The Economic Value of Healthy Workers

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The Economic Value of Healthy Workers  
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I. The Natural Flow of Health Status and Costs
II. Impact of Health Status on Productivity Costs
III. Costs Follow Changes in Risks
IV. The Value of Evaluation Strategies
Lifestyle Scale for Individuals or for any Population

Premature Death/Disability

Chronic Signs & Symptoms

Feeling OK

High-Level Wellness/Maximum Performance

Where are the Opportunities?
Total Medical and Pharmacy Costs Paid by Quarter for Three Groups

- Serious disease
- Minor Disease
- No Disease

Where are the Opportunities?
Risk Transitions
Time 1 – Time 2

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Risk (&gt;4 risks)</td>
<td>4,691 (10.8%)</td>
</tr>
<tr>
<td>Medium Risk (3 - 4 risks)</td>
<td>10,670 (24.6%)</td>
</tr>
<tr>
<td>Low Risk (0 - 2 risks)</td>
<td>26,591 (61.4%)</td>
</tr>
</tbody>
</table>

Mean of three years between measures

Modified from Edington, AJHP. 15(5):341-349, 2001
Opportunities for Health Management

UM/Case Management

Lifestyle Interventions
Health Promotion and Risk Reduction

Low/No Risk → At Risk → Early Signs → Symptoms → Disease

Preventive Services and Self-Care

Screening

Decision Support

Hospitalist

Disease Management

Case Management (Major, Chronic)

Musich, Burton, Edington. Disease Management and Health Outcomes 5: 153-166, 1999
Relationship of Health Risks with Measures of Productivity
Relative Costs of Poor Health: Total Value of Health

Direct Costs:
- Medical & Pharmacy

Indirect Costs:
- Presenteeism
- LTD
- STD
- Absenteeism

Edington, Burton. A Practical Approach to Occupational and Environmental Medicine (McCunney). 140-152. 2003
Percentage Presenteeism by Risk Status (AHM Employees)

- Stress (high)*: Low Risk - 15%, High Risk - 27%
- Use Medication/Drugs**: Low Risk - 17%, High Risk - 26%
- Physical Health (fair or poor)**: Low Risk - 17%, High Risk - 23%
- Life partly or not satisfied*: Low Risk - 17%, High Risk - 24%
- Safety Belt Usage <100%: Low Risk - 18%, High Risk - 23%
- Job partly or not satisfied: Low Risk - 17%, High Risk - 22%
- Physical Activity <1x/week**: Low Risk - 17%, High Risk - 22%
- Current Smoker: Low Risk - 17%, High Risk - 20%
- Alcohol Drinks >14 weekly: Low Risk - 18%, High Risk - 20%
- Cholesterol>239: Low Risk - 18%, High Risk - 19%
- BMI>=27.5: Low Risk - 16%, High Risk - 19%
- High BP (SBP >139, DBP >89): Low Risk - 11%, High Risk - 19%

Annual Illness Absence Hours by Risk Status (AHM Employees)

- Current Smoker: 38 Low Risk, 56 High Risk
- Safety Belt Usage <100%: 40 Low Risk, 56 High Risk
- Physical Health (fair or poor): 38 Low Risk, 53 High Risk
- Stress (high): 37 Low Risk, 51 High Risk
- Medical Problems: 40 Low Risk, 50 High Risk
- BMI>=27.5: 38 Low Risk, 49 High Risk
- Life partly or not satisfied: 39 Low Risk, 48 High Risk
- Use Medication/Drugs: 40 Low Risk, 46 High Risk
- Physical Activity <1x/week: 40 Low Risk, 43 High Risk
- Alcohol Drinks >14 weekly: 34 Low Risk, 41 High Risk
- High BP (SBP >139, DBP >89): 34 Low Risk, 42 High Risk
- Job partly or not satisfied: 33 Low Risk, 42 High Risk
- Cholesterol>239: 21 Low Risk, 42 High Risk
Intervention Case Study at AHM

2004-2005
AHM Corporate HRA:
Measuring Baseline Health Status

**Top Four Health Risks**

- Overweight 29.5%
- Stress 24.4%
- Perceived health 21.8%
- Physical activity 20.5%
Excess Absent Hours due to Excess Risks (AHM Employees)

13% of absent hours

- Excess absent hours
- Base absent hours

Monthly Average Illness Hours

<table>
<thead>
<tr>
<th>Risks</th>
<th>Low (0-2 Risks) N=157</th>
<th>Medium (3-4 Risks) N=51</th>
<th>High (5+ Risks) N=16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess</td>
<td>2.4</td>
<td>3.1</td>
<td>5.1</td>
</tr>
<tr>
<td>Base</td>
<td>2.4</td>
<td>0.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Total</td>
<td>2.4</td>
<td>2.4</td>
<td>2.4</td>
</tr>
</tbody>
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Excess On-The-Job Productivity Loss due to Excess Risks (AHM Employees)

19% of productivity loss

- Excess productivity loss
- Base productivity loss

Low Risk (0-2 Risk) N=157
- 14.5% Excess productivity loss
- 14.5% Base productivity loss

Medium Risk (3-4 Risks) N=51
- 9.2% Excess productivity loss
- 14.5% Base productivity loss

High Risk (5+ Risks) N=16
- 18.2% Excess productivity loss
- 14.5% Base productivity loss

AHM Corporate HRA: Measuring Changes Overtime

**Most Improved Health Risks**
- Physical activity: -7.8 pct pts
- Perceived health: -2.6
- Smoking: -1.3

**Most Increased Health Risks**
- Job satisfaction: +7.8
- Blood pressure: +6.5
- Stress: +5.2
AHM Corporate HRA: Changes in Overall Health Status

Tracking changes in health status confirms impact of interventions and monitors changes in health issues overtime

<table>
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<tr>
<th>Risk Level</th>
<th>2004</th>
<th>2005</th>
<th>Change</th>
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<tbody>
<tr>
<td>Low risk (0-2 risks)</td>
<td>72.7%</td>
<td>74.0%</td>
<td>+1.3</td>
</tr>
<tr>
<td>Medium risk (3-4 risks)</td>
<td>19.5%</td>
<td>15.6%</td>
<td>-3.9</td>
</tr>
<tr>
<td>High risk (5+risks)</td>
<td>7.8%</td>
<td>10.4%</td>
<td>+2.6</td>
</tr>
</tbody>
</table>
Changes in percent work impairment follow changes in health risks. There is a 4% change in work impairment associated with each risk changed.
Changes in Annual Absence Hours with Changes in Numbers of Health Risks

Changes in percent absence follow changes in health risks. There is a 3 hour change in absence hours associated with each risk changed.
Implementing Evaluation Strategies
**Implementation**
- Baseline health status
- Risk combination strategies
- Redesign/readjustment
- Data-driven decision support

**Process**
- Participation
- Satisfaction
- Health planning

**Evaluation Strategies**

**Impact/Outcomes**
- Health outcomes
- Productivity outcomes
- ROI
Uses for Evaluation Strategies

- Documents health changes and what works
- Promotes data-driven decision support
- Establishes best practices and industry benchmarks
- Enables return on investment calculations (presenteeism and/or absenteeism)
Thank you for your attention.
Please contact us if you have any questions.

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