

## WHAT IS INTEGRATIVE MEDICINE?

*Integrative medicine is an approach to care that puts the patient at the center and addresses the full range of physical, emotional, mental, social, spiritual and environmental influences that affect a person's health. Employing a personalized strategy that considers the patient's unique conditions, needs and circumstances, it uses the most appropriate interventions from an array of scientific disciplines to heal illness and disease and help people regain and maintain optimum health.*

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**DEFINITION**

Integrative medicine is grounded in the definition of health. The World Health Organization (WHO) defines health as “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.”<sup>1</sup>

Integrative medicine seeks to restore and maintain health and wellness across a person's lifespan by understanding the patient's unique set of circumstances and addressing the full range of physical, emotional, mental, social, spiritual and environmental influences that affect health.<sup>2</sup> Through personalizing care, integrative medicine goes beyond the treatment of symptoms to address all the causes of an illness. In doing so, the patient's immediate health needs as well as the effects of the long-term and complex interplay between biological, behavioral, psychosocial and environmental influences are taken into account.<sup>3</sup>

Integrative medicine is **not** the same as alternative medicine, which refers to an approach to healing that is utilized in place of conventional therapies, or complementary medicine, which refers to healing modalities that are used to complement allopathic approaches. If the defining principles are applied, care can be integrative regardless of which modalities are utilized.

The defining principles of integrative medicine are:

- The patient and practitioner are partners in the healing process.
- All factors that influence health, wellness and disease are taken into consideration, including body, mind, spirit and community.
- Providers use all healing sciences to facilitate the body's innate healing response.



## WHAT IS INTEGRATIVE MEDICINE?

- Effective interventions that are natural and less invasive are used whenever possible.
- Good medicine is based in good science. It is inquiry-driven and open to new paradigms.
- Alongside the concept of treatment, the broader concepts of health promotion and the prevention of illness are paramount.
- The care is personalized to best address the individual's unique conditions, needs and circumstances.
- Practitioners of integrative medicine exemplify its principles and commit themselves to self-exploration and self-development.<sup>4</sup>

In addition to addressing and handling the immediate health problem(s) as well as the deeper causes of the disease or illness, integrative medicine strategies also focus on prevention and foster the development of healthy behaviors and skills for effective self-care that patients can use throughout their lives.

### FOUNDATIONAL SCIENCE

Health is not just a matter of genetics. WHO and CDC research demonstrates that factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all influence our health for better or worse.

The determinants of health include:<sup>5</sup>

- Income and social status
- Education
- Physical environment
- Employment and working conditions
- Social support networks
- Culture
- Genetics
- Gender
- Personal behavior and coping skills
- Access to health care

Understanding the relationship between these influences and health is paramount in delivering good health care and forms the foundational science for integrative medicine.

### The Connection Between Lifestyles and Health

Seven of the most common chronic diseases — cancer, diabetes, hypertension, stroke, heart disease, pulmonary conditions and mental disorders — are linked to behavioral or environmental risk factors. Evidence is accumulating that many of these conditions can be mitigated and even avoided altogether if people make better choices about eating nutritious food, adopting healthy habits (non-smoking, etc.), building healthy relationships, living and working in less toxic environments, engaging in stress reduction, staying fit and being purposefully engaged in life.

Evidence from clinical trials conducted by Dean Ornish and others over the past two decades demonstrates that integrative lifestyle change programs — which focus on nutritional interventions, stress reduction, moderate exercise and the development of greater love and emotional wellbeing — can mitigate and sometimes even reverse the progression of many chronic diseases. These programs, which take a systems approach to improving patient health, have been proven effective for people suffering from obesity, diabetes, cardiac disease and prostate cancer, among others. Additionally, they have been shown to improve brain function, downregulate genes that promote disease and increase the potential for longevity.<sup>6-8</sup>

### Mind-Body Connection

The mind-body connection has been the subject of rigorous research for more than 40 years and there are numerous well-documented clinical interventions that address how to work with the mental and emotional aspects of a person's health.

