Grab n’ Go Breakfast: Successes and Challenges

Marilyn S. “Susie” Nanney
PhD, MPH, RD
Associate Professor
Dept. of Family Medicine and Community Health
University of Minnesota

Katherine Young,
MPH, RD
Coordinator
Dept. of Family Medicine and Community Health
University of Minnesota

Amy Shanafelt, MA
Coordinator
Dept. of Family Medicine and Community Health
University of Minnesota

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About the School Breakfast Program (SBP)

- Evidence that SBP participation:
  - Improves dietary intakes
  - Decreases risk of food insecurity
  - Improves academic performance
  - May protect against childhood obesity

- Access to school breakfast decreases the risk of marginal food insecurity and breakfast skipping, especially among low income children.

- Generally low participation
  - Much less participation than the School Lunch Program
  - Decreases with grade level
Our Partners

Kathleen Milbrath
School Meals Specialist
The study was funded in February 2013 by the National Institutes of Health
Primary Aim

Improve participation in the SBP among high school students
Improving access through school-wide policies and practices

• Expand SBP serving locations outside of the traditional cafeteria

• Expand SBP eating locations outside of the traditional cafeteria

• SBP marketing campaign
Study Design
Longitudinal cohort study
Clinical Trial

16 Schools

Wave 1
School Year 2013-2014
8 Schools

- 4 Schools Intervention
- 4 Schools Control

Wave 2
School Year 2014-2015
8 Schools

- 4 Schools Intervention
- 4 Schools Control
Rural High School Focus
Key Intervention Strategies

- School Breakfast Expansion Team (SBET)
- Grab n’ Go service and menu
- 2nd chance breakfast (after the bell)
- Hallway, classroom eating
- Kick-off
- Taste testing
- Student-driven marketing
- UMN Extension (training and school liaison/support)
# Data Driven Approach

## Students reported barriers to eating school breakfast

**Note: students can check more than one choice**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not hungry early in the morning</td>
<td>57%</td>
</tr>
<tr>
<td>School breakfast tastes bad</td>
<td>51%</td>
</tr>
<tr>
<td>Too Busy</td>
<td>46%</td>
</tr>
<tr>
<td>Takes too much time</td>
<td>43%</td>
</tr>
<tr>
<td>Not “easy”</td>
<td>35%</td>
</tr>
<tr>
<td>Cost</td>
<td>26%</td>
</tr>
<tr>
<td>Bus arrives too late</td>
<td>24%</td>
</tr>
</tbody>
</table>
Second Chance Breakfast

• Traditional Breakfast times:
  • 7:10 – 7:45am start
  • 7:30 – 8:10am finish

• Second Chance time ranged from:
  • 9:15 – 9:25am start time
  • 9:22 – 9:32am finish
  • (all were served between 1st and 2nd periods/blocks)
New SBPs Up and Running!
Marketing: School Spirit

HUTCH Breakfast

Grab N' Go Breakfast is located at the Main Entrance
It's served from 7:10am - 7:30am
Breakfast costs $1.15

PAWS FOR BREAKFAST

Homerun Fuel

WILLMAR

Grab 'N' Go Breakfast

GRAB AND GO BREAKFAST SERVED DAILY
$1.50
MONDAY - TUESDAY
THURSDAY - FRIDAY
9:45-9:55

BREAKFAST $1.30
GRAB N' GO BREAKFAST
LOCATED AT THE COMMONS AREA
SERVED 7:35-8:10
Marketing: Creative Strategies
Bemidji High School Promotional Video
New London-Spicer Promotional Video
Communications/other promotions

- Daily morning announcements
- Assembly skits
- T-shirts, water bottles
- Homecoming parade float w/gift cards
- Student and staff meetings before school
- Taste testing
- Free breakfast
- Newspaper and TV PR
What schools are saying...

