The Role of Integrative Health & Medicine for Rural Hospitals

Jamie Harvie,
Executive Director
Institute for a Sustainable Future

www.isfusa.org
Integrative Health and Medicine

• A Systems model
  – focus on interconnections, relationships
  – links individual, community and planetary health

• An Approach, A Process

• Qualitative and Quantitative
  – “Art and Science of Connection” or “High Touch High Tech”
“Climate change is the largest health threat in the 21st century” – The Lancet
Contemporary Prenatal Exposure to Endocrine Disrupting Chemicals

Percentage of U.S. Pregnant Women with Detectable Level of Analyte

Based on analysis of representative sample of U.S. population by NHANES 2003-2004. Note, not all women were tested for all chemicals


c/o P. Sutton MPH  USCF  PRHE
A Hefty Increase

In 1980, 857 million people were overweight or obese; that number rose to 2.1 billion people in 2013, a study shows.

Global obesity rates

- Adults 12%
- Children and adolescents 4.9%

Top 10 countries ranked by number of obese people in 2013, in millions

1. U.S. 86.9
2. China 62.0
3. India 40.4
4. Russia 29.2
5. Brazil 26.2
6. Mexico 24.9
7. Egypt 21.8
8. Germany 17.1
9. Pakistan 16.7
10. Indonesia 15.1

Source: Institute for Health Metrics and Evaluation

The Wall Street Journal
The world’s problems cannot be analyzed or explained in isolation.
We are faced with one complex crisis.
“Global risks are becoming increasingly imminent and **materializing in new and sometimes unexpected ways.**”

“Global risks remain **beyond the domain of just one actor**, highlighting the need for **collaborative and multistakeholder action**”

“We need clear thinking about new levers that will enable a **wide range of stakeholders** to jointly address global risks, which **cannot be dealt with in a centralized way.**”
Strengths of Conventional Medicine

- Acute Care
- Surgery
- Trauma Care
- Diagnostics
CDC: Obesity Is A "Major Public Health Threat"

- Diabetes and pre-diabetes will account for an estimated 10 percent of total health care spending by the end of the decade at an annual cost of almost $500 billion.
- Clinical interventions are costly and not in keeping with successful public health strategies.
The Burden of Chronic Disease

• 70% of all chronic disease is lifestyle, environment and nutrient related
• By living in right relationship with our environments, we could prevent:
  – 80% of coronary artery disease
  – 90% of diabetes (type 2)
  – 60% of cancer
• Among individuals aged 70 to 90 years, adherence to a Mediterranean diet and healthful lifestyle is associated with a more than 50% lower rate of all-causes and cause-specific mortality.

60% to 80% of primary care doctor visits are related to stress, yet only 3% of patients receive stress management help.
Chronic Disease—The Need for a New Clinical Education

Halsted Holman, MD

It is axiomatic that medical education should prepare students well for the clinical problems they will face in their future practice. However, that is not happening for the most prevalent problem in health care today: chronic disease. The fundamental clinical education in a generation of management of care. Integration of care provided by all professionals undergirds effectiveness; in particular, specialists need to understand the overall management plan for the patient and weave their contribution into it.

With chronic disease, the role of the patient changes. Because the patient must usually engage in unending treatment, make behavior changes, and adjust to consequences of the disease, effective patient education is essential.

It is axiomatic that medical education should prepare students for the clinical problems they will face in their future practice. However, that is not happening for the most prevalent problem in health care today: chronic disease.
Each individual diagnosis becomes a distinct entity unto itself.
The Cost of Care: The United States spends more on medical care per person than any country, yet life expectancy is shorter than in most other developed nations and many developing ones. Lack of health insurance is a factor in life span and contributes to an estimated 45,000 deaths a year. Why the high cost? The U.S. has a fee-for-service system—paying medical providers piecemeal for appointments, surgery, and the like. That can lead to unneeded treatment that doesn’t reliably improve a patient’s health. Says Gerard Anderson, a professor at Johns Hopkins Bloomberg School of Public Health who studies health insurance worldwide, “More care does not necessarily mean better care.” —Michelle Andrews

Health care spending per person, in U.S. dollars

<table>
<thead>
<tr>
<th>Country</th>
<th>Health care spending per person, in U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>9,417</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>4,412</td>
</tr>
<tr>
<td>Canada</td>
<td>3,095</td>
</tr>
<tr>
<td>Austria</td>
<td>3,740</td>
</tr>
<tr>
<td>France</td>
<td>3,001</td>
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<td>Denmark</td>
<td>2,512</td>
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<td>Sweden</td>
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<td>Australia</td>
<td>3,187</td>
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<tr>
<td>U.K.</td>
<td>2,002</td>
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<tr>
<td>Belgium</td>
<td>1,887</td>
</tr>
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<td>Italy</td>
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<tr>
<td>Czech Republic</td>
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</tr>
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<td>Slovakia</td>
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<tr>
<td>Poland</td>
<td>1,005</td>
</tr>
<tr>
<td>Mexico</td>
<td>835</td>
</tr>
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</table>

Average number of doctor visits a year

- Nation with universal health coverage provided by public and private insurance
- Nation without universal health coverage

Average life expectancy at birth

50% SOURCE: CDC
NUMBER OF PRESCRIPTION ADDICTS
16 million

#drug-and-alcohol-treatment.net
Microbiome

Organs reported to be influenced by the gut microbiome:
- GI-tract
- Liver
- Stomach
- Immune System
- Bone remodelling
- Hypothalamus-Pituitary axis
- Brain development & function

Diseases associated with an altered gut microbiome:
- Obesity
- Diabetes
- Inflammatory Bowel Disease
- Rheumatoid arthritis
- Stomach cancer
- Colon cancer
- Liver cancer

The Determinants of Health

- Health Behaviors, 30%
- Social and Economic Factors, 40%
- Clinical Care, 10%
- Physical Environment, 10%
- Genes and Biology, 10%

Minnesota Department of Health
85% of physicians surveyed say patients’ social needs are as important to address as their medical conditions.

Health Care’s Blind Side, December 2011
Epigenetics

• How external influences such as stress, exercise, nutrition, toxics, smoking can effect gene expression
• Heritable
Preventing mental health problems in offspring by targeting dietary intake of pregnant women

Adrienne O’Neil1,2*, Catherine Itsiopoulos3, Helen Skouteris4, Rachelle S Opie3, Skye McPhie4, Briony Hill4 and Felice N Jacka1,5,6,7

Abstract

Background: The concept of ‘early life programming’ considers the importance of very early environmental exposures throughout the gestational period on the subsequent health outcomes of offspring. The role of maternal...
Relaxation Response Induces Temporal Transcriptome Changes in Energy Metabolism, Insulin Secretion and Inflammatory Pathways

Manoj K. Bhasin, Jeffery A. Dusek, Pei-Hung Chang, Marie G. Joseph, John W. Denninger, Gregory L. Fricchione, Herbert Benson, Yoji A. Libermann

Abstract

The relaxation response (RR) is the counterpart of the stress response. Millennia-old practices evoking the RR include meditation, yoga and repetitive prayer. Although RR elicitation is an effective therapeutic intervention that counteracts the adverse clinical effects of stress in disorders including hypertension, anxiety, insomnia and aging, the underlying molecular mechanisms that explain these clinical benefits remain undetermined. To assess rapid time-dependent (temporal) genomic changes during one session of RR practice among healthy practitioners with years of RR practice and also in novices before and after 8 weeks of RR training, we measured the transcriptome in peripheral blood prior to, immediately after, and 15 minutes after listening to an RR-altering or a health education CD. Both short-term and long-term practitioners showed significant temporal gene expression changes with greater magnitude of change in the long-term practitioners. This study demonstrates that RR practice may alter gene expression in a temporal manner, which could provide insights into the molecular mechanisms underlying the RR biological effects.
Health and Medicine for the 21st C.

- Integrative med residencies, fellowships, participating medical schools and clinics
- Thousands of integrative clinicians
- Health coaching
The Values and Culture of Veterans

MISSION
You commit to goals and outcomes with tremendous self-discipline and self-sacrifice.

PLAN
You wouldn’t fight a war or go into battle without one.

TRAINING
You wouldn’t send your troops in without training and skill building.

TEAM, TRUST, AND SUPPORT
You rely on your team and live or die by your fellow Soldiers, Sailors, Airmen and Marines.

VETERANS HEALTH ADMINISTRATION
Integrative Health and Medicine

An approach that reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic and lifestyle approaches, healthcare professionals and disciplines to achieve optimal health and healing.

“What is right with you?”
Key Principles of Integrative Health and Medicine

- Optimal health as primary goal
- Healing power of love
- Wholeness
- Prevention and treatment
- Integration of healing systems
- Recognition of innate healing power
- Relationship centered care
- Individuality
- Teaching by example
- Learning opportunities
Social Support, Depression And Cardiac Death Rates

- Patients who were most depressed had highest cardiac death rate
- This effect was negated when people felt socially supported

Connection And The Common Cold

- 276 healthy volunteers given rhinovirus; nasal drops all shed virus
- Asked about 12 types of social relationships - parental, childhood, groups etc.
- Scores of 3/12 developed cold symptoms 4 times more frequently

Physicians who partner with their patients have better outcomes in:

- Patient anxiety
- Symptom improvement
- Patient function
- Blood pressure control
- Glucose control
- Pain control

## Effects of Perceived Empathy on the Common Cold

<table>
<thead>
<tr>
<th></th>
<th>No Visit</th>
<th>&lt; Perfect</th>
<th>Perfect</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>6.75 days</td>
<td>7.0 days</td>
<td>5.89 days</td>
<td>0.003</td>
</tr>
<tr>
<td><strong>Severity</strong></td>
<td>262.19</td>
<td>270.58</td>
<td>223.38</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Approach and Benefits

• Focus on resiliency from the cellular to planetary level
• Effective for prevention and treatment of disease
• Therapies typically have multiple benefits, are safe, practical and health sustaining
• Wide array of treatment options
• Relationship is a collaboration; the story must be heard
• Happier doctors re-enchanted with science and the art of medicine
Efficacy and Cost Effectiveness

- Increased patient satisfaction and retention
- Pain management and decreased pain medication needs
- Decreased inpatient length of stay and inpatient costs
- Decreased pre-and post-operative anxiety
- Improved engagement in patient self-care
- Shift to less costly personnel
- Improved employee satisfaction, less sick time
- ACO economic sustainability
- Competitive differentiator

Cost Effective

*Interheart Study*: Changing lifestyle could prevent 90% of heart disease. Extrapolation: If 10% of angioplasties and CABG’s are avoided pursuant to lifestyle changes, $10 billion saved per year.

*Preventive Medicine Research Institute*: 8-hospital study demonstrated 80% of participants were able to safely avoid CABG or angioplasty with comprehensive lifestyle changes with a calculated savings of $30,000 per patient in the first year.

Patient Satisfaction

- HCAHPS scores are higher when patients receive integrative services.
- 76.2% of patients who received IHM services for pain in the hospital felt their pain was improved as a result of the IHM therapies.
- Health-related quality of life was significantly improved for patients with IHM.
- Treatments were also found to reduce blood pressure, decrease anxiety and pain and increase patient satisfaction in thoracic surgery patients.


Widespread Use

• 42% of all hospitals in US offer integrative services.

• Use of integrative health and medicine is as high as 90% for certain patient populations in the United States and 38% for all adult Americans.

• Most common conditions successfully treated: chronic pain, GI disorders, depression/anxiety, cancer, and stress.

Allina Health

• Integrative medicine physicians
• Functional nutritionists
• Traditional Chinese Medicine practitioners, practicing acupuncture
• Integrative health psychologists, offering biofeedback, hypnosis,
• Health coaching, weight management
• Massage therapy
• Spiritual direction
• Holistic tobacco cessation program
• Mindfulness training
Cleveland Clinic Center for Integrative Medicine

- 4 Integrative Medicine Physicians
- 4 Wellness Primary Care Physicians
- 5 Holistic Psychotherapists
- 6 Massage Therapists
- 2 Chiropractic Physicians
- 1 Integrative Pain Management Physician
- 6 Licensed Acupuncturists
- 2 Licensed Chinese Herbalists
- 1 Neuromuscular Biofeedback and Certified Heart Math Provider
Cancer Pain and Anxiety

Therapies such as acupuncture and medical massage reduced self-reported pain levels by 47 percent and cut anxiety levels by 56 percent for cancer patients at Abbott Northwestern Hospital.

Courtney Baechler, M.D. 2015 Commons Health Presentation http://www.accountablecommunities.org/agendaanddownloads.html

Resiliency Training

- An 8-week long group-based skills building program for persons with chronic depression conducted at the George Institute Outpatient Clinic.
- Key elements of the program include 1:1 assessments from psychiatrist, nutritionist and exercise physiologist. 63-70% reduction in depression
- 48% reduction in stress, 23% reduction in anxiety
- Numerous improvements in quality of life, including a 52% reduction in lost productivity.
  - Cost analysis showed reduction of ~$1,800 in lost time at work (presenteeism).
- Most psychological improvements persisted up to 12 months after completion of the Resilience Training program.

Courtney Baechler, M.D. 2015 Commons Health Presentation http://www.accountablecommunities.org/agendaanddownloads.html
PROMIS®
(Patient-Reported Outcomes Measurement Information System)

• Set of person-centered measures that evaluates and monitors physical, social, and emotional health in adults and children. It can be used with the general population and with individuals living with chronic conditions.

• Developed and validated with state-of-the-science methods to be psychometrically sound and to transform how life domains are measured

• Designed to enhance communication between clinicians and patients in diverse research and clinical settings

• Created to be relevant across all conditions for the assessment of symptoms and functions

http://www.healthmeasures.net/explore-measurement-systems/promis
% Improved or Much Improved
Patients with initial PROMIS Scores <=45

<table>
<thead>
<tr>
<th></th>
<th>Physical Health</th>
<th>Mental Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Medicine</td>
<td>28%</td>
<td>26%</td>
</tr>
<tr>
<td>Functional Medicine</td>
<td>38%</td>
<td>30%</td>
</tr>
</tbody>
</table>
Cost Savings from Reducing Pain Through the Delivery of Integrative Medicine to Hospitalized Patients

• Jeffery Dusek (1), Kristen Griffin (1), Michael Finch (2), Rachael Rivard (1)

• **Purpose:** An important task facing hospitals is improving pain management without raising costs. Integrative medicine (IM), though a promising non-pharmacological pain management strategy, has yet to be examined for its cost implications in an inpatient setting. We examined the impact of changes in patients' pain, as a result of receiving IM therapy, on total cost of care during a hospital admission in an inpatient population.

• **Results:** Length of stay, and age, were found to increase hospital costs, as did being white, male, married, and having “extreme” APR-DRG severity. Among patients who received sessions of IM therapies for pain, pain decreased by an average of 2.05 points on a scale of 0–10 and resulted in a cost savings of $1,000 per hospital admission. Importantly, the cost of delivering IM therapies is being determined and the corresponding ratio will be presented with our final results.

• **Conclusion:** By providing IM therapies to patients, self-reported pain decreased. Hospital costs lowered by about five percent for patients who reported pain changes. This type of practice-based observational research, can assist in our understanding of how hospital costs may be influenced by IM therapies.

Effectiveness of a Multidisciplinary Integrative Medicine Team in the Treatment of Chronic Low Back Pain: A Prospective Observational Study

- Peter Wayne (1), David Eisenberg (2), Kamila Osypiuk (1), Brian Gow (1), Roger Davis (3), Julie Buring (4)
- **Purpose:** Chronic low back pain (CLBP) is among the most common, burdensome, and costly conditions. Multidisciplinary approaches may be more effective than unimodal, and an increasing number of patients seek complementary and integrative care for CLBP. This prospective study evaluated the effectiveness of an integrative medicine (IM) team's treatment of CLBP (at the Osher Clinical Center (OCC), Brigham and Women's Hospital (BWH)) compared with conventional CLBP care within BWH (non-OCC).
- **Conclusion:** We observed greater effectiveness of a multimodal IM approach to the treatment of CLBP compared with usual treatment.
Major Depression Treated with Iyengar Yoga and Coherent Breathing Assoc With Increased Gamma Aminobutyric Acid Levels and Decreased Depressive Symptoms

- **Chris Streeter** (1), Patricia Gerbarg (2), Theodore Whitfield (3), Elizabeth Owen (4), Jennifer Johnston (5), Anne Marie Hernon (4), Marisa Silveri (6), Richard Brown (7), J. Eric Jensen (8)

- **Conclusion:** In subjects with MDD, there were statistically significant increases in GABA levels and decreases in BDI-II scores during a 12-week Iyengar yoga and coherent breathing intervention. Two interventions a week plus home practice resulted in clinically significant improvements with less time demands than three interventions a week. This study supports the use of yoga alone or as an adjunct to pharmacologic treatment for MDD.

Emerging Principles for Health Creation

- Embrace An Inclusive Definition Of Community
- Acknowledge Power Imbalances
- Share Power
- Let The Community Define What Matters
- Measure What Matters
- Operate At Individual And Community Levels
- Embrace Complexity
- Acknowledge That No One Cannot Do It Alone
- Accept That It’s Going To Take Time
- Build The Right Team
- Search For Sustainability

http://ssir.org/creating_health
Let the Community Decide What Matters

Creating health, is about starting from how people and communities think about their health and build from there.

What makes people *feel* healthy are things like safety, physical functioning, financial security, safe affordable housing, emotional security, nourishing relationships, a sense of control over one’s life, and a sense of meaning.
“Sense of Place” (Work, Live, Learn, Play)
Health is Place – Based
Operate at Individual and Community Levels

THE NEXT HEALTH SYSTEM

THE WHOLE PERSON or INTEGRATIVE MODEL OF HEALTH

Inclusive Equitable Quality Education; Economic Opportunity & Livable Jobs; Vibrant Democracy; Fair Justice System
Healthy Buildings; Healthy, Quality, Affordable Housing
Local, “Good Food” System; Safe & Accessible Public Drinking Water; Ecological Stewardship
Healthy Relationships; Sense of Purpose
Clinical Treatment Multiple Disciplines

“Sense of Place” (Work, Live, Learn, Play)

State, Nation, Society

Planet, Cosmos

Parks, Recreation & Open Spaces; Public Transit & Active Transportation

ISF

Spirituality; Biodiversity; Climate Stability; Ozone Layer
Creating a New Health Operating System

- Quality and Quantity
- Collaborative
- Empowering
- Open Mind, Open Will, Open Heart
IM in Rural Hospitals

- Approach
- Assets
- Healthy Food and Nutrition
- Loneliness, Pain, Stress, Depression
  - MBSR, Tai Chi, Yoga, Massage, Exercise, Food
- Group Visits
- Collaborative Community Leadership
- Hiring, Training and Teaching
Organizations/ Fellowships / Trainings

• Academy of Integrative Health and Medicine AIHM http://www.aihm.org/fellowship/
• Leadership Program in Integrative Healthcare at Duke University http://www.dukeintegrativemedicine.org
• National Center for Integrative Primary Care http://nciph.org/curriculum.html
• Integrative Medicine for the Underserved http://www.IM4US.org
• Institute for Functional Medicine http://www.functionalmedicine.org
Academic Partners

- **Academic Consortium for Integrative Medicine & Health** now has 65 member medical schools and health care facilities that follow an IM curriculum.
  - Mayo, Allina, U of MN, Harvard, Duke, Cleveland Clinic, and many other major academic institutions have thriving integrative centers. [http://www.imconsortium.org](http://www.imconsortium.org)

- **Academic Collaborative for Integrative Health**
  - Council of Colleges of Acupuncture and Oriental Medicine (CCAOM), Association of Chiropractic Colleges (ACC), Alliance for Massage Therapy Education (AFMTE), Association of Accredited Naturopathic Medical Colleges (AANMC), Association of Midwifery Educators [http://www.accahc.org](http://www.accahc.org)
Efficacy and Cost Effectiveness

http://ww.bravewell.org/integrative_medicine/efficacy_cost/

Mapping the Field
http://www.bravewell.org/current_projects/mapping_field/

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Global Practitioners
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6th Annual Conference
"Collaborate to Create Healthy Communities"
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Thank you!

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