the school system and to addressing barriers to equity in its programming and environment. The school board policies echo this commitment: Policy Code 1100 in the Governing Principles states that “CHCCS believes that excellence requires a commitment to equity... by addressing practices, policies and institutional barriers, including institutional racism and privilege, the district strives to create a safe and inclusive environment.”¹⁵ Additionally, Policy Code 3000 in the Goals and Objectives of the Educational Program, it states that “the board believes the district can reach its vision only if achievement is raised for all students, achievement gaps are closed, and institutional barriers that prevent students from reaching high levels of success are eliminated.”¹⁶ While the board policies do not specifically state that equity is a goal within school food operations, the school board policies apply to all level of school operations. Liz Cartano echoed that closing the equity gap in the district is in the forefront of decisions around the district, especially within Child Nutrition. “Everyone is trying to address the equity gap from every angle they can. I believe that food equity is a huge part of this. If kids are not eating, they aren’t focusing in class, they are acting out, they get sick more often, and falling behind even more,” she said.

V. Recommendations for CHCCS Breakfast

The two main recommendations for CHCCS to address the equity gap in school breakfast are implementing a universal breakfast program and/or increased marketing and promotion for

the existing SBP. Ultimately, in order to prevent students from being singled out for eating breakfast, more students overall need to be eating breakfast, and more students need to be buying breakfast.

CHCCS would not qualify for community eligibility (where all students in a school or district eat all meals free) or universal breakfast because of its low FRPL rates. A school district qualifies for universal breakfast if at least 40% of its students are eligible for free meals or participate in another federal income-based program.¹⁷ However, the district could pay for universal breakfast at individual schools or the entire district and cover the cost for students who do not receive FRP meals. Implementing a universal breakfast has been shown to create dramatic shifts in breakfast participation. A 2002 USDA breakfast program pilot found that during the first year of implementation, the availability of universal-free school breakfast nearly doubled SBP participation, from 19 to 36 percent.¹⁸ Additionally, a 2014 study found that parents and children agreed that the universal free breakfast program had increased their participation and improved their feelings about the SBP.¹⁹

Durham County piloted a universal breakfast program in the 2014-15 school year in order to encourage everyone to eat breakfast, reduce the stigma of getting school meals, and create a communal atmosphere around meals. The program found that the increase in reimbursement exceeded the expenses by \$7,000 that year, prompting the district to expand the program to all schools.²⁰ A Food Research & Action Center report on the SBP in North Carolina from March 2018 found that the ratio of students in Carrboro-Chapel Hill who participated in the SBP was 44.5 students to every 100 who got school lunch. They calculated the potential increase in funding to the district if this ratio increased to 70:100 could be \$188,069.²¹ This increase in reimbursement monies from a higher participation, coupled with the success of Durham County could be a motivator to finance a universal breakfast program.

CHCCS piloted a one-day universal breakfast at Smith Middle School in January 2019 in order to promote the new breakfast kiosk from Grab-and-Go breakfast. The district paid \$700 to provide free breakfast to all students to incentivize students to get breakfast from the new kiosk and encourage them (regardless of payment status) to get breakfast there after the breakfast promotion. The three-day breakfast promotion included scratch-off tickets and prizes, a photo booth, UNC athletes to promote breakfast, and a free breakfast on the last day. This could be a

model to encourage schoolwide purchasing of breakfast in the future or to promote a new breakfast kiosk if more schools sign on to BAB. In order to avoid having to serve breakfast with all required food groups, CHCCS did not collect federal reimbursement for this breakfast promotion, but this could be done in the future if milk and fruit/juice was served as part of breakfast. The district would have to calculate the cost of this promotion to see if it was financially feasible.

