Healthy F.O.O.D. (Feedback on Ordering Decisions)  
In Food Shelves Study

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For more information, visit the project website: z.umn.edu/healthyfood
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Healthy F.O.O.D. in Food Shelves Summary

Purpose: The overall purpose of this project was to develop and test an automated Healthy Eating Index (HEI) calculation tool that can be used to measure and provide feedback on the nutritional quality of food shelf orders placed with food banks. Specific project objectives included: (1) calculate the HEI for each order made by a cross-section of food shelves over a twelve month period; (2) identify relationships between food shelf characteristics and HEI measures; and (3) determine whether provision of HEI information to food shelves stimulates them to improve the HEI for their bulk purchases.

Research Methods: Screeners were emailed to all of Second Harvest Heartland (SHH) and The Food Group (TFG) service area food shelves to assess interest in participation. 144 food shelves responded with interest, and 131 food shelves completed the one-year study. Food shelves were randomized into treatment (n=65) and comparison (n= 66). Treatment received a monthly feedback report indicating their total HEI, their component HEI scores, and comparisons to other food shelves. A tailored tip on how to improve in the areas needing it most was also included in each monthly report.

Results:
- 72% of participating food shelves were located in metro areas and 83% were considered small (0-499,999 annual lbs. distributed).
- On average the participating food shelves distributed 267,897 pounds of food in 2013 and ordered 130,304 pounds in 2013.
- On average, 25% of the pounds ordered were miscellaneous and could not be given an HEI score.
- Average 2013 HEI score was 64.6(among food shelves that completed the study).
- Overall, the tailored feedback report was a successful tool.
  - Food shelves that received the report improved more than comparison food shelves during all quarters and significantly more in the third quarter (July-Sept) by 4%.
  - Additionally, 44% of intervention food shelves that took the final survey stated that they made changes to their ordering in response to the feedback report.

Conclusion: There is room for improvement in the healthfulness of the foods purchased by food shelves from food banks. Providing tailored feedback to food shelves may be an effective strategy to improve the foods provided to clients. Next steps include refining the tool to comprehensively measure all the foods available to food shelf clients and developing and testing procedures for implementing to tool in food shelves.

Partners

For more information, visit the project website: z.umn.edu/healthyfood
Study Design, Setting and Participants

Study Design:
This study was a randomized controlled trial. Treatment group was sent a monthly feedback report (shown on page 8) that provided total and component HEI scores for food ordered by the food shelf in the preceding month and for the year to date. The report also included information on average scores for other participating food shelves and a tailored tip for improving the food shelf’s weakest HEI component score. Reports for January, February, and March 2014 were sent to treatment food shelves in April 2014. Thereafter, monthly reports were sent through April 2015. The comparison group received no feedback for the course of the year. They received their yearly average and quarterly scores for the study period at the end of the study.

Setting: Map of Food Shelves that ordered from TFG (formally EFN) only, SHH only or both food banks combined in 2012 (statement may imply that food shelves get food from just one or both of these sources whereas they get food donated, from Bix, from retail stores – Cub for example for ICA – etc.)
The potential study population of food shelves was determined by food shelves in the SHH/TFG service area that had purchased from either SHH or TFG in 2012. A screener was sent to these food shelves to determine interest and the food purchaser. A baseline survey was then sent to the food purchaser at the food shelves that expressed interested. We randomized responders into treatment and comparison groups.

1 An error in data matching was noticed after randomization. Four sites were in placed in both treatment and comparison and so were removed from the comparison group. 23 food shelves in the population were duplicates. In addition, three treatment food shelves and two comparison food shelves were deemed ineligible because they did not order any food from the food banks during 2013.

2 Food shelf staff that was sent the survey could respond to the screener that they were not the one who orders foods at their food shelf. They were then asked to provide the email to the person who did. This food shelf was sent a second survey to a new staff member.