• Steady increase, instant doubling and tripling of participation
  • Both full paid and have free/reduced students
  • Upper classmen
• Most schools have from 2-5 additional hallway carts
• Teachers report more attentive students
• Custodial service reports little to no added mess
• Food service staff like the program and report student “thank you’s”
• Principal report of decrease in disciplinary events near breakfast cart
• Food Service Director reports of turn around among “nay sayers”
# Popular Menu Items

- **Top Selling Grab n’ Go Menu Items**
  - Smucker’s PB&J Uncrustables (both flavors)
  - Super Bakery Mini Cinnis
  - Cinnamon Roll, WG, Rich’s
  - Benefit Bars
  - Sliced Banana Bread
  - Banana Mini Loaf w/Chocolate Chips
  - String cheese
  - Breakfast Burrito

- **Popular Items with Fruit**
  - Yogurt/Fruit Parfaits*
  - Smoothie*
  - Apples/bananas and Peanut Butter
  - Applesauce
  - Strawberry Applesauce
  - Mandarin Orange Cups

*Also top selling items*
Annette Derouin,
Food Service Director for 3 Project Schools: Willmar Senior High School, Montevideo High School and New London-Spicer High School

Top Take-Aways – Annette Derouin

- Develop a Grab 'N Go cart layout that works for your school (keep it simple)
- Contact your health inspector to review your Breakfast Cart plan and get approval on their food safety needs/issues before implementation
- Set up the cart and take pictures of the cart layout for staff training and future reference (laminate it so subs know how to set it up)
- Conduct staff training in advance of implementing Grab 'N Go so questions get answered and staff can see the cart
- Be Flexible! Involve staff with menu review so products on the cart get rotated so students see new choices throughout the year
- Student Involvement & Taste testing
- Cart Placement – Easy Access, Visible and Equipped As Needed
Additional Tips from Schools

• Using Walky-Talkies to communicate if cart and kitchen are far apart
• Use existing rolling prep tables
• Make sure cart/table can travel easily once fully loaded
• Check wireless connection at cart locations prior to starting
• Pre-package a few options to speed up service
Measurements: 2 Sources
Pre, post, one year follow up
School and Student – provided data

- All 9th and 10th graders
  - SBP participation, free/reduced priced lunch status, grades, attendance, disciplinary events
    - 3%-17% SBP participation
    - 37% free/reduced price lunch
    - 13% students of color

- Screened all 9th and 10th graders
  - A cohort of “breakfast skippers”
    - Weight and height, body fat
    - Dietary intakes
    - Survey
Student Enrollment - Measurements

- Enrolled – 904 Students
- Baseline BMI measurements – 890 (98%)
- Baseline surveys – 833 (92%)
- Baseline diet interviews – 738 (82%)

- Cohort
  - 54% Female
  - 30% students of color (versus 13%)
  - 37% free/reduced price lunch
Baseline Data
BMI Percentile Status – N=890

Study Boys
State Avg. Boys (9th Grd.)

Study Girls
State Avg Girls (9th Grd.)
Beliefs about breakfast (N=833)

% of Students who agree with the following statements

- Eating breakfast helps me pay attention in class: 41% Full Paid, 21% Free/Reduced
- I have more energy when I eat breakfast: 45% Full Paid, 24% Free/Reduced
- If I miss breakfast, I feel more tired in the morning: 37% Full Paid, 18% Free/Reduced
- Eating breakfast helps me control my weight: 23% Full Paid, 12% Free/Reduced
Benefits of Breakfast (N=833)

Student Perceived (likelihood of) Benefits of School Breakfast

- Nutrients, vitamins and minerals: 54% Full Paid, 19% Free/Reduced
- Establishing healthy habits: 29% Full Paid, 48% Free/Reduced
- Improving cognitive skills: 27% Full Paid, 47% Free/Reduced
- Improving test scores: 25% Full Paid, 47% Free/Reduced
- Maintain healthy weight: 24% Full Paid, 25% Free/Reduced
- Reduce absences/tardiness: 24% Full Paid, 16% Free/Reduced
- Get along w/peers: 45% Full Paid, 38% Free/Reduced
Working Analysis Conceptual Model

HUNGER
LOW SES

School Breakfast

Healthy Diet

Attendance

Cognition

Grades
Food Insecurity – Hunger (14%)

- Mostly female (64% vs 53%)
- Students of color (42% vs 29%)
- Enrolled in Free and Reduced Price Meals (54% vs 32%)
- Compared to food secure adolescents, food insecure students were less likely to report
  - excellent or very good health
  - half hour of weekly exercise
  - eat dinner as a family at home
  - participate in sports teams during past year
- Food insecure students were more likely to eat school breakfast and reported fewer barriers to accessing school breakfast.
Food Security and Grades: Cross Sectional Analysis

