Fundamentals of Maintaining a Healthy and High Performing Workplace and Workforce as a Core Business Strategy

Health as an Economic Strategy: Approach to Population Health

THE UNIVERSITY OF MICHIGAN

HEALTH MANAGEMENT RESEARCH CENTER

Dee W. Edington
UM-HMRC Corporate Consortium

- Ford
- Delphi
- Kellogg
- US Steel
- We Energies
- JPMorgan Chase
- Delphi Automotive
- Southern Company
- Navistar Corporation
- University of Missouri
- Medical Mutual of Ohio
- Florida Power and Light
- St Luke’s Health System
- Allegiance Health System
- Cuyahoga Community College
- United Auto Workers-General Motors
- Wisconsin Education Association Trust
- Australian Health Management Corporation
- Steelcase (H)
- General Motors
- Progressive (H)
- Crown Equipment
- Affinity Health System
- SW MI Healthcare Coalition (H)

*The consortium members provide health care insurance for over two million individuals. Data are available from three to 20 years.

Meets on First Wednesday of each December in Ann Arbor.
Health as an Economic Strategy: An Approach to Population Health

Natural Flow of a Population

High Risks and High Costs

Business Case

Health as a Serious Business Strategy

Mission

Change the Health and Disability Strategy from a Health Strategy to an Economic Strategy

Solution

Zero Trends:
Five Pillars to Support a Culture of Health
Section I

The Current Healthcare Strategy

Natural Flow

Wait for Disease and then Treat

(...in Quality terms this strategy translates into “wait for defects and then fix the defects” ...)
## Estimated Health Risks

<table>
<thead>
<tr>
<th>Health Risk Measure</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Weight</td>
<td>41.8%</td>
</tr>
<tr>
<td>Stress</td>
<td>31.8%</td>
</tr>
<tr>
<td>Safety Belt Usage</td>
<td>28.6%</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>23.3%</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>22.8%</td>
</tr>
<tr>
<td>Life Satisfaction</td>
<td>22.4%</td>
</tr>
<tr>
<td>Smoking</td>
<td>14.4%</td>
</tr>
<tr>
<td>Perception of Health</td>
<td>13.7%</td>
</tr>
<tr>
<td>Illness Days</td>
<td>10.9%</td>
</tr>
<tr>
<td>Existing Medical Problem</td>
<td>9.2%</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>8.3%</td>
</tr>
<tr>
<td>Alcohol</td>
<td>2.9%</td>
</tr>
<tr>
<td>Zero Risk</td>
<td>14.0%</td>
</tr>
</tbody>
</table>

From the UM-HMRC Medical Economics Report

Estimates based on the age-gender distribution of a specific corporate employee population

### OVERALL RISK LEVELS

- **Low Risk**: 0-2 risks
- **Medium Risk**: 3-4 risks
- **High Risk**: 5 or more
Risk Transitions
(Natural Flow)
Time 1 - Time 2

High Risk
(>4 risks)

Low Risk
(0 - 2 risks)

Medium Risk
(3 - 4 risks)

10,670 (24.6%)
11,495 (26.5%)
5,309 (19.0%)
4,546 (42.6%)

2,373 (50.6%)
1,961 (18.4%)
678 (14.4%)
892 (3.2%)

4,691 (10.8%)
5,226 (12.1%)
4,163 (39.0%)

27,951 (64.5%)
21,750 (77.8%)
26,591 (61.4%)

Average of three years between measures

Modified from Edington, AJHP. 15(5):341-349, 2001
Cost Transitions (Natural Flow)

Time 1 - Time 2

High Cost ($5000+)
- 37,701 (55.7%)
- 67,680 (19.0%)

Medium Cost ($1000-$4999)
- 73,427 (20.6%)
- 26,288 (20.6%)

Low Cost (<$1000)
- 152,063 (42.7%)
- 119,271 (74.1%)

N=356,275 Non-Medicare Trad/PPO

Modified from Edington, AJHP. 15(5):341-349, 2001
### Costs Associated with Risks

#### Medical Paid Amount x Age x Risk

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Low Cost</th>
<th>Med Risk</th>
<th>High Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-34</td>
<td>$1,776</td>
<td>$3,514</td>
<td>$5,114</td>
</tr>
<tr>
<td>35-44</td>
<td>$2,193</td>
<td>$4,621</td>
<td>$5,710</td>
</tr>
<tr>
<td>45-54</td>
<td>$2,740</td>
<td>$4,327</td>
<td>$5,710</td>
</tr>
<tr>
<td>55-64</td>
<td>$3,734</td>
<td>$4,613</td>
<td>$7,991</td>
</tr>
<tr>
<td>65-74</td>
<td>$4,613</td>
<td>$6,636</td>
<td>$10,785</td>
</tr>
<tr>
<td>75+</td>
<td>$5,756</td>
<td>$6,636</td>
<td>$11,909</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$8,927</td>
<td>$11,965</td>
</tr>
</tbody>
</table>

