

# Subtle Energy & Biofield Healing:

Evidence, Practice, &  
Future Directions

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# ABOUT THE AUTHORS

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The Consciousness and Healing Initiative (CHI)<sup>1</sup>, a 501(c)(3) nonprofit organization, is a collaborative accelerator of scientists, healthcare practitioners, educators, innovators and artists who lead humanity to heal ourselves. CHI evolves the scientific understanding and real-world application of consciousness and healing practices, so that individuals and societies are empowered with the knowledge and tools to ignite their healing potential and thus lead and foster flourishing lives. CHI's values include service, integrity, collaboration, multiple perspectives, and creative rigor.

CHI is known for its dedication to the scientific method and the transdisciplinary study of healing, which incorporates practitioner wisdom as well as cutting-edge empirical science. CHI activities include researcher networking and support, as well as public dissemination of the science of healing through avenues including peer-reviewed published scientific papers, infographics, and webinars. In addition, CHI fosters both live and online public education experiences including conferences, summits and retreats. These gatherings are known to bring together luminary scientists, healing practitioners, educators and artists to foster both greater mental and embodied understanding of healing practices.

[www.chi.is](http://www.chi.is)

This report was co-authored by CHI core team members Meredith Sprengel, Dr. David Muehsam, Dr. Shamini Jain, and CHI Board of Directors member Dr. Cassandra Vieten, who each have decades of experience and achievements in scientific and education disciplines including clinical psychology, biophysics, psychoneuroimmunology, bioelectromagnetics, integrative and mind-body research, and conflict resolution.

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CHI extends its gratitude to Scott Kriens and 1440 Multiversity for hosting our extended group of stakeholders who met in July 2019 to provide key strategic input that guided the formation of this document. These stakeholders have provided ongoing input and demonstrated a spirit of collaboration that elucidates the promise and dedication to this field. In addition to the people mentioned above, these stakeholders include: Tiffany Barsotti, Remy Rene Coeytaux, Melinda Connor, Lauren Evanow, Richard Hammerschlag, Rauni King, Eileen Day McKusick, Paul Mills, Tabatha Parker, Maureen Pelton, Christina Ross, Ivy Ross, Dan Spinner, Linda Stone, and Len Wisneski.

# PURPOSE STATEMENT

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Modern medicine has made tremendous strides in the last century, effectively doubling human life span, eliminating and ameliorating widespread disease, and reducing pain and suffering for billions of people. Much of this progress stems from the enlightenment, where a movement from superstition, anecdote, speculative, and unsystematic approaches to rational, scientific, and evidence-based approaches took place. However, a consequence of this movement has been essentially eliminating or marginalizing healing modalities that were embedded into religious, spiritual, indigenous, and philosophical systems. While justified in many cases, this exclusion of nonmaterialist approaches to healing has led to an overemphasis on pharmacological, surgical, and physical manipulation as the nearly sole methods of healing, and the vast majority of scientific investigation. Other elements of whole person healing, including nutrition, indigenous medicine, mind-body and subtle energy/biofield approaches, have received relatively minimal attention.

While the advances in conventional medicine should be heralded, and continued full force, many would agree that despite these advances, the healthcare system and our overarching paradigm for health and well-being is limited and should be expanded. Many would agree that our healthcare system is broken, and overall, does not adequately address the full spectrum of healing. Life expectancy in the United States has decreased for the third year in a row, chronic disease is rampant, and inadequate approaches to pain management have led to reduced quality of life and an unprecedented opioid addiction crisis. Human behavior is now a leading cause of mortality and morbidity. This leads us to the conclusion that there is an urgent need to expand our approaches to health and healing, particularly at the intersection of mind and body. One arena of health and healing that has been utilized for millennia in cultures around the world, and has been a casualty of the general rejection of religious, spiritual, indigenous, and ancient medical systems, is subtle energy and biofield healing. We believe these modalities deserve a second look.

The purpose guiding the Systems Mapping for Subtle Energy and Biofield Healing project is to foster progress in the field of subtle energy, biofield science and healing. Our premise is that a purely materialist approach to healing is limited, and that addressing healing at the energetic and biofield levels holds potential to help alleviate unnecessary suffering and enhance thriving.

Despite widespread use of subtle energy and biofield therapies, a trained and willing workforce, and promising evidence for subtle energy and biofield healing approaches for [reducing anxiety, pain, trauma, and other ailments](#), scientific investigation and application of these modalities remain marginalized.<sup>2</sup> Our primary goal is to advance scientific understanding of subtle energy and biofield healing modalities and to increase acceptance of evidence-based subtle energy and biofield healing modalities as healthcare options. Our overarching aim is to effect a change in our scientific and healthcare system by considering the role of biofield science in understanding and fostering healing processes, and integrating evidence-based biofield approaches into healthcare.

With this goal in mind, we are emulating the work done in the field of mindfulness. Researchers and stakeholders used a rigorous, empirical, and strategic collaborative approach to validate mindfulness-based methods to enhance well-being and quality of life. Mindfulness practices have been used for millennia, and while they originated in spiritual traditions, these practices were amenable to secularization and generalization for the medical and healthcare community. Mindfulness training is now routinely included in most major medical centers, and is beginning to be included in schools, businesses, and general approaches to wellness.

**Foster-Fishman, Nowell, and Yang (2007)** describe systems change as “an intentional process designed to alter the status quo by shifting and realigning the form and function of a targeted system.” As a first step toward systems change, we have engaged in a process of systems mapping. As Joelle Cook explains:

“to change the system, you need to first understand the system, and mapping is a great way to do that. A “system,”<sup>3</sup> as described by Julia Coffman in her 2007 **framework** for evaluating system change, is “a group of interacting, interrelated, and interdependent components that form a complex and unified whole.”<sup>4</sup> A system’s overall purpose or goal is achieved through the actions and interactions of its components.”

In this report, we describe the current state of progress, constituents/stakeholders, and gaps/next steps/future directions in several key subtle energy and biofield healing domains. We propose a set of recommendations, and in an accompanying document, suggest a funding plan for advancing the field of subtle energy and biofield healing.

# EXECUTIVE SUMMARY

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This report is one of the initial steps in a [collaborative systems-change endeavor](#)<sup>5</sup> to positively impact our collective approach to health and healing by advancing subtle energy and biofield science and healing.

*“Systems change is an intentional process designed to alter the status quo by shifting the function or structure of an identified system with purposeful interventions. It is a journey which can require a radical change in people’s attitudes as well as in the ways people work. Systems change aims to bring about lasting change by altering underlying structures and supporting mechanisms which make the system operate in a particular way. These can include policies, routines, relationships, resources, power structures and values.”<sup>6</sup>*

<https://www.thinknpc.org/resource-hub/systems-change-a-guide-to-what-it-is-and-how-to-do-it/>

A systems change approach to subtle energy and biofield healing necessitates research and evaluation to better understand hindrances and opportunities for progress. To create this report, we:

- Identified and conducted in-depth interviews with over 30 key leaders in biofield/subtle energy domains, including research, education, policy, clinical practice, technology and community;
- Convened a Systems Mapping meeting July 17th, 2019 with 22 diverse stakeholders to review progress and co-create strategies for biofield science and healing systems change based on databases created and survey results (attendee list and Systems Mapping meeting summary [here](#));
- Identified and organized in a database, over 350 existing researchers in prominent universities and research institutions in the US and worldwide, who have conducted and/or are keenly interested in biofield science research;
- Identified and organized in a database and map including over 225 research organizations worldwide and over 125 healing organizations within the United States ;
- Identified around 6,200 publications in biofield science and placed them in a publicly available, key-word searchable and citable database;
- Identified and organized in a database over 280 biofield devices that are currently in use and being marketed to the public;

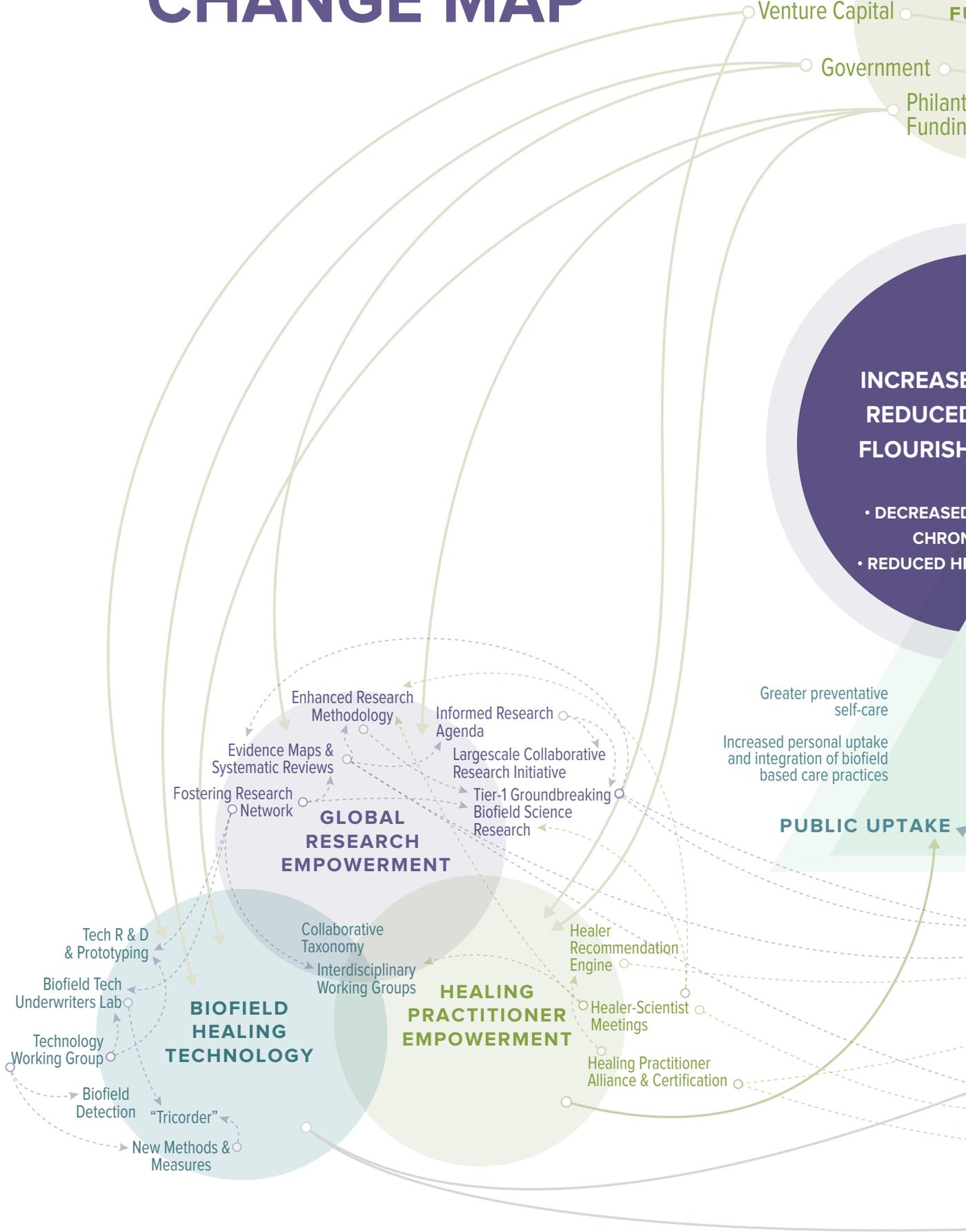
Our key takeaways (described in detail in the full report) are that in order to enable systems change in healthcare with respect to subtle energy and biofield healing, we must:

- Summarize and synthesize current evidence in subtle energy and biofield healing with systematic and scoping reviews and evidence maps;
- Increase the number and quality of tier-1 research studies assessing both efficacy and effectiveness of subtle energy and biofield healing for key public health concerns such as anxiety, pain, and trauma;
- Communicate the evidence base to stakeholders in healthcare and policy as well as science sectors;
- Create coherent taxonomies on what the biofield is and how it is thought to work;
- Innovate subtle energy and biofield healing measurement devices; and
- Foster ongoing communication and collaboration across policy, practitioner, education, technology and research domains.

