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

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.

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

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

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)

2,373 (50.6%)

4,691 (10.8%)

5,226 (12.1%)

1,961 (18.4%)

Medium Risk (3 - 4 risks)

10,670 (24.6%)

11,495 (26.5%)

4,546 (42.6%)

1640 (35.0%)

892 (3.2%)

678 (14.4%)

5,309 (19.0%)

4,163 (39.0%)

27,951 (64.5%)

26,591 (61.4%)

Low Risk (0 - 2 risks)

21,750 (77.8%)

Average of three years between measures
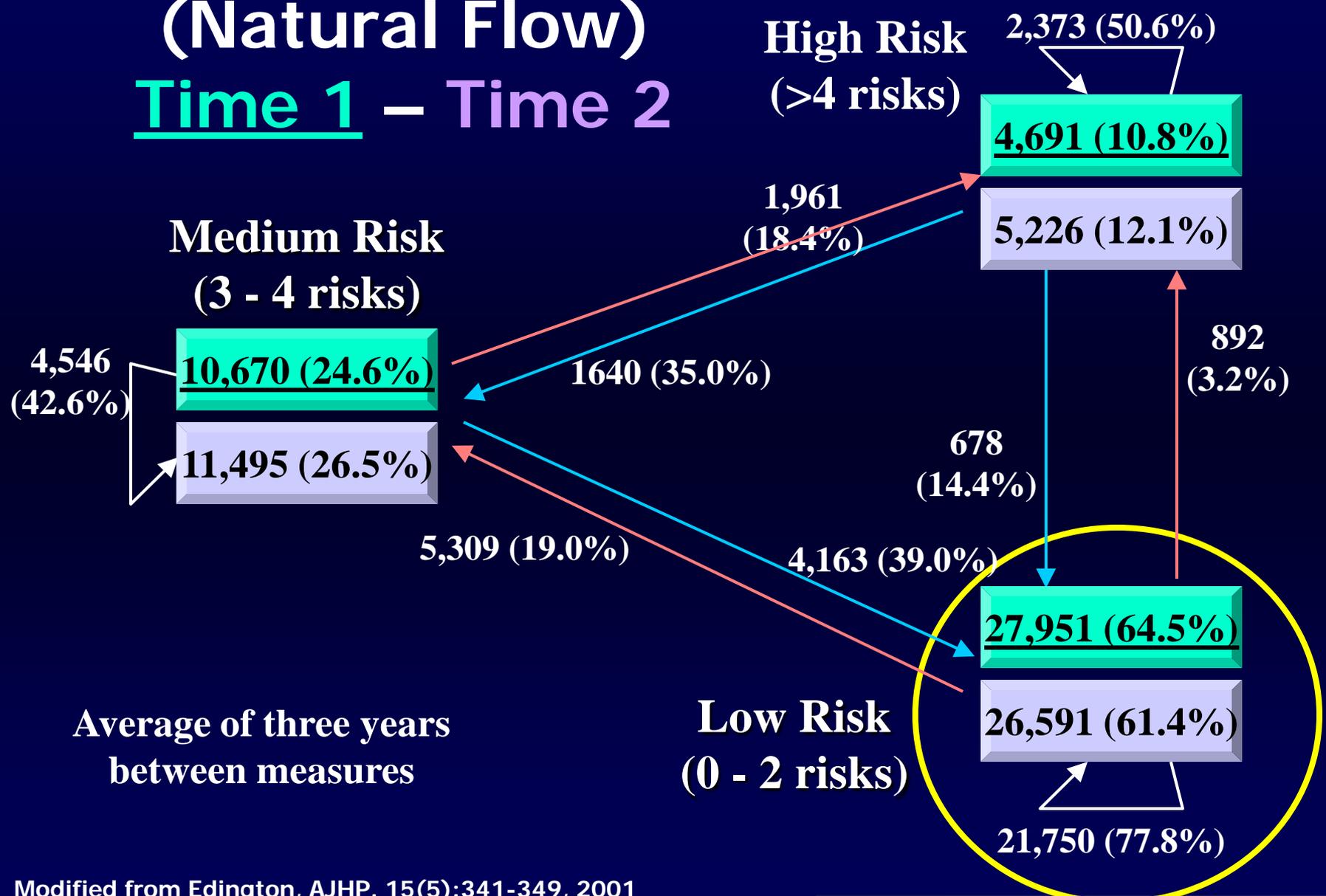
Modified from Edington, AJHP. 15(5):341-349, 2001

Cost Transitions (Natural Flow)
Time 1 – Time 2

High Cost ($5000+)

37,701 (55.7%)

67,680 (19.0%)

73,427 (20.6%)

Medium Cost ($1000-$4999)

26,288 (20.6%)

75,500 (59.1%)

127,644 (35.8%)

130,785 (36.7%)

23,043 (34.0%)

9,438 (5.9%)

6,936 (10.2%)

32,242 (20.0%)

25,856 (20.3%)

160,951 (45.2%)

152,063 (42.7%)

Low Cost (<$1000)

119,271 (74.1%)
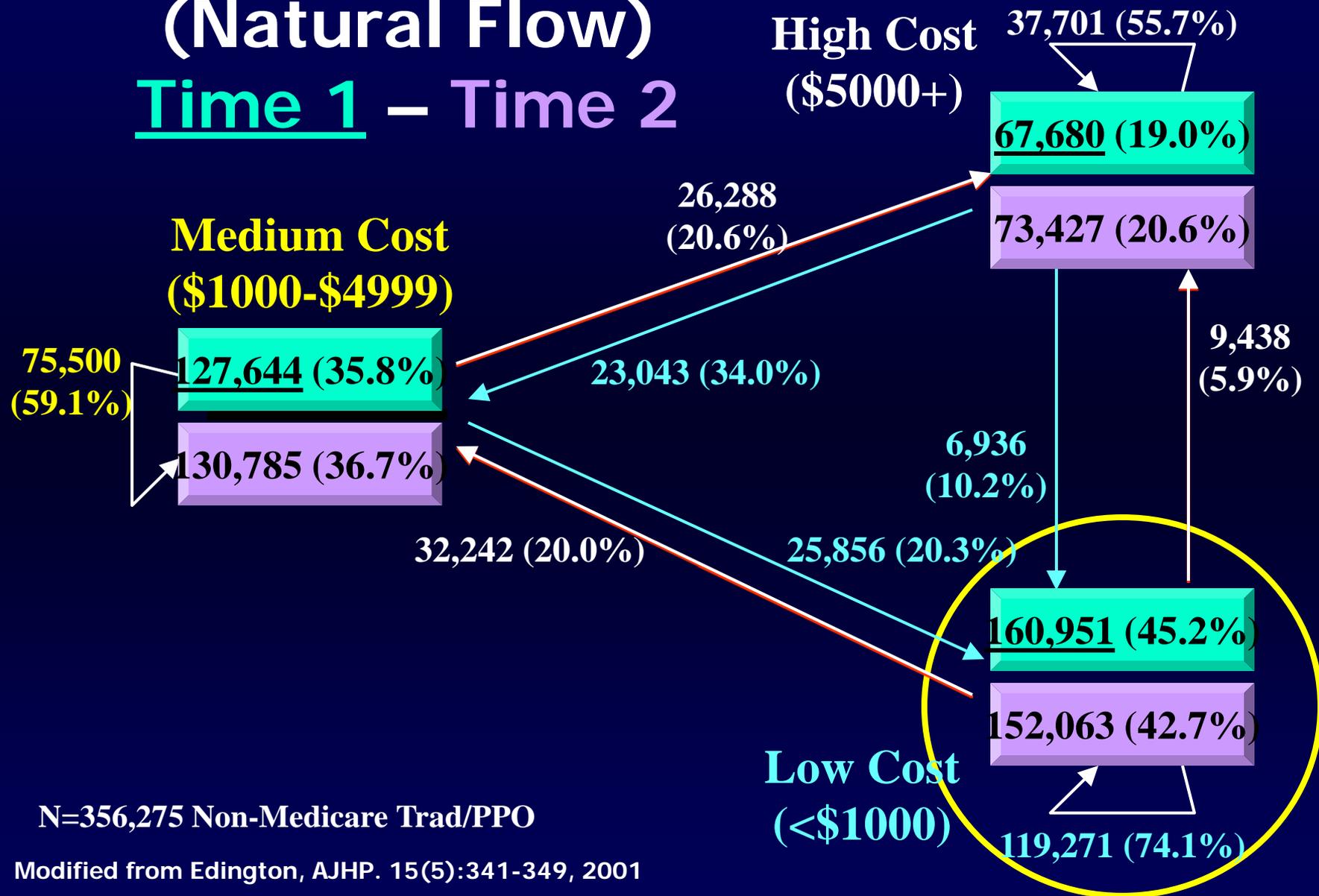
N=356,275 Non-Medicare Trad/PPO

