Smarter Lunchroom Strategies Decrease Vegetable Waste in Montana High School Cafeterias
Katie Bark, RDN¹, LN, Carmen Byker Shanks, PhD, RDN², and Molly Stenberg, RDN, LN²
¹Montana State University, ²Montana Team Nutrition

BACKGROUND
• Food service directors at high schools face unique challenges in enticing teens to enjoy a nutritious lunch especially with open campus policies.
• This research examined: Can Smarter Lunchrooms strategies encourage students to select and consume more fruits and vegetables?

METHODS
• Each high school created a School Lunch Advisory Committee (SLAC) comprised of a foodservice director, a teacher, and students. SLACs implemented Smarter Lunchroom strategies targeting the main service line. SLACs selected changes based upon Smarter Lunchrooms scorecard.
• Developed as a pre-test/post-test design in 5 high schools.
• Developed Plate Waste Protocol resources that utilized Quarter Method and measured student selection, consumption, and waste of main line meal components.

RESULTS

<table>
<thead>
<tr>
<th>High School Lunch Tray Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Percent Vegetable Waste</td>
</tr>
<tr>
<td>Percent Fruit Waste</td>
</tr>
<tr>
<td>Percent Overall Waste</td>
</tr>
</tbody>
</table>

Note: Data collected from student lunch trays 3 days pre and 3 days post intervention at 5 high schools, totaling 9,900 individual observations.

Used the Cornell University’s Behavioral Economics Center quarter method

• Vegetable and fried potato waste decreased significantly.
• Meat/meat alternative waste significantly increased.
• Milk waste was low; chocolate milk waste significantly decreased.
• No significant difference in overall total waste.
• Average Daily Participation (ADP) increased 2% for all 5 sites.

ACTION TAKEN
• Branded the cafeteria or attractively redesigned the line.
• Expanded choices to include a grab and go lunch option, smoothies, fruit parfaits, and fresh vegetables.
• Placed fresh fruit in an attractive bowl near cash register.
• Enhanced service line through attractive signage and eye-appealing presentation.

APPLICATION
• Waste reduction strategies include correct implementation of “Offer versus Serve” and increasing visibility and convenience of selecting vegetables and milk.
• Offering a large number of menu choices may increase overall food waste.
• Developing a SLAC is a simple, no-cost way to gain buy-in among students, and support collaboration for implementing Smarter Lunchroom strategies.

For more information, please contact Carmen Byker Shanks cbykershanks@montana.edu
Katie Bark kbar@mt.gov
Molly Stenberg stenberg@montana.edu

Funded by a 2014 Cornell BEN Center Small Grants Program and a USDA Team Nutrition Grant.