If the initial promise of subtle energy and biofield healing is borne out through large-scale clinical trials, the goal would then be to make the field of subtle energy and biofield healing as well known and accepted in the healthcare arena as the mindfulness movement has made mindfulness-based approaches. To achieve this goal, we will need to catalyze scientific research, effective communication, evidence translation, and policy adoption strategies. This would entail:

- Increased training opportunities in subtle energy and biofield therapies and technologies for healthcare providers;
- Regulatory approval and insurance reimbursement for implementation of biofield approaches;
- Facilitation and further growth of economic markets for healing practitioners (currently evaluated as \$2B/year) including deeper integration into consumer, corporate, and healthcare markets;
- Incorporation of biofield based approaches in corporate wellness and health promotion.
- Catalyzing these efforts will result in:
  - Integration of evidence-based subtle energy and biofield healing approaches with an evidence-base into mainstream healthcare settings;
  - Increased use of biofield-based approaches in self-care and preventative medicine among the general public, helping mitigate costs to society for health-related issues including pain and mental health.
- The systems map below shows how key investments in specific domains and activities, along with fostering connections and engagement between domains and activities, will lead to healthcare integration and public empowerment, in turn leading to improving wellness and thriving, reduced suffering, and reducing healthcare costs and consequences of chronic disease.

# BIOFIELD SYSTEMS CHANGE MAP





## What are Subtle Energy and Biofield Therapies?

While there is no yet agreed upon precise definition of these terms, subtle energy can roughly be described as a vibrational energy or life force that is inherent in all things, is potentially non-physical, and is both affected by and affects the physical systems it permeates. Descriptions of subtle energy (sometimes also described as vital energy) [have been described by nearly every indigenous form of healing for millennia](#).<sup>7</sup> However, to date there are no reliable means for fully measuring subtle energy. In recent years, Western scientists have become increasingly interested in subtle energy healing effects, as well as exploring biological effects of low-level electromagnetic energies, which are more amenable to measurement. In 1992, a panel of scientists at the National Institute of Health chose the word biofield to describe the [“a massless field, not necessarily electromagnetic, that surrounds and interpenetrates the human body”](#).<sup>8</sup> Since then, the concept of biofields have been extended to scale – for example, biofields can be measured within a cell, the Earth, or interpersonally. Practitioners report that imbalances or disruptions of the energy or biofield that permeates, surrounds and interacts with the physical body can cause physical, mental, or emotional pain or illness.

Subtle energy and biofield healing can be described as activities (sometimes called practices, modalities or therapies) directed toward affecting or interacting with these subtle energies or biofields to foster physical, emotional, and spiritual health and well-being. [A September 2019 article](#) for the general public in Health Magazine puts it this way: “Energy medicine (or biofield therapies) is the act of channeling and manipulating the energy that courses through your body in order to heal it.... Energy practitioners believe that your body is instilled with a subtle energy, or animating life force, the flow of which must be balanced for good health.”<sup>9</sup>

## Biofield Therapies and Healing: A Report from the Field

*Kathie Lipinski, RN, MSN, CH*



This past year I was privileged to be part of the Innovations in Care Grant at the Northport VA Medical Center on Long Island. The grant was part of a national movement toward wellness, health coaching and self-care for veterans. Richelle Rappaport, RN, MSN, AHN-BC, PMHCNS-BC, was responsible for writing the grant. The focus of the program was to train VA Clinical staff in various holistic modalities including Reiki, meditation, guided imagery, Tai Chi and reflexology. I began teaching Reiki I and II to the VA staff in October 2011 and completed the training in June 2012.

Reiki, simply stated, calms and stills the spirit of the person. It can promote relaxation from the outside in and remind the body how it feels to be calm again. The act of sharing Reiki can also remind the body that physical touch can be nurturing and therapeutic. Reiki promotes inner peace and calm. When the spirit self has been calmed and quieted, the physical healings of the body can begin.

Since the Innovations grant began, nurses and other health care professionals who have provided Reiki have shared some of the comments from vets after their sessions. Here is what the vets said:

*"The Reiki helps me sleep through the night."*

*"I can focus better and I am looking at life more positively."*

*"I have not had a panic attack in four weeks and have not awoken with a nightmare."*

*"The Reiki helps me to be more open with my wife. I am talking more."*

*"I can relax now and I am sleeping better."*

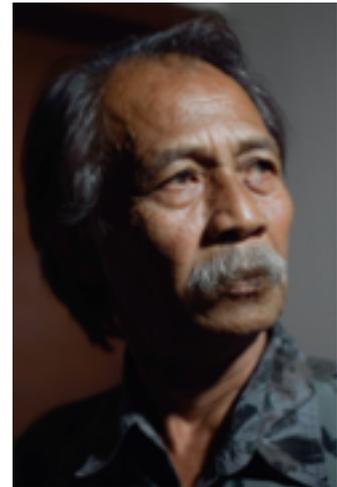
*"I had two to three panic attacks a week when we began. I have not had any in weeks."*

*"The Reiki helps my headaches. I am decreasing my pain meds with my doctors' direction."*

*"I have never showed any emotion related to my survivor guilt. The Reiki helped me to let the emotions out."  
(Vietnam vet)*

*"I can't believe my pain is decreased. The narcotics can't do that."*

*"I have not been able to relax since Iraq. The Reiki allows me to relax for the first time."*



PTSD is a complex condition and many people will have to deal with it sometime in their life or the life of a loved one. The more we know about it, the more we can understand and help. Public awareness of PTSD is on the rise and there is so much information and so many resources now available. Reiki is a great way to calm and nurture the spirit of someone experiencing PTSD.

## Subtle Energy and Biofield Therapies Show Promise

A 2010 review of multiple studies of subtle energy and biofield healing showed that biofield healing modalities and technology are useful for fostering prevention and treatment of illness and maintenance of well-being in key areas - [particularly alleviating anxiety and pain in numerous clinical populations](#). Other studies have shown effects on [fatigue and depression in cancer populations](#),<sup>10</sup> and [preclinical studies with cells and animals](#) have reported effects on inflammatory markers and even [tumor growth](#).<sup>11, 12, 13</sup> However, significant gaps in scientific knowledge, evidence translation, communication, and collaboration hinder our understanding and utilization of subtle energy and biofield healing.

## How Many People Use Subtle Energy or Biofield Therapies?

Based on current published epidemiology studies, it is estimated that [approximately 5% of the US population](#) are already working with biofield therapists.<sup>14</sup> Reasons for use in the United States include chronic pain, cancer symptoms, post cancer treatment recovery, and to address mental health issues. A [survey conducted in 2018 in the United Kingdom](#) found that 76% of people using biofield therapies were women and the most common reasons were to address mental health problems and pain.<sup>15</sup> People (93%) reported immediate benefits and that after seeing a healer they experienced relaxation, improved wellbeing, and relief of pain.

The National Association for Energy Practitioners (NEAP) estimates that in the US today, there are an estimated 160,000 professional subtle energy and/or biofield healing practitioners. Mostly in response to patient demand, some universities and hospitals offer subtle energy and biofield healing practice, although these are rarely covered by insurance. Approximately 50,000 of practitioners report working and receiving funds for their healing in a part time or full-time capacity. Conservative estimates of these 50,000 practitioners working on a part time (20-hr/week) basis at a relatively low estimate of the average cost of a session (\$80/hr) represent a considerable amount of market share: approximately \$2 billion annually.

## What Kind of Subtle Energy or Biofield Therapies Are There?

A diverse variety of types of subtle energy and biofield therapies have been practiced in the context of indigenous, spiritual, religious, and healing traditions for millennia. Today, subtle energy and biofield healing is practiced informally by family, friends, and local healers, formally by people who are trained in specific modalities, in private practice, in spiritual and religious communities, and in clinics and medical centers. Examples of popular subtle energy and biofield energy healing practices included in this report include: Reiki, Healing Touch, Therapeutic Touch, External Qigong/Qi-therapy, Shamanic Healing, Johrei, Distant Healing, Intercessory Prayer, and Energy Psychology (Emotional Freedom Technique, Thought Field Therapy, etc.).

## Do Subtle Energy and Biofield Therapies Affect Physiology?

Several studies indicate that biofield healing approaches affect physical systems, including downstream immune and hormone regulation in humans, as well as tumor growth and cytokine function in animal models. With respect to the effects of biofield therapies on biological outcomes and processes, we highlight a few recent studies that have been published in relatively high-impact peer-review scientific journals:

- Results from a [randomized, placebo-controlled trial on a biofield therapy \(Hands on Healing\) for cancer related fatigue](#), conducted at UC San Diego and published in the journal *Cancer*, reported that biofield healing markedly reduced fatigue as well as improved cortisol variability in breast cancer survivors. The change in cortisol variability was unique for the healing group and not explained by measured placebo variables, including treatment expectation, sense of connection with practitioner, or belief that the therapy was helping.<sup>16</sup>
- Results from a randomized controlled trial comparing a [biofield therapy \(Healing Touch\) with relaxation in cervical cancer patients](#) found that the biofield therapy not only significantly reduced depression in these patients, but also uniquely affected the preservation of natural killer cell cytotoxicity, compared to both relaxation and wait list control groups. The study was conducted at the University of Iowa and published in *Brain, Behavior and Immunity*.<sup>17</sup>
- Results from a randomized controlled study conducted at the University of Arizona found that a [biofield therapy \(Reiki\)](#) significantly reduced noise-induced microvascular leakage in mice compared to sham Reiki and noise alone.<sup>18</sup>
- Results from a randomized controlled study conducted at the University of Connecticut found that a [biofield therapy \(Therapeutic Touch\)](#) significantly reduced tumor metastasis, related cytokines and lymphocyte splenic cell subsets, as compared to mock therapeutic touch, in a mouse model of cancer.<sup>19</sup>
- Results from a very recent controlled study conducted at MD Anderson Cancer Center, found that [biofield therapy exposure resulted in suppressed tumor growth as well as reductions in related cytokines](#), in a mouse model of cancer.<sup>20</sup>

These studies show solid evidence that biofield therapies can affect clinical and biological outcomes, with studies on animals and cells showing that these therapies do not function only through [placebo effects](#).

## Can Subtle Energies and the Biofield be Measured Directly?

While some devices purport to measure subtle energies or biofields, a key hindrance to understanding potential biologically related mechanisms of subtle energy and biofield therapies is the absence of a reliable measure of purported biofield emanations from the practitioners.

While there have been a few reports regarding emanations such as electromagnetic fields from some practitioners, creating a systematic method to examine such bioenergetic signals is a crucial step to better understand the physiological basis of biofield therapy. This may help us better understand whether the efficacy of the healing interaction is:

- Dependent on a particular pattern of biofield emanation,
- Directly proportional to the strength of the biofield emanation,
- Correlated with measurable bioenergetic signaling (e.g., brain waves, biochemistry) that significantly contributes to the outcomes of the healing encounter.

