

Biofield Science and Healing: An Emerging Frontier in Health and Medicine

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We live in an age of unparalleled technological and scientific progress, juxtaposed with a cascading array of poor social, health, and environmental choices that could bring our species to the brink of catastrophe. Within the past 100 years alone, we have created significant advances in technologies to better control disease outbreaks, extend our lifespan, enhance global communication, increase our work productivity, and improve our overall quality of life. At the same time, we face major healthcare crises including diabetes, cardiovascular disease, cancer, and mental illness. Despite our best efforts and technological advances, we have not yet conquered these and other life and health challenges. In addition, health disparities are increasing and the 100-year rise in life expectancy is flattening. This continuance of human suffering, in the face of all our advancements, is leading to substantial and exponentially growing costs to individuals and to society.

A key ingredient in the recipe for advancing the evolution of human health is self-empowerment, which can only emerge with a clear recognition of one's own capacity for healing and thriving. Examples from clinical and research areas such as mind-body medicine, placebo, psychoneuroimmunology, and neuroscience, remind us that our capacity to activate our own internal healing response is within our human capabilities.

Just a few decades ago, the concept that the nervous system and the immune system are in constant communication was highly controversial; today, it is mainstream science. The related idea that our mental and emotional states impact our immune and cardiovascular systems in a manner that can influence disease as well as health, has moved from fringe to fact, and has contributed to the currently well-established field of psychoneuroimmunology (PNI).

These major scientific advances have emerged through transdisciplinary research, involving specialists from several fields. What we have previously viewed and studied as discrete, siloed systems are now seen in terms of larger holistic networks that regulate an organism's homeostasis or, more aptly, an organism's homeodynamics.

Biofield Science: the Missing Link in Understanding Health and Healing

Such an integrated network, emerging from current research findings, appears comprised of what are currently being termed biofields, fields of energy and information that may help guide the physiological regulation of living systems. Biofields, including the electromagnetic patterns from the brain (EEG) and heart (ECG), are generated at all levels of living systems, from whole organism to tissues and organs, cells, molecules, atoms, and subatomic particles.

While the term “*biofield*” itself is fairly new (coined in 1992 at a National Institutes of Health meeting), the importance and roles of consciousness, energy and information to create and guide health have been central topics of millennia-old ‘whole systems’ of care that include Chinese, Tibetan, Native American, African, and Ayurvedic medicine. The ongoing use of biofield-based therapies, in terms of both self-practice and practitioner-assisted modalities, has continued to flourish over time, with modern-day evidence to support their benefit for treatment in [pain and cancer patients](#), with minimal adverse effects.

While biofield science is still viewed as too “fringe” by many scientists to merit serious consideration, the growing number of biofield-based technologies now available for therapy or diagnosis illustrates the mainstreaming of the underlying concepts. The FDA has granted clearances for use of pulsed electromagnetic fields for healing bone fractures and for noninvasive brain stimulation devices to treat depression, migraine and other conditions. Biofield-based concepts are also driving the multi-billion dollar global industry of neuromodulation, the use of externally applied electromagnetic signals for treatment of central nervous system-related disorders. Some scientists have heralded “Electroceuticals” as the next wave of “Big Pharma,” with the National Institutes of Health as well as several large pharmaceutical industries investing significant resources in mapping the body’s bioelectromagnetic fields for development of further devices for medical application. Outside of the regulated health care market, over-the counter neuromodulation products are widely marketed, raising new and often perplexing ethical and safety questions.

Transdisciplinary Meeting and Scientific Publication in Biofield Science

In September 2014, a diverse group of leading researchers and clinicians was convened in La Jolla, California, to discuss the evidence for and forward the research in [Biofield Science and Healing](#). Invited participants represented a wide range of fields, including biophysics, physics, biology, clinical psychology, neuroendocrinology, psychoneuroimmunology, neurosciences, engineering, and medicine. They were joined by leading biofield practitioners who were specifically selected for their prior involvement in scientific studies of healing intention and other biofield therapies. Sponsored by [Samueli Institute](#), [Miraglo Foundation](#), [Chopra Foundation](#) and [Institute of Noetic Sciences](#) (all leading not-for-profit organizations involved in the study of integrative health, healing and medicine), the group

discussed the current state of biofield science and proposed ways to best forward this exciting and important area of research.

An outcome of the meeting was the creation of a peer-reviewed Special Issue on Biofield Science and Healing, published by the scientific and medical journal [Global Advances in Health and Medicine](#). Another result of the meeting was to form the “collaborative accelerator,” the [Consciousness and Healing Initiative \(CHI\)](#), which links together organizations and people (including scientists, educators, healthcare practitioners, innovators and artists) to forward the transdisciplinary science and real-world application of consciousness and healing practices. The growing body of research on consciousness and healing, as well as other integrative medicine practices, is also available on [ISHAR Online](#).

The collaborative efforts that are reflected in this [Biofield Science and Healing](#) Special Issue reflects the growing openness and courage of scientists and medical practitioners to expand their thinking toward new models of understanding healing. This groundbreaking effort will catalyze multidisciplinary inquiry into the field of biofield science and help to herald in the new frontiers of medicine.

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