In the 1920s, Walter Cannon, MD, identified the “fight-or-flight” response. He discovered that when a person feels fear, the body secretes hormones into the bloodstream that produce changes in the body, such as increased heart

## WHAT IS INTEGRATIVE MEDICINE?

and respiratory rates. Hungarian-born scientist Hans Selye, MD, further developed the field of stress research by describing how the wear-and-tear of constant stress affects us biologically.

Since then, scores of scientific breakthroughs have illuminated the mind-body connection in health. Neal Miller, PhD, discovered that people can be trained to control certain physical responses, such as blood pressure, that were previously considered to be involuntary. This discovery gave birth to biofeedback. Herbert Benson, MD, identified the flip side of the stress response, which he called the “relaxation response.” Benson demonstrated that meditation, yoga and other relaxation techniques can bring about physiological changes including a lower heart rate, lower breathing rate and decreased muscle tension along with positive changes in brain waves. Research by Robert Ader, PhD, illuminated the link between the brain, behavior and immune function, and founded the field of psychoneuroimmunology, which studies ways to increase immune function through the use of the mind.

The mind-body connection has also been fully explored within biopsychosocial medicine, which theorizes that biological, psychological (thoughts, emotions and behaviors) and social factors all play a significant role in human functioning in the context of disease or illness. This is in contrast to the traditional, reductionist biomedical model of medicine that suggests that every disease process can be explained in terms of an underlying deviation from normal function such as a pathogen, genetic or developmental abnormality or injury.<sup>9</sup>

### Prevention

Preventive medicine refers to measures taken to prevent diseases. Many people think of prevention in terms of early detection, such as prostate cancer screening and breast examinations. Within integrative medicine, prevention means participating in those behaviors and actions that foster health and wellness. This includes such actions as eating a healthy diet, having access to clean air and water, exercising on a regular basis, eliminating toxins from the home and work environments, and taking steps to reduce daily stress levels.

The importance of prevention lies in the fact that the majority of our health care dollars are currently spent after a person is in crisis, when it costs the most to intervene and when the possibilities for full recovery are the slimmest.<sup>10</sup> Chronic conditions — such as asthma, heart disease, diabetes, some cancers, hypertension, stroke and obesity — account for more than half of all health care costs and more than 70% of deaths. Yet many chronic conditions are largely preventable and even reversible by making positive changes in personal behaviors. The Centers for Disease Control and Prevention (CDC) state that “four modifiable health risk behaviors — lack of physical activity, poor nutrition, tobacco use and excessive alcohol consumption — are responsible for much of the illness, suffering and early death related to chronic diseases.”<sup>11</sup>

Because changing one’s lifestyle is not always easy, integrative medicine health care providers have developed interventions that help people make the needed changes. In addition to formal lifestyle change programs such as those developed by Dean Ornish, Founder and President of the Preventive Medicine Research Institute ([www.pmri.org/](http://www.pmri.org/)), or the Healing Hearts Program at Scripps Center for Integrative Medicine ([www.scripps.org/services/integrative-medicine](http://www.scripps.org/services/integrative-medicine)), integrative health coaching is also proving to be a successful strategy. According to Duke Integrative Medicine, “Health coaches create dynamic partnerships with people who wish to adopt lifestyle changes that will help them reach their short- and long-term goals for satisfying and healthful lives.” Integrative health coaches help people clarify their health goals, and implement and sustain behaviors, lifestyles and attitudes that are conducive to optimal health. They also guide people in their personal care and health maintenance activities and assist them in reducing the negative impact made on their lives by chronic conditions such as cardiovascular disease, cancer and diabetes.<sup>12</sup>

### Social Determinants of Health

Many social factors — such as a person’s socioeconomic status (SES), early life experience, education levels, social support or exclusion and employment status — influence

## WHAT IS INTEGRATIVE MEDICINE?

collective and personal wellbeing. Sometimes referred to as health psychology, this aspect of integrative medicine looks at the array of social and psychological factors that influence health and illness-related behavior.

