A Preliminary Method for Estimating Program-related Reduction in Employee Health Care Expenditures for the Massachusetts Working on Wellness (WoW) Program

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Introduction

• The WoW program is designed to improve employee health outcomes through workplace support of healthy behaviors.
• Healthy behaviors are expected to achieve health care cost savings through:
  - Cost reduction: improving health by changing unhealthy behaviors to reduce health care services
  - Cost avoidance: maintaining healthy people at the same level without incurring new medical expenses
• Most of the literature addressing cost savings has not differentiated these two components. The quantified savings are typically represented as cost reduction.
• This approach was developed to estimate potential health care expenditure reduction for the WoW program based on
  - Employer characteristics at baseline
  - Employer plans for new activities and policies
  - Evidence in the scientific literature on expected program benefits

Methods

• Collect baseline data from participating organizations and their employees
• Categorize intervention activities planned by employers
• Review scientific literature for documented effects from similar worksite interventions and summarize
• Factors for estimating potential health care expenditure reduction:
  - Number of organizations targeting the specific area
  - Number of employees in the study
  - Prevalence of specific risk factors for employees
  - Ranges of success in risk mitigation
  - Program-associated decrease in health care expenditures
• Estimate potential return on investment considering:
  - Health care expenditure reduction
  - Reported program investment amount

Results

<table>
<thead>
<tr>
<th>Selected Literature Review for Healthy Eating</th>
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</thead>
<tbody>
<tr>
<td>Intervention Activities (#)</td>
</tr>
<tr>
<td>Information only N=21</td>
</tr>
<tr>
<td>Financial access/support N=6</td>
</tr>
<tr>
<td>Financial incentives, staff competitions N=10</td>
</tr>
<tr>
<td>Multi-component programs (at least 2 activities above)</td>
</tr>
</tbody>
</table>

• An improvement of as much as 30% of baseline value is plausible from a well-conducted intervention
• We assume that a 5% change in a measured outcome, e.g., change in behaviors, is roughly equivalent to 5% of the population changing risk category

<table>
<thead>
<tr>
<th>Selected Potential Cost Reduction Estimations</th>
</tr>
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<tbody>
<tr>
<td># of Employees (N=74,000)</td>
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<tr>
<td>Health Eating</td>
</tr>
</tbody>
</table>
  - Employees not eating sufficient fruits/vegetables (76%) | 5% | 2,081 | $312,132 |
  - Employers including this target in their Action Plans (74%) |
  - Employees not including this target in their Action Plans | 10% | 4,162 | $624,264 |
  - Change at 12 months: +30% fruit/vegetable intake +25% of participants in lowest risk group |
  - Change at 12 months: -0.7% in mean BMI, 5.9% in systolic BP, and -4.1% in diastolic BP |
  - Change at 12 months: +93% purchases of lower-fat snacks; increased intake of fresh fruit (4-fold) and baby carrots (2-fold) |
| Exercise (I) |
  - Employees not getting sufficient exercise (23%) | 5% | 800 | $119,991 |
  - Employers including this target in their Action Plans (94%) |
| Exercise (II) |
  - Employees overweight or obese (50%) | 5% | 1,379 | $260,850 |
  - Employers including this target in their Action Plans (94%) |
| Stress Reduction |
  - Employees’ stress interfering with health (19%) | 5% | 478 | $71,706 |
  - Employers including this target in their Action Plans (88%) |

Discussion and Conclusions

• Cost reduction varies among risk factors because of their baseline prevalence
• Current estimation focuses solely on cost reduction from improving unhealthy behaviors of employees
• The magnitude of cost saving could be greater if savings from other areas are also considered, including:
  - Cost avoidance by maintaining healthy people from engaging in new unhealthy behaviors
  - Preventing chronic disease complications
  - Synergistic effects when targeting multiple areas
  - Increased productivity and reduced absenteeism
• Higher return on investment is possible with further WoW program expansion since upfront costs for program development and data processes are likely non-recurrent or very low in the future

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