HEALTH LITERACY IN THE MEDICAL COMMUNITY: REFRAMING HEALTH FROM HEALING ILLNESS TO SUSTAINING WELLNESS
MOVING FROM TREATING ILLNESS TO BUILDING CULTURES OF HEALTH

- Focusing on illness alone is ineffective and inefficient
  - The American Society illness burden is rising

- Traditional disease management must give way to population health
  - 10% of population spends 70% of medical costs
  - Other 90% are doing nearly 100% of society’s work

- Explain the concepts of population health and a culture of health
  - Care for all across the continuum
  - Envelop all with an environment that promotes health and healthy choices

- Present cutting edge thinking on its merit and potential impact
  - Impact on productivity
  - Impact on the marketplace
OUR FOCUS ON DISEASE
While the Nation Creates a Tsunami of Illness

Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among U.S. Adults Aged 18 years or older

Obesity (BMI ≥ 30 kg/m²)

1994  2000  2010

Diabetes

1994  2000  2010

CORRELATION TO BEHAVIORAL HEALTH: DEPRESSION

Unhealthy Lifestyles lead to chronic disease

Perhaps we should focus up stream
POPULATION HEALTH
Manages Across the Continuum
How Does Behavioral Health Fit In?

Well
At Risk
Acute Illness
Chronic Illness
Catastrophic Illness

Moving the Population Toward Wellness
WHO Definition of Health

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity

Components of Wellness

Social
Physical
Emotional
Career
Intellectual
Environmental
Spiritual
WELLBEING
Healthways & Gallup

CAREER WELLBEING
Do you like what you do every day? With thriving Career Wellbeing, you will have something to look forward to every day and reduce the odds of thriving in your life overall.

SOCIAL WELLBEING
Do you have strong relationships and love in your life? Your Social Wellbeing is strongly influenced by your closest relationships and social connections.

PHYSICAL WELLBEING
Do you have good health and enough energy to do what you want every day? With thriving Physical Wellbeing, you will look better, feel better, and live longer.

FINANCIAL WELLBEING
Do you think money buys happiness? Financial security has much more influence on your overall wellbeing than your income alone.

COMMUNITY WELLBEING
Do you take pride in your community? The positive outcomes of thriving Community Wellbeing might be the difference between having a good life and a great one.
WELLNESS

“BLUE ZONES”

Right Outlook:
Without Anger & Anxiety

Move Naturally:
Build into Lifestyle

Consume Wisely:
No Smoking
Fruits, Vegetables, Nuts

Belong:
Strong Spousal Relations
Community Activities
Religion/Spiritual
Eliminate early death due to modifiable behaviors

4 Behaviors cause nearly 40% of all deaths in the U.S. (year 2000)

The Centers for Disease Control and Prevention (CDC) estimates...

- 80% of heart disease and stroke
- 80% of type 2 diabetes
- 40% of cancer

...could be prevented if only Americans were to do four things:

- Stop smoking
- Start eating healthy
- Get in shape
- Drink alcohol in moderation

Why does behavioral health focus on drugs and alcohol?
Optimal Lifestyle Metric (OLM)

- Being physically active
- Not smoking
- Eating 5 fruits and vegetables each day
- Drinking alcohol in moderation
## The “OLM Universe”

<table>
<thead>
<tr>
<th>Diet OLM Flag</th>
<th>Tobacco OLM Flag</th>
<th>Alcohol OLM Flag</th>
<th>Physical Activity OLM Flag</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
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<td>0</td>
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<td>1</td>
<td>255344 (51.0%)</td>
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<td>0</td>
<td>0</td>
<td>40 (0.01%)</td>
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<td>1</td>
<td>205 (0.04%)</td>
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<td>0</td>
<td>0</td>
<td>861 (0.13%)</td>
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<td>1</td>
<td>0</td>
<td>4071 (0.81%)</td>
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<td>0</td>
<td>1</td>
<td>1386 (0.28%)</td>
</tr>
<tr>
<td>1 1 1 0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>10674 (2.13%)</td>
</tr>
<tr>
<td>1 1 1 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>65026 (13.0%)</td>
</tr>
</tbody>
</table>

- <0.5% meet zero OLM component
- 5% meets one OLM component
- 27.5% meets two OLM components
- 54% meets three OLM components
- **13% meets four OLM components**

- 83.6% does **not** meet the diet OLM component (5 F&V daily)

N = 500,344
Data based on self-reported health assessment questions

Adherence to OLM and New Disease

Difference in 2-year incidence of new disease between people who adhere to OLM 0 or 1 and OLM 3 or 4 (%)

- High Blood Pressure: -15%
- Cholesterol: -17%
- Cancer: -24%
- Back Pain: -43%
- Heart Disease: -45%
- Diabetes: -66%

The GE trademarked prevention program

Its purpose is to help the global employee community stay well. The key numbers remind us to avoid tobacco products, eat a healthy diet, exercise regularly and maintain a normal weight.
Helping the Chronically Ill Comply with Evidence Based Guidelines
Treat Behavioral Health Comorbidities - Especially Depression

Identification
- Predictive modeling
- Severity indexing

Engagement
- Trusted Clinician
- Telephonic
- Web
- Mobile

Intervention
- Education
- Referral Management
- Care Management

Impact
- Quality of Care
- Cost of Care
- Satisfaction

POPULATION HEALTH – CHRONIC DISEASE

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of People With Chronic Conditions (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>118</td>
</tr>
<tr>
<td>2000</td>
<td>125</td>
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<td>2005</td>
<td>133</td>
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<td>2010</td>
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<td>2015</td>
<td>149</td>
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<td>2020</td>
<td>157</td>
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<tr>
<td>2025</td>
<td>164</td>
</tr>
<tr>
<td>2030</td>
<td>171</td>
</tr>
</tbody>
</table>
Aging of America Makes This Important

More Likely to Have Multiple Chronic Conditions

Johns Hopkins University, Partnership for Solutions

Source: Medical Expenditure Panel Survey, 2001
Behavioral Health May Complicate as much as 25% of Hospital Stays
So You Cannot Just Focus on Those with Known Behavioral Health Diagnoses

People with mental disorders: 25% of adult population

People with medical conditions: 58% of adult population

68% of adults with mental disorders have medical conditions

29% of adults with medical conditions have mental disorders
Futile Care Costs Tied To In-hospital Death
Provide Compassionate Care at End of Life – Behavioral Health Opportunity

Medical and prescription costs in last year of life (proxy) by range

20,389 patient cohort from 79 Million patient Truven Health Analytics database
Total cost for these patients was over $2 billion
CATASTROPHIC ILLNESS
Despite The Progress Of Medical Science

World Death Rate Holding Steady At 100 Percent

GENEVA, SWITZERLAND—World Health Organization officials expressed disappointment Sunday over the group’s finding that, despite the enormous efforts of doctors, rescue workers, and other medical professionals worldwide, the global death rate remains at 100 percent.

Death, a metabolic affliction causing shutdown of all life functions, has long been considered humanity’s number-one health concern. Responsible for 100 percent of all recorded fatalities worldwide, the condition has no cure.

“I was really hoping, what with all those new radiology treatments, rescue helicopters, cardiovascular-exercise machines, and what have you, that we might at least make a dent in it this year,” WHO Director General Dr. Ernst Wessel said. “Unfortunately, it would appear that the death rate remains constant, as it has since the dawn of time.”

Many suggest that the high mortality rate represents a massive failure on the part of the planet’s healthcare workers.

“The inability of doctors and scientists to address and confront this issue of death is nothing less than a scandal,” concerned parent Marcia Grella said. “Do you have any idea what a full-blown case of death looks like? I do, and believe me, it’s not pretty. In prolonged cases, total decomposition of the corpse is the re-see DEATH page 84
THE ULTIMATE GIFT OF HEALTH: Compression Of Morbidity

The longer you stay healthy and vital, the shorter your period of morbidity before life ends.

The Goal Should Be Sudden Death in Overtime

The longer you stay healthy and vital, the shorter your period of morbidity before life ends.
WHAT’S THE POINT
INSIDIOUS PROGRESSION OF DISEASE:
SMOKING & ACUTE ILLNESS LEADS TO CHRONIC & CATASTROPHIC ILLNESS

normal → bronchitis

bronchitis → cancer

cancer → emphysema

20-Year Lag Time Between Smoking and Lung Cancer

Cigarettes Smoked Per Person Per Year

Lung Cancer Deaths (Per 100,000 People)

Cigarette Consumption (men)

Lung Cancer (men)

1900 1920 1940 1960 1980

Year
WHAT’S THE POINT
INSIDIOUS PROGRESSION OF DISEASE:
ANXIOUS & STRESSED, Leads to Chronic and Catastrophic Illness

normal stress → burnout
Suicidal → depressed

The Stress Response Curve

Level of Stress
- Not Enough Stress: Unmotivated
- Optimal Stress: Eustress
- Too Much Stress: Distress

Level of Productivity
WHAT’S THE POINT
INSIDIOUS PROGRESSION OF DISEASE:
Alcohol Consumption in Excess leads to Chronic and Catastrophic Illness

Occasion Consumption → Binge drinking → Alcoholism → Cirrhosis
POPULATION HEALTH
Leveraging the Knowledge of Prevention
Starting With Cultural Imperatives

Primordial Prevention
- Culture Imperatives
- Clean Water
- Healthy Food

Primary Prevention
- Lifestyle Change
- Immunizations
- Seat Belts

Secondary Prevention
- Screenings
- Cancer
- Blood Pressure
- Cholesterol

Tertiary Prevention
- Compliance with Care
- Disease Management
GOOD NEWS
Population Health is About One Thing

Behavior Change

- Modifying the physical, emotional, habitual and cultural factors that influence health status
- Paired with usual health care
- Relies on an interdisciplinary approach that relies to educate, support, follow-up, and evaluate efficacy

Behavioral Health Specialists Are Uniquely Positioned to Embrace This Opportunity & Provide the Required Expertise
Stage of Change

- Index of readiness
- Tells WHEN people change
- Predicts who will change successfully
- A dynamic, not static, client characteristic
- Inclusive, empathic, optimistic
- Guides member-treatment matching
Patient Activation Measure

The Science is Evolving

- Validated
- Reliable
- Design / Access interventions and delivery processes
- Evaluate and improve provider performance

Can impact TRIPLE AIM – effectiveness, efficiency and experience
MASTER BEHAVIORAL ECONOMICS AND CONSUMERISM

• Use the magic of opt-out
  • Make the preferred choice the default

• Mere measurement
  • Interventional surveys

• Aversion of loss
  • Taking away privileges or rewards

• Value Based Benefit Design
  • Out of pocket costs based on proven value provided by medication or treatment
  • No co-payments for generic “rescue inhalers” for asthmatics

• Provide rewards and recognitions for healthy behaviors
  • Completing health risk assessments
  • Having a non-smoking status
  • Participating in health coaching

• Earn basic, better and best benefit plans

• Mastery
  • Educate leading to self-care
  • Peer mentoring

• Rank Comparison
  • Competition

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BECOME FACILE WITH THE SPECTRUM OF REWARDS & INCENTIVES

EXTRINSIC TO INTRINSIC

Cash | Trinkets | Lottery | Feedback | Competition | Recognition | Better Benefits | Health
PROFESSIONAL REINFORCEMENT

Counterintuitive

• Mastery
• Autonomy
• Purpose
• Empowerment
• Recognition
• Rewards

Daniel H. Pink
author of A Whole New Mind

NEW YORK TIMES BESTSELLER

The Surprising Truth About What Motivates Us
Behavioral Health has been focused on disease. What about Preventive Behavioral Health?

- **Primordial Prevention**
  - Intrinsic Motivation

- **Primary Prevention**
  - Lifestyle Change

- **Secondary Prevention**
  - Early Identification

- **Tertiary Prevention**
  - Compliance with Care Disease Management

Behavioral Health Specialists may require re-training / re-focus to provide the required expertise.
THE EVOLUTION OF HEALTH CARE MANAGEMENT
A Glimpse at the Future: *Building Cultures of Health*

The evaluation of the appropriateness, medical need and efficiency of healthcare services.

A system of coordinated healthcare interventions and communications for populations with conditions in which patient self-care efforts are significant.

The health outcomes of a group of individuals, including the distribution of such outcomes within the group.

Reducing or eliminating health and injury & their risks enhances the performance of a workforce.

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Utilization Management  Disease Management  Population Health  Health & Productivity  Culture of Health
CULTURES OF HEALTH – WHY EMPLOYERS WOULD DO THIS

The Impact Of Poor Health To Employers
Continuum Of Employee Performance Outcomes

For Every Dollar Spent on Health Care
There Are $3 Lost in Productivity

Personal Health Costs
- Medical Care
- Pharmaceutical costs

Productivity Costs
- Absenteeism
- Short-term Disability
- Long-term Disability
- Presenteeism
- Overtime
- Turnover
- Temporary Staffing
- Administrative Costs
- Replacement Training
- Off-Site Travel for Care
- Customer Dissatisfaction
- Variable Product Quality

Not doing well while working
- errors
- complaints
- delays
- team breakdown

Not doing work on work time
- unscheduled breaks
- unfocused time
- health exams on work time
- information gathering

Not at work
- permanent disability
- early retirement due to health issues
- premature death
- spousal illness

Lost to the workforce

Lost to the workforce
- unscheduled absence
- disability workers' comp replacement workers

For Every Dollar Spent on Health Care
There Are $3 Lost in Productivity

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THE EVOLUTION OF HEALTH CARE MANAGEMENT
A Glimpse at the Future: Building Cultures of Health

Utilization Management
Disease Management
Population Health
Health & Productivity

Culture of Health

Leadership and Corporate Culture
Leadership & Management Support, Organizational Culture and Policies, Alignment of Business & Health Goals

Program Design and Implementation
Planning and Program Goals, Integration of Data Systems & Informatics, Diagnostics & Assessment, Incentives, Multi-Component & Tailored Interventions, Screening and Triage, Ecological Interventions, Communications, Health Benefits

Program Evaluation
Measurement & Evaluation, Effective Tools, Accountability, Learn from Results, ROI

SOURCE: CDC Worksite Health Index Project

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**BENDING THE CURVE: THE NEW BENCHMARK**

**US HEALTHCARE COST TRENDS VS. TRUVEN HEALTH ANALYTICS CLIENTS**

High Performer Net Cost Trends 2005 - 2010 Adjusted
For Consumer Price Index (CPI-U) Inflation

<table>
<thead>
<tr>
<th>TRUVEN HEALTH ANALYTICS High Performers Clients</th>
<th>Eight employers, with self funded plans, spanning multiple industries who also utilize TRUVEN HEALTH ANALYTICS decision support and analytic consulting services. These clients consistently outperformed net pay trend rates for the broader 53 client group each year and cumulatively from 2005 – 2010. As a group, they have consistently made innovative use of healthcare data to support all aspects of population health, productivity and plan management.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MarketScan</td>
<td>A group of over 50 TRUVEN HEALTH ANALYTICS clients with 5 million members covered in self funded plans that contributed to MarketScan continuously since 2005.</td>
</tr>
<tr>
<td>2010 Mercer National Survey</td>
<td>A comprehensive survey of 2,836 US employers. Reflecting the average reported healthcare trend rates across group size, geographic region and industry type.</td>
</tr>
</tbody>
</table>
Marketplace rewards companies who achieve cultures of health:

• Used the ACOEM Corporate Health Achievement Award (CHAA) culture of health award winners as a stock portfolio

• A portfolio of approximately twenty publicly traded award winners; over nearly two decades

• Published September 2013 in the JOEM

• Once again the portfolio outperformed the market significantly; in all four test scenarios
NBGH View
Value of a Culture of Health

- Health care costs
- Disability costs
- Workers' Comp. costs

- Turnover
- Recruitment
- Workforce engagement

- Absenteeism
- Presenteeism
- Performance

Business Outcomes

Workforce Health & Safety

Productivity & Performance

Employer of Choice
Research Conclusion

A preponderance of mounting evidence

“Though correlation is not the same as causation, the results consistently and significantly suggest that companies focusing on the health and safety of their workforce are yielding greater value for their investors as well. More research needs to be done to better understand the value of building these “cultures of health” in the workplace. Perhaps such efforts as this simply identify “smart” companies that out-perform. But the evidence appears to be building that healthy workforces provide a competitive advantage in ways that benefit their investors.”
Culture of Health – Becoming a Science

A Roadmap for Improving the Health of Your Employees and Your Organization

www.ihpm.org/pdf/EmployerHealthAssetManagementRoadmap.pdf
WHAT DOES A CULTURE OF HEALTH LOOK LIKE?

- **Health Advocate**
  - Provide Direction
  - Get the Care You Need
  - Coaching & Outreach

- **Health Plan Design**
- **Environmental Design**

- **Behavioral Health**
  - Work/Family
  - Work Life Plus

- **Health Portal**
  - Stay healthy
  - Health information
  - Make informed choices

- **Health Risk Assessment**
  - Assess and track health behaviors
  - Maintain health
  - Address health risks

- **Fitness Centers**
  - Low risk maintenance
  - High risk reduction

- **Wellness Programs**
  - Active expansion
  - Retiree communications/awareness program

- **On-site /Near Site Medical**
  - Employee education pilot
  - Injury and medical management
  - Episodic Illness
  - Primary Care

- **Disease Management**
  - High Acuity (identified high cost disease)
  - Low Acuity (identified lower cost disease; lifestyle behavior focus)

- **Case Management**
  - Catastrophic care
  - Disability Management

- **Absence Management**
  - STD, LTD
  - Workers’ Compensation
  - Scattered Absence

Modified from a slide presented by Dee Edington at IHPM
PERFORMANCE MEASURES:
CRITICAL STEPS TO SUCCESS
How Can We Build Communities of Health?

**Key Players**

- Government National (CDC, NIH)
- Foundations Corporate (Health Insurance, Physical Activity, Food & Beverage)
- Foundations Private (RWJ, Kellogg, Community, other)
- Industry (Individual businesses & business coalitions)
- Universities
- Hospitals & Federally Qualified Health Centers
- Government City, County, & State Health Departments
- Nonprofits & Associations (Research Institutes, Taskforces, Professional Associations)
Institute of Medicine

Environmental Scan

National Prevention Council 2011
COUNTY LEVEL
PA County Rankings

http://www.countyhealthrankings.org/rankings/data/pa
STATE LEVEL OF WELL-BEING

Healthways Gallup Index

GLOBAL WELL BEING MAP

Healthways Gallup Index

This map, produced by Gallup-Healthways, shows a breakdown of which areas score high and low on a global "well-being" index. Overall, the United States ranks 12th. But some regions, including the South, rate considerably below the national average.
Severity Indexing

- Prioritize & categorize registry based on illness burden
  - Severe – Care Management
  - Moderate – Coordinated Care
  - Mild – Patient Education

- Achieving fairness when comparing

Predictive Modeling

- Identify patients before the catastrophic event
- Predict future trends
- Prove that things did not happen
Clinical Outcomes for Health Center Users with Diabetes

Process Indicators Correlate with Outcomes (N = 336)

<table>
<thead>
<tr>
<th>LAB Value</th>
<th>2003 Year 1</th>
<th>2005 Year 3</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1C</td>
<td>9.1</td>
<td>7.8</td>
<td>-14.0%</td>
</tr>
<tr>
<td>HDL Cholesterol</td>
<td>43</td>
<td>47</td>
<td>+9.3%</td>
</tr>
<tr>
<td>LDL Cholesterol</td>
<td>138</td>
<td>108</td>
<td>-21.7%</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>288</td>
<td>201</td>
<td>-30.0%</td>
</tr>
<tr>
<td>Systolic BP</td>
<td>131</td>
<td>126</td>
<td>-3.8%</td>
</tr>
</tbody>
</table>

For Illustrative Purposes Only

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### Economic Impact of BETTER Diabetes Care

**Projected Cases Per 336 Patients with Diabetes (10 Year Period)**

<table>
<thead>
<tr>
<th>Risk Year 1</th>
<th>Risk Year 3</th>
<th>Avoided Costs (10 Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower extremity amputation</td>
<td>10.7</td>
<td>7.0</td>
</tr>
<tr>
<td>Blindness</td>
<td>4.7</td>
<td>3.0</td>
</tr>
<tr>
<td>End stage renal disease</td>
<td>7.0</td>
<td>1.3</td>
</tr>
<tr>
<td>MI or stroke</td>
<td>84</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total Medical</strong>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Prevented:**
- 3 Amputations
- 2 Episodes of Blindness
- 6 Dialysis Patients
- 44 Heart Attacks & Strokes

**$1,800 of avoided medical costs per patient per year (before inflation adjustment)**

**Saved over 6 Million Dollars**
### Greater Return to Keep the Well Well ~ 2:1

**Wellness Score & Medical Costs Over 3 Years**

<table>
<thead>
<tr>
<th>Year</th>
<th>Wellness Score</th>
<th>Medical Cost</th>
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<tbody>
<tr>
<td>Year 1</td>
<td>9,452 (34%)</td>
<td>$7,728</td>
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<tr>
<td>Year 2</td>
<td>18,347 (66%)</td>
<td>$3,822</td>
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<tr>
<td>Year 3</td>
<td>15,537 (87%)</td>
<td>$3,704</td>
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**N=27,799**

Wellness Score 81.1
Mean Cost $5,150

Source: Zero Trends – Dee Edington

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Dee Edington 2009
EYEING THE PRIZE
What is the Goal? Creating Environments That:

• Seek out ways to prevent illness & disease
• Reward better health and outcomes
• Are holistic, **Stigma Free**
• Promote individual well-being
• Produce resiliency
• **Enhance Performance & Prosperity**