Schools with higher FRPL rates such as Northside Elementary (51%) or Frank Porter Graham Elementary (43%) could benefit from piloting a universal breakfast program as fewer students would be paid for by the district, lowering the cost of the promotion. Alternatively, it could be argued that schools with the lowest FRPL rates such as Morris Grove (17%) and Glenwood (21%) could benefit most from a universal breakfast program, despite the higher cost, since less kids eat school breakfast and so the stigma of getting breakfast at those schools is arguably higher. In a 2013 study focused on New York City schools, moving to universal free breakfast decreased stigma and yielded increased breakfast participation overall. Additionally, increases in breakfast participation for those eligible for reduced or full price meals were largest in schools where proportions of students previously receiving free meals were lower and researchers expected stigma to be greater.²²

CHCCS is considering piloting a universal breakfast program at Northside Elementary, the elementary school with highest FPRL in the district (51%). They have projected that for a 90-day trial it would cost around \$30,000 to feed everyone breakfast, assuming a 75% participation rate. This would mean the district paying around \$330 per day to feed students not eligible for free or reduced meals. I could not get calculations on the projected net cost of the program with increased reimbursement rates to the school. While this cannot be a permanent program due to the large price tag, Liz Cartano feels this would be the right push to convince parents to pay for their children to get school breakfast in the future. “We really want to emphasize the idea of a community meal. If everyone is eating breakfast together, no one gets singled out,” she said. She is cautious to hope that this pilot will cause a huge increase in participation from paid students after the program is over, but feels that it will move the needle to getting there. “If students get used to eating breakfast at school and ask their parents to keep paying for it, we can hopefully keep the momentum up. There will always be parents who don’t want their kids eating school

breakfast, even if it is free, but I think a lot of parents in this district will get on board with breakfast if it feels like a social justice issue.” Plans are not yet in place to finalize this pilot, but administrators are looking into the feasibility of the program and evaluation measures (test scores, behavior, attendance) that could capture its potential impact.

The other recommendation for CHCCS could be increased marketing and promotion for the SBP. Simple changes such as branding the Grab-and-Go breakfast bags, renaming menu items, and increasing signs and posters around the schools could make a less costly, but effective impact. The Smarter Lunchrooms initiative through Cornell University focuses on display and environmental changes that can increase participation through making meals more colorful, more appealing to students, and more focused on an inviting lunchroom.²³ A 1999 study looked at multiple school districts in their attempt to use various marketing strategies to increase participation. One Delaware school used student ambassadors to promote the program and created a new logo for SBP materials and staff uniforms. These changes led to a 4% increase in participation. A Texas school in the program used taste tests and an internationally-branded menu to promote breakfast and lead to a 20% increase in SBP participation. Another Texas school found that by creating a new website, sending out emails to parents and creating posters for the school helped to increase breakfast participation by 12%.²⁴

CHCCS could use many of the marketing tools it already implements with an increased focus on breakfast. For example, Food for the Summer, the Summer Meals Program at CHCCS used the summer meals mascot Ray to promote the program and created a distinct logo for t-shirts and bags. Borrowing this strategy, schools could use their school mascots to promote their breakfast programs or send a high school or UNC mascot to an elementary school for a special promotion. Additionally, branded bags and napkins, special for the SBP, could replace regular paper bags in Grab-and-Go and plain napkins in the cafeteria line. CHCCS could also focus on increased promotional materials for breakfast, creating signs and posters to be hung around the school and Chapel Hill and Carrboro to remind students and parents of the importance of breakfast and the opportunity to purchase it for a low cost at the school. Focusing on the equity lens of a more widespread breakfast participation could be an opportunity for the Child Nutrition Department to appeal to socially conscious parents in the district. Promoting purchasing breakfast as an opportunity to support schools and the community and branding breakfast as a community meal could be a push for parents to spend \$1.30 to promote equity in the district.