Modified from Edington, AJHP. 15(5):341-349, 2001

Total Medical and Pharmacy Costs
Paid by Quarter for Three Groups

Legend:
- **Serious Cost** (red)
- **Medium Cost** (yellow)
- **Low Cost** (green)

The 20-80 rule is always true but terrifically flawed as a strategy

Musich, Schultz, Burton, Edington. DM&HO. 12(5):299-326, 2004
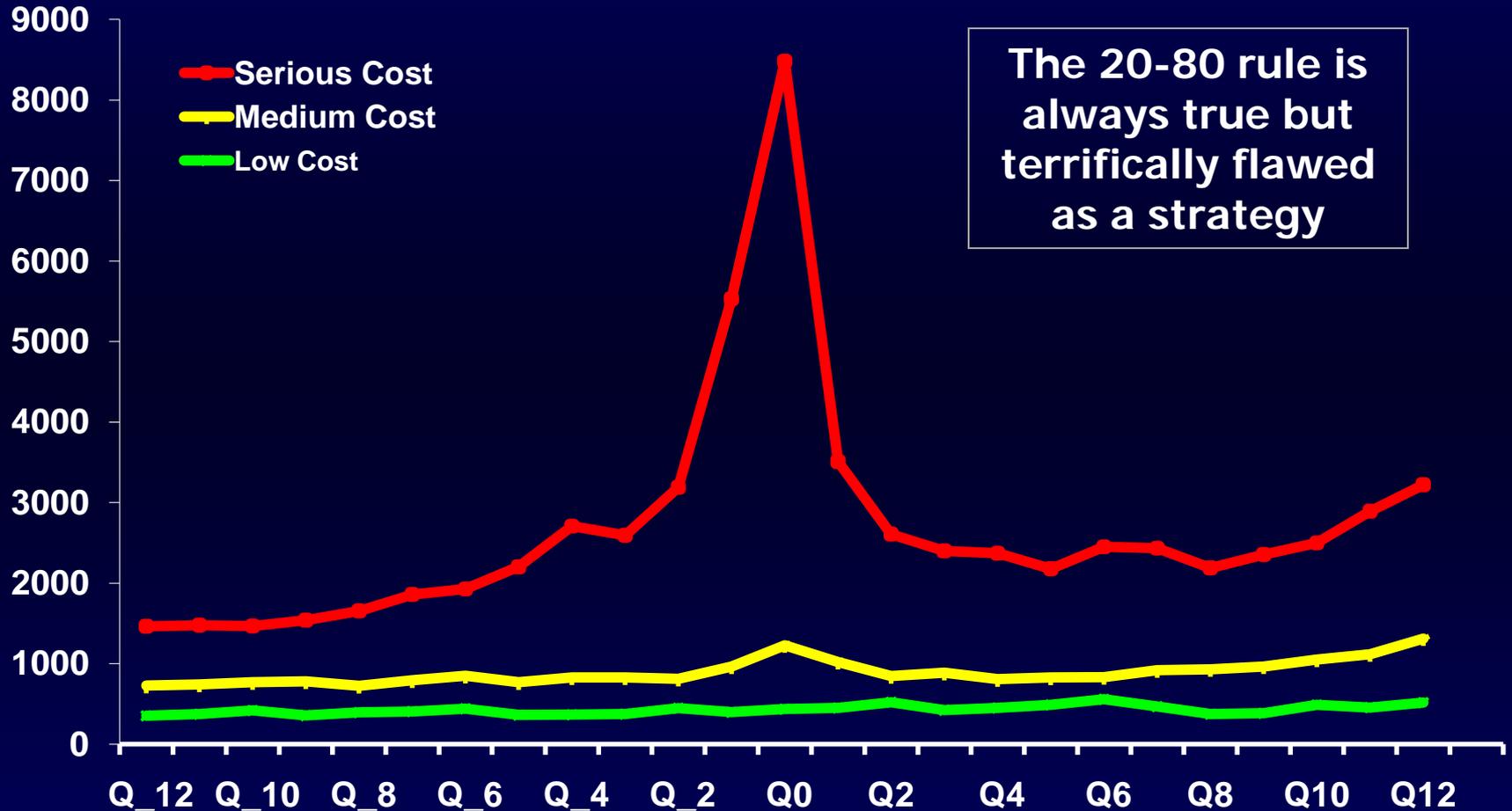
Costs Associated with Risks
Medical Paid Amount x Age x Risk

Annual Medical Costs

	19-34	35-44	45-54	55-64	65-74	75+
High	$5,114	$5,710	$7,991	$10,785	$11,909	$11,965
Med Risk	$2,565	$3,353	$4,620	$6,625	$7,989	$8,927
Non-Participant	$1,414	$1,944	$3,800	$5,212	$6,636	$8,110
Low	$1,776	$2,193	$2,740	$3,734	$4,613	$5,756