As interested engineers and scientists further develop techniques to measure emanations from practitioners at different electromagnetic frequencies, it will be of interest to determine whether specific patterns of bioenergy are predictive of better healing outcomes. At the same time, there are potential pitfalls from assuming that electromagnetic emanations are the sole explanation for the experience and practice of biofield therapies, as they would not account, for example, for some results of [distant healing studies](#) carried out in electromagnetically shielded environments.<sup>21</sup>

## Could Subtle Energy and Biofield Therapies Help Address the Healthcare Crisis?

Poorly managed and treated diseases result in needless loss of dollars and quality of life. For example, for pain alone, current estimated yearly economic costs are [over 635 billion per year](#), with over [68 million adults experiencing pain which result in disability and participation in the workforce](#).<sup>22, 23</sup> In the US, [life expectancy has decreased for the third year in a row](#), apparently due to increases in drug overdoses (now the number one killer of Americans under 50) and suicides.<sup>24</sup> In addition to the lives lost, unnecessary suffering and monetary [costs for the current opioid crisis alone](#) are estimated at \$100 TRILLION since 2001, with a projected cost of an additional \$500 billion by 2020. Not surprisingly, mental health is also affected - an estimated [300 million people globally are affected by depression](#), and that doesn't include another 100+ million that suffer from other psychiatric conditions including, but not limited to, depression, anxiety, and PTSD.<sup>25, 26</sup>

The National Center for Complementary and Integrative Health, in its latest strategic plan, identified “non-pharmacologic management of pain” a leading scientific priority. This is in alignment with the stated priorities of other healthcare practitioner organizations (such as the American College of Physicians) for [identifying and deploying evidence-based nonpharmacological solutions for pain](#).<sup>27</sup> While biofield therapy studies tend to not be included in systematic reviews of nonpharmacological approaches to pain, based on our analysis of stakeholder interviews, prior systematic reviews, and superficial synthesis of the current evidence base, it appears that subtle energy and biofield healing could hold significant promise for reducing healthcare costs and alleviating costly and intractable health conditions, particularly anxiety, pain and trauma. In this report, we recommend an evidence-based, collaborative systems change approach to bring focus to previously uncoordinated scientific efforts, and to unite stakeholders in healthcare policy, education and technology.

## The Full Report

The full report provides an overview of research on subtle energy and biofield healing, a summary of subtle energy and biofield devices, and a description of constituent domains of the biofield science and healing system, including researchers, healing practitioners, patients, technology and innovation, education and training, communications and public relations, funding, and policy.

This report also offers recommendations and future directions to create systems change for biofield science and healing, through a collaborative framework catalyzed by collaborative backbone activities. The report also includes:

- A link to a [comprehensive database](#) of over 6,000 peer-reviewed subtle energy and biofield healing publications<sup>28</sup>
- Links to a sortable, online “landscape map” of [322 clinical studies](#) conducted with biofield therapies<sup>29</sup>
- Links to an [interactive map](#) showing existing subtle energy and biofield researchers, associations, organizations, and centers worldwide
- A database of subtle energy and biofield technologies
- Surveys used to obtain data and guide stakeholder conversations
- Stakeholder feedback during the Systems Mapping period

## A Roadmap for Systems Change

From this Systems Mapping Project, we have created a roadmap for a Systems Change Endeavor that describes a coordinated set of activities in the key domain areas. The plan includes multiple recommendations in the domains of research, training, communications, collaboration, and funding that would move the field forward. Informed by this report, previous research, and the larger community, it includes a specific set of key projects in each domain. This plan will be used as an invitation for colleagues who wish to join us in this effort, for funders who would like to invest in such an endeavor, and for potential grantees who are 1) positioned to carry out one or more of the various activities; 2) interested in working with a coalition as part of a systems change endeavor; and 3) require funding.

We also propose the creation of a Subtle Energy and Biofield Science and Healing Coalition that will bring together the stakeholders we’ve identified in this report to collaboratively work on implementing these recommendations and support one another in their respective endeavors. The goal is a persuasive and well-informed large-scale agenda ready to share with partnering funders/foundations/government agencies. Some of these recommended projects have associated groups who are already, or who are interested in, completing the work. Others are projects that could be funded through a request for proposals (RFP) from interested groups.

A summary of these recommendations follows:

## Research

- Improve conceptualization and measurement of subtle energies and biofields;
- Accurately describe the state of the evidence through both systematic reviews and evidence summaries;
- Engage in rigorous theoretical work on the underlying ontology/frameworks that underlie these therapies;
- Bridge the materialist-non materialist divide (a key divide that has hindered the study of bio-field therapies in mainstream science and medicine) by posing a “middle ground” view (e.g., emergentism) in an effort to open the conversation and encourage deeper inquiry into biofield science;
- Include theory and examination of mechanism of action in research studies;
- Enhance the network of subtle energy and biofield healing researchers through meetings, associations, subgroups of existing associations, and collaborative research projects;
- Foster a collaborative research agenda to better support individual research studies;
- Emulate NIH U01 Collaborative Research Funding Mechanism to coordinate funding and research teams.

## Communications

- Develop clear lay-friendly language to share with legislators, clinical administrators and those in medical leadership organizations about what the biofield/subtle energy is, how biofield therapies work, and what the evidence to date says about their effects;
- Create and disseminate both scientific and lay summaries of the evidence for subtle energy and biofield therapies;
- Achieve domain leader and working group collaboration and agreement on terms to describe subtle energies and the biofield, and subtle energy/biofield therapies and technologies for stakeholders in varied domains;
- Develop a communication strategy with a seasoned PR firm who is well-versed in areas of consciousness science and integrative medicine;
- Identify and recruit key influencers to deliver the message across a variety of archetypes and domains (e.g. business, science, clinician, householder)
- Work to differentiate the field from, and to actively discourage, fraudulent or exploitive claims
- Strengthen the scientific “arm” of the overall subtle energy and biofield community

## Devices and Technology

- Identify “state of the art” technologies for biofield mapping (e.g., electromagnetic fields, biophotonics, infrared imaging, acupuncture meridian system analyses, near infrared spectroscopy, fMRI, electrophysiology (EEG/HRV/GSR), etc.)
- Create images of biofields informed by both healer/clairvoyant and device/sensor methods. Focus on changes in human biofield during healing sessions, health, stressed conditions, and disease states. Gather biomarkers for biological mechanism investigations.
- Identify and seed studies on therapeutic technologies with greatest promise for further study, e.g., devices for pain in the elderly.
- Seed validation studies on key technologies claiming to measure or modify the biofield.
- Develop 5-year plan for a tech development and device testing collaborative.
- Establish an X Prize/Grand Challenge style program to engineer real-time sensors which measure the biofield with both sensitivity and reliability.

## Education and Training

- Fund tenured chairs/Fulbright Scholars and the like at universities
- Provide Small grants for thesis and dissertation work as well as link students with mentors in biofield science
- Author a definitive/foundational textbook
- Develop and provide course curricula for evidence-based biofield therapies for healthcare professionals
- Establish an umbrella organization that provides clear certification across modalities (such as APA/AMA)

## Collaborative Framework for Systems Change

- Support collaborative backbone/hub to foster communication and collaboration amongst scientific researchers, healing practitioners, and stakeholding organizations globally;
- Foster consistent communication among key stakeholders in diverse domains, including policy, practitioner, research, technology, healthcare integration, communication, and education;
- Continue to assess capacity and resources needed for domain leaders, aid domain leaders in key areas needed to move forward;
- Expand and connect the network of subtle energy and biofield researchers, practitioners and organizations worldwide;
- Keep all research, researcher, healer, healing organizations, devices and other related databases up-to-date;
- Establish a Subtle Energy, Biofield Science and Healing Coalition: a transdisciplinary alliance of individuals, groups and organizations representing each of these domains that would work together to foster ongoing communication and collaboration,
- Create a Subtle Energy and Biofield Funding Collaborative, to encourage the interest of individuals and foundations to leverage combine funds and administrative resources, to support the implementation of the Systems Change Funding Plan for Subtle Energy and Biofield Science and Healing resulting from this report.

This report was authored by the Consciousness and Healing Initiative ([www.chi.is](http://www.chi.is)), and supported by Jeffrey Walker, Jason Yotopoulos, Tom Dingedine, and the Emerald Gate Foundation, Jeff Walker Family Foundation and Wake Forest University. All inquiries and comments regarding this report should be directed to [healingreport@chi.is](mailto:healingreport@chi.is).



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Subtle Energy and Biofield Healing:  
Evidence, Practice, and Future Directions

# Full Report

FEBRUARY 2020

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# Subtle Energy and Biofield Healing: Evidence, Practice, and Future Directions

This report provides an overview of research on subtle energy and biofield healing, a summary of current biofield devices and technologies, and description of subtle energy and biofield healing constituent domains, including researchers, healing practitioners, patients, technology and innovation, education and training, communications and public relations, funding, and policy. It provides summary feedback from stakeholders of these constituent domains, and offers recommendations for future directions to create systems change within a collaborative framework. The report also include links to a database of selected peer-reviewed subtle energy and biofield healing publications, a list of researcher and research organizations, a list of subtle energy and biofield associations, organizations, and centers, a database of subtle energy and biofield technologies, the surveys used to conduct the research, resources for further exploration, and a funding plan identifying next steps in the subtle energy and biofield healing domain.

## I. Definitions & Historical Context

As this report makes clear, a consensus definition of subtle energy and biofield healing is lacking. However, for purposes of this report, we use the term “subtle energy” to refer to vibrational energy or life force that permeates all things and is both affected by and affects the physical systems it permeates. We use the term “biofield” to refer to the field of energy and information that surrounds and interpenetrates the human body. And when we say “subtle energy and biofield healing” we are referring to activities (sometimes called practices, modalities or therapies) directed toward affecting or interacting with these subtle energies or biofields to foster physical, emotional, and spiritual health and well-being. These definitions are oversimplified at this stage in our conceptualization of these phenomena, but for purposes of discussing these in this report, they are sufficient.

For a bit more detail, a rough approximation is provided by [Rosch, \(2009\)](#):

*“Belief in a restorative life energy that pervades living things dates back to antiquity. Hindu prana, Chinese Qi (chi), and Japanese ki are a few examples of some sort of poorly understood vital energy that flows throughout the body and is intimately linked with physical, mental, and spiritual health...various types of energy medicine practices have been designed to harness such subtle energies to promote health.”<sup>30</sup>*

Another general description is provided by [Leskowitz \(2001\)](#):

*“...all of the world’s healing systems, except for Western allopathic medicine, emphasize the role of a so-called “life energy” in maintaining health. This energy is known as “prana” in the yoga system, “qi” in Chinese medicine, “ruach” in Jewish mysticism, and it is even acknowledged in several notorious offshoots of Western medicine (the “Animal Magnetism” of Franz Mesmer, the “elan vital” of Henri Bergson, the “libido” of Sigmund Freud, and the “orgone” of Wilhelm Reich). In this model, health is seen as a state of freely flowing vitality, and illness is marked by a blockage or imbalance of some sort in the natural ebb and flow of this energy. Many of these traditions also map out the specific routes by which this subtle energy is collected and travels, as exemplified by the acupuncture meridians of traditional Chinese medicine and the energy centers or chakras of the yoga system. Universal spiritual energy is somehow tapped into and “stepped down” in intensity by these subtle anatomic structures so that it can be used in the creation and maintenance of physical organisms. Therapies based on the manipulation of this energy include acupuncture, qigong, the laying-on-of-hands, Reiki, Therapeutic Touch and others.”<sup>31</sup>*

In terms of biofield descriptions, [Muehsam and colleagues \(2015\)](#) put it:

*“Advances in biophysics, biology, functional genomics, neuroscience, psychology, psychoneuroimmunology, and other fields suggest the existence of a subtle system of “biofield” interactions that organize biological processes from the subatomic, atomic, molecular, cellular, and organismic to the interpersonal and cosmic levels. Biofield interactions may bring about regulation of biochemical, cellular, and neurological processes through means related to electromagnetism, quantum fields, and perhaps other means of modulating biological activity and information flow. The biofield paradigm, in contrast to a reductionist, chemistry-centered viewpoint, emphasizes the informational content of biological processes; biofield interactions are thought to operate in part via low-energy or “subtle” processes such as weak, nonthermal electromagnetic fields (EMFs) or processes potentially related to consciousness and nonlocality”<sup>32</sup>*

Though these definitions lack precision, they speak concisely to what we are studying in this report.