For more information, visit the project website: z.umn.edu/healthyfood
### Characteristics of Food Shelves in 2013

<table>
<thead>
<tr>
<th>Age distribution of population served (%)&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Population (N=274)</th>
<th>Study&lt;sup&gt;2&lt;/sup&gt; (N=131)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seniors (ages 65+)</td>
<td>9.8%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Youth (ages 0-17)</td>
<td>37.6%</td>
<td>37.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Food shelf size&lt;sup&gt;3&lt;/sup&gt;</th>
<th>Pounds/Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Pounds Distributed, average (range)&lt;sup&gt;3&lt;/sup&gt;</td>
<td>222,550 (475 – 2,302,500)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Food Shelf Ordering</th>
<th>Pounds/Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Pounds Ordered (including misc&lt;sup&gt;4&lt;/sup&gt;)</td>
<td>29,133,000</td>
</tr>
<tr>
<td>Average total annual pounds ordered by food shelves (range)</td>
<td>106,325 (58-1,533,038)</td>
</tr>
<tr>
<td>Total Pounds Included in HEI-2010 (excluding misc.)</td>
<td>18,292,342</td>
</tr>
<tr>
<td>Average total annual pounds included in HEI-2010 for food shelves (range)</td>
<td>66,760 (43 – 732,031)</td>
</tr>
<tr>
<td>% of pounds ordered that are included in HEI-2010 calculation (excludes miscellaneous foods)</td>
<td>62.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summary of Miscellaneous Foods</th>
<th>Pounds/Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total miscellaneous pounds ordered (range)</td>
<td>10,840,658 (0 – 995,570)</td>
</tr>
</tbody>
</table>

<sup>1</sup> percent youth/seniors at each food shelf averaged across food shelves  
<sup>2</sup> Study food shelves are included in the population.  
<sup>3</sup> Pounds distributed represents reported data from food shelves to food banks  
<sup>4</sup> Miscellaneous foods describe foods received by the food shelf from the food banks that are too generic to assign an FPED code and cannot be included in an HEI-2010 score

Note: 68 food shelves did not order any foods from either of the two food banks in 2013 and so their data is excluded from this table.
Healthy F.O.O.D. Final Report

Characteristics of Food Shelves in 2013

Food Shelf Size

**Food Shelf Size - Population**
- Small (0-499,999 lbs.): 87%
- Medium (500,000-999,999 lbs.): 9%
- Large (1,000,000 lbs.): 4%

**Food Shelf Size - Study Sample**
- Small (0-499,999 lbs.): 83%
- Medium (500,000-999,999 lbs.): 13%
- Large (1,000,000 lbs.): 4%

Food Shelf Location

**Food Shelf Location - Population**
- Metropolitan: 70%
- Micropolitan: 17%
- Small Town: 8%
- Rural: 5%

**Food Shelf Location - Study Sample**
- Metropolitan: 71%
- Micropolitan: 14%
- Small Town: 8%
- Rural: 5%

Miscellaneous Categories

**Misc Categories - Population**
- Meat (%): 34%
- Dry food (%): 11%
- Bakery (%): 10%
- Produce (%): 6%
- Dairy (%): 3%
- Deli (%): 1%
- Frozen (%): 0%
- Beverages(%): 0%
- Seafood(%): 0%

**Misc Categories - Study Sample**
- Meat (%): 36%
- Dry food (%): 12%
- Bakery (%): 10%
- Produce (%): 6%
- Dairy (%): 1%
- Deli (%): 0%
- Frozen (%): 0%
- Beverages(%): 0%
- Seafood(%): 0%

For more information, visit the project website: z.umn.edu/healthyfood
About the Healthy Eating Index

The Healthy Eating Index (HEI) is an increasingly popular tool for measuring the healthfulness of food settings. While originally developed by the USDA for assessing the quality of individual diets, creative research uses have expanded the HEI’s utility to include the national food supply, fast food, child care center menus, and food shelves.