A challenge to this push toward increased overall participation is the often-negative perception of the SBP. While many parents choose to feed their children at home out of convenience and habit, many parents also feel that school breakfast is not healthy and an unfavorable choice for their children. Addressing these beliefs will be an important focus of breakfast promotion. There can be many misconceptions over the nutritional value of school meals. The Healthy, Hunger-Free Kids Act of 2010 greatly changed the requirements of school meals to address many of these nutritional concerns and added whole grains, fresh fruits and 100% juice to breakfast. Studies have shown that students who participate in school meals consistently eat more fruits, vegetables, and milk, but parental concerns over the nutritional quality of meals is still low.²⁵ Still, a study in the *American Journal of Public Health* found that improving the nutrition of school meals after HHFKA was not related to changes in participation.²⁶ Addressing these perceptions and misconceptions of the nutritional quality of school meals can be a goal of breakfast promotion. Highlighting whole grains, milk, and fresh fruit on the breakfast menu and promoting it as a healthy option for busy parents can help promote the program for skeptical parents. Parents could also be invited for a breakfast promotion to help gain their support and provide feedback. ‘Bring your Parent to Lunch’ is a popular event at elementary schools that could be replicated for breakfast to assist with parent support for the program.

CHCCS uses multiple opportunities a month to do special promotions at lunch which could be used as a model for breakfast promotions aimed at increasing participation among all students. The CHCCS food service management company, Chartwells, holds a special theme for each month that features new items on the menu called Discovery Kitchen. October’s Discovery Kitchen theme “Seed to Table” highlighted National Farm to School Month and featured local apples each Monday in all school lunches. Signs around the lunchroom during October reminded students of this promotion and encouraged them to eat school lunch each Monday. Additionally, special promotions like National Family Literacy Month in November brought a special Harry Potter promotion (**Image 2**) that featured a special elementary and middle school lunch with decorations, prizes, and a themed meal. While special breakfast promotions occur across CHCCS schools, such as Top Your Pancakes day at elementary schools that includes a pancake topping bar, or monthly cinnamon rolls at middle school and high schools, these promotions are fewer as

compared to lunch. Increasing breakfast promotions in schools or applying Chartwell’s monthly themes to breakfast as well could be a marketing strategy for CHCCS.