$12,000

$9,000

$6,000

$3,000

$0

High

Med Risk

Non-Participant

Low

Age Range
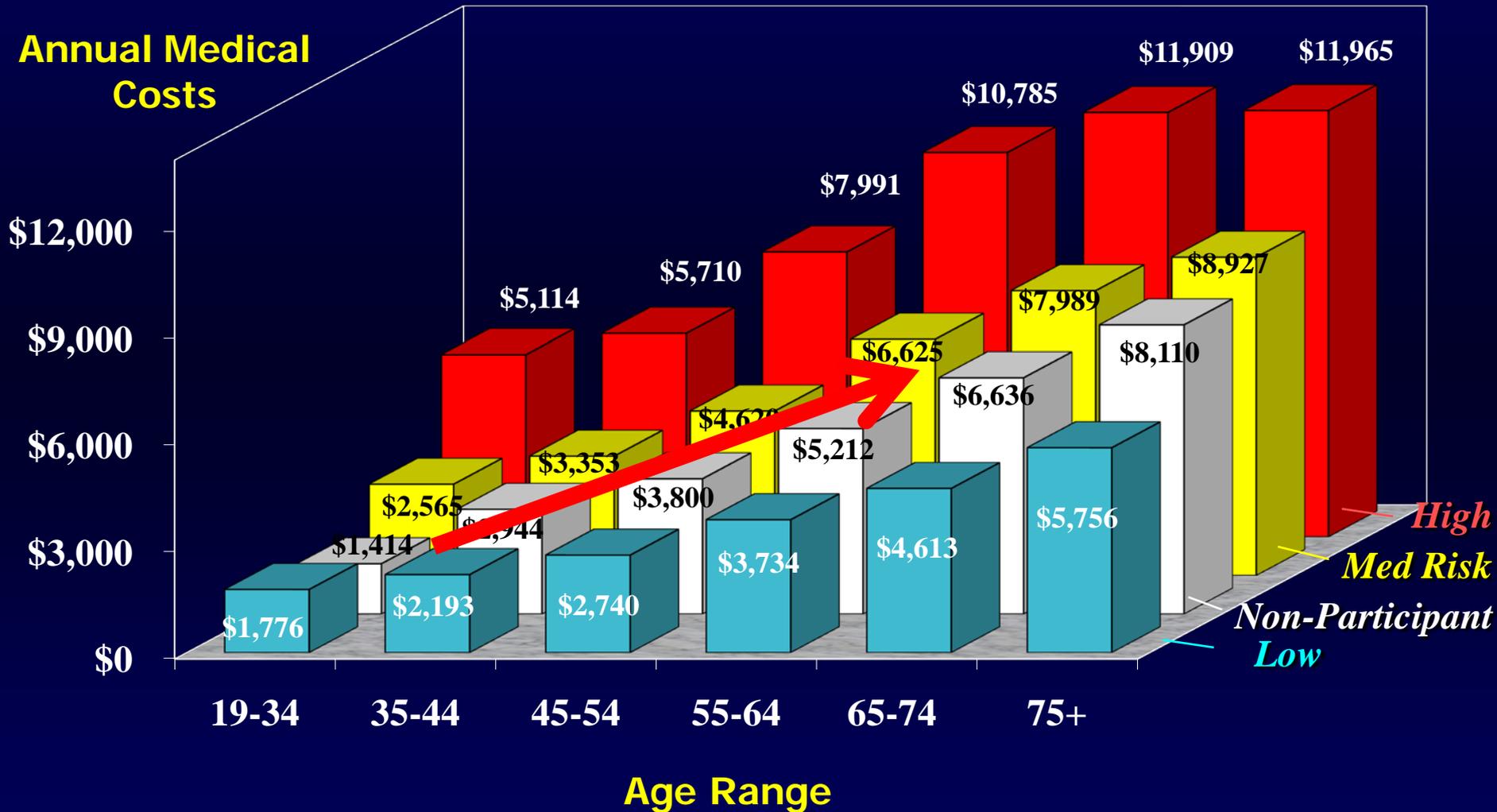
Learnings from Section I

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
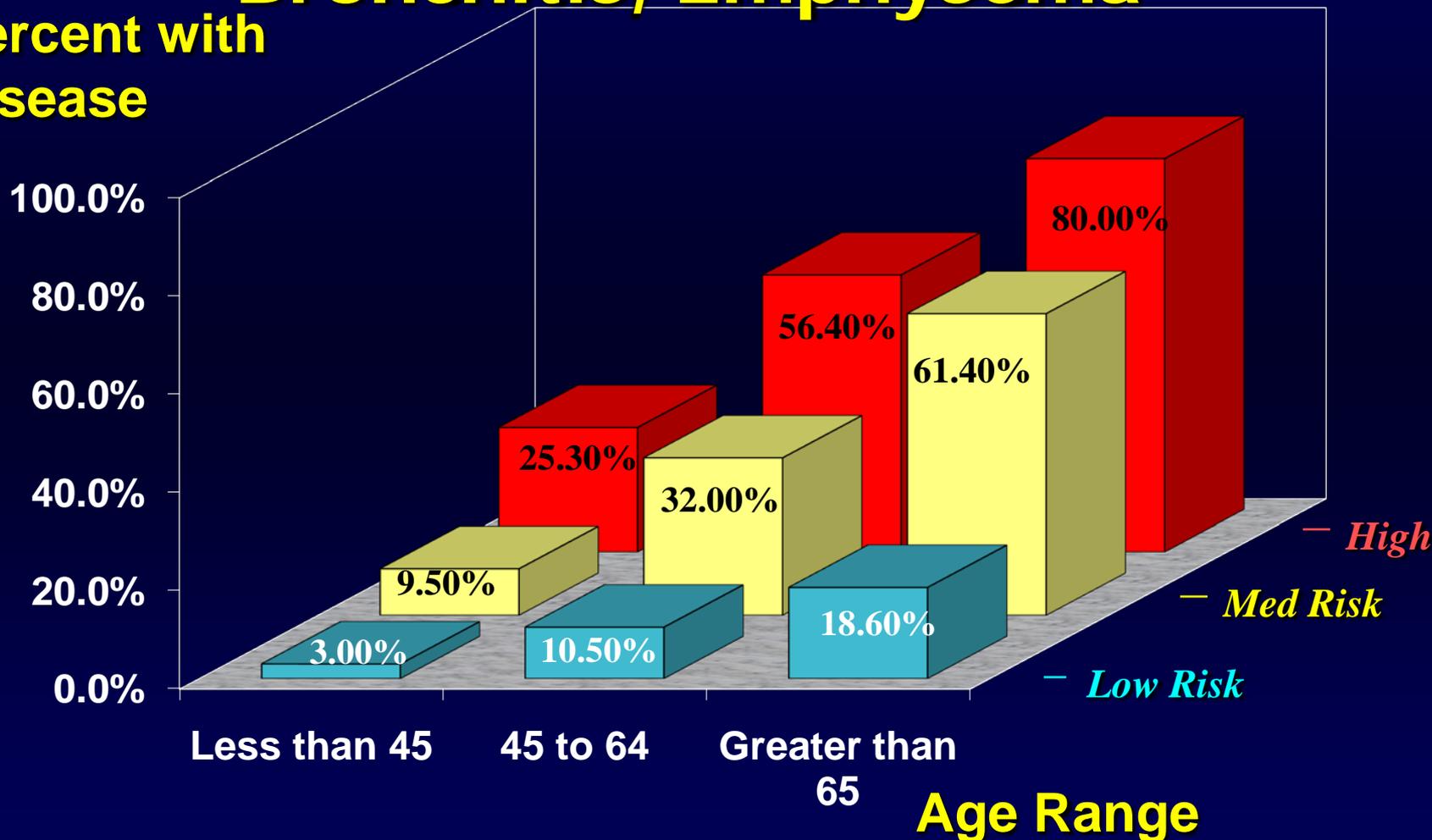
Age Range

- High
- Med Risk
- Low Risk

Data values shown:

Age Range	Low Risk	Med Risk	High
Less than 45	3.00%	9.50%	25.30%
45 to 64	10.50%	32.00%	56.40%
Greater than 65	18.60%	61.40%	80.00%

Business Concept

Excess Costs follow Excess Risks

Excess Disability Costs due to Excess Risks

Chart: Excess Disability Costs due to Excess Risks

- **Excess Costs** (white)
- **Base Cost** (green)

Category	Total	Excess Costs	Base Cost
Low Risk (0-2 Risks)	$491		
HRA Non-Participant	$666	$175	
Medium Risk (3-4 Risks)	$783	$292	
High Risk (5+ Risks)	$1,248	$757	

Y-axis: $0, $500, $1,000, $1,500
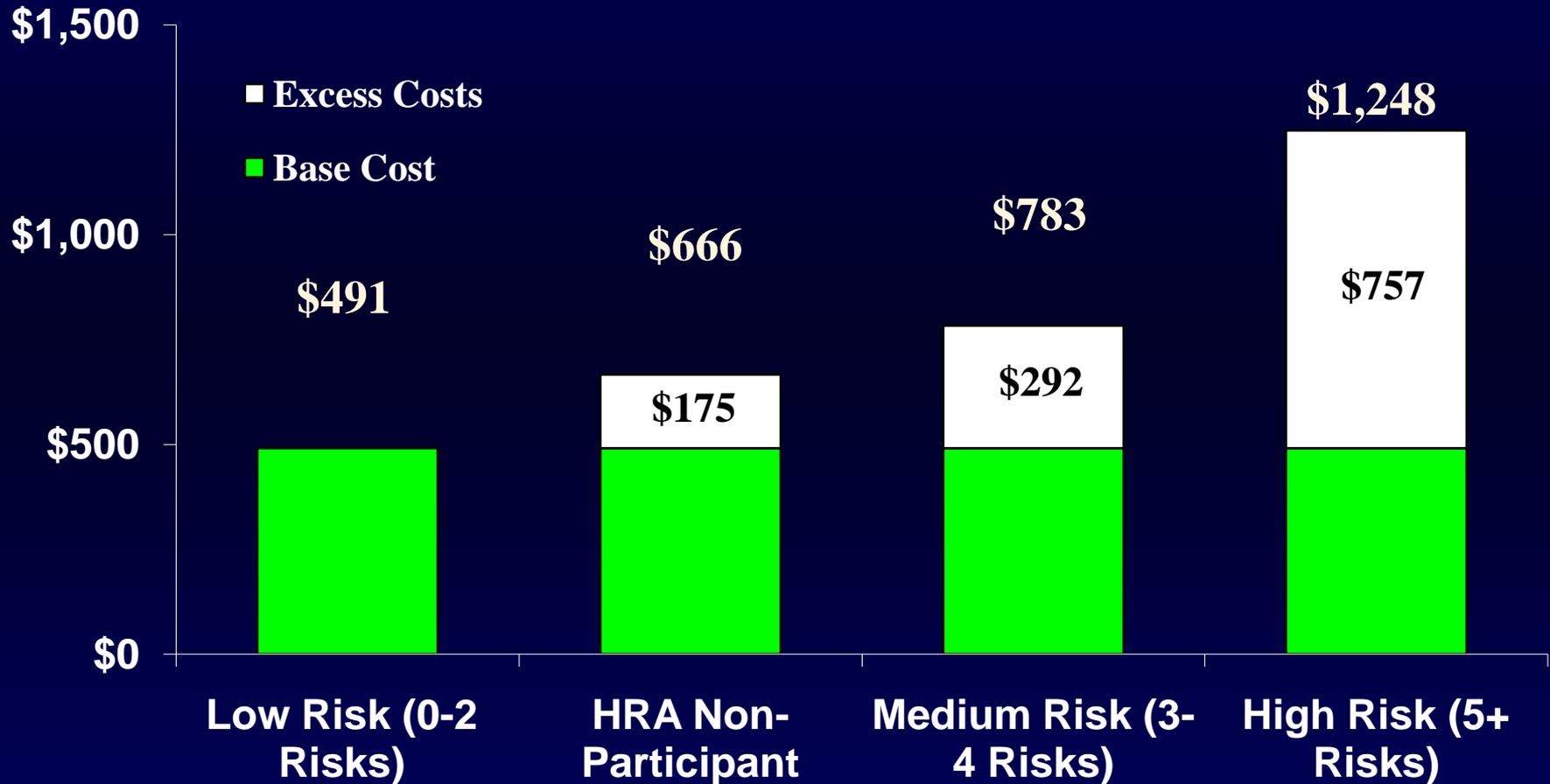
Wright, Beard, Edington. JOEM. 44(12):1126-1134, 2002

Association of Risk Levels with Corporate Cost Measures

Outcome Measures	Low-Risk	Medium-Risk	High-Risk	Excess Cost Percentage
Short-term Disability	$ 120	$ 216	$ 333	41%
Worker's Compensation	$ 228	$ 244	$ 496	24%
Absence	$ 245	$ 341	$ 527	29%
Medical & Pharmacy	$1,158	$1,487	$3,696	38%
Total	$1,751	$2,288	$5,052	36%