A high score indicates closer alignment to the Dietary Guidelines for Americans (DGA)’s. There are 12 component scores (see Table 1) with varying point values (5, 10 or 20 points). The varying point values attributed to each category indicate weighting of the components. The score for each component reflects the “density” of the corresponding food group (e.g. vegetables) in the diet on a per-1,000-kcal basis, based on set standards for minimum and maximum scores. For example, a diet with >1.1 cup equivalents of vegetables per 1,000 kcal would achieve the maximum score of 5 for the Total Vegetables component. This density scoring method makes the HEI an effective tool for measuring any grouping of foods, including both individual or population diets and environmental settings. Component scores are summed to create the total HEI score with a maximum of 100.

Most of the component scores are adequacy components scored such that a higher density of that category awards a higher score. However, some are moderation components, which are reverse coded and scored higher for a lower density of that component. For example, sodium is a moderation component in HEI-2010. Therefore, less sodium in the diet or the environment equates to a higher sodium score.

<table>
<thead>
<tr>
<th>Environment</th>
<th>HEI Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childcare menus (HEI-2005)</td>
<td>59.1</td>
</tr>
<tr>
<td>1970 U.S. food system (HEI-2010)</td>
<td>48</td>
</tr>
<tr>
<td>2010 U.S. food system (HEI-2010)</td>
<td>55</td>
</tr>
<tr>
<td>Fast food dollar menu (HEI-2005)</td>
<td>43.4</td>
</tr>
<tr>
<td>2013 Food shelves (HEI-2010)</td>
<td>62.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total HEI Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
</tr>
<tr>
<td>HEI&gt;80</td>
</tr>
<tr>
<td>Needs Improvement</td>
</tr>
<tr>
<td>HEI 50-80</td>
</tr>
<tr>
<td>Needs substantial Improvement</td>
</tr>
<tr>
<td>HEI &lt;50</td>
</tr>
</tbody>
</table>

Resources on HEI:
http://www.cnpp.usda.gov/healthyeatingindex
Fact Sheet:
http://www.cnpp.usda.gov/sites/default/files/healthy_eating_index/CNPPFactSheetNo2.pdf

For more information, visit the project website: z.umn.edu/healthyfood
Feedback Report Example

DECEMBER 1 - DECEMBER 31, 2014
2845 pounds ordered from SHH 1282 pounds ordered from TFR
Assorted products not labeled by product name were not included in HEI score. This month, that includes 590 lbs meat, 1380 lbs dairy received.

HEALTHY EATING INDEX (HEI)

FOODS TO ENCOURAGE: HIGHER SCORE = MORE PURCHASED

<table>
<thead>
<tr>
<th>Food Category</th>
<th>Your Score</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL FRUIT</td>
<td>2/5</td>
<td></td>
</tr>
<tr>
<td>WHOLE FRUIT</td>
<td>3/5</td>
<td></td>
</tr>
<tr>
<td>TOTAL VEGETABLES</td>
<td>5/5</td>
<td></td>
</tr>
<tr>
<td>GREENS AND BEANS</td>
<td>0/5</td>
<td></td>
</tr>
<tr>
<td>WHOLE GRAINS</td>
<td>7/10</td>
<td></td>
</tr>
<tr>
<td>DAIRY</td>
<td>0/5</td>
<td></td>
</tr>
<tr>
<td>TOTAL PROTEIN FOODS</td>
<td>4.5/5</td>
<td></td>
</tr>
<tr>
<td>SEAFOOD AND PLANT PROTEINS</td>
<td>2/5</td>
<td></td>
</tr>
<tr>
<td>FATTY ACIDS</td>
<td>6.5/10</td>
<td></td>
</tr>
</tbody>
</table>

FOODS TO DISCOURAGE: HIGHER SCORE = LESS PURCHASED

<table>
<thead>
<tr>
<th>Food Category</th>
<th>Your Score</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>REFINED GRAINS</td>
<td>10/10</td>
<td></td>
</tr>
<tr>
<td>SODIUM</td>
<td>0/10</td>
<td></td>
</tr>
<tr>
<td>EMPTY CALORIES</td>
<td>2/20</td>
<td></td>
</tr>
</tbody>
</table>

Get out of the red.

TIP: Broccoli, spinach, kale, and other leafy greens such as sprouts will increase your Green and Beans Score.