- Food insecure 9th and 10th grade students had lower GPA's than food secure students

<table>
<thead>
<tr>
<th></th>
<th>Cum GPA(^1,2)</th>
<th>GPA Percentile (^2,3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LS Means (SE)</td>
<td>LS Means (SE)</td>
</tr>
<tr>
<td>Food Secure</td>
<td>2.77 (0.04)</td>
<td>44(^{th}) (1.03)</td>
</tr>
<tr>
<td>Insecure, no hunger</td>
<td>2.46 (0.10)</td>
<td>37(^{st}) (2.83)</td>
</tr>
<tr>
<td>Insecure with hunger</td>
<td>2.26 (0.15)</td>
<td>27(^{rd}) (4.45)</td>
</tr>
</tbody>
</table>

\(^1\) Cumulative, unweighted GPA, 13 schools (N=629 students)
\(^2\) Adjusted for gender, grade level, and free/reduced priced meal status
\(^3\) 16 schools (N=789 students)
Food Insecurity and Gender

• The effect of food insecurity was only significant for FI girls
• FI Boys ate significantly less calories and added sugar, while there was no difference for FI girls
• Food insecurity impacts students differently by gender
Diet by Weekday vs. Weekend

- HEI score: Weekday 53, Weekend 48
- Sodium (mg): Weekday 2746, Weekend 2929
- Added Sugars (g): Weekday 52, Weekend 60
- Total Fat (g): Weekday 61, Weekend 68
Healthy Eating Index and Grades: Cross Sectional Analysis

- 9th and 10th grade students with unhealthy diets had lower GPA’s than those with healthier diets

<table>
<thead>
<tr>
<th>Student total diet needs...</th>
<th>Cum GPA$^{1,2}$</th>
<th>GPA Percentile $^{2,3}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement ($HEI &gt;= 50/100$)</td>
<td>2.77 (0.05)</td>
<td>45th (1.30)</td>
</tr>
<tr>
<td>Substantial improvement ($HEI &lt; 50/100$)</td>
<td>2.67 (0.05)</td>
<td>41th (1.43)</td>
</tr>
</tbody>
</table>

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1 Cumulative, unweighted GPA, 13 schools (N=580 students)
2 Adjusted for gender, grade level, and free/reduced priced meal status
3 16 schools (N=736 students)
Preliminary change analysis (Wave 1 only): SBP and HEI in Breakfast Skippers

- Total HEI Score improved on average 0.5 points per ten percentage point increase in SBP \((p=0.3629)\) in Breakfast Skippers

- However, Students enrolled in Free/Reduced Price Lunch programs may achieve a greater benefit – on average 0.8 points per 10 point increase in SBP \((p=0.1482)\)
Preliminary change analysis (Wave 1 only): SBP and Hunger: change in SBP is negatively associated with Hunger in Breakfast Skippers

- Breakfast Skippers that ate more SBP from time 1 to time 2 reported lower odds of hunger.
- Students not enrolled in FRPL programs did not see this benefit.

<table>
<thead>
<tr>
<th>Group</th>
<th>Odds Ratio Hunger/Not Hunger Per Percentage Point Increase in SBP</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRPL</td>
<td>0.80</td>
<td>(0.73, 0.88)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Not FRPL</td>
<td>1.02</td>
<td>(0.96,1.07)</td>
<td>0.4987</td>
</tr>
</tbody>
</table>
Next Steps

• Complete study implementation and evaluation
  • Did it work? Who did it work for?

• Conduct economic analysis

• Develop resources for dissemination

• Work with partners to share findings and materials
Preliminary Lessons Learned: Interviews

- Adaptability is key – *trial and error* (location and food)
- Staffing issues are overcome
  Shifting hours, adjusting schedules
- Increase in traditional SBP
  More revenue makes program more feasible
- Student leader essential
- Administrative support and leadership essential
Resources

- Project website: [z.umn.edu/projectbreakfast](http://z.umn.edu/projectbreakfast)
  - Example marketing videos
  - Posters and presentations
  - Publications
  - Resources (ex: newsletters, editable posters etc.)
  - Training videos
    - Intro/SBET development
    - Operations and equipment
    - Meal Regulations (MDE)
    - Communications and promotion
Questions?

msnanney@umn.edu
youn1286@umn.edu
shanafel@umn.edu