Learnings from Section I

The flow of Risks is to High-Risk

The flow of Costs is to High-Cost

Costs follow Risks and Age
Section II

Build the Business Case for Health as a Serious Economic Strategy (175) Publications

Engage the Total Population to get to the Total Value of Health

Complex Systems (Synergy & Emergence) versus Reductionism (Etiology)
Business Concept

Excess Costs follow Excess Risks
Excess Medical Costs due to Excess Risks

### Association of Risk Levels with Corporate Cost Measures

<table>
<thead>
<tr>
<th>Outcome Measures</th>
<th>Low-Risk</th>
<th>Medium-Risk</th>
<th>High-Risk</th>
<th>Excess Cost Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term Disability</td>
<td>$120</td>
<td>$216</td>
<td>$333</td>
<td>41%</td>
</tr>
<tr>
<td>Worker’s Compensation</td>
<td>$228</td>
<td>$244</td>
<td>$496</td>
<td>24%</td>
</tr>
<tr>
<td>Absence</td>
<td>$245</td>
<td>$341</td>
<td>$527</td>
<td>29%</td>
</tr>
<tr>
<td>Medical &amp; Pharmacy</td>
<td>$1,158</td>
<td>$1,487</td>
<td>$3,696</td>
<td>38%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,751</strong></td>
<td><strong>$2,288</strong></td>
<td><strong>$5,052</strong></td>
<td><strong>36%</strong></td>
</tr>
</tbody>
</table>

Wright, Beard, Edington. JOEM. 44(12):1126-1134, 2002
Business Concept

Change in Costs

follow

Change in Risks
Change in Costs follow Change in Risks

Overall: Cost per risk reduced: $215; Cost per risk avoided: $304
Actives: Cost per risk reduced: $231; Cost per risk avoided: $320
Retirees<65: Cost per risk reduced: $192; Cost per risk avoided: $621
Retirees>65: Cost per risk reduced: $214; Cost per risk avoided: $264

Business Case

Zero Trends follow

“Don’t Get Worse”
and
“Help the Healthy People Stay Healthy”
Medical and Drug Cost (Paid)*

- Slopes differ
  - P=0.0132
  - Impr slope=$117/yr
  - Nimpr slope=$614/yr

Improved=Same or lowered risks
Learnings for Section II

Excess Costs are related to Excess Risks

Costs follow Engagement and Risks

Controlling Risks leads to Zero Trend
The Economics of Total Population Engagement and Total Value of Health

Where does cost turn into an investment?

Low or No Risks → Health Risks → Disease

Total Value of Health:
- Medical/Hospital
- Drug
- Absence
- Disability
- Worker’s Comp
- Effective on Job
- Recruitment
- Retention
- Morale

increase
increase
decrease
Great 25 years of work: the Business Case is solid, but not yet perfect. Congratulations!

However, nothing has changed in the population

No more people doing physical activity
No fewer people weighing less
No fewer people with diabetes
Health Management I.Q. Quiz

If you continue to wait for defects and then try to fix the defects: Will you ever solve the problems?

Is it better to keep a good customer or find a new one?

If you put a changed person back into the same environment: Will the change be sustainable?

Is the action you reward, the action that is sustained?
The world we have made as a result of the level of thinking we have done thus far creates problems we cannot solve at the same level of thinking at which we created them.

- Albert Einstein
Section III

The Evidence-Based Solution: Zero Trends

Integrate Health into the Environment and the Culture

(...in Quality terms this strategy translates into “...fix the systems that lead to the defects” ... )
Business Problem

Currently, most costs associated with workplace and workforce performance are growing at an **unsustainable rate**.

How are we going to be successful in this increasingly competitive world without a healthy and high performing workplace and workforce?

How can we turn costs into an investment?
Vision for Zero Trends

Zero Trends was written to be a transformational approach to the way organizations ensure a continuous healthy and high performing workplace and workforce

Based upon 175 Research Publications
Integrate Health into Core Business

Healthier Person → Better Employee → Gains for The Organization

1. Health Status
2. Life Expectancy
3. Disease Care Costs
4. Health Care Costs
5. Productivity
   a. Absence
   b. Disability
   c. Worker’s Compensation
   d. Presenteeism
   e. Quality Multiplier
6. Recruitment/Retention
7. Company Visibility
8. Social Responsibility

Company Culture and Environment
Senior Leadership
Operations Leadership
Self-Leadership
Reward Positive Actions
Quality Assurance

Lifestyle Change
Health Management Programs

Senior Leadership

Create the Vision

- Commitment to healthy culture
- Connect vision to business strategy
- Engage all leadership in vision

“Establish the value of a healthy and high performing organization and workplace as a world-wide competitive advantage”
Operations Leadership

Align Workplace with the Vision

• Brand health management strategies
• Integrate policies into health culture
• Engage everyone

“You can’t put a changed person back into the same environment and expect the change to hold”
Population Health Management Strategy

Health Management
--healthy stay healthy
--don’t get worse

Disease Management
--stay on protocol
--don’t get worse

Sickness Management
--reduce errors
--coordinate services

Where is the economic strategy?
Promote Self Leadership

Create Winners

- Help employees not get worse
- Help healthy people stay healthy
- Provide improvement and maintenance strategies

“Create winners, one step at a time and the first step is don’t get worse”
Recognize Positive Actions

Reinforce the Culture of Health

• Reward champions
• Set incentives for healthy choices
• Reinforce at every touch point

“What is rewarded is what is sustained”
Quality Assurance

Outcomes Drive the Strategies

• Integrate all resources
• Measure outcomes
• Make it sustainable

“Metrics to measure progress towards the vision, culture, self-leaders, actions, economic outcomes”
Business Case

Indicators of Sustainability

1. Company Engagement
2. Environmental Support
3. Perception of the Culture
4. Individual Engagement
## Company Engagement

**Which level is right for you?**

<table>
<thead>
<tr>
<th>Level: Champion</th>
<th>Senior Leadership</th>
<th>Operational Leadership</th>
<th>Self-Leadership</th>
<th>Recognize Positive Actions</th>
<th>Quality Assurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision from Leaders</td>
<td>Healthy System &amp; Culture</td>
<td>Everyone a Self-Leader</td>
<td>Recognize Positive Actions</td>
<td>Progress in All Areas</td>
<td></td>
</tr>
<tr>
<td>Speech from Leader</td>
<td>Reduction in Risks</td>
<td>Reduce Health Risks</td>
<td>Reward Achievement</td>
<td>Change in Risk &amp; Sick Costs</td>
<td></td>
</tr>
<tr>
<td>Inform Leader</td>
<td>Programs Targeting Risks</td>
<td>Health Risk Awareness</td>
<td>Reward Enrollment</td>
<td>Change in Risks</td>
<td></td>
</tr>
<tr>
<td>Do Nothing</td>
<td>Do Nothing</td>
<td>Do Nothing</td>
<td>Do Nothing</td>
<td>Do Nothing</td>
<td></td>
</tr>
</tbody>
</table>

- **Senior Leadership**: Vision from Leaders
- **Operational Leadership**: Healthy System & Culture
- **Self-Leadership**: Everyone a Self-Leader
- **Recognize Positive Actions**: Recognize Positive Actions
- **Quality Assurance**: Progress in All Areas

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- **Comprehensive**
- **Traditional**
- **Do Nothing**

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*University of Michigan Health Management Research Center*  
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Engagement of Individuals (employees and spouses)

Health Risk Appraisal

Biometrics Screening and Counseling

Contact a Health Advocate

Two Other Activities
Measurement Scorecard

Company Engagement: Senior Leaders

Percent Engagement: 85% to 95%
HRA + Screening/ counseling + Coaching + Two other sessions

Percent Low-Risk: 75% to 85%
Percent of Total Eligible

Proof of Concept

Change in Risk Levels beats the Natural Flow
Change in Cost Levels beats the Natural Flow
Year over Year Trends Approach Zero Percent
Improved/ no change Separate from Not Improved
Economic Outcomes

Zero Trends
Low Risk Percentage following Each Strategy

Unit: % of Low-risk employees in Population

- Intervention Level 3
- Intervention Level 2
- Intervention Level 1
- Natural flow

Projected Total Healthcare Costs & Benefit for Active Employees (x,000)

- Natural flow
- Intervention Level1
- Intervention Level2
- Intervention Level3
Quality Assurance Key Learnings

- Integrate and leverage data to support decision making throughout life of program
- Evaluation Framework that guides the assessment of relationships among the context, mechanisms, and outcomes of the program
- Key actionable metrics and company index score for each pillar
Summary
Lifestyle Scale for Individuals and Populations: Self-Leaders

High-Level Wellness, Energy and Vitality

Feeling OK

Chronic Signs & Symptoms

Premature Sickness, Death & Disability

Sound Bites

1. The “Do Nothing” strategy is unsustainable.

2. Refocus the definition of health from “Absence of Disease to High Level Vitality.”

3. “Total Population Management” is the effective healthcare strategy and to capture the “Total Value of Health.”

4. The business case for Health Management indicates that the critical strategy is to “Keep the Healthy People Healthy” (“keep the low-risk people low-risk”).

5. The first step is, “Don’t Get Worse” and then “Let’s create Winners, One Step at a Time.”
Implications for Public Policy
What can Americans Do?

**Federal Government**
Provide incentives for companies to improve the health component of their products

**State Governments**
Provide incentives for companies and communities to move to towards healthy cultures

**Local Communities**
Form coalitions of stakeholders to create a community culture of health

**Employers**
Install the five fundamental pillars of health management to move to a champion company

**Individuals**
Stop getting worse as a first step to becoming a self-leader
Thank you for your attention.

Please contact us if you have any questions.

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