TOTAL HEI SCORES OVER TIME

For more information, visit the project website: z.umn.edu/healthyfood
Healthy F.O.O.D. Final Report

Aiming for a perfect score?
We wouldn’t expect any food shelf to have a perfect score. There are limitations with the HEI score that are important to keep in mind as you read through this report. First, your HEI score is provided only for food purchased from food banks. This may be a small portion of the food you acquire for your food shelf and wouldn’t represent all that is available to customers. Secondly, the HEI score is based on a complete, balanced diet. If only fruit was acquired this month, your total HEI score would be low, as fruit is only one part of a balanced diet. We also recognize there are purchasing changes due to seasonality. For this reason, we would expect these scores to look different depending on the time of year.

Why is this important?
Higher rates of obesity and diabetes are found among lower-income groups in the United States. There are a number of contributing factors for obesity and diabetes: poor prevention and management of these conditions rely upon lifestyle changes such as healthy eating and physical activity. Improved food quality could ultimately lead to health care cost savings for struggling families.

FOODS TO ENCOURAGE
TOTAL FRUIT: All fruit in the whole fruit category as well as fruit juice are counted towards this score.
WHOLE FRUIT: All fruit in total fruit category except fruit juices, which are excluded from this score.
TOTAL VEGETABLES: All vegetables count towards this component score, including greens and beans. Greens and beans are only counted after the maximum total protein score is met.
GREENS AND BEANS: This component provides a score for dark green vegetables, and beans and peas, also known as legumes.
WHOLE GRAINS: These contain the entire grain kernel such as oatmeal, brown rice, whole-wheat flour, and bulgur.
DAIRY: Any products made from cows or goats milk as well as soy beverages. Butter, sour cream, cream cheese and cream are excluded from this score due to their high fat content.
TOTAL PROTEIN FOODS: Meat, poultry, eggs, nuts and seeds, soy products (not including soy beverages) and seafood all count towards this component score. Beans and peas also count toward total protein score.
SEAFOOD AND PLANT PROTEINS: All seafood, nuts and seeds, and processed soy products (not including soy beverages) are included in this component score.
FATTY ACIDS: The ratio of polyunsaturated and monounsaturated fats, such as olive oil, vegetables oil and canola oil, to saturated fats, such as those that come from animal products like deli meats and hot dogs. Polyunsaturated and monounsaturated foods increase this score while saturated fats decrease the score.

FOODS TO DISCOURAGE
REFINED GRAINS: This component score includes processed grains such as white bread, white rice and most packaged grain products. Examples include corn chips, crackers, baked goods, pasta, tortillas, muffins, baked goods.
SODIUM: This score includes sodium that comes from any food or food product. Processed foods such as breads, canned foods, deli meats count towards this score.
EMPTY CALORIES: Calories from solid fats, such as butter and fatty meats, and added sugars. Found in processed foods and fruits canned in syrup.

This project is supported by the Healthy Foods, Healthy Lives Institute at The University of Minnesota.

Food shelves and food banks agree the healthfulness of the food they purchase is important for their clients.
Healthy F.O.O.D. Study - Contact: healthyfood@umn.edu - Website: http://z.umn.edu/healthyfood

For more information, visit the project website: z.umn.edu/healthyfood
## Findings

### Healthfulness of Food Shelves: A 2013 Snapshot

Mean Healthy Eating Index 2010 Total and Component Scores for the Population (n=273) and Study Sample (n=131 of Minnesota Food Shelves in 2013)