Business Concept

Change in Costs

follow

Change in Risks

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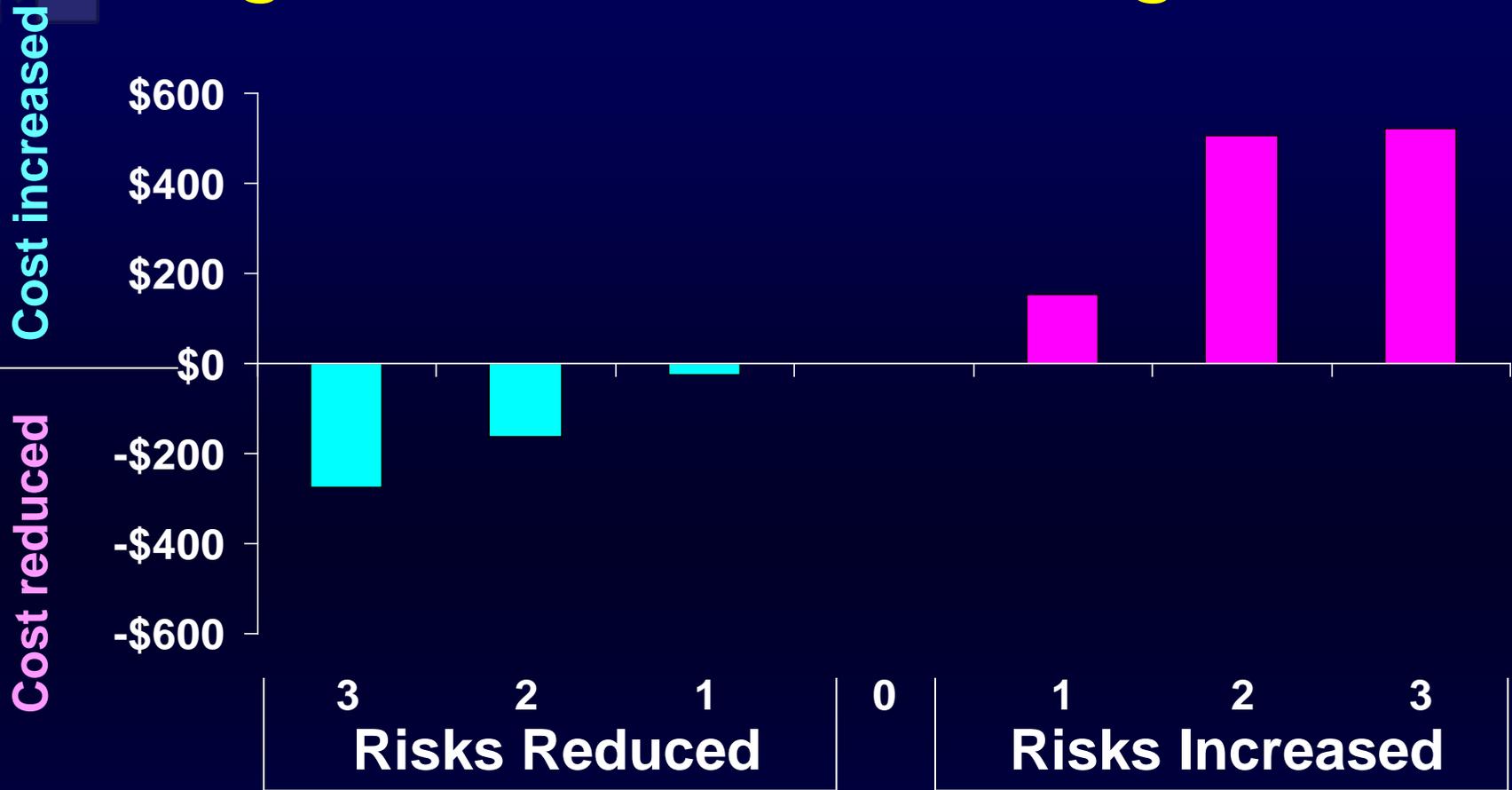
Overall: Cost per risk reduced: $215; Cost per risk avoided: $304   Actives: Cost per risk reduced: $231; Cost per risk avoided: $320   Retirees<65: Cost per risk reduced: $192; Cost per risk avoided: $621 Retirees>65: Cost per risk reduced: $214; Cost per risk avoided: $264

Updated from Edington, AJHP. 15(5):341-349, 2001.

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

Non-Impr
Improved

Impr slope=$117/yr
Nimpr slope=$614/yr
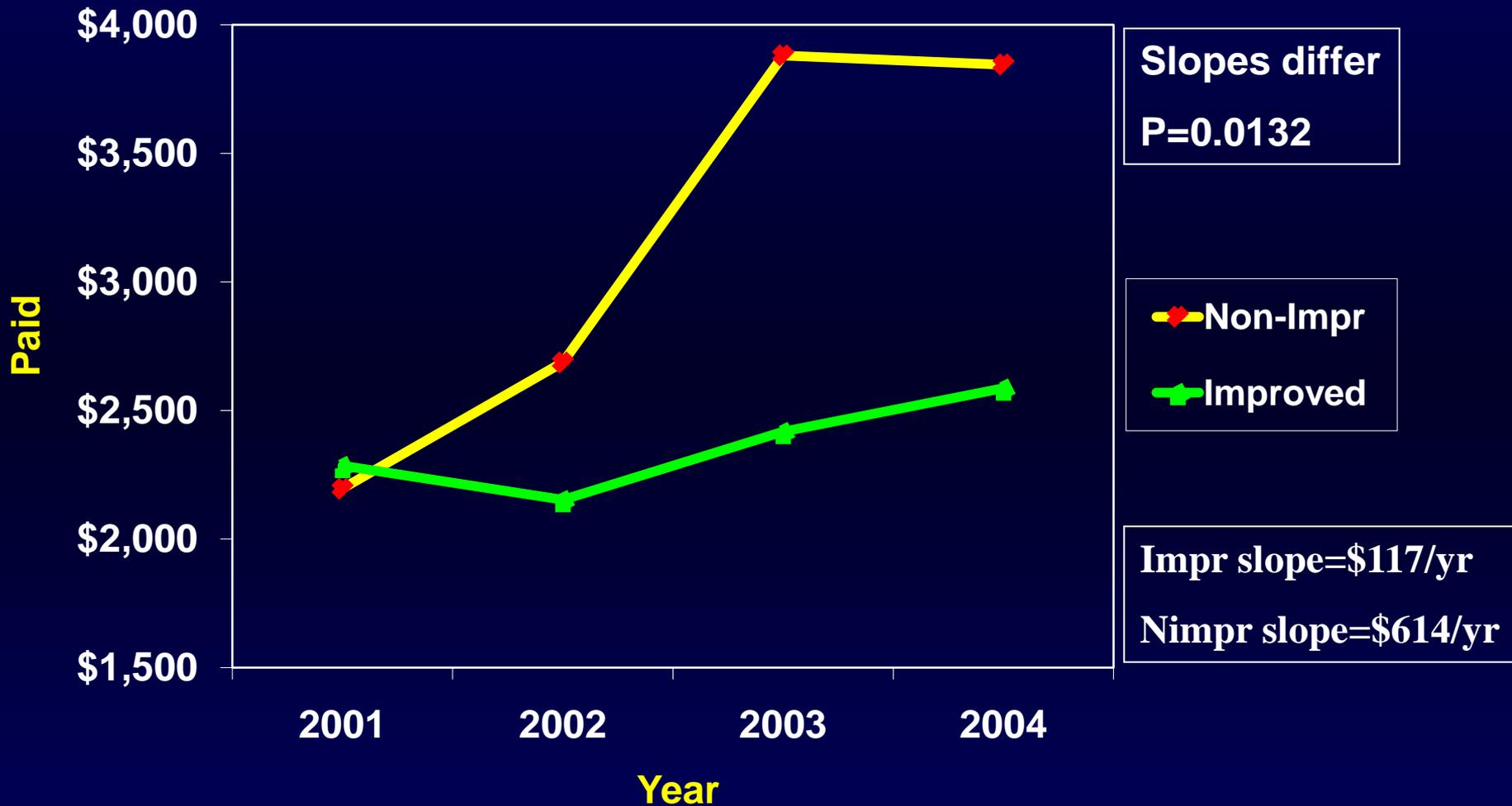
Improved=Same or lowered risks