## II. Project Parameters & Limitations

While this report is intended to be an overarching review, we are aware that we have excluded or neglected potentially relevant domains and information, and overemphasized others.

In this report, and the research and researchers databases, we have included the following terms and traditions: subtle energy; biofield; acupuncture; qigong (internal and external); Tai Chi; Traditional Chinese Medicine, Qi and meridian research; traditional healers and healing ceremonies; faith and religious healers/healing; Shamanism; medical intuition; traditional medical systems; touch and non-touch biofield modalities (see clinical research graphic); energy psychology therapies; group healing; biophoton research; subtle energy technology/devices, and intercessory prayer. We have excluded yoga; meditation; mindfulness; chiropractic care; naturopathic medicine; homeopathy; the doctor-patient relationship; and placebo. We made a specific decision to include a few touch therapies such as (such as Emotional Freedom Technique, Thought Field, Laying-on-of-Hands) because while they do include physical touch, their stated mechanism of action is interaction with subtle energy or biofields. We also highlighted acupuncture and Traditional Chinese Medicine researchers and research who study acupuncture and TCM through an understanding of their mechanism as “subtle energy” or “qi.”

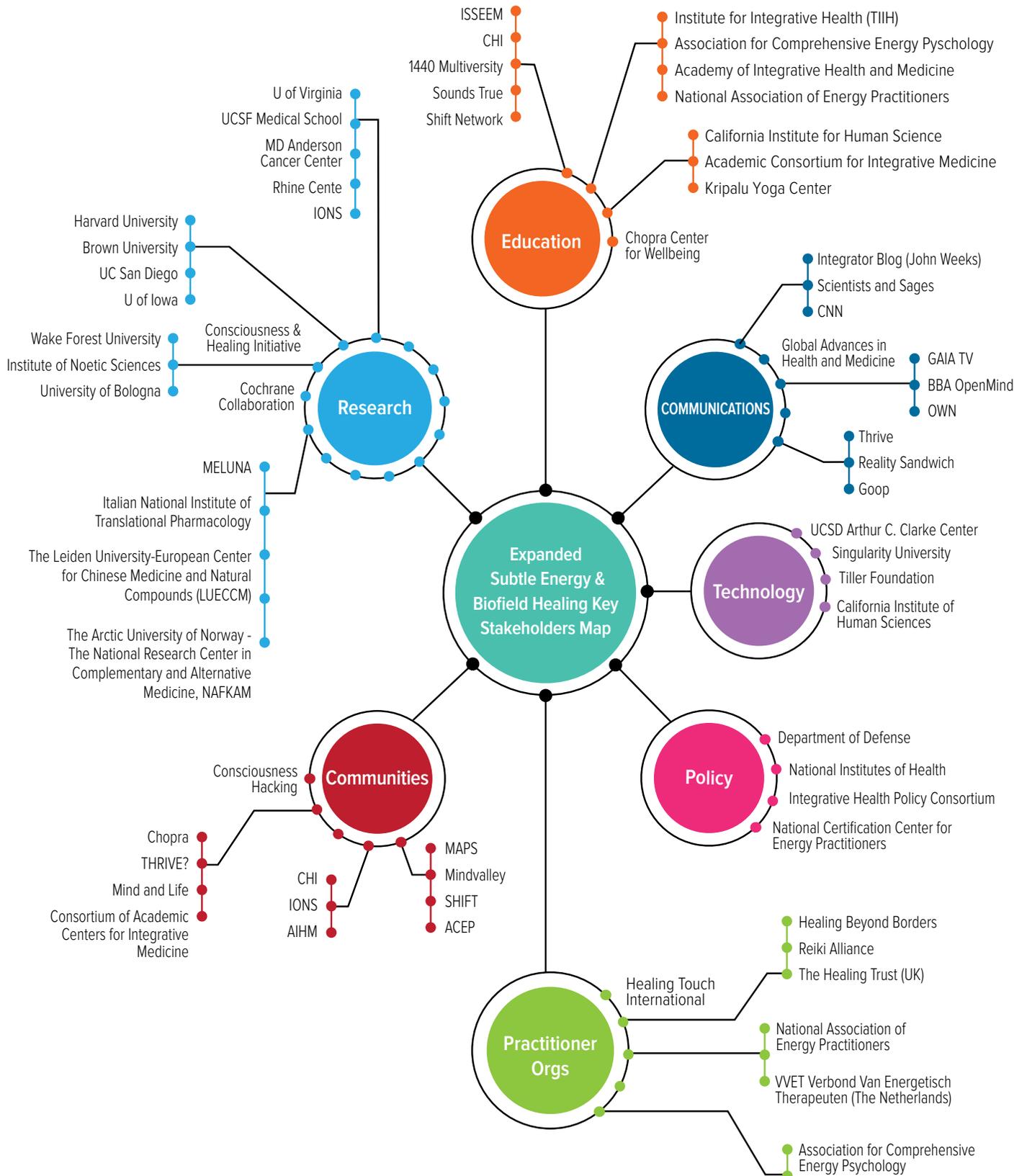
We recognize the need to more comprehensively survey international subtle energy and biofield publications, researchers, healing organizations, and other constituents. While we have made a concerted effort to identify key figures in Europe, Asia, Africa, Australia, the Middle East, and Latin/South America, barriers to including more global constituents include: 1) language/translation barriers, particularly for organization’s websites and articles not published in English, 2) cultural barriers – in some cultures this work is more stigmatized and less publicized than in North America and others are suspicious of communicating with outside entities, and 3) scope of work. Having said that, our research publications, research organizations, and to some extent healing organizations do include a robust if not comprehensive number of international/global constituents. Next steps should include enhancing collaboration between international scientists and healers.

Finally, we also recognize the need to include the perspectives of traditional and professional healers. The report is weighted toward the science of subtle energy and biofield healing, and we recognize that science is one aspect of a broader understanding of our lived experience and the nature of reality. Our central purpose for this report is to advance the science and practice of subtle energy and biofield healing in mainstream medical, academic, and healthcare settings. While we believe that currently an emphasis on science is necessary to achieve this goal, we also believe that integrating indigenous wisdom as well as advancing practitioner collaborations with one another and with scientists, is crucial.

### III. Subtle Energy and Biofield Healing Constituent Domains

1. Subtle Energy and Biofield Healing Science and Researchers
2. Subtle Energy and Biofield Healing Conceptualization and Measurement
3. Subtle Energy and Biofield Healing Practice and Practitioners
4. Subtle Energy and Biofield Healing Patients and Consumers
5. Subtle Energy and Biofield Healing Technology and Innovators
6. Subtle Energy and Biofield Healing Education, Training and Certification
7. Subtle Energy and Biofield Healing Policy and Policy Makers
8. Subtle Energy and Biofield Healing Funders and Investors

# Constituents Map



## III.1 Subtle Energy and Biofield Healing Science and Researchers

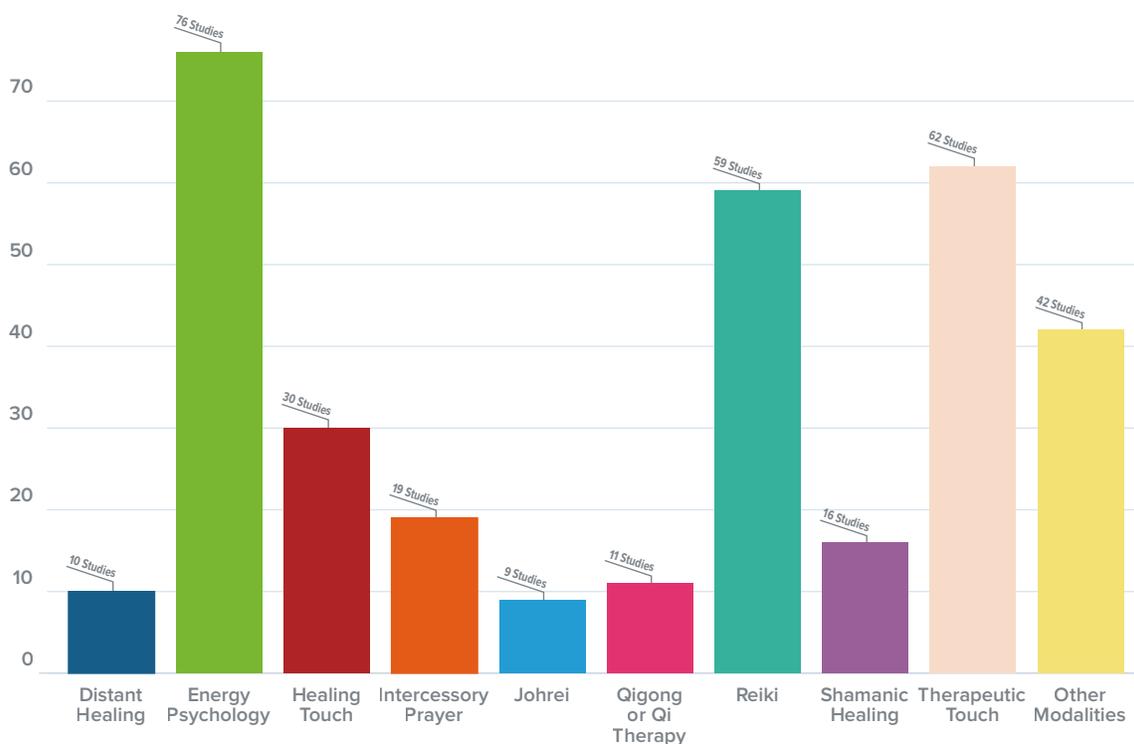
Our work to describe the current status of subtle energy and biofield science and researchers has included a thorough compilation of existing published research on subtle energy and biofield healing, a richer description and data visualization of the subset of these articles reporting on effects of subtle energy and biofield healing on clinical outcomes, and interviews with selected researchers in the field to better understand their perspectives on the opportunities and challenges in this domain.

### III.1.A Subtle Energy and Biofield Healing Research Database

A selected set of peer-reviewed publications were extracted using a search string designed to capture the available scientific literature on subtle energy and biofield healing. Examples of search terms included “Qi-gong” or “Therapeutic Touch” or “Spiritual Healing” or “Subtle Energies” or “Distant Healing” and about 30 other search terms. This was followed by a painstaking process of filtering out irrelevant articles, including relevant ones, and examining citations in relevant articles to identify additional articles that the search string did not yield. A breakdown of the methodology used to build the database can be found [here](#).

Following this procedure, over 6,000 articles in biofield science and healing were identified and placed into a public database to allow for the general public to access abstracts and cite studies as needed. The resulting set of articles are included here in this [Mendeley Database](#).