<table>
<thead>
<tr>
<th>Component</th>
<th>Max Score Possible</th>
<th>Qualifications for max</th>
<th>Population HEI-2010 Score Mean (SD)</th>
<th>Percent of max score achieved</th>
<th>Study Sample HEI-2010 Score Mean (SD)</th>
<th>Percent of max score achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fruit</td>
<td>5</td>
<td>≥ 0.8 cup equiv. / 1,000kcal</td>
<td>2.4 (1.2)</td>
<td>48%</td>
<td>2.4 (1.0)</td>
<td>48%</td>
</tr>
<tr>
<td>Whole Fruit</td>
<td>5</td>
<td>≥ 0.4 cup equiv. / 1,000kcal</td>
<td>2.7 (1.4)</td>
<td>54%</td>
<td>2.6 (1.2)</td>
<td>52%</td>
</tr>
<tr>
<td>Total Vegetable</td>
<td>5</td>
<td>≥ 1.1 cup equiv. / 1,000kcal</td>
<td>4.2 (1.2)</td>
<td>84%</td>
<td>4.4 (1.1)</td>
<td>88%</td>
</tr>
<tr>
<td>Greens and Beans</td>
<td>5</td>
<td>≥ 0.2 cup equiv. / 1,000kcal</td>
<td>2.8 (2.0)</td>
<td>56%</td>
<td>3.3 (1.9)</td>
<td>66%</td>
</tr>
<tr>
<td>Whole Grains</td>
<td>10</td>
<td>≥ 1.5 cup equiv. / 1,000kcal</td>
<td>3.0 (2.1)</td>
<td>29%</td>
<td>2.9 (1.9)</td>
<td>29%</td>
</tr>
<tr>
<td>Dairy</td>
<td>10</td>
<td>≥ 1.3 cup equiv. / 1,000kcal</td>
<td>4.7 (2.7)</td>
<td>47%</td>
<td>4.9 (2.6)</td>
<td>49%</td>
</tr>
<tr>
<td>Total Protein Foods</td>
<td>5</td>
<td>≥ 2.5 ounce equiv. / 1,000kcal</td>
<td>4.4 (1.3)</td>
<td>88%</td>
<td>4.6 (0.9)</td>
<td>92%</td>
</tr>
<tr>
<td>Seafood and Plant Protein</td>
<td>5</td>
<td>≥ 0.8 ounce equiv. / 1,000kcal</td>
<td>4.0 (1.6)</td>
<td>80%</td>
<td>4.4 (1.2)</td>
<td>88%</td>
</tr>
<tr>
<td>Fatty Acids</td>
<td>10</td>
<td>(PUFAs + MUFAs) / SFAs ≥ 2.5</td>
<td>8.4 (2.6)</td>
<td>84%</td>
<td>8.9 (2.1)</td>
<td>89%</td>
</tr>
<tr>
<td>Refined Grains</td>
<td>10</td>
<td>≤ 1.8 ounce equiv. / 1,000kcal</td>
<td>5.3 (3.5)</td>
<td>53%</td>
<td>5.5 (3.2)</td>
<td>55%</td>
</tr>
<tr>
<td>Sodium</td>
<td>10</td>
<td>≤ 1.1 gram / 1,000kcal</td>
<td>5.3 (2.9)</td>
<td>53%</td>
<td>5.1 (2.8)</td>
<td>51%</td>
</tr>
<tr>
<td>Empty Calories</td>
<td>20</td>
<td>≤ 19% of energy</td>
<td>15.3 (4.0)</td>
<td>77%</td>
<td>15.5 (3.7)</td>
<td>78%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>Obtain max score in all components</td>
<td>62.6 (9.5) Range: 28-82</td>
<td>62.6%</td>
<td>64.6 (13.2) Range: (28-82)</td>
<td>64.6%</td>
</tr>
</tbody>
</table>
Findings

Mid Study Check-in Input from 35 Food Shelves

- 80% of food shelves had received the monthly feedback report.
- There were no issues opening the attachment or printing.
- 54% of respondents agreed or strongly agreed that the information in the feedback report was relevant to their organization. 40% were neutral and 6 disagreed or strongly disagreed that it was relevant.
- Most participants (71%) referred to the feedback report 1-2 times each month.
- Most participants (74%) shared the feedback summary with others.

Open response from food shelves:

Did not receive the report
- I did not get the feedback summary
- I haven't received a summary since April 2014 (3).

Making changes due to the feedback report
- I purchase differently knowing where I'm short by you doing this.
- Helps us be informed in regard to our ordering habits and to stay focused on nutrition
- I use these reports as a helpful guide when ordering our supplies. I also show these reports to our board of directors.

Report does not include all our foods
- It is not capturing the food that was donated, which affects what we order. I question if the numbers are correct with food rescue that is coming and WalMart donations.
- This does not show what we collect from WalMart, which determines how much fresh produce we need to order.
- Question the number since we receive so much fresh produce as food rescue.
- We receive so much produce from Target and WalMart and food rescue and also the community that we do not order much fresh so I believe our numbers not really true.
- The foods/food groups statistics listed on the report don't fully represent our food shelf. I have been low in some areas because we get milk and eggs from local groceries.
- The report had some shortcomings that while giving a snapshot of food that I ordered, it is not able to assess the donated food and produce we receive weekly.
- The portion of food purchased VS donated is so much smaller that this study does not give us a proper view of what is going home with the client. I feel we should be capturing what is going into the clients cart and out the door. We also have a free area that is available to anyone and often times it is filled with excess produce

Other
- I have summaries through June 2014

For more information, visit the project website: z.umn.edu/healthyfood
Findings

Final Study Evaluation

When intervention (n=41) food shelves were asked how often they referred back to the feedback report:

- 88% reported that they referred to it 1 or more times.
- Eighty percent of the food shelves said the feedback summary was also shared with others in the organization including:
  - Volunteers (44%)
  - Other staff (78%)
  - Donors (16%)
  - Board of directors (16%)
- To a lesser extend the feedback report was shared with clients, funding agencies and the food banks.
- Almost all food shelves (92%) reported that they would like to continue receiving the feedback report if possible.
  - Some preferred a monthly basis (39%) and some a quarterly (56%).
- Additionally 44% of food shelves stated that they had made changes to food orders from food banks as a result of the feedback summary.

How strongly do you agree or disagree with the following statements about the feedback summary report? The information provided by the feedback summary report...

- is helpful for understanding the nutritional value of the foods I order.
- accurately represents the nutritional quality of the food we ordered from food banks.
- is overall a useful tool for my food shelf.
- helps us to encourage donations of healthier foods.
- is helpful in prioritizing budget funds for healthy food.
- helps us to solicit other donations or grants to improve our food shelf (programs, infrastructure, food offerings etc.).
- is too complicated.
- enables us to increase access to nutritious foods for the families we serve.
- helps solicit donations of equipment to display or store healthier foods.

For more information, visit the project website: z.umn.edu/healthyfood
Findings

What changes would you recommend as we explore opportunities to expand and enhance this project? (Open response)

Would like inclusion of more/all foods

- Somehow being able to include donated items. I know this is really difficult, however. Overall, I think it is a good snapshot of food purchases.
- Including donated produce/fruit items that we get that are handed out to clients, but may not be a part of our food shelf.
- The one criticism I have is that it doesn't account for other sources of food. We often had low marks in dairy, whole grains, and produce. In addition to Second Harvest, we receive dairy products and produce from other many other sources.
- I believe I mentioned this in an email that I sent to you; the "score" for our food shelf is not really accurate. We receive a lot of produce from our local grocer (Coburn's) and during the summer month we receive LOTS of fresh produce from area gardeners. So we are giving out much more produce than the FOOD score indicates.
- Find a way to capture food rescue product (not labeled by product name) in the monthly score. For example, most of VEAP's produce comes from this source.
- It should contain our fresh produce and rescue deliveries.
- The only challenge with this report is that it greatly under-represents the nutritional items that we provide, as it does not factor in the large amount of nutritious items we have donated.
- This report does not take into consideration all the other food that is received in our food shelf (ie: fresh fruits and vegetables, different types of bread). Therefore, it is not giving a true picture of the healthy items that we do provide. All that is included is what we purchase from the food bank.

Explain report better

- Explain the report better. Not really sure what it is showing. How do we figure in the donations we receive directly at the food shelf and how to integrate these together.
- Better training on what it says and means.
- Better understanding of the summary.
- Training on how to read better and what it really means.
- Better training on the understanding of this tool. How to add the donations of fresh that we receive to this tool.
- Keep the information succinct. Too much info is worse than too little.

Keep sending report or no changes

- Keep sending the reports monthly.
- would like to continue to receive the feedback report.
- No changes (11)

Other

- I feel it is important to look at the food that the clients take home. That would give you a better picture of what the nutritional value would look like.

For more information, visit the project website: z.umn.edu/healthyfood
Findings

- ensure the delivery of the reports; make them available on a website where there is a login access to them
- Maybe more suggestions on exactly what foods to offer to get higher numbers.
- Our score has always been higher than the average food shelf score so we felt that we were doing well in selection of healthy foods. It was a bit confusing in that the tips didn't always pertain to our score. The information on the back always seemed quite detailed and leaned more toward food nutritionists rather than our volunteers who were not ALL trained in food preparation backgrounds. Good information and we used it as a guide but not as a policy that needed to be adhered to "to the letter".
- Do you have suggestions or networks or facilities to assist us in preserving fresh and perishable food so we can provide fruits and vegetable to clients? Any educational opportunity or network will be appreciated.

What value did this project bring to your food shelf? (Open Response)

The report helped with ordering decisions/making changes

- Helped us to make healthier food ordering choices.
- Showed the efforts to increase fresh produce
- Enabled me to quickly see and assess my food order practices and to have the necessary information to make future adjustments
- The added value was seeing what we need to increase purchase to make better choices with our clients.
- Keeps me in check when placing an order & buying food locally.
- Clarity about our ordering.
- It helped me to order more of the healthy items that are already there for us to order.
- The project helped us to really focus on sourcing for healthy food. Though we shop for healthy food, but having the feedback helps affirm our efforts. Somehow, we get that school kids feeling of pass or fail on receiving the feedback, and work toward improving the next time. It has been a wonderful and exciting opportunity. Thank you.

Report gave clarity/awareness on current practices

- See the overall nutrition breakdown of what we order for our food shelf
- Gave us somewhat of an idea of what we are buying.
- It did open my eyes to the categories of food that I am purchasing. It does not take into account items donated, which is 44% of the food we distribute, whereas purchases fall in at 12%. So this is a small snapshot of what we do. The sample is small in comparison to what is truly available on our shelves.
- Personal confidence that I ordered well or needed to improve
- I think it showed the efforts we were making to bring more fresh to the location
- A better awareness and balance of what we distribute to our clients in terms of nutritional value.
- It is interesting to see how our ordering rates nutritionally.

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Findings

- We enjoyed learning about the nutritious value of the foods that we provide within our Food Shelf. It was also very helpful to have the monthly reports so that we could report out to funders and community partners.
- Better understanding of nutritional food choices
- Really demonstrated the types of food we order for the food shelf and the nutritional quality that we are providing to our clients who use our food shelf on a monthly basis.
- Made us more aware about procuring healthful foods.
- Knowing about healthy choices
- Interesting information.

Report helped with reporting to others

- I was able to have a concrete number score to report to our organization.
- The board was very interested in this. It helped get the healthy food message out.
- We enjoyed learning about the nutritious value of the foods that we provide within our Food Shelf. It was also very helpful to have the monthly reports so that we could report out to funders and community partners. (repeat)

The report allowed us to compare to other food shelves

- good way to compare how we are doing in relation to other emergency food programs in the metro
- It helps us see where we stand in relation to other food shelves around the State. It was interesting for us to order what we needed and read your findings as to how well we had chosen the healthy foods for our people. A detriment was that it was a review of foods we received through Second Harvest but did not take into account other foods, donated or purchased locally.
- Great value

Not much

- None or very little (4)
- it really wasn't an accurate measurement of the healthful foods we distribute because, other than potatoes, carrots, and onions, I don't order a lot of fresh food from 2Harvest for several reasons: Fresh produce etc. is not on the inventory list that often, and when it is, one needs to order in quantities that are too large for us; since our deliveries come on a Thursday, we only have one day (Friday) to distribute the produce before the weekend. We get a lot of produce from Coburn's, so we do give a lot of produce to our clients; it's just from a different source.
- Not much unfortunately because there really was not a good teaching on how to read these
- We never submitted any information (not sure if we needed to), and I never opened the emails. Sorry!
- I don't want to sound negative; the reports are interesting, but we were already trained in nutrition, food handling and safety as my husband is a chef.

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**Findings**

**Did Providing Feedback Make a Difference in Ordering?**

Baseline year: April 2013 – March 2014

Higher average scores among treatment group before feedback summaries started

Scores peak in the height of the MN growing season (Q3)

(Note that these are quarterly scores; monthly scores are much more erratic.)

Average scores higher in year 2 (for both groups)

Key question: did the treatment group improve more?

Greater improvement (on average) in treatment group in quarter 3

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Findings

Estimated Impact of Intervention

Estimated impact: positive in all quarters (statistically significant only in July – Sept.)

In July – Sept., feedback improved total HEI scores by 4.4%

Range of possible impact (dotted lines) illustrates that we can’t be sure of any positive impact in other quarters

For more information, visit the project website: z.umn.edu/healthyfood
Findings

Impact of Intervention on Component Scores by Quarter

Note: Impact represents average difference in scores between the intervention and comparison food shelves after controlling for order volume, client age profile, and other time-invariant food shelf characteristics. A positive impact is the preferred direction, and dark blue bars indicate statistically significant impacts.

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Findings

Impact of Intervention on Component Scores by Quarter

Note: Impact represents average difference in scores between the intervention and comparison food shelves after controlling for order volume, client age profile, and other time-invariant food shelf characteristics. A positive impact is the preferred direction, and dark blue bars indicate statistically significant impacts.

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Interpreting Findings with Some Caution

The study team identified several challenges that come with applying the HEI-2010 to the food shelf setting. Due to these challenges or limitations we encourage you to interpret our findings with caution.

- We estimated that 56 percent (the ratio of pounds ordered to pounds distributed) of food distributed is not ordered from food banks and, therefore, is not reflected in the invoices. Donations made directly to food shelves, foods purchased directly by the food shelf from sources other than food banks, and other food procurement opportunities were not included in our calculations of the HEI-2010.

- Invoices sometimes lacked product specificity to ensure that each food was most accurately matched with an FPED code to correctly identify its nutrient profile. For example, unspecified “corn” could potentially be assigned a variety of codes (e.g., canned/fresh, no/low sodium).

- Twenty-seven percent of the pounds ordered by food shelves from food banks represented “miscellaneous” foods, most of which were donated foods. Insufficient invoice information made it difficult to match FPED codes.

- The USDA-216 supported FPED is limited to about 5,000 unique foods. This was particularly problematic when coding culturally specific foods such as cultural sauce. The FPED also lacks several specific products like “vanilla” Sunflower beverage. In many cases approximations were made.

- FPED codes are often unavailable for pre-preparation state of foods. For example, the product invoice listed the product as white cake mix and the only FPED code similar enough was “cake, white, prepared, no frosting.”

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- Courtney Hoolihan – Coordinator
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- Maggie Passmore, Director in Information Technology and Business Intelligence, Second Harvest Heartland
- Amy Praught – Graphic Designer
- Patty Wilder, Project Manager, Minnesota Hunger Initiative
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Papers under review:

- Application of the 2010 Healthy Eating Index to the Emergency Food System. Marilyn S Nanney, PhD, MPH, RD; Katherine Young, MPH, RD; Colin Cureton; Courtney Hoolihan, MPH, RD; Mark Janowiec; Qi Wang, MS; Cael Warren; Robert P King, PhD Submitted to Journal of Public Health Nutrition July 2015
- Comparing the application of the Healthy Eating Index-2005 and the Healthy Eating Index-2010 in the food shelf setting. Katherine Young MPH, RD, Courtney Hoolihan MPH, RD, Qi Wang MS, Cael Warren, Robert P King PhD, Marilyn S. Nanney PhD, MPH, RD Submitted to Journal of Hunger and Environmental Nutrition August 2010

Available upon request- please email youn1286@umn.edu

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References:


