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

Zero Trends: A Transformational Approach to Population Health

THE UNIVERSITY OF MICHIGAN

HEALTH MANAGEMENT RESEARCH CENTER

Dee W. Edington
The UM-HMRC Corporate 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.
2010 Healthcare Forum
Zero Trends: A Transformational Approach to Population Health
April 27, 2010

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><strong>Zero Risk</strong></td>
<td><strong>14.0%</strong></td>
</tr>
</tbody>
</table>

**OVERALL RISK LEVELS**

- **Low Risk** 0-2 risks
- **Medium Risk** 3-4 risks
- **High Risk** 5 or more

From the UM-HMRC Medical Economics Report

Estimates based on the age-gender distribution of a specific corporate employee population
Risk Transitions
(Natural Flow)
Time 1 - Time 2

High Risk
(>4 risks)

Low Risk
(0 - 2 risks)

Medium Risk
(3 - 4 risks)

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+)

Medium Cost
($1000-$4999)

Low Cost
(<$1000)

N=356,275 Non-Medicare Trad/PPO
Modified from Edington, AJHP. 15(5):341-349, 2001
The 20-80 rule is always true but terrifically flawed as a strategy.
Costs Associated with Risks
Medical Paid Amount x Age x Risk

Age Range

19-34 35-44 45-54 55-64 65-74 75+

Annual Medical Costs

$0 $3,000 $6,000 $9,000 $12,000

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 the 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

Health Risks are Associated With Disease
Excess Diseases Associated with Excess Risks (Heart, Diabetes, Cancer, Bronchitis, Emphysema)

Percent with Disease

Age Range

Business Concept

Excess Costs follow Excess Risks
Excess Disability Costs due to Excess Risks

- Low Risk (0-2 Risks): $491
- HRA Non-Participant: $666
- Medium Risk (3-4 Risks): $783
- High Risk (5+ Risks): $1,248

Wright, Beard, Edington. JOEM. 44(12):1126-1134, 2002
### 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)*

- Paid: $1,500, $2,000, $2,500, $3,000, $3,500, $4,000


- 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

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

Where does cost turn into an investment?
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

Lifestyle Change → Health Management Programs

Company Culture and Environment

Senior Leadership
Operations Leadership
Self-Leadership
Reward Positive Actions
Quality Assurance

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”
Senior Leadership Key Learnings

✓ Commit to the vision and have the courage to see it through

✓ Connect & align the vision to business strategy

✓ Provide resources & ongoing support to realize the vision

✓ Role model & cheerlead along the way to success
Operations Leadership

Align Workplace with the Vision

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

“There 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?
Operational Leadership

Key Learnings

- Own and manage the strategy
- Integrate & align internal and external resources
- Brand & communicate the vision
- Engage everyone!
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”
Self-Leadership: Key Learnings

✓ Create and structure an engaging experience for all employees across the health spectrum that includes family and community

✓ Programs designed to promote self-leadership and resilience

✓ Monitor and adjust approach and structure as necessary to achieve desired outcomes
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”
Recognition Key Learnings

✓ Drive engagement

✓ Recognize Champions – support the behavior you desire

✓ Provide at least one good choice for everyone – including the low risk

✓ Reinforce everyone for making good choices & sustaining participation
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. Individual Engagement
3. Environmental Support
4. Perception of the Culture
<table>
<thead>
<tr>
<th>Level</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>Champion</td>
<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>
</tr>
<tr>
<td>Comprehensive</td>
<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>
</tr>
<tr>
<td>Traditional</td>
<td>Inform Leader</td>
<td>Programs Targeting Risks</td>
<td>Health Risk Awareness</td>
<td>Reward Enrollment</td>
<td>Change in Risks</td>
</tr>
<tr>
<td>Do Nothing</td>
<td>Do Nothing</td>
<td>Do Nothing</td>
<td>Do Nothing</td>
<td>Do Nothing</td>
<td>Do Nothing</td>
</tr>
</tbody>
</table>

Transform to Zero Trends
Which level is right for you?

Pillar 5: Quality Assurance

University of Michigan Health Management Research Center
Copyright 2009
Supportive Environment and Culture

Perception of the Culture from Survey

Supportive Environment From Survey

Not Supportive

Very Supportive

Not supportive

Median

Very supportive

A

B

M
Engagement of Individuals (employees and spouses)

Health Risk Appraisal

Biometrics Screening and Counseling

Contact a Health Advocate

Two Other Activities
Measurement Scorecard

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 Level3
- Intervention Level2
- Intervention Level1
- Natural flow

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

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

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
The Challenge

Expand the Health Status Strategy

from a singular focus on Sickness and Precursors to Disease

to include a focus on Wellness and Precursors to Health

(from a 97 to 3 resource allocation ratio to a 80 to 20 ratio)
Summary
Lifestyle Scale for Individuals and Populations: Self-Leaders

High-Level Wellness, Energy and Vitality

Feeling OK

Chronic Signs & Symptoms

Premature Sickness, Death & Disability

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 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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