#### Biofield Modalities included in the Mendeley Databases



## III.1.B Subtle Energy and Biofield Healing Clinical Studies - Infographic

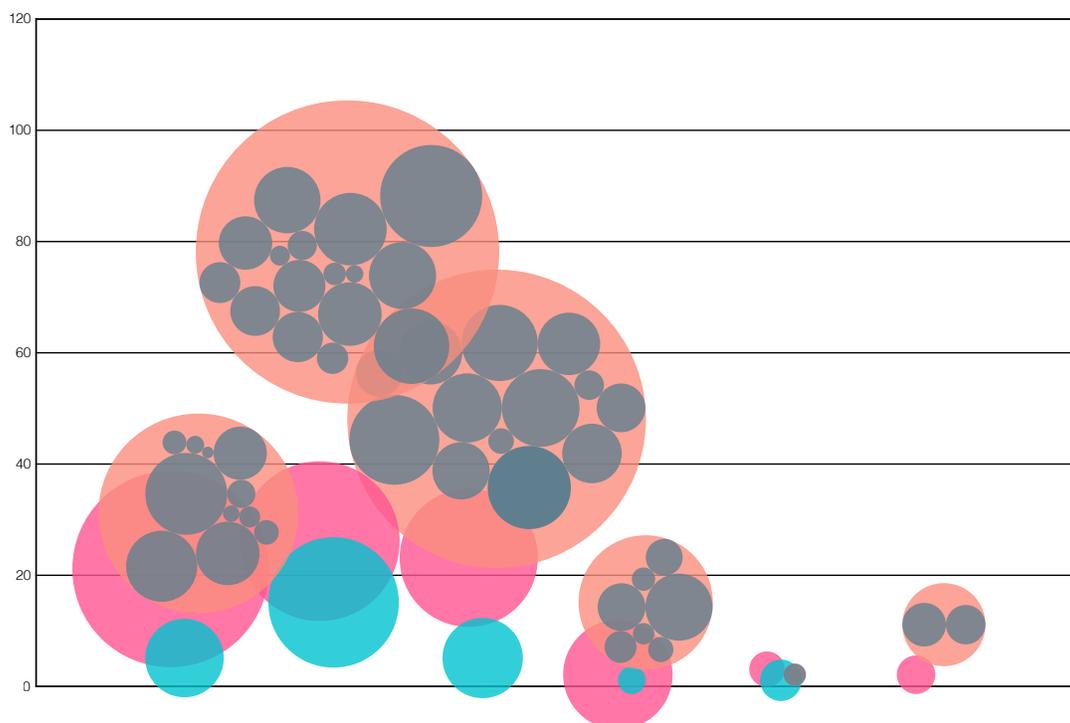
A subset of these articles including only those reporting on clinical studies of subtle energy and biofield healing, were selected and tagged for type of healing modality, type of healing engagement (i.e. person to person touch), type of study (therapeutic, mechanism, or device), study design, population, primary outcome measure, secondary outcome measures, and study location. This “clinical study landscape” of biofield therapy research yielded 322 peer-review, published clinical studies on biofield therapies, which we have included in an additional Mendeley Database. Information about the healing modality, intervention, sponsoring research institutions and funding source was also collected.

Although modalities such as acupuncture and Tai Chi were included in the larger database, the clinical research database focused on interventions where the practitioner facilitated the energetic healing as opposed to an instrument where alternative explanations could account for the healing (such as a needle used by an acupuncturist).

Because many are unaware of the number of studies that have been conducted on biofield therapies, and people tend to either over- or underestimate the volume and breadth, we have created an interactive infographic to help people explore the landscape of subtle energy and biofield healing clinical studies by type of modality, outcome of interest, and study location. This interactive graphic can be found [here](#).

**Neither the overall set of articles, nor this subset of clinical trials were evaluated for positive or negative outcomes, nor quality or strength of evidence, which is an important next step.**

### Landscape of Biofield Clinical Studies



## III.1.B.i Overview of Clinical Research

The last comprehensive systematic reviews of clinical trials of biofield therapies were conducted nearly 10 years ago, from a number of different perspectives. Such reviews have included (1) all biofield therapies tested for any condition, and ; (2) all biofield therapies tested for specific conditions, e.g., cancer, pain, and cardiovascular disease; (3) specific biofield therapies for any condition, e.g., Healing Touch and Reiki; and (4) specific biofield therapies for specific conditions, e.g. Therapeutic Touch for wound healing or for pain.

The last comprehensive review of clinical studies on the effectiveness of biofield therapies (both contact and non-contact) including all patient populations was [published in 2010](#). A total of 67 clinical studies of various study designs were included looking at a variety of patient populations: chronic pain or pain-related disorders, cancer patients, postoperative or rehabilitation patients, patients with dementia, patients with varying cardiovascular ailments, healthy populations, and students. This review concluded that there was strong evidence for the use of biofield therapies for reducing pain intensity in pain populations and moderate evidence for pain in cancer populations. However, some randomized controlled trials (RCTs) of biofield therapies for pain produced negative results. There was moderate evidence supporting the use of biofield therapies for behavioral symptoms in dementia and for decreasing anxiety for hospitalized populations.

Another review [published in 2014](#) assessed the quality and outcomes of randomized controlled trials of non-contrast (non-physical) biofield therapies including External Qigong, Healing Touch, Johrei, Reiki, and Therapeutic Touch. Of 18 clinical trials that met research design criteria, 12 produced positive results under controlled conditions, suggesting that biofield therapies appear effective even when participants are not touched, and even when compared to mimic biofield therapy (placebo) controls.<sup>33</sup>

Energy psychology modalities (which are considered to be biofield therapies) include Thought Field Therapy (TFT) and Emotional Freedom Technique (EFT) among others. These modalities include the use of tapping on parts of the body associated with energy meridians to focus therapies on the relationship between thoughts, emotions, sensations, and behaviors, particularly when experiencing or recalling a troubling event. Systematic reviews and individual studies in energy psychology has found that these modalities:

- Significantly [reduce anxiety](#) <sup>34</sup>
- Simultaneously [reduce post traumatic stress disorder, anxiety, and depression symptoms](#) in heterogenous populations in [4 sessions of EFT](#) <sup>35, 36</sup>
- Are similarly effective in [significantly reducing depression and anxiety](#) when compared with cognitive behavioral therapy <sup>37</sup>

Although there is some indication from previous reviews that pain and cancer symptom management are the best applications for subtle energy and biofield therapies, our current review of research publication frequency indicates that in the past 10 years a body of new work on the impact of energy psychology modalities on trauma and other mental health ailments has emerged. Any effort to effect policy or healthcare integration will require [an up to date, focused systematic review of biofield therapies](#) on key outcomes of focus, for example trauma, mental health and pain.

### Takeaways from this clinical studies landscape assessment are:

- Promising results from clinical studies and survey data indicate that biofield therapies may be most effective for anxiety, pain, trauma, and cancer. More adequately powered clinical studies are warranted.
- Much of the clinical research is published in nursing journals and journals targeting the integrative medicine community.
- Very few RCT and clinical trials were published on biofield therapies in the last 5 years. As in earlier years, the more recent RCTs have small sample sizes and are pilot studies.
- Most of the clinical research has focused on Healing Touch and Therapeutic Touch.
- Many peer-reviewed research articles are survey-based and/or qualitative research.
- Most articles published are review articles focused on theory and scientific hypothesizes about the biofield and subtle energy.
- A large proportion of biofield-relevant research is published by mainstream researchers who do not use terms such as 'biofield' or 'subtle energy'.
- Subtle energy and biofield healing practitioners' perspectives are not well integrated into the clinical research.
- There is a large body of anthropological and sociological articles looking at Biofield Healing Practitioners, practitioner perspectives, and indigenous healing practices.
- More longitudinal (long-term) studies with physiological measures are needed.

Finally, although there is an abundance of published peer-reviewed scientific literature on the subjects of energy healing, healing traditions and the biofield, **the evidence has not been building**. Very few randomized clinical trials (RCTs) of biofield therapies have been published in the last 5 years, and studies with positive results have not been replicated.

### III.1.C Subtle Energy and Biofield Researchers

As part of this project, we identified 220 research institutions with capacity and skills to conduct subtle energy and biofield science, and who either are currently, or are interested in, studying biofield science mechanisms, measurement, or modalities for clinical populations. These institutions can be found [here](#). Some of the most active research groups and institutions in the field of subtle energy and biofield healing include, but are not limited to:

- Center of Excellence for Research and Training in Integrative Health, University of California San Diego (Dr. Paul Mills)
- Integrative Medicine Program, The University of Texas MD Anderson Cancer Center (Dr. Lorenzo Cohen)
- Wake Forest University (Dr. Christina Ross and Dr. Remy Coeytaux)
- Monroe Institute (Ross Dunseath & Scott Taylor)
- Division of Perceptual Studies, University of Virginia (Dr. Jennifer Kim Penberthy)
- University of Iowa (Dr. Susan Lutgendorf)
- Institute of Noetic Sciences (Dr. Garret Yount, Dr. Arnaud Delorme, Dr. Helane Wahbeh)
- Rhine Research Center (Dr. John Kruth)
- European Center for Chinese Medicine and Natural Compounds (LUECCM), Leiden University (Mei Wong, Dr. Jan van Wijk)
- Contemplative Studies Initiative & Mindfulness Center, Brown University (Dr. Stephanie Jones, Dr. Harold Roth, Dr. Christopher Moore, Dr. Judson Brewer, Dr. Larson DiFiori, Simona Temereanca Ibanesc, Chloe Zimmerman)
- Chapman University (Dr. Menas Kafatos)
- California Institute for Human Science (Dr. Gaetan Chevalier)
- University of Arizona (Dr. Ann Baldwin and Dr. Gary Schwartz)
- Institute for Frontier Science (Dr. Beverly Rubik)
- Harvard University (Dr. Rudy Tanzi)
- HeartMath (Dr. Rollin McCraty)
- Consciousness and Healing Initiative (Dr. Richard Hammerschlag, Dr. David Muehsam, Dr. Shamini Jain)

All together, we identified over 350 domestic and international researchers actively participating in and/or keenly interested in pursuing subtle energy or biofield healing research and interviewed or surveyed 38 of identified researchers. Many are “mainstream” scientists in tier-1 research universities (including Harvard University, Brown University, UC San Diego and others) with significant laboratory resources, research programs and faculty connections that will be helpful to forward future research in biofield science and align biofield science with related areas including mindfulness, neuroscience, psychoneuroimmunology and integrative medicine. Researchers who are “newer” to the area of biofield science are senior and mid-level investigators with established track records in grant funding and are interested in extending their research programs include biofield concepts, measurement and interventions. Research specializations included anthropology, cell biology, clinical medicine, bioelectromagnetics, biophysics, electrical engineering, integrative medicine, neuroscience, parapsychology, physics, physiology, psychology and psychoneuroimmunology. Studies in these areas represent a broad transdisciplinary view of biofield science and subtle energies, with results relevant to 1) measures of biofields and subtle energies, 2) underlying mechanisms and 3) practical applications

### **Key Themes among Subtle Energy and Biofield Researchers:**

- Researchers report almost universally that their interest in subtle energy and biofield healing was stimulated by personal spiritual/healing experiences.
- Some researchers have reported that they conduct research in the area of subtle energy and biofield science, but do not publish it, nor do they openly discuss this research with colleagues for fear of ridicule.
- Many tenured professors will assist with or contribute to subtle energy and biofield science/energy medicine research projects but do not want to be included on publications.
- There is a need to produce scientifically validated images of the subtle energies and biofields.
- Some researchers are finding ways to perform subtle energy and biofield studies in parallel with their more conventional research projects.

Importantly, many researchers we interviewed also expressed gratitude for being able to have open conversations about consciousness, subtle energy and the biofield, and a hunger for a community of scientists where they could more openly discuss such research explorations and explore collaborations on biofield related studies. Subtle energy and biofield researchers report facing considerable stigma – from implicit bias against their work to outright hostility or ridicule – and they feel isolated from one another. A clear path that engages and integrates multiple stakeholders and researchers is needed to address these systemic challenges currently faced by the research community.