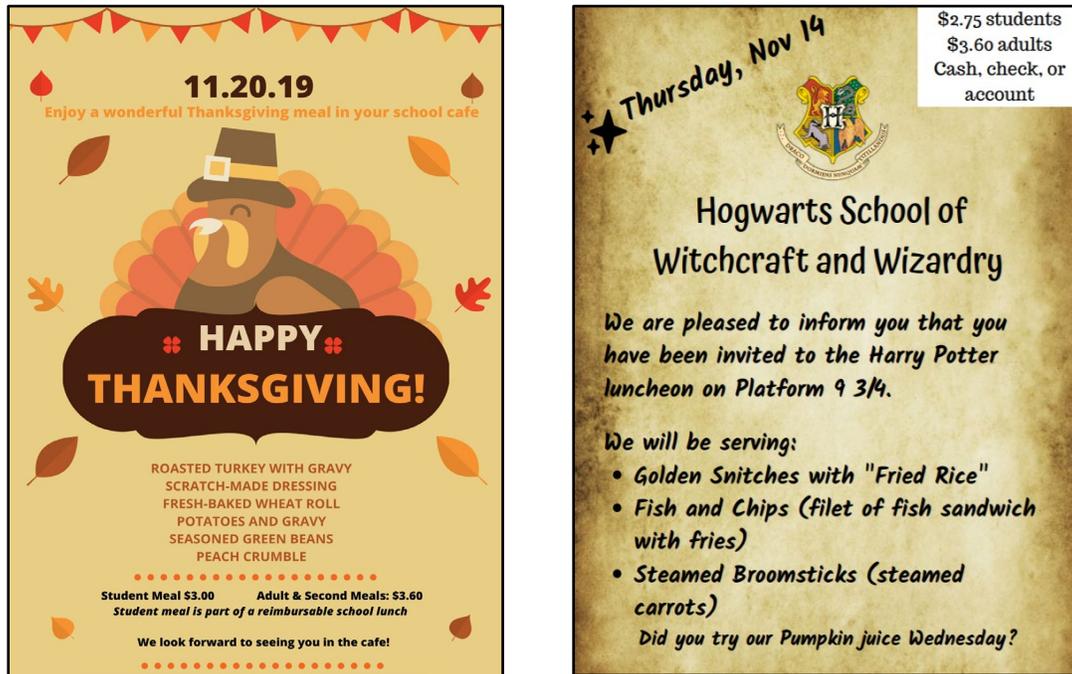


Image 2: Promotional lunch signs for CHCCS

District dietitian, Lynne Privette, focuses on promotional signs for special lunch events (Image 2) which could be ramped up for breakfast promotions as well. Increasing signage around the school about breakfast items for that day and signs promoting eating school breakfast could use the same types of flyers that are made for lunch. Lynne echoed some of these strategies and discussed a potential partnership with UNC to recruit student interns to create marketing and promotional materials for school meals in Spring 2020. She felt that the Harry Potter lunch was one of the strongest promotional events from a cost standpoint. The promotion utilized existing menu items and renamed and promoted them for an event with no extra costs for the menu. Decorations, prizes, and the pumpkin juice tasting cost \$750 total and approximately 150 more students participated in lunch that day, as compared to the week before. Such promotions could be utilized during breakfast to create momentum and excitement around the program.

Finally, addressing breakfast choices and giving students a voice in these choices could be an opportunity for CHCCS to improve student attitudes toward breakfast. Students could vote on breakfast items they would like to see more often on the menu or new items that could be added.

East Chapel Hill High School (ECHHS) implemented a Student Choice program during the 2018-2019 school year to choose new menu items. Three items were tested on the menu and students voted on their favorite to incorporate into the menu regularly. Students tested a Nashville hot chicken sandwich, sweet and sour chicken, and turkey swiss pretzel roll and ultimately chose the Nashville hot chicken sandwich, which is now featured on the menu every Tuesday. By utilizing Student Choice and the infrastructure that already exists for it, including iPads with surveys, the Child Nutrition department could engage students at ECHHS or other schools in choosing new breakfast menu items and encourage participation in the program. This could help increase participation by giving students ownership over creating the breakfast menu, serving something students have chosen that they want, and adding needed promotional efforts to the program.

VI. Conclusion

There are many opportunities for CHCCS to explore enhancing the SBP and promoting equity in the district. A pilot program or financial feasibility study could be attempted to test the impact of paying for a universal breakfast program. Additionally, promotion and marketing of the program could be increased, with a focus on equity in the community and addressing misconceptions about the health of school meals. Increased participation could lead to higher reimbursement rates to available funds for the Child Nutrition Department. This could allow for new items on the menu, increased staff time to make more scratch-cooked breakfast, and more promotions that could in turn help increase participation. In time, focus on school breakfast could help shift the needle to reducing the stigma of eating school meals and promote a sense of community around mealtime.

It is important to note that there are several challenges in implementing these recommendations and anticipating their impact in the district. Breakfast participation will always be lower than lunch participation as parents, often regardless of income, are more likely to feed their children breakfast at home than pack lunch.²¹ The Food Research and Action Center (FRAC) found that nationally and on average in North Carolina, 56 students eat breakfast for every 100 that each school lunch.²⁷ The expectation of 100% participation, or participation in breakfast equaling those of lunch is not necessarily a realistic goal or one aimed for in this paper.

Additionally, Lynne Privette explained that there will always be parents who will not want to participate in school meals for a variety of reasons: concern over their children’s specific diet or allergies, their children’s taste preferences, religious or diet restrictions or negative perceptions of school meals. While the district has to accommodate any allergies or religious food restrictions, there will still be parents who prefer to send their kids with a packed lunch. Despite the district’s most targeted marketing campaign, there will be parents who still see school meals as unhealthy, prefer to send their children with food from home, or do not want to spend money on school meals.