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

increase

increase

decrease
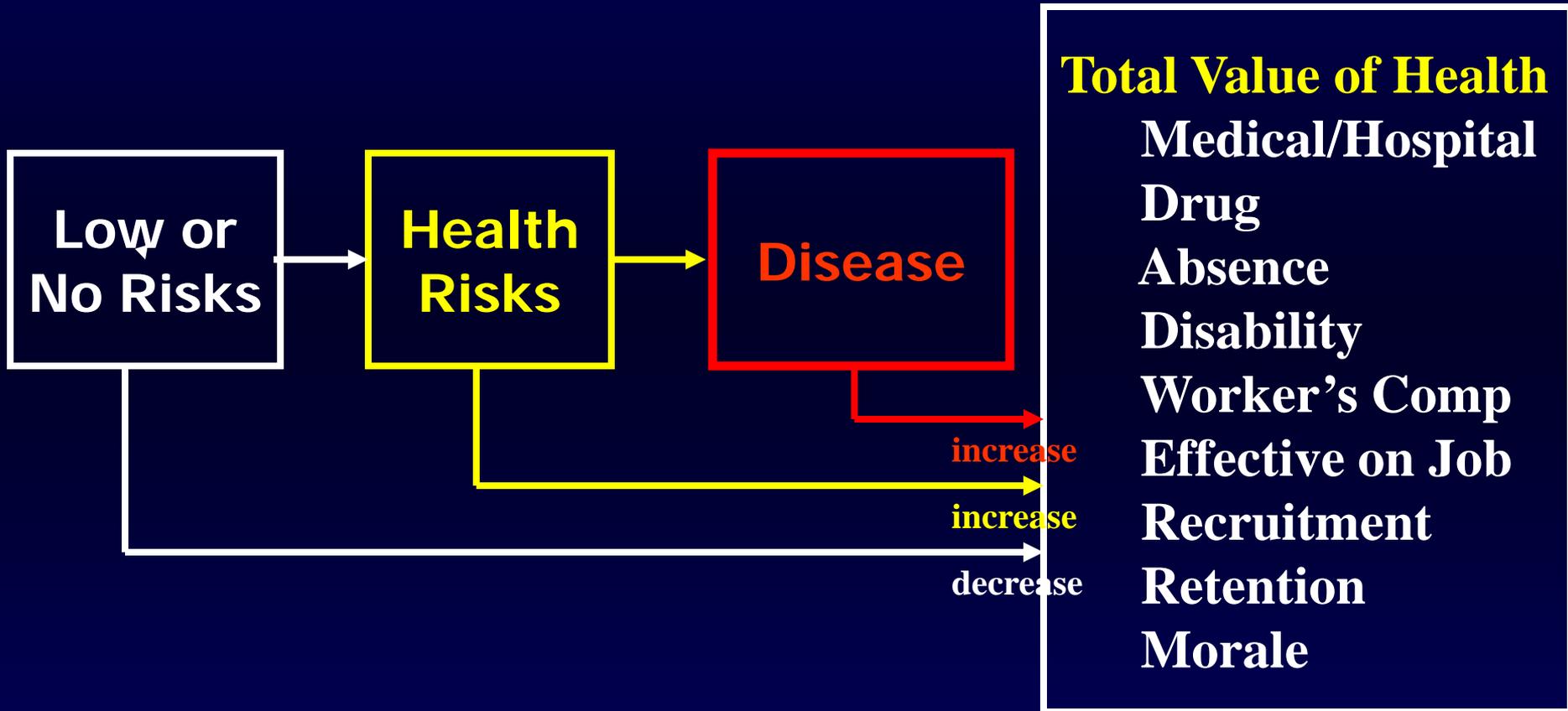
Where does cost turn into an investment?

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 actvity
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.
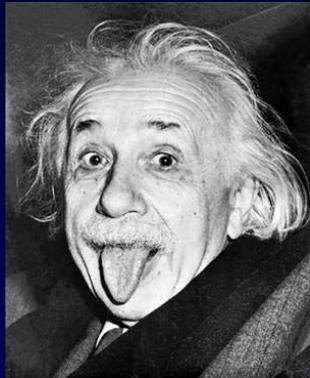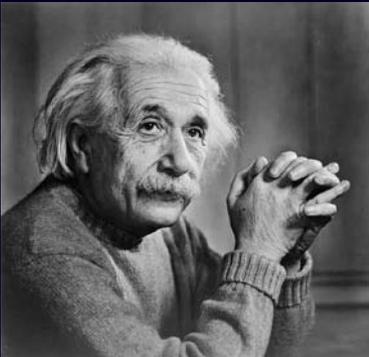
- Albert Einstein

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

ZERO TRENDS

Health as a Serious Economic Strategy

Dee W. Edington, PhD, *Health Management Research Center, University of Michigan*

Integrate Health into Core Business

Healthier Person → **Better Employee** → **Gains for The Organization**

Lifestyle Change

Health Management Programs

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

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

1981, 1995, 2000, 2006, 2008 D.W. Edington

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**

"You can't put a changed person back into the same environment and expect the change to hold"

Population Health Management Strategy

Serious Costs (red)
Medium Cost (yellow)
Low Cost (green)

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

Sickness Management
--reduce errors
--coordinate services

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

Chart Y-axis: 0, 1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000

Chart X-axis: Q_12, Q_10, Q_8, Q_6, Q_4, Q_2, Q0, Q2, Q4, Q6, Q8, Q10, Q12

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

Transform to Zero Trends
Which level is right for you?
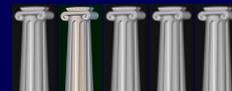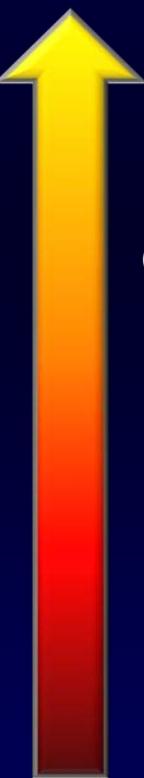
	Senior Leadership	Operational Leadership	Self-Leadership	Recognize Positive Actions	Quality Assurance
Champion	Vision from Leaders	Healthy System & Culture	Everyone a Self-Leader	Recognize Positive Actions	Progress in All Areas
Comprehensive	Speech from Leader	Reduction in Risks	Reduce Health Risks	Reward Achievement	Change in Risk & Sick Costs
Traditional	Inform Leader	Programs Targeting Risks	Health Risk Awareness	Reward Enrollment	Change in Risks
Do Nothing	Do Nothing	Do Nothing	Do Nothing	Do Nothing	Do Nothing

Supportive Environment and Culture

Very Supportive

Supportive Environment From Survey

M

Not Supportive

B

A

Not supportive   Median   Very supportive

Perception of the Culture from Survey
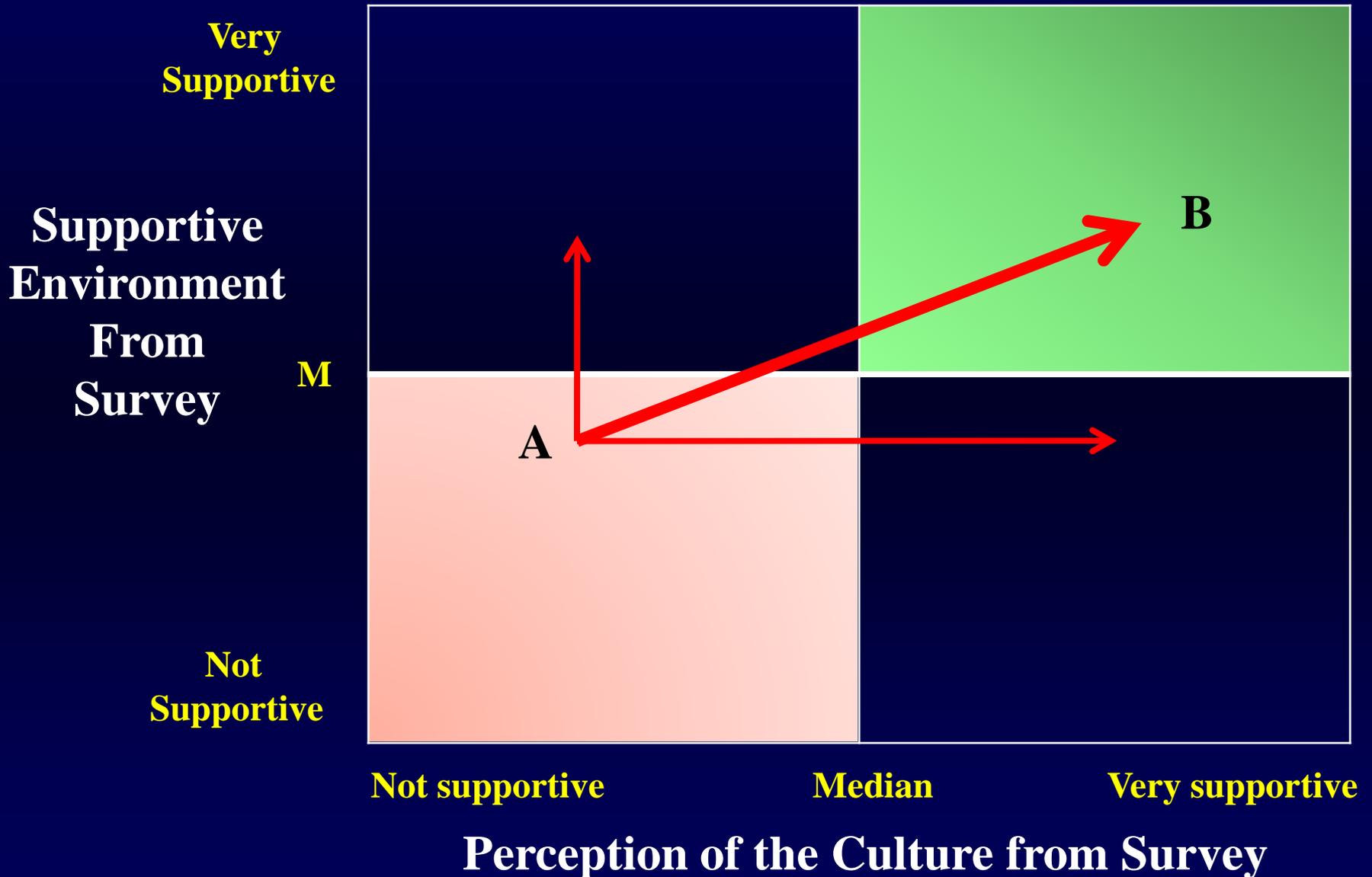
Engagement of Individuals
(employees and spouses)

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

Legend:
- Intervention Level3
- Intervention Level2
- Intervention Level1
- Natural flow

Y-axis: 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%

X-axis: Y1(2007), Y2(2008), Y3(2009), Y4(2010), Y5(2011)
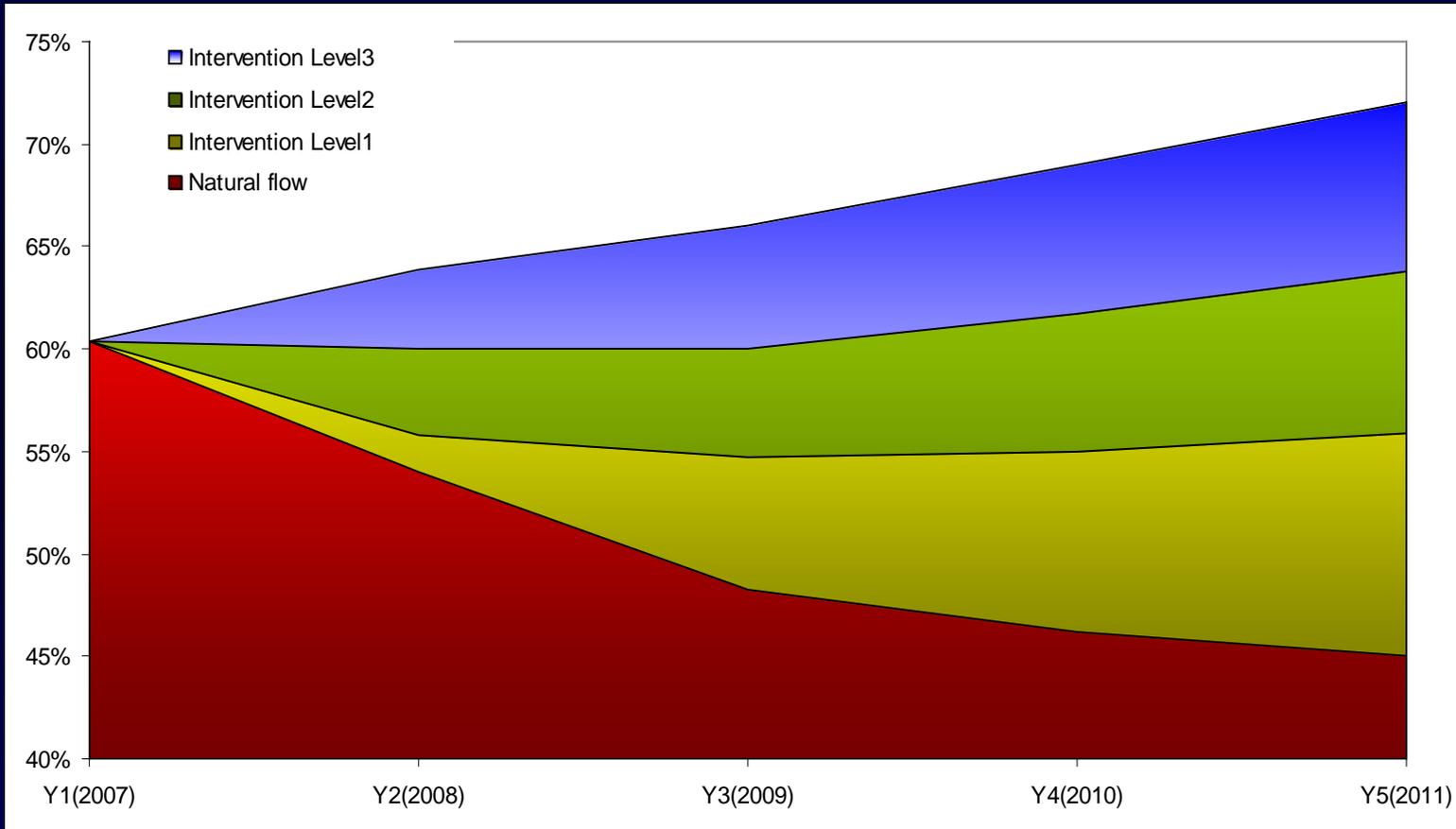
Projected Total Healthcare Costs & Benefit for Active Employees (x,000)
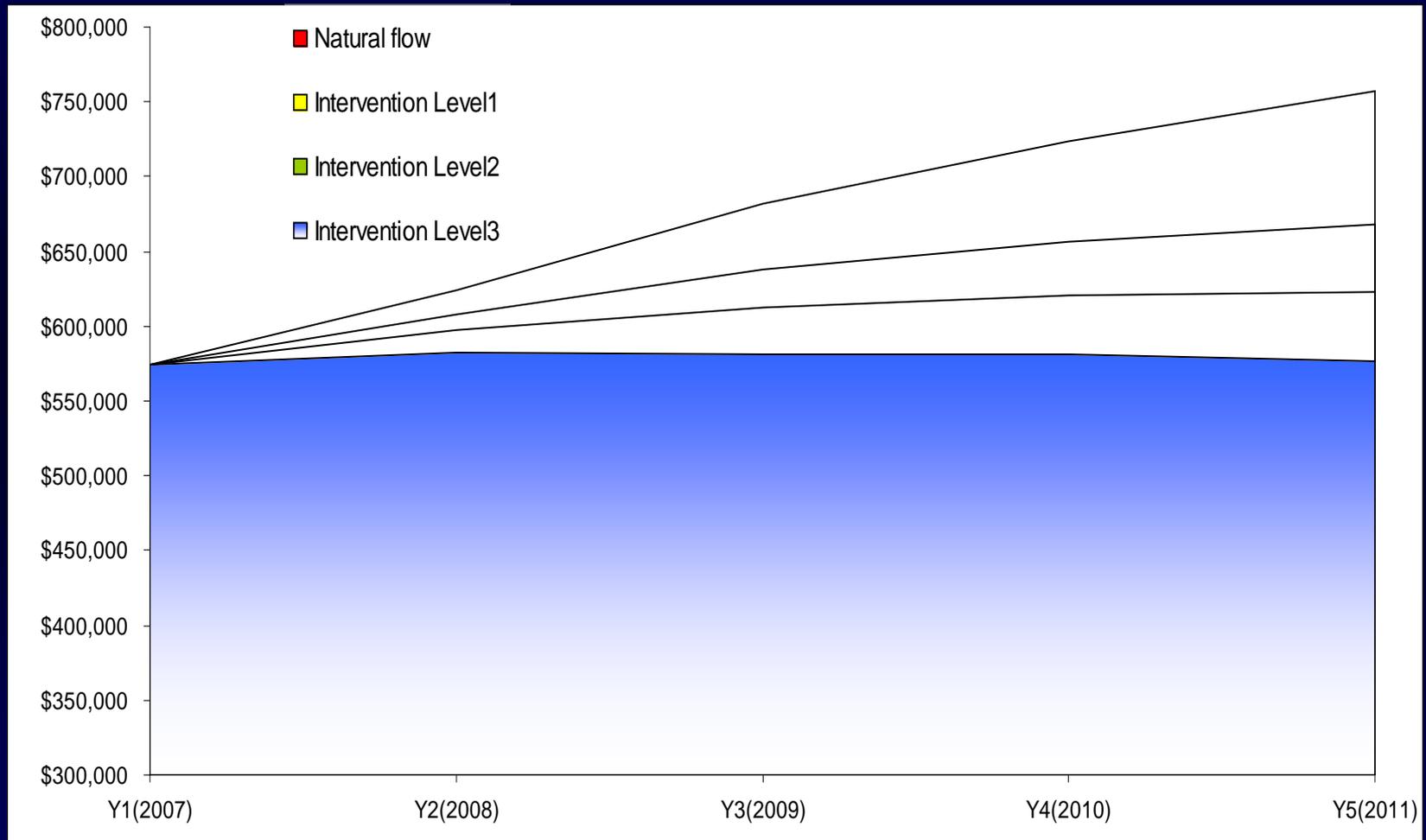
Quality Assurance Key Learnings