Stakeholder interviews and the systems mapping meeting identified these additional significant obstacles and anchors holding back the community from advancing the state of the science:

- Lack of funding
- Lack of coherent strategies- no systematized research agenda
- Ongoing focus/bias toward materialism/reductionism/drug-trial emulation in science
- Lack of community- researchers are siloed and working on “one-off” projects limited by lack of peer engagement and collaboration
- Lack of innovative protocols/study designs to accurately capture the impact of biofield therapies (RCTs are not painting the whole picture)
- Lack of consensus in the community as to what are the best methods for studying biofields and subtle energies.

**It was clear through these interviews that a transdisciplinary approach** will be required for a deeper understanding of biofield science and subtle energies because these topics involve biophysics, psychology, psychoneuroimmunology, the neurosciences, clinical medicine and other related disciplines.

**Our overall assessment of the present state of subtle energy and biofield healing science and researchers is that: 1) current research with subtle energy and biofield healing approaches demonstrate enough reports of beneficial effects on clinical outcomes to warrant further and deeper empirical research; 2) most research is limited by small sample sizes, inadequate controls, and quasi-experimental designs; 3) researchers face substantial barriers to rectifying these issues, including stigma and lack of funding.**



## III.2 Subtle Energy and Biofield Healing: Conceptualization and Measurement

There have been multiple attempts to measure subtle energies and biofields, with some interesting results. Measures of physical biofields continue to be developed, as reflected in the published literature which includes measures of electromagnetic fields, human biophoton emissions, infrared imaging, acupuncture meridian system analyses, near infrared spectroscopy, functional magnetic resonance imaging, and electrophysiological changes with healing and mind-body practices (electroencephalography, electrocardiology, electromyography).

The hypothesized underlying mechanisms for biofields are reflected in these measurements, with groundbreaking results from biophotonics, study of electromagnetic fields directly related to nervous system and cardiac activity, and patterns of distributed cell membrane voltages governing growth and regeneration (see [Hammerschlag et al., 2015](#)).<sup>38</sup> Receptor systems sensitive to low-level electromagnetic fields have been identified, and these may mediate responses to these biofields - suggesting that components of the biofield physiology framework are already in place in mainstream scientific research. A more unified understanding of the function of these biofields is likely to emerge as an evolving understanding of the role of electromagnetic field theory and quantum physics in biology, where concepts such as nonlocality and entanglement have been suggested as mechanisms for biofield healing (see [Kafatos et al., 2015](#)).<sup>39</sup>

Biofield-related research has contributed to a diverse set of practical applications. Along with the general acceptance in the scientific community of brain and nervous system activity as electrical activity distributed in a field-like fashion throughout the body, numerous electrical and electromagnetic therapies and diagnostics have been developed. Thousands of studies have been performed on therapies using light (photobiomodulation), and a growing body of scientific literature supports the existence of biofield interactions. Prominent examples include studies supporting the effects of human intention on the behavior of sensitive electronic and biological systems, and devices apparently operating via subtle energies, scalar electromagnetic waves or torsion fields (see [Muehsam et al., 2015](#)).

**In summary, there are varied conceptualizations regarding the nature of subtle energy and biofield healing, including potential mechanisms by which the biofield impacts physiology. This is equally true for many other fields of scientific inquiry in biology, physics, etc.. Competing theories are typical at this nascent stage of study, however, work toward refining conceptualizations of subtle energies and biofields from an empirical and practitioner-informed perspective will help to advance the field. A primary rate-limiting step in subtle energy and biofield science and healing is a lack of reliable and validated objective measures of purported subtle energies. It is upon scientists and innovators in this area to develop objective measures of purported subtle energies and biofields, AND/OR to continue studies that reliably measure biofield effects on physical systems and/or clinical efficacy. It is possible that subtle energies and some forms of biofields are not physical, at least within our current understanding of the nature of reality, and will only be measurable through their effects on physical systems.**

## Are Subtle Energy and Biofield Therapy Effects Attributable to the Placebo Effect?

One question that many ask about biofield therapies is whether they simply are placebo effects. While biofield studies, including animal studies, suggest that biofield therapies can affect biological outcomes beyond placebo controls, we recognize that placebo research itself tells us much about the power of our consciousness to help foster our own healing and thus is of great relevance to biofield science.

Placebo elements that have been discussed, investigated, and found to augment the healing process include:

- Expectation (the conscious belief of a medicine or therapy to help or not help)
- Conditioning (the often-subconscious experience of the body-mind to the substance or therapy - for example, the body relaxing in anticipation of a massage based on previous experiences)
- Meaning and Context effects which include ritual, healer-patient relationship, cultural context and related factors.

Research indicates that placebo elements are embedded in nearly every clinical intervention and have significant effects on healing outcomes. Integrative medicine interventions, including biofield therapies, are ripe with placebo elements that help augment healing effects, as they often are delivered in a holistic environment and induce a relaxation response. Current understandings of placebo based on research trials in surgery, antidepressants and other studies help us understand that placebo is not an inert substance - but rather influences the mind-body to respond to a certain intervention more favorably - including immune, neural, and hormonal factors (for review, see [this article](#)). Discussions on the meaning of the randomized placebo controlled trial and its relevance to integrative medicine research have been discussed extensively (for review, we recommend reading [this article](#)).

## Are Subtle Energy and Biofield Therapy Effects Attributable to the Placebo Effect? (cont.)

Given the richness of healer-client interaction, expectation, conditioning, meaning and context present in biofield healing sessions, one may wonder whether biofield therapies show effects beyond influencing placebo elements. While the field will benefit from deeper research on the role of placebo elements in biofield therapy research (including potential moderating roles on outcomes), here is what we currently know based on studies so far:

- [A 2008 Cochrane systematic review](#) on biofield based therapies for pain included an examination of studies with placebo controls and reported that biofield therapies affected pain beyond these placebo controls.
- A 2014 published review of RCTs (Randomized Controlled Trials) of non-touch biofield therapies noted [methodological issues with the use of mock groups](#) in biofield therapies. An [infographic](#) of results of this review may be found here - which allows sorting of the data by those studies that had [mimic vs actual healing group](#).
- A [rigorously placebo controlled RCT of a biofield therapy for fatigue and hormonal function in cancer survivors](#) examined placebo elements including a sham control group, weekly measurements of sense of connection with the therapist, treatment guess (sham vs. real), treatment expectations, and perceived benefits of treatment. This study, which was designed to investigate the nuances of placebo elements on healing responses, indicated that biofield therapies influenced physiological functioning (cortisol rhythms) in fatigued breast cancer survivors, while sham therapy did not, and placebo elements such as sense of connection with therapist, expectations and [perceived](#) benefit also did not account for the effect.
- [Several controlled studies with cells and animals](#) indicate that biofield therapies affect physiological outcomes beyond sham control groups, suggesting that placebo effects are not driving physiological outcomes.

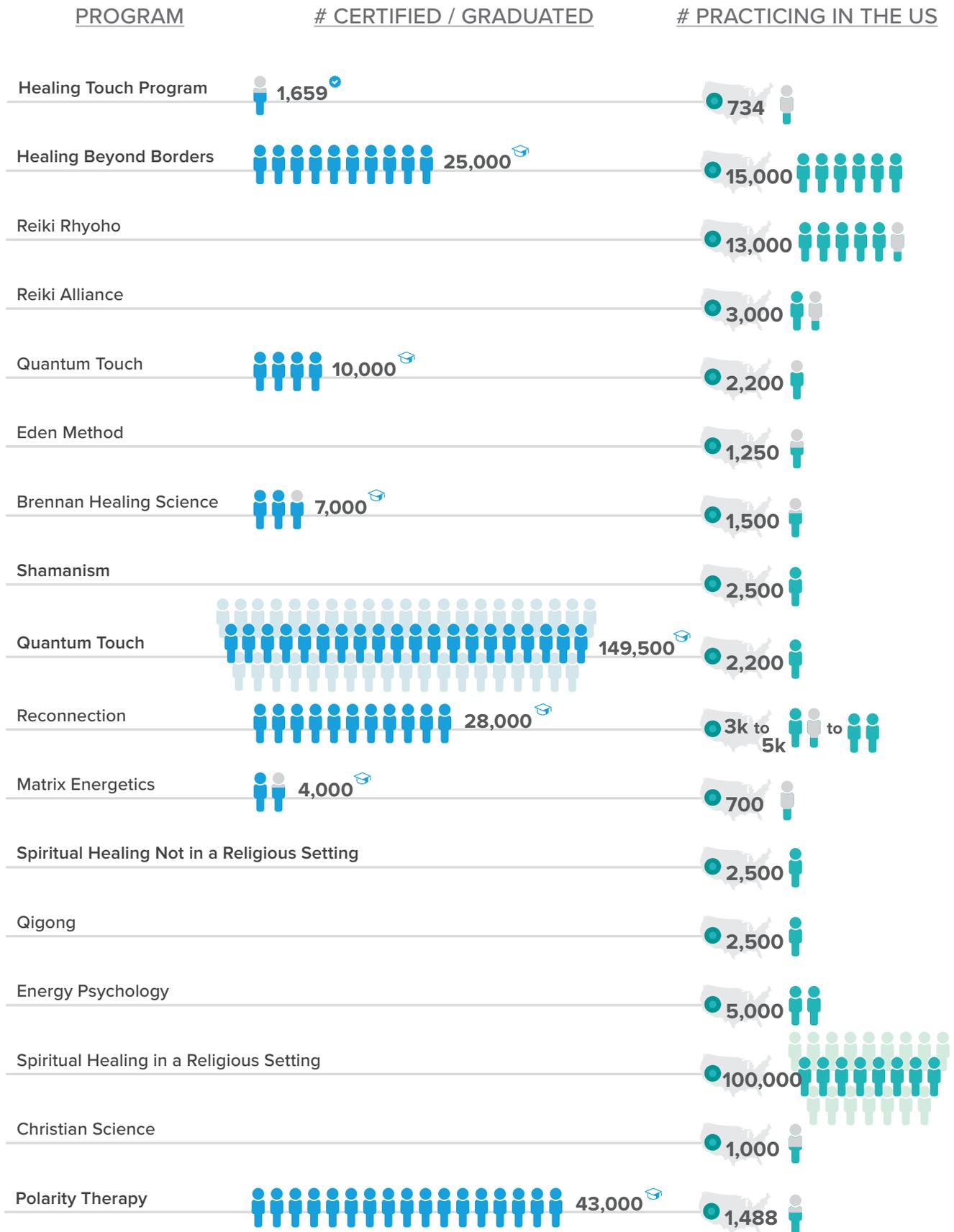
These studies suggest that biofield therapies affect psychological and biological outcomes beyond placebo effects. Similar to other trials in integrative medicine such as acupuncture, biofield therapy research studies to date suggest that placebo elements could augment the healing response, but do not account for their full effects.



### III.3 Subtle Energy and Biofield Healing Practice and Practitioners

To better understand the current number of subtle energy and biofield healing practitioners and types of healing being practiced throughout the United States, The National Association of Energy Practitioners (NAEP) estimated the number of Biofield Healing Practitioners in the United States. The numbers below represent data shared by the NEAP on program websites and through email correspondence with program directors.

# Table I: Estimated Number of Biofield Healing Practitioners



### III.3.A The Subtle Energy and Biofield Healing Marketplace

Subtle energy and biofield healing practitioners generally charge a fee for service, with the exception of approximately 100,000 people practicing spiritual healing in a religious setting or non-religious setting in the United States. The total number of paid practitioners in the US is thus estimated to be 50,084. Based on these numbers, a conservative estimate for revenue generation by Biofield Healing Practitioners in the US follows:

51,572 practitioners x

12 clients per week x

40 weeks per year x

\$80/hour =

**\$1,980,364,800** per year.

These estimates suggest a workforce that can generate 2B/year.