It is also important to address the limitations of school meals and the Child Nutrition Department and district budget. The district, despite its best efforts to address equity does not have unlimited funds to pay for universal breakfast program. Additionally, the Child Nutrition Department is limited by its budget. The table below lists the reimbursement rate and gross profit the district collects for each meal served.²⁸ Additionally, it calculates the net profit of each meal served, using the USDA’s findings on average meal costs. A 2019 USDA found that the average cost of a school meal on average exceeded the reimbursement rate.^{29,30}

Meal		Net Profit	Cost to produce	Gross Profit	Federal Reimbursement	Cost to Student
Breakfast	Free	-\$0.88	\$2.72	\$1.84	\$1.84	\$0
	Reduced-price	-\$0.88	\$2.72	\$1.84	\$1.54	\$0.30
	Full-price	-\$1.11	\$2.72	\$1.61	\$0.31	\$1.30
Lunch	Free	-\$0.39	\$3.80	\$3.41	\$3.41	\$0
	Reduced-price	-\$0.39	\$3.80	\$3.41	\$3.01	\$0.40
	Full-price (ES)	-\$0.71	\$3.80	\$3.07	\$0.32	\$2.75
	Full-price (MS/HS)	-\$0.48	\$3.80	\$3.32	\$0.32	\$3.00

These rates make it hard to run a meal program with the rising cost of food and increased nutrition standards of the HHFKA. Meeting parent requests, serving high quality foods, and pushing for scratch-cooking within the budgetary restrictions is an enormous accomplishment. The Child Nutrition Department is limited by its budget to create huge changes in the menu or spend money on multiple promotions. “There are kids who go to school with a lunchbox of salmon and kale salad,” explained Liz Cartano. “That will never be an option for us, but we will keep trying.”

References:

1. “Program History.” USDA FNS, 24 July 2013, www.fns.usda.gov/sbp/program-history.
2. “Program History.” USDA FNS, 20 March 2003, <https://www.fns.usda.gov/nslp-program-history>.
3. Gleason, P. M., & Dodd, A. H. (2009). School Breakfast Program but not School Lunch Program Participation is Associated with Lower Body Mass Index. *Journal of the American Dietetic Association*, Vol. 109, pp. S118–S128. <https://doi.org/10.1016/j.jada.2008.10.058>
4. Rampersaud, G. C., Pereira, M. A., Girard, B. L., Adams, J., & Metzler, J. D. (2005). Breakfast habits, nutritional status, body weight, and academic performance in children and adolescents. *Journal of the American Dietetic Association*, 105(5), 743–760; quiz 761–762.
5. Michael Murphy, J., Pagano, M. E., Nachmani, J., Sperling, P., Kane, S., & Kleinman, R. E. (1998). *The Relationship of School Breakfast to Psychosocial and Academic Functioning: Cross-Sectional and Longitudinal Observations in an Inner-City School Sample*.
6. Basiotis, P.P. (1999). Eating breakfast greatly improves schoolchildren’s diet quality. *Nutrition Insights; Insight 15*.
7. Basch, C. E. (2011). Breakfast and the achievement gap among urban minority youth. *The Journal of School Health*, 81(10), 635–640.
8. Moore LL, Singer MR, Qureshi MM, Bradlee ML. Dairy intake and anthropometric measures of body fat among children and adolescents in NHANES. *J Am Coll Nutr*. 2008;27(6):702-710.
9. Gleason, P M. “Participation in the National School Lunch Program and the School Breakfast Program.” *The American Journal of Clinical Nutrition*, vol. 61, no. 1, 1995, doi:10.1093/ajcn/61.1.213s.
10. Hearst, Mary O., et al. “Barriers, Benefits, and Behaviors Related to Breakfast Consumption Among Rural Adolescents.” *Journal of School Health*, vol. 86, no. 3, 2016, pp. 187–194., doi:10.1111/josh.12367.
11. Breakfast service methods • No Kid Hungry NC. Retrieved November 15, 2019, <http://nokidhungrync.org/breakfast-service-methods/>
12. “Food for the Summer.” *Food for the Summer*, 2019, www.foodforthesummer.org/.
13. Lambert, Laurel G, et al. “School Nutrition Directors’ and Teachers’ Perceptions of the Advantages, Disadvantages, and Barriers to Participation in the School Breakfast Program.” *The Journal of Child Nutrition & Management*, vol. 31, no. 2, 2007.
14. Bailey-Davis, L., Virus, A., McCoy, T. A., Wojtanowski, A., Vander Veur, S. S., & Foster, G. D. (2013). Middle School Student and Parent Perceptions of Government-Sponsored Free School Breakfast and Consumption: A Qualitative Inquiry in an Urban Setting. *Journal of the Academy of Nutrition and Dietetics*, Vol. 113, pp. 251–257. <https://doi.org/>
15. “Policy Code: 1000 Legal Status of the Board and School District.” *Policy Manual*, Chapel Hill-Carrboro City Schools, 3 Sept. 1993, boardpolicyonline.com/bl/?b=chaphill#&&hs=TOC%3a1.
16. Policy Manual. (n.d.-b). Retrieved November 15, 2019, from <https://boardpolicyonline.com/bl/?b=chaphill> 10.1016/j.jand.2012.09.017