- ✓ **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

Edington. Corporate Fitness and Recreation. 2:44, 1983, Modified 2009
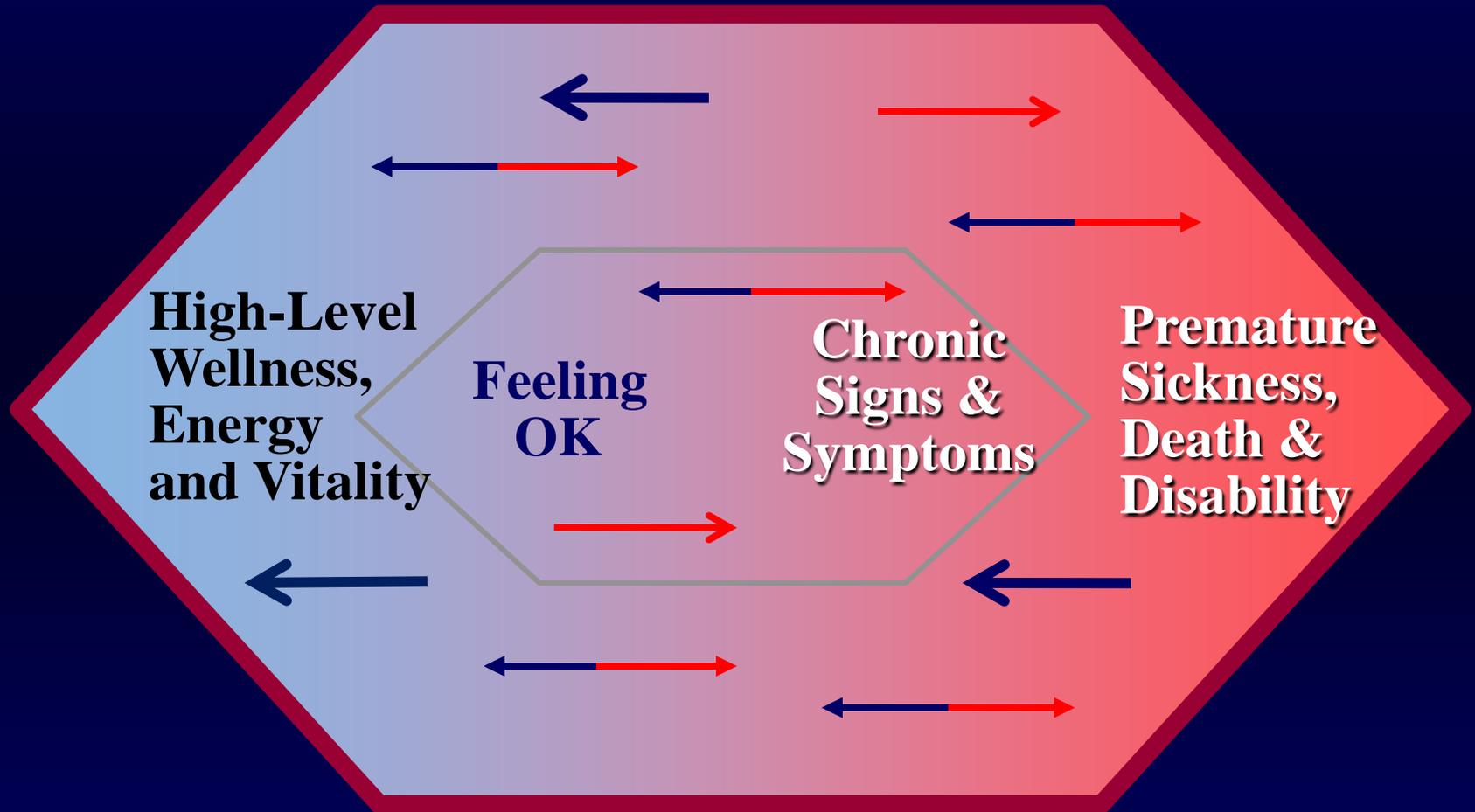
Sound Bites

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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