### III.3.B Healing Practitioner Interviews

We interviewed 13 Biofield Healing Practitioners representing and/or incorporating into their practice the following healing traditions:

- Reiki - **involves a transfer of a universal energy or life force mediated by one sentient being to another.**
- Healing - **aims at balancing energy systems in the body to initiate or accelerate the self-healing process.**
- Barbara Brennan School - **a holistic healing modality based on the Human Energy-Consciousness System and its relationship to health and disease.**
- External Qi - **a system of techniques to influence or cultivate the flow of qi within the body in order to attain and/or maintain mental and physical health.**
- Laying on of Hands - **religious ritual act in which a priest or other religious head would place his palms on the top of another's head while reciting a prayer or blessing.**
- Shamanic Healing - **a group of techniques utilized by practitioners who access the help of spirits to heal members of their group.**
- Pranic Healing - **a type of energy healing classified as "non-touch healing" that manipulates subtle life-energy, or "prana," in order to benefit physical health.**

- Bioenergetic Therapy – a therapy which addresses the energetic aspect of the individual, including self-perception, self-expression, and self-possession; one’s self image is aligned with the reality of one’s self.
- Medical Intuition – a process where one can find the cause of physical or emotional pain by seeing into a person’s body and reading their patterns in an individual’s energy field.

More detailed descriptions of these and other subtle energy and biofield healing modalities can be found [here](#).<sup>40</sup>

### Key interview takeaways:

- A variety of approaches used by Biofield Healing Practitioners involve both sensing and working with the biofield for healing. These approaches depend on the healing tradition and the Biofield Healing Practitioner’s abilities, e.g., multi-layered field vs. unified field, seeing the field vs. feeling the field, utilizing hands-on, hands-off, distance techniques
- There appears to be some consensus around descriptions of what “healing” is (e.g., a return to the soul, Source, Spirit, purpose) and distinguishing this from “curing” terminology and diagnostic terms
- Many successes are anecdotally reported, but the published data do not always reflect the anecdotes
- Biofield Healing Practitioners note the need to discuss and co-develop research protocols with scientists

The healers we interviewed suggested three primary best-bets for subtle energy and biofield healing research and applications:

- Acute conditions including trauma and pain
- Fertility
- Somatic disorders that have immune/hormonal components that are often considered “mystery” illnesses in Western medicine

## Subtle Energy and Biofield Healer Perspectives on Healing

*“A healer does not heal you. A healer is someone who holds space for you while you awaken your inner healer, so that you may heal yourself.”*

-Mayam Hasnaa

Biofield Healing Practitioners (also referred to in this document as healing practitioners or biofield therapists) report that subtle energy is what they are sensing and working with when interacting with a patient's biofield. During a healing, the interaction between the Biofield Healing Practitioner's subtle energy and the individual's biofield stimulate the patient's own healing response. Biofield Healing Practitioners report that when they are healing, they are tapping into a source outside of space and time that they describe in terms such as “the life force” and “universal energy”. They are not generating this energy, rather, they are connecting with and utilizing it when interacting with the patient.

Biofield Healing Practitioners consistently report that they are not doing the healing per se; and in fact many practitioners do not care for the term “healer”, because they note that they are not the ones doing the healing. Biofield Healing Practitioners explain that they are acting as conduits to allow the person to heal his or her self. Often, this process is described within spiritual terms, such as aligning the client with their soul, spirit, true nature, or Higher Self. Biofield Healing Practitioners state that by working the client's biofield or energy field, they are creating an environment within the patient that removes obstacles/blocks and allows for the body-mind-spirit to heal itself.

How quickly a Biofield Healing Practitioner is able to foster healing depends on the nature of what they are healing. Some practitioners report that the longer a trauma resides in the body (physical, psychological, or both) the more difficult it is to address the trauma. Acute injuries or stressors will take the least amount of time to heal with the help of a Biofield Healing Practitioner because it has not been residing in the person for a long time.

Biofield Healing Practitioners can either transmit this energy through the use of touch, not touching (non-contact) or at a distance (not in the same room or even the same location as a client). They report that the element of touch/proximity to the patient is not a required; many noting that healing occurs outside of the constructs of space and time and therefore can take place non-locally.

How a Biofield Healing Practitioner sees and interprets the field is greatly impacted by the method/tradition of healing that he/she is using; some styles see the field as one layer where as others see it as a multilayered field. The style of healing will also impact how they interact with the field and controls the flow of energy to the healee.

## Subtle Energy and Biofield Healer Perspectives on Healing (cont.)

Biofield Healing Practitioners will not always use one style of healing and as a practitioner learns different healing techniques and works on/with different patients, their style will evolve and so will their relation to their healing practice and the healee.

Many Biofield Healing Practitioners describe the healing process through a salutogenic model of health promotion. Salutogenesis refers to an innate ability of the whole self (body, mind, and soul) for sustaining and returning to health. Biofield Healing Practitioners often report that they are assisting the natural healing process or removing blocks to healing, in accord with a salutogenic view. From this perspective, Nature heals through salutogenesis, and the mechanisms for healing can be described as the ways that Biofield Healing Practitioners intervene to enhance this natural process.

Interestingly, practitioners indicate that biofield therapies are often helpful to remove energetic patterns reflecting underlying traumas that cause both physical pain and long-term psychological suffering. Many biofield practitioners believe that trauma is stored in the biofield and that by identifying and treating disturbances associated with a trauma in the biofield, one can remove the effects of the trauma (including ongoing anxiety, pain and social discomforts) on the psychological and physiological levels. Deepening a scientific and cultural understanding of these practitioner assertions is key to demonstrating a potential “value add” for biofield therapies over and above current approaches. This relationship will be better understood through future dialogue and research studies with healers, in addition to scoping and systemically evaluating the current literature



### III.4 Subtle Energy and Biofield Healing Patients and Consumers

Through our interview process with healing practitioners as well as personal stories from credible stakeholders, we have heard miraculous stories of healing practitioners who have been able to facilitate marked recovery in patients with cancer and other ailments - including total remissions - in situations where modern medicine has been unable to help patients.

## A Subtle Energy and Biofield Healing Case Example

The following story, shared with one of our investigators from a couple in Southern California, illustrates the power of healing:

***“We are sorry. She only has a few months to live. There is nothing we can do.”***

*These are devastating words that no parent wants to hear from a doctor about their child. When Devan and Medha’s 2-and-a-half-year-old daughter, Meera, their second daughter, started to show symptoms of a stomach flu that wouldn’t abate, they went to the doctor immediately. They thought it might be a case of severe acidity or a chronic GI issue. They never expected that an MRI would reveal that their toddler had a brain tumor - and that there was nothing that the doctors could do to help her.*

*Devan and Medha took swift action, as any parents would. They sought the best doctors. On the doctors’ recommendations, they had Meera go through radiation treatment immediately. At first, the radiation seemed to work. However, Meera developed nausea and severe ataxia, which means she had trouble walking and talking. It appeared she had a swelling in her brain. A follow up MRI showed that there was recurrence of a tumor in her brain stem that was causing the swelling and Meera’s discomfort. The tumor was malignant and positioned in such a way that they could not operate on her to remove it. There was simply, they said, nothing else that they could do.*

*As anyone can imagine, Meera’s parents were devastated. They had gone to the best cancer doctors to get answers and help, but the doctors did not know how to stop the disease and save her life.*

*What were their options? Accepting the doctor’s words meant that they were forced to watch their child slowly die in a few months. But they were not ready to accept this fate. They decided to seek out other options, any safe option, that would help their daughter to live and give her any chance to thrive.*

As they began looking for alternatives, a friend approached them.

“I’m not sure if you’re open to this...and I know it sounds crazy,” he said. “I know a Biofield Healing Practitioner in Tel Aviv, Israel. She was a survivor of the Holocaust.” He explained that the Biofield Healing Practitioner, Sara, was rescued from a concentration camp as a baby after the Gestapo shot her mother. A mere 24 hours after the war ended and camp prisoners were set free, an officer found Sara, still alive, under her mother’s body. Sara felt that this traumatic yet miraculous experience gifted her with a healing ability. She had been healing people for many years, even from a distance, from her home in Israel.

## A Subtle Energy and Biofield Healing Case Example (cont.)

*"I know it might seem like a long shot, but it might be worth a try to have Sara work with Meera," he suggested.*

*Deven and Medha considered it carefully. While they'd never experienced distant healing before, they thought highly of their friend and knew he was trying to help them save their daughter. They were running out of options, so it didn't seem like there would be any harm in trying a session with Sara.*

*Sara agreed to work with Meera and explained to her parents that she would "Tune in" to Meera (in California), from her home in Israel. She would focus on dissolving the tumor in Meera's brain every week. Sara explained to Deven and Medha that her healing approach did not necessarily mean that she would be able to cure Medha's cancer. She shared how the process of healing was different from curing. Curing represented getting rid of a disease by specifically targeting it. Healing, which was what Sara would do with Medha, was to foster the inner capacity of Medha to heal herself, body, mind and spirit by connecting Medha to her "Higher Self" (a term often used by Biofield Healing Practitioners which is similar to concepts of Spirit or Soul). While Sara could not guarantee that Medha's tumor would dissolve, she had confidence that the process of healing would bring Meera a greater sense of peace and well being no matter what the medical outcome. Essentially, Sara felt that curing Medha's cancer was not up to her, but rather God and Meera's Higher Self.*

*While Sara did healing work on Meera, she asked her parents to note any changes, and also explained to them how to facilitate a balanced home environment that emulated peace, calm and happiness to help Meera heal.*

*After three months of these sessions, despite the doctors' prognosis, Meera seemed to be doing better. Deven and Medha took Meera to the doctor for a brain scan. During her first follow up appointment, the doctors said that the tumor had shrunk from the size of a quarter to a size of dime. In the next appointment, there was no longer a visible anomaly in her brain stem.*

*The doctors were shocked. The tumor was completely gone.*

*"We can't understand this," they said. Meera's parents told them about the healing experience with Sara. "We've never heard of such a thing," they said. "We're not averse to believing in miracles...this is certainly a miracle. She's in complete remission."*