17. “Community Eligibility Provision: Center for Best Practices.” *Center for Best Practices - No Kid Hungry*, bestpractices.nokidhungry.org/programs/school-breakfast/about-the-community-eligibility-provision.
18. USDA Food and Nutrition Service, Office of Research and Analysis. “Evaluation of The School Breakfast Program Pilot Project: Findings from the First Year of Implementation,” 2002.
19. Amaya, L., & Gates, G. (2014). Evaluation of the Promotion of Free School Breakfast on Participation Rates and Perceptions of School Breakfast. *Journal of Nutrition Education and Behavior*, Vol. 46, p. S160. <https://doi.org/10.1016/j.jneb.2014.04.163>
20. Durham to offer free breakfast to all students. (2014, June 7). <https://www.newsobserver.com/news/local/community/durham-news/article10332128.html>
21. “North Carolina School Breakfast Report.” *North Carolina School Breakfast Report*, Food Research & Action Center (FRAC), Mar. 2018, frac.org/wp-content/uploads/north-carolina-breakfast-report.pdf.
22. Leos-Urbel, J., Schwartz, A. E., Weinstein, M., & Corcoran, S. (2013). Not just for poor kids: The impact of universal free school breakfast on meal participation and student outcomes. *Economics of Education Review*, 36, 88–107.
23. The Smarter Lunchrooms Strategies | Smarter Lunchrooms Movement. Retrieved November 14, 2019, from www.smarterlunchrooms.org/scorecard-tools/smarter-lunchrooms-strategies
24. Cline, T. J., & Lusk, M. A. (1999). Marketing Healthful School Meals. *Topics in Clinical Nutrition*, Vol. 15, pp. 30–36. <https://doi.org/10.1097/00008486-199912000-00005>
25. Ohri-Vachaspati, Punam. “Parental Perception of the Nutritional Quality of School Meals and Its Association with Students’ School Lunch Participation.” *Appetite*, vol. 74, 2014, pp. 44–47., doi:10.1016/j.appet.2013.10.024.
26. Vaudrin, Nicole, et al. “Impact of the 2010 US Healthy, Hunger-Free Kids Act on School Breakfast and Lunch Participation Rates Between 2008 and 2015.” *American Journal of Public Health*, vol. 108, no. 1, 2018, pp. 84–86., doi:10.2105/ajph.2017.304102.
27. Pickren, Emily. “Annual Scorecard Ranks States on School Breakfast Participation.” *Food Research & Action Center*, 14 Feb. 2017, frac.org/news/frac-school-breakfast-scorecard-2015-2016.
28. “School Meals: Federal Per Meal Reimbursement Rates.” *Reimbursement Rates & Income Guidelines for the Federal Child Nutrition Programs*, Food Research & Action Center, Aug. 2019, frac.org/wp-content/uploads/fedrates.pdf.
29. “School Meal Trends & Stats.” School Meal Trends & Stats, School Nutrition Association, schoolnutrition.org/AboutSchoolMeals/SchoolMealTrendsStats/.
30. “School Nutrition and Meal Cost Study.” *USDA Food and Nutrition Service*, 23 Apr. 2019, www.fns.usda.gov/school-nutrition-and-meal-cost-study.