The Landscape of Integrative Health and Wellness in the United States

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Future Trends in Healthcare
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Overview

- Consider the current context giving rise to interest in integrative medicine
- Review the growth of integrative medicine, and recent focus on health and wellness
- Present examples of the integrative medicine evidence base that highlight issues
- Discuss potential opportunities and future directions
The Cost of a Long Life

Data from 2000, UC Atlas of Global Inequality, 2014
Healthcare Trends - Prevalence

From 2000 – 2009 in the United States

- Heart disease: 25% increase
- Diabetes: 32% increase
- Stroke: 27% increase

Health Outcomes: Heart Disease

Cost of treatment:
- 1.3 million angioplasties, $48,000 each = $60B*
- 448,000 bypass, $100,000 each = $44B*

Outcomes:
- Angioplasties, stents – may not prolong life or prevent heart attacks in stable patients
- Bypass surgery prolongs life in only a fraction of patients

*AHA, **Boden, NEJM, 2007; Stergiopoulos, Arch.Int. Med, 2012
“The disease-driven approach to care has resulted in

- spiraling costs as well as
- a fragmented health system that is
- reactive and episodic as well as
- inefficient and impersonal.”

IOM Summit, 2009
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- Review the growth of integrative medicine in recent years and shift to health and wellness
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From a “disease-driven” to a “patient-driven” approach to care

“The field of integrative medicine and health …

- Reaffirms the importance of the relationship between the practitioner and patient,
- Focuses on the whole person,
- Is informed by evidence, and
- Makes use of all therapeutic and lifestyle approaches, health care professionals and disciplines to achieve optimal health and healing.”
Complementary vs. Integrative Medicine?

- Earlier definition: “Integrative Medicine integrates the best evidence-based conventional and complementary medicine”

  \textbf{then in 2014…}

- “Integrative medicine and health makes use of all appropriate therapeutic and lifestyle approaches, healthcare professionals and disciplines to achieve optimal health and healing.”

**Integrative Health and Medicine is…**

- Patient Centered,
- Holistic, and
- Comprehensive
What’s in a Name: Integrative Medicine?

“Integrative medicine and health makes use of all appropriate therapeutic and lifestyle approaches, healthcare professionals and disciplines to achieve optimal health and healing.”

Trojan Horse?

“CAM”?
Survey of Infectious Disease Physicians

Survey of 311 infectious disease physicians

Believe “Mildly” to “Very Effective”

- Artimisinin/malaria: 80%
- Omega 3/hyperlipidemia: 78%
- Cranberry for UTI: 54%

Interest

- Interest in CAM*: 56%
- Interest in Integrative Med.: 80%

*Complementary and Alternative Medicine

(Shere-Wolf, Tilburt, Chesney, Evidence Based CAM, 2013)
Natural Products
   Dietary supplements

Mind and Body
   Deep Breathing
   Relaxation/Meditation
   Yoga/Tai Chi
   Therapeutic Massage
   Acupuncture

   NCCAM 1998-2014

1998: NIH National Center for Complementary and Integrative Health
Complementary / Integrative Medicine Use Increasing

- National random sample
  - 2002: 31,044 adults
  - 2007: 23,393 adults & 9,417 children
  - 2012: 34,525 adults & 10,218 children

Barnes et al., CDC, 2004, 2008; Black et al., CDC, 2015
The 2007 Report Indicated

- Over 38% of adults using complementary medicine within the past 12 months
- Total estimated adults using complementary med. - over 115 million
  - increase of 12 million in 5 years
- Almost 12% of children given complementary medicine within the past 12 months
Use of Complementary Health Approaches in the U.S.
National Health Interview Survey (NHIS)

10 most common complementary health approaches among adults—2012

- Natural Products*: 17.7%
- Deep Breathing: 10.9%
- Yoga, Tai Chi, or Qi Gong: 10.1%
- Chiropractic or Osteopathic Manipulation: 8.4%
- Meditation: 8.0%
- Massage: 6.9%
- Acupuncture, Special Diets: 4.0%, 3.0%
- Homeopathy: 2.2%
- Progressive Relaxation: 2.1%
- Guided Imagery: 1.7%

*Dietary supplements other than vitamins and minerals.

Figure 4  Diseases/Conditions for Which CAM Is Most Frequently Used Among Adults

Most Frequent – Pain

2007

Back Pain: 17.1%
Neck Pain: 5.9%
Joint Pain: 5.2%
Arthritis: 3.5%
Anxiety: 2.8%
Cholesterol: 2.1%
Head of Chest Cold: 2.0%
Musculoskeletal: 1.8%
Severe Headache or Migraine: 1.6%
Insomnia: 1.4%

2002

Back Pain: 16.8%
Head of Chest Cold: 9.5%
Neck Pain: 6.6%
Joint Pain: 4.9%
Arthritis: 4.9%
Anxiety/Depression: 4.5%
Stomach Upset: 3.7%
Severe Headache or Migraine: 3.1%
Recurring Pain: 2.4%
Insomnia: 2.2%
Integrative Medicine in US Hospitals

- Hospitals offering Integrative Medicine services
  - 8% in 1998
  - 17% in 2002
  - 27% in 2005
  - 37% in 2008
  - 42% in 2011

- Key reasons
  - Patient demand 85%
  - Clinical evidence 74%

AHA Health Forum, Sept. 2011
1999: Consortium Formed - 8 Centers

- University of California, San Francisco
- Stanford University
- University of Arizona
- University of Minnesota
- University of Massachusetts
- Harvard University
- University of Maryland
- Duke University
Meeting Homepage Sidebar:

“There is a misconception that terms such as ‘wellness,’ ‘mindfulness,’ ‘resilience’ and ‘lifestyle medicine’ are separate and distinct from the evolution of the integrative health and medicine movement.

“This half century movement gave rise to and nurtured these concepts which underlie the current transformation in healthcare.”

Dr. Len Wisneski
Long before integrative medicine formed the Consortium in 1999

- Research had documented the interaction between mind and body, and particularly, stress and health
  - Stress $\rightarrow$ disease
    (either directly or indirectly through risk factors, e.g., diet, smoking, alcohol)
  - Lifestyle $\rightarrow$ disease – e.g., cardiovascular disease, cancer

- 1939 American Psychosomatic Society – 60 yrs.
- 1954 American College of Preventive Medicine – 45 yrs.
- 1978 Society for Health Psychology – 21 yrs.
The public heard the news about stress and took action

- Public created a “market”
- Pressed Congress for NCCIH in 1998
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Integrative Medicine and Health has an evidence base

- Safety
- Efficacy
- Mechanism

*Highlight Issues*
Iyengar Yoga for Chronic Low Back Pain (CLBP) - NCCIH

CLBP  20-25% of all medical claims
$34 billion in direct medical costs

- 90 patients, CLBP randomized
  - Yoga - 24 weeks, 2 x week, 90 min. (N = 43)
  - Control - care as usual (N = 47)

- Outcomes
  - Oswestry Disability Index
  - Visual Analog Pain Scale


Issue: Control Group Selection
Iyengar Yoga for Chronic Low Back Pain - NCCIH

Intention to Treat

Per Protocol

Functional Disability (ODI) score vs. Treatment time

Baseline | 12 weeks | 24 weeks

P<0.0125


P<0.01
Chronic Low Back Pain
Yoga vs Conventional Stretching - NCCIH

- 228 adults chronic low back pain
- Randomized to 12-week program
  - Yoga class
  - Conventional stretching class
  - Self-help book
- Outcome:
  - Roland disability index
  - Bothersomeness

Primary outcomes for yoga, stretching, and self-care at baseline, 6, 12, and 26 weeks

Findings suggest: Yoga’s benefits largely attributable to physical benefits of stretching and strengthening muscles and not to its mental components.

Which will be better maintained?

Larger Trial: Chronic Low Back Pain
MBSR vs CBT vs Usual Care - NCCIH

- 342 adults chronic low back pain
- Randomized to
  - MBSR (8 weekly, 2-hr classes)
  - CBT (8 weekly, 2-hr classes)
  - Usual care control
- Outcome:
  - Roland Disability Index
  - Bothersomeness

Cherkin, Sherman et al., JAMA, 315, 2016
Larger Trial: Chronic Low Back Pain
MBSR vs CBT vs Usual Care - NCCIH

- Participants
  - Mean age 49.3
  - 65.7% female
  - Mean duration of pain 7.3 yrs

- Adherence
  - 53.7% attended 6 or more sessions
  - 86% completed 26 wk follow-up
  - 85% completed 52 wk follow-up

Issue: Low adherence
…and this is just to sessions
What about home practice?

Cherkin, Sherman et al., JAMA, 315, 2016
Larger Trial: Chronic Low Back Pain
MBSR vs CBT vs Usual Care - NCCIH

Outcomes

<table>
<thead>
<tr>
<th>Group</th>
<th>MBSR</th>
<th>CBT</th>
<th>UC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roland RDQ</td>
<td>60.5%</td>
<td>57.7%</td>
<td>44.1%</td>
</tr>
<tr>
<td>Less Bothersome</td>
<td>43.6%</td>
<td>44.9%</td>
<td>26.6%</td>
</tr>
</tbody>
</table>

MBSR and CBT – equally helpful
Both MBSR and CBT were superior outcomes to Usual Care

- Interpretation:
  These finding indicate that either MBSR or CBT are effective treatment options for chronic low back pain

Cherkin, Sherman et al., *JAMA*, 315, 2016
Issues Emerging from Research

These are also very relevant to clinical care, health promotion and wellness!

- What is the best research design?
- What is the best dose? $24? 12? 8?$
- How well are people adhering to the treatment?

→ What are the mechanisms of action?
Mechanisms of Action in Integrative Medicine

- The underlying mechanisms of action for effective integrative medicine approaches need to be defined.
- The sympathetic nervous system has been the starting point for these studies.
- The role of other systems such as the endocrine and immune system, and other biochemical pathways also need to be investigated.
- For example, the respiratory system can have surprising effects on mechanisms involved in the development of salt-sensitive hypertension, which is involved in 50% of essential hypertension.
Stress ➔ Inhibited Breathing?

Stress ➔ Fight or Flight ➔ “Freeze” ➔ Inhibited Breathing

Vigilance
Psychological Stress and Inhibited Breathing

N = 278
Men & Women

Mindful Breathing for Women with Pre-hypertension – Project Inspire

- 94 women with prehypertension (50-79) (SBP 120-139; DBP 80-89)
- Randomized to 8 session program
  - Mindful Breathing  N = 48
    - 8 weekly videotaped sessions – controls for training differences
    - Individually administered
  - Usual Care Control  N = 46
- Outcomes:
  - Clinic BP
  - 24 hour BP

Chesney, Reeves, Anderson et al., ICIMH, 2016
Mindful Breathing for Prehypertension

Chesney, Reeves, Anderson et al., ICIMH, 2016
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Issues Suggest Opportunities With Clinical Relevance

- Select best research design for the question
  - If question is: What is the Optimal or Optional Treatment?
    Design should compare one or more treatments with usual care
    Consider more pragmatic, “real-world designs,” or evaluations
  - If question is: What is the mechanism of action?
    Design should include carefully designed controls or experiments,
    that investigate a number of systems, e.g., respiratory, immune

- First research efforts often do not “work” and integrative medicine researchers often stop --
- Biomedical researchers don’t “stop.” All results provide parts of the puzzle – keep learning, refining
- Investigate dose response – for clinical effects
Opportunities – Address Adherence in Integrative Medicine

- Little attention has been paid to adherence to interventions – in clinical and research settings
  - Includes attending sessions, home practice of intervention, and maintenance over time – **vulnerability**
  - Adherence is important to achieving effectiveness
  - Adherence by study participants – **likely inflated** (selected, paid)
  - Adherence is measured by self-report diaries – **also inflated**

- **Research Opportunity**
  - Determine the extent of the challenge, investigate drop-outs
  - Identify correlates and develop supportive strategies
  - Implement approaches to engage, motivate individuals
  - Result: Strengthen intervention effectiveness
When we think of health care...

Optimal Health
Resilience
Reduced vulnerability to daily stress

The goal of Integrative Medicine go the distance, to achieve optimal health

Health
“Neutral”
Ill-health

Integrative Medicine

Treatments that promote healing, prevent illness
Future Directions –
Integrative Medicine …Be Bold

- Must move beyond the clinic setting and one-to-one care to include communities and neighborhoods.
- Cannot allow children to be exposed to adverse social conditions that we know have lasting health effects.
- Must expand personalized medicine to zip code as well as genetic code. Patients’ ability to personalize and implement treatment depends on their neighborhood.
- Step outside our clinics and labs, and consider playing a role in our communities to address the social determinants of health - persuade officials that improved lifespan and reduced costs depend on creating healthy communities.
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The Goal of Integrative Medicine

To create healthier communities

- Where individuals, families, and groups
  - Have access to healthy choices that build resilience
  - Prevent disease
  - And enhance the quality of their lives
Acknowledgments

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