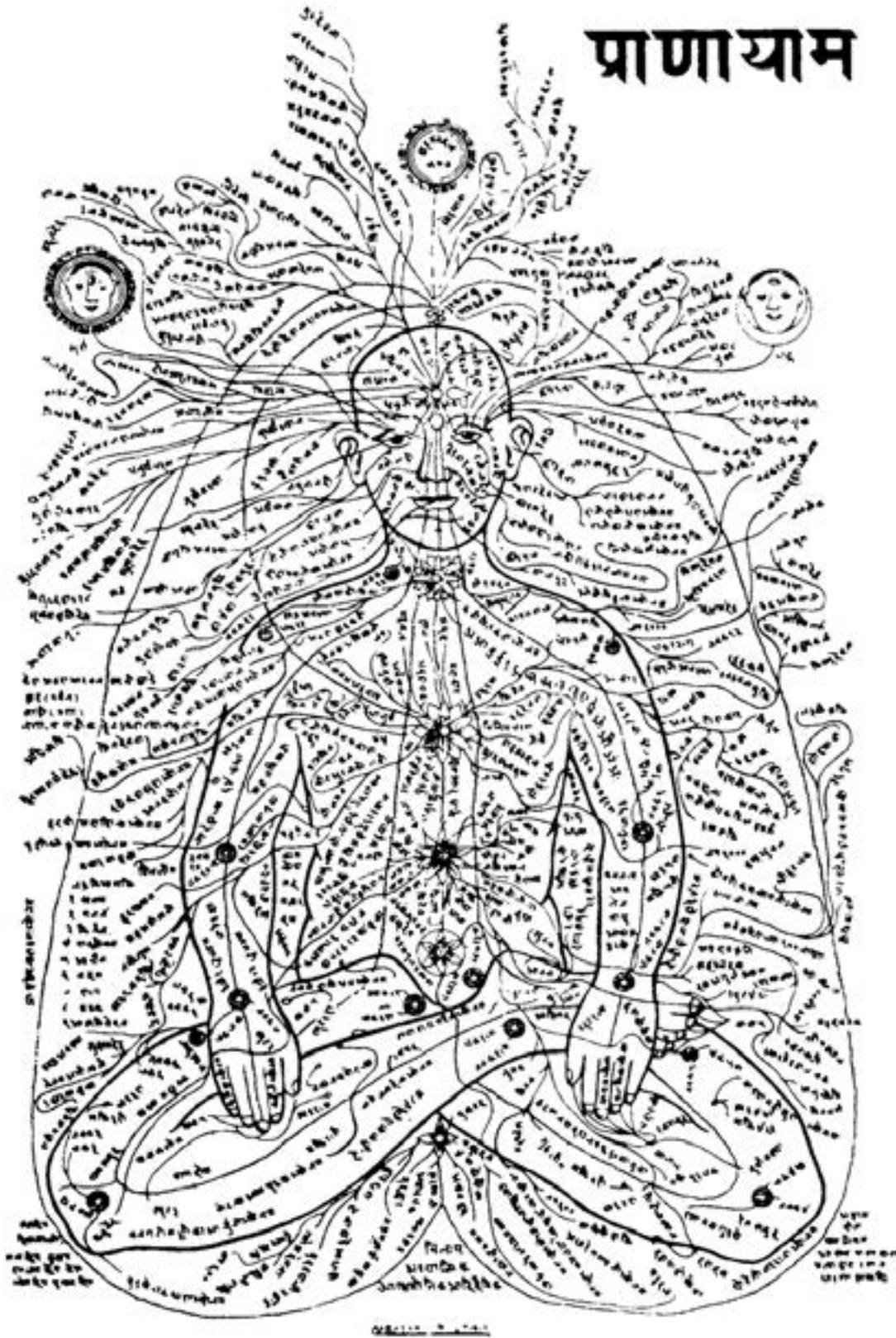
*Meera is still in remission today. She just celebrated her 18th birthday with her family, well and thriving. She enjoys practicing classical Indian dancing and has performed her dances publicly in dance troupes in California. Deven told me that Meera's indomitable spirit is a lesson for all of us - she is confident, poised, and determined to live her life fully in the best ways possible.*

Meera's story echoes themes found in other subjective reports from subtle energy and biofield healing practitioners:

- The healing practitioner (like others we have interviewed) emphasized to the parents that Meera's healing was ultimately up to her "Higher Self". The role of the Biofield Healing Practitioners is not to cure or control outcomes, but to facilitate a process to re-align the client with their Higher Self or soul/spirit. The rest of the process is determined by the client's Higher Self.
- Facilitating healing can be done from a distance (although whether healing is done from a distance depends on the practitioner's experience, preference and practical considerations).
- Healing is described as "full-spectrum" - affecting the spiritual and bioenergetic aspects of being, but also affecting emotional, mental and physical aspects of well-being.

This story also illustrates the huge dichotomy currently at play - the immense power of healing via personal reports, vs the relative dearth of scientific understanding of the processes of healing - and the need to create clear communication and language to express to stakeholders and the public the process by which healing appears to work. Many questions remain to be answered, notwithstanding - Was Meera's miraculous healing part of a family "placebo effect"? How do we understand the role of belief and other placebo elements such as ritual, conditioning, and relationship as a potential moderators or mediators of healing effects? While several rigorous randomized placebo-controlled trials of biofield therapies suggest that biofield healing is indeed effective beyond the general healing response afforded by placebo elements, a deeper understanding of healing both from the perspective of healers, as well as from research, will be vital to a deeper understanding and forwarding healing's transformative impact.

# प्राणायाम



*Illustration showing the nadis and the major and minor chakras, thought to be part of the biofield from David V. Tansley, *Subtle Body - Essence and Shadow*, (1977, Art and Imagination Series, Thames and Hudson, London)*

## III.5 Subtle Energy and Biofield Healing Technology & Innovation

Biofield devices are physical instruments that have been developed to measure or manipulate biofield interactions. These include both diagnostic devices (to measure biofield properties) and therapeutic devices (to manipulate biofield interactions). All of these biofield devices share the following:

- They do not appear to function in a chemistry-oriented manner;
- They claim to function via the informational content of biological processes;
- They can interact via low-energy or “subtle” informational processes, including those related to consciousness and nonlocality;
- They operate through a variety of modalities rather than a single mechanism.

Some biofield devices function through well-understood mechanisms and are already widely used in clinical settings. Examples include pulsed electromagnetic field (PEMF) therapies for pain and bone/wound repair, electroencephalography (EEG), and electrocardiography (ECG), as well as in over-the-counter neurofeedback and biofeedback that give users information on their mental-emotional state based on physiological data.

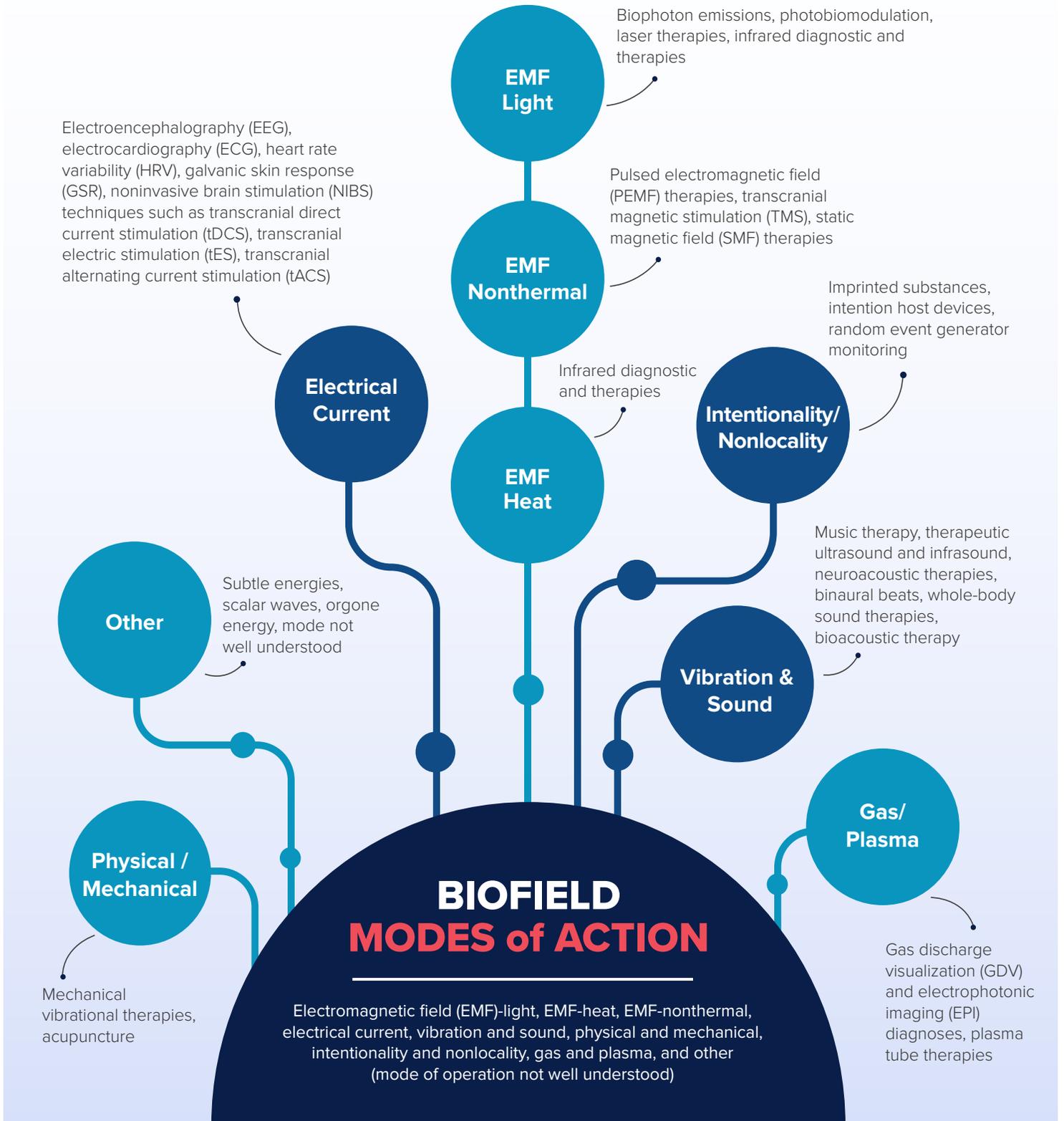
Our survey of biofield devices identified over 280 biofield-based technologies currently in the marketplace for diagnostic (measuring biofield activity) and therapeutic (modifying biofield activity) uses. The database includes: company and type of biofield tech, FDA/CE clearance information, manufacturers' descriptions and contact information, whether peer-reviewed evidence exists to support manufacturers' claims. Biofield devices for pain are listed, and include pulsed electromagnetic field (PEMF), bioresonance and light therapies, and a large body of transdermal electrical stimulation (TENS), frequency specific microcurrent (FSM) and low-level laser therapy (LLLT). US Food and Drug Administration (FDA) clearances have been obtained for PEMF, TENS and FSM devices, which have helped them to enter mainstream medical practice.

The accompanying database ([link here](#)) places an emphasis on devices that are less well understood, and appear to operate through nonlocality and subtle energy processes. Prominent examples are devices operating through human consciousness and intentionality. Subtle energy devices purported to heal or produce wellness include:

- Bioresonance devices
- Nonlocal frequency transmitters
- Sacred geometry and crystal therapies
- EMF smog protection devices
- Orgone energy treatment devices
- Energy balancing devices
- 'Torsion' fields and 'scalar wave' technologies

# BIOFIELD DEVICE CATEGORIES

Physical instruments to measure or manipulate biofield interactions



## Devices/Technology Key Takeaways

The device database overviews a wide range of devices purported to diagnose or treat by interacting with the human biofield. While a number of these devices (PEMF, TENS, etc.) have received regulatory clearances and entered mainstream medical practice, in recent years a rapidly growing field of devices has emerged for which there is little or no scientific support. Many devices contain proprietary technologies and manufacturers' claims are often the only sources of information available to the public. This lack of information is compounded by the use of vague or pseudoscientific language used by some manufacturers to describe their products and how they work.

Take-aways from the device database, stakeholder interviews, and current research make clear that to advance biofield technology and its impact, further foundational work is required in the following areas:

- **Biofield Mapping**- Finding and investigating ways to reliably measure and visualize the biofield is a priority.
- **Biofield Measurement Device Testing and Validation** - Test and validate devices claiming to be able to measure what the biofield.
- **Biofield Therapeutic Device Testing and Validation** - Test and validate devices claiming to be able to affect the biofield and, in turn, enhance and foster health and wellbeing.
- **Test, Validate, and Assess the Risk of Biofield Devices** - Test and validate the claims made by biofield devices and whether they may have long-term health risks.
- **Continue Tracking and Assessment of New Devices** - Continue to assess and map the claims about mechanism and impact of new biofield technologies (which is ever increasing).

## Assessing Mechanism

It is important that we understand whether the claims made about how a device works (mechanism) can be tested and if it indeed is impacting the person using the device in the way that it reports. Prominent examples of technologies for which we are unsure how they work (the mechanisms of action), are not well-understood or accepted include devices claiming to operate via:

- Quantum theory, scalar waves and non-local effects (Timewaver, Philip Stein and Teslar watches, etc)
- Human intention (Global Consciousness Project, Bill Tiller