In the Institute of Medicine's report, *Integrative Medicine and the Health of the Public: A Summary of the February 2009 Summit* (<http://www.iom.edu/Reports/2009/Integrative-Medicine-Health-Public.aspx>), Nancy Adler, PhD, Professor at the University of California San Francisco and Director of the Center for Health and Community, explained that the higher one is positioned on the socioeconomic ladder, the better one's health status is likely to be. "SES shapes almost every aspect of people's lives," she said. "It affects where they work, where they live, the social norms that govern them, where they are educated and their social and physical environments. In turn, these environments affect proximal causes of disease and health, such as health behavior, access to health care and exposure to toxins and pathogens, as well as to social threats that generate stress responses."

### Environmental Aspects of Health and Disease

Informed by the fields of environmental medicine, environmental science, genetics and chemistry, integrative medicine addresses the influences a person's environment exerts on his or her health.

At the IOM's Summit on Integrative Medicine and the Health of the Public, oncologist Mitchell Gaynor, MD, of the Weill-Cornell Medical Center, explained that while the genes a person is born with cannot be controlled, how those genes are expressed can be modulated. He noted that ingesting toxins can "turn on" tumor-promoting genes. Conversely, clean air and water and proper nutrients can increase the expression of tumor-suppressing genes. Citing the importance of creating toxin-free environments and limiting exposure to endocrine disruptors such as those found in plastics, cosmetics and pesticides, Gaynor stressed that the environment outside our bodies rapidly becomes the environment inside our bodies.<sup>13</sup>

*In Reducing Environmental Cancer Risk: What We Can Do Now*, the President's Cancer Panel reported that, "The true burden of environmentally induced cancers has been grossly underestimated." This expert panel advised that our government "remove the carcinogens and other toxins from our food, water and air that needlessly increase health care costs, cripple our nation's productivity and devastate American lives."<sup>14</sup>

Environmental management is actually a public health issue, which is why integrative medicine places a high importance on talking with patients about their physical environments and uncovering and handling any environmental triggers of disease.

### A Systems Approach

Integrative health care is derived from lessons integrated across scientific disciplines, and requires scientific processes that cross domains. Humans are complex entities and the most important influences on health, for individuals and society, are not the factors at play within any single domain — such as genetics, behavior, social or economic circumstances, physical environment or health care — but the dynamics and synergies across these domains.

Dean Ornish, MD, has noted that "the complex interplay between biology, behavior, psychosocial factors and the environment calls for a systems approach to health care and in health sciences research that can evaluate multiple variables interacting in dynamic ways."<sup>15</sup>

The Institute for Functional Medicine ([www.functionalmedicine.org](http://www.functionalmedicine.org)) explains that, "an abundance of research now supports the view that the human body functions as an orchestrated network of interconnected systems, rather than individual systems functioning autonomously and without effect on each other. For example, we now know that immunological dysfunctions can promote cardiovascular disease, that dietary imbalances can cause hormonal disturbances and that environmental exposures can precipitate neurological syndromes such as Parkinson's disease."<sup>16</sup>

## WHAT IS INTEGRATIVE MEDICINE?

Environmental inputs — such as diet, nutrients (including air and water), exercise, and trauma — are processed by one’s body, mind and spirit through a unique set of genetic predispositions, attitudes and beliefs. Integrative medicine seeks to treat the whole by integrating multiple knowledge bases and focusing on functionality at many levels, rather than a single treatment for a single diagnosis.

### Patient-Centered Care

Integrative medicine fully embraces the basic tenets of patient-centered care. Studied and embraced by many leading health care organizations, such as the Institute for Healthcare Improvement,<sup>18</sup> being “patient-centered” means considering patients’ cultural traditions, personal preferences and values, social circumstances and lifestyles. It means treating the patient as an integral part of the care team and putting responsibility for important aspects of self-care and monitoring in the patient’s hands.

Recently, patient-centered care has gained wide acceptance by many of the industry’s most influential care providers, policymakers, regulatory agencies, research bodies and funders. This shift can be traced to a 2001 Institute of Medicine report, *Crossing the Quality Chasm: A New Health System for the 21st Century* (<http://www.iom.edu/Reports/2001/Crossing-the-Quality-Chasm-A-New-Health-System-for-the-21st-Century.aspx>) that identified a focus on patient-centered care as one of six interrelated factors constituting high-quality health care.

Integrative medicine is founded on the principles that health care works best when patients are informed, empowered and active participants in their own care; when the care is personalized to the patient; and when the health care system is acting on behalf of the patient’s best interests.

### CLINICAL RESEARCH

#### Demonstrated Benefits Throughout the Lifespan

Based on the wide array of available therapies and the evidence for their safety and efficacy, there is immense potential for integrative medicine to improve health

across the whole continuum of care. Studies show that an integrative approach is effective and can be used from birth until death. In addition to the robust research demonstrating the value of lifestyle change programs for acute and chronic conditions, studies from obstetrics, pediatrics, primary care, pain management, cancer care, cardiac care and palliative care clearly demonstrate the clinical efficacy of an integrated approach.

The full gamut of published studies can be found by searching the National Library of Medicine databases on PubMed (<http://www.ncbi.nlm.nih.gov/sites/entrez>) or other medical databases such as Science Direct (<http://www.sciencedirect.com/>).

### SUMMIT ON INTEGRATIVE MEDICINE AND THE HEALTH OF THE PUBLIC

On February 25–27, 2009, the Institute of Medicine convened the “Summit on Integrative Medicine and the Health of the Public” (<http://www.iom.edu/Reports/2009/Integrative-Medicine-Health-Public.aspx>), in Washington, DC, to advance the science, understanding and progress of integrative medicine. The Summit brought together distinguished researchers, practitioners and leaders from multiple sectors to present the vision, challenges, evidence base and opportunities for integrative medicine to improve health care in the United States.

Support for the Summit was provided by The Bravewell Collaborative, an operating foundation comprised of leading philanthropists dedicated to transforming the culture and delivery of health care ([www.bravewell.org](http://www.bravewell.org)).

In his opening remarks, IOM President, Harvey V. Fineberg, MD, PhD, described the full depth and breadth of integrative medicine, stating that, “Integrative medicine encompasses the whole spectrum of health care interventions from prevention to treatment to rehabilitation and recovery.”

There was broad recognition among Summit attendees that although medical advances have saved and improved the lives of millions, most U.S. health care resources are focused on addressing the effects of specific incidents

## WHAT IS INTEGRATIVE MEDICINE?

of disease and injury while neglecting coordinated approaches to health promotion, prevention and treatment as well as the underlying mental, emotional, social and environmental factors that have a significant influence on a person's health. The IOM Summit Summary points out that, "This 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."

In offering integrative medicine as a practical model that could solve some of our current health care challenges, Summit faculty urged that "the first priority for any health care system using an integrative approach is to ensure that the full spectrum of preventive opportunities — clinical, behavioral, social, spiritual and environmental — are included in the care and delivery process." They further advised that care "should account for the differences in individual conditions, needs and circumstances, and engage the patient as a partner in addressing all the factors that shape wellness, illness and restoration of health. The care should be a team activity with the patient as the central member and there should be seamless integration across caregivers and institutions for the achievement and maintenance of optimal health throughout the patient's lifespan."

### Outcomes

Summit faculty concluded that the U.S. health care system must, as a matter of priority, focus on promoting and enhancing health and wellbeing, identifying individual susceptibility and reducing risks for chronic disease.

Donald Berwick, MD, then CEO of the Institute for Health Care Improvement ([http://en.wikipedia.org/wiki/Donald\\_Berwick](http://en.wikipedia.org/wiki/Donald_Berwick)), articulated the following eight principles as being central to integrative medicine:<sup>18</sup>

- Place the patient at the center
- Individualize care
- Welcome family and loved ones
- Maximize healing influences within care
- Maximize healing influences outside care
- Rely on sophisticated, disciplined evidence
- Use all relevant capacities — waste nothing
- Connect helping influences with each other

Video recordings of all Summit presentations are available at <http://www.imsummitwebcast.org/>.



## REFERENCES

1. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19–22 June 1946; signed on 22 July 1947 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100); and entered into force on 7 April 1948. Constitution of the World Health Organization — Basic Documents, Forty-fifth edition, Supplement, October 2006.
2. <http://iom.edu/~media/Files/Activity%20Files/Quality/IntegrativeMed/SnydermanRalph.pdf>.
3. Vicki Weisfeld. (2009). *Summit on Integrative Medicine & The Health of the Public: Issue Background and Overview*. Washington, DC: Institute of Medicine. Retrieval 2011-1-18. [http://www.bravewell.org/integrative\\_medicine/](http://www.bravewell.org/integrative_medicine/).
4. Center for Integrative Medicine at the University of Arizona. [http://www.bravewell.org/integrative\\_medicine/](http://www.bravewell.org/integrative_medicine/).
5. World Health Organization. <http://www.who.int/hia/evidence/doh/en/index.html>.
6. Pischke, CR, et al. (2008) "Long-Term Effects of Lifestyle Changes on Well-Being and Cardiac Variables Among Coronary Heart Disease Patients." *Health Psychology*, 27(5):584–592.
7. Koertge, J, et al (2003) "Improvement in Medical Risk Factors and Quality of Life in Women and Men with Coronary Artery Disease in the Multicenter Lifestyle Demonstration Project." *The American Journal of Cardiology* 91 (11):1316–1322.
8. Ornish, D (1990). "Lifestyle changes and heart disease." *The Lancet* 336 (8717):741–742.

## WHAT IS INTEGRATIVE MEDICINE?

9. George L. Engel. (1977). "The need for a new medical model: A challenge for biomedicine." *Science* 196:129–136. ISSN 0036-8075 (print) / ISSN 1095-9203 (web) DOI: 10.1126/science.847460.

10. Oz, MD, Mehmet. (2009). *Real Health Care Reform: What's Next*. [http://www.huffingtonpost.com/dr-mehmet-oz/real-health-care-reform-w\\_b\\_356123.html](http://www.huffingtonpost.com/dr-mehmet-oz/real-health-care-reform-w_b_356123.html). Retrieval 2011-1-18.

11. National Centers for Disease Control and Prevention. (2010). "Chronic Disease Prevention and Health Promotion." Centers for Disease Control and Prevention. <http://www.cdc.gov/chronicdisease/overview/index.htm>.

12. <http://www.dukeintegrativehealthcoach.org/>.

13. Videos of each of the Summit speakers may be viewed at: <http://www.imsummitwebcast.org/>.

14. 2008–2009 President's Cancer Panel. "Reducing Environmental Cancer Risk: What Can We Do Now." Bethesda, MD: President's Cancer Panel. [http://deainfo.nci.nih.gov/advisory/pcp/annualReports/pcp08-09rpt/PCP\\_Report\\_08-09\\_508.pdf](http://deainfo.nci.nih.gov/advisory/pcp/annualReports/pcp08-09rpt/PCP_Report_08-09_508.pdf).

15. A Bravewell Collaborative Report. (2010) "Integrative Medicine Improving Health Care for Patients and Health Care Delivery for Providers and Payors. Minneapolis: Minnesota. <http://www.bravewell.org/content/pdf/IntegrativeMedicine2.pdf>.

16. "What is Functional Medicine." The Institute for Functional Medicine. <http://www.functionalmedicine.org/about/whatis.asp>.

17. Institute for Healthcare Improvement. <http://www.ihl.org/IHI/Topics/PatientCenteredCare/PatientCenteredCareGeneral/>.

18. *Integrative Medicine and the Health of the Public: A Summary of the February 2009 Summit*. The Institute of Medicine. National Academies Press. 2009. Page 57.