Disparities in Access to Nutritional Food in Food Pantries and Their Impacts on Diet-Related Health Outcomes in the Community
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Introduction
- Food insecurity is highly correlated with diet-related illnesses like diabetes and hypertension
- Local food environment of low-income and minority neighborhoods contributes to prevalence of diet-related illnesses
- Pantry owners don’t have control over quantity and type of food items received
- Individuals who use food pantries prefer to be given healthier foods like fruits and vegetables
- Lack of nutrition and essential nutrients can also impact mental health
- Client-choice food pantries promote clients to take an active role in the maintenance of their health

Methods
- Participants were pantry clients from 3 food pantries in Bridgeport, CT
- Know Your Numbers health screenings analyzed individual’s total cholesterol, BMI, and blood pressure
- Data from health screenings was examined in 2015 and 2016
- Nutritional quality of the food in these pantries analyzed through a nutritional quality inventory scan
- Food items were placed into 1 of 4 different tiers according nutritional value and food group
- Pantry managers were given an electronic survey to assess effectiveness of the free health screenings

Discussion
- Across both screening years and pantries examined, percentage of pantry clients with high cholesterol decreased
- In 2015, BMI of individuals from El Olivar and St. Luke's all were within the obese range
- Percentage of individuals from these pantries within the obese range decreased in 2016 but still encompassed the majority of participants
- At Calvary Seventh Day in 2015, systolic measurements in majority of subjects were found to have stage 1 hypertension
- In 2016, the majority of participants at Calvary Seventh Day were within the normal range
- Before KYN screenings at St. Luke’s, which is not a client-choice pantry, majority of food items fell within Tier 3, the percentage of Tier 1 foods continued to increase over the years
- Pantry managers found these health screenings to increase their own and their client’s awareness of the importance of eating healthy in relation to the onset of diet-related illnesses
- St. Luke’s successfully demonstrated a correlation between poor health outcomes and nutritional quality of food items provided

Figure 1. Distribution of total cholesterol of pantry clients
Figure 2. Distribution of participants BMI across screening years
Figure 3. Distribution of Diastolic Blood Pressure Readings
Figure 4. Distribution of Systolic Blood Pressure Readings
Figure 5. Distribution of Food Items in Each Tier

Table 1. Sample of percentage of food items found within each food group for one year

<table>
<thead>
<tr>
<th>Food Group</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beverages</td>
<td>5.4%</td>
<td>6.0%</td>
<td>6.25%</td>
</tr>
<tr>
<td>Grains</td>
<td>33.4%</td>
<td>21.3%</td>
<td>22.66%</td>
</tr>
<tr>
<td>Fruits</td>
<td>15.76%</td>
<td>16.48%</td>
<td>11.14%</td>
</tr>
<tr>
<td>veggies</td>
<td>14.78%</td>
<td>13.38%</td>
<td>17.71%</td>
</tr>
<tr>
<td>Snacks</td>
<td>9.36%</td>
<td>2.29%</td>
<td>1.71%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>30.54%</td>
<td>38.63%</td>
<td>21.72%</td>
</tr>
</tbody>
</table>

Table 2. Sample tier system breakdown for Grains

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