Background & Significance

As part of Healthy People 2020, the American Heart Association defined 7 ideal metrics, comprised of health factors and behaviors:

- Blood Pressure (BP)
- LDL cholesterol
- Fasting Blood Glucose
- Smoking
- Physical Activity
- Healthy Eating
- Body Mass Index (BMI)

Less than 1% of Americans meet all 7 metrics. Between 1999-2002, those who met 5 of 7 metrics had 78% reduction in all-cause mortality (Ford ES et. al., 2012). These metrics influence disease processes in the circulatory system and brain.

Objectives

1) Implement a risk assessment tool in all ambulatory clinics within the Corrigan Minehan Heart Center and Fireman Vascular Center.

2) Increase the proportion of patients with ideal health behaviors and health factors by providing a personalized report with scores and educational information based on the individuals answers.

3) Promote wellness through a 6-month lifestyle management program that includes:
   - Nurse coaching
   - An interactive dashboard
   - Fitness trackers

Methods

Over 5700 risk factor assessments were completed.

Personalized reports were provided to patients instantly on the iPad, could be seen via Gateway and upon request, printed and handed to patients during check-out.

6% of patients reported optimal lifestyle related behaviors.

355 high risk patients received intervention.

Data from the 6-month lifestyle management pilot were analyzed using paired T-Tests and demonstrated statistically significant decrease in BMI (p < .05), Percentage of Body Fat (p < .05), Waist Circumference (p < .05), Systolic BP (p < .05), and GMS Negative Affect (p < .05).

Implications for Nursing Practice

- Risk factor management by clinical staff is important to improve outcomes, cut costs and can be easily managed via innovative, interactive web-based tools and remote trackers.

- Broader availability and use of our tool and other novel approaches across MGH would be beneficial to reduce cardiovascular risk in our patient population.

Table 1: Change in the health-related factors in 6-month program (N=10)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Baseline</th>
<th>End of Program</th>
<th>Change</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI</td>
<td>35</td>
<td>33</td>
<td>-1.5</td>
<td>0.02*</td>
</tr>
<tr>
<td>Fat%</td>
<td>45</td>
<td>43</td>
<td>-2.8</td>
<td>0.02*</td>
</tr>
<tr>
<td>Waist Circumference (in.)</td>
<td>44</td>
<td>42</td>
<td>-1.7</td>
<td>0.02*</td>
</tr>
<tr>
<td>Blood Pressure (Systolic)</td>
<td>129</td>
<td>120</td>
<td>-10.0</td>
<td>0.02*</td>
</tr>
<tr>
<td>Blood Pressure (Diastolic)</td>
<td>78</td>
<td>70</td>
<td>-3.2</td>
<td>0.47</td>
</tr>
<tr>
<td>LDL Cholesterol</td>
<td>132</td>
<td>131</td>
<td>-1.7</td>
<td>0.77</td>
</tr>
<tr>
<td>Glucose (mg/dL)</td>
<td>103</td>
<td>101</td>
<td>-2.2</td>
<td>0.40</td>
</tr>
<tr>
<td>GMS Positive</td>
<td>24</td>
<td>24</td>
<td>0.0</td>
<td>0.11</td>
</tr>
<tr>
<td>GMS Negative</td>
<td>13</td>
<td>13</td>
<td>-4.1</td>
<td>&lt;0.01*</td>
</tr>
</tbody>
</table>

* p < 0.05

This project was undertaken as a Quality Improvement Initiative at Massachusetts General Hospital, and as such was not formally supervised by the Institutional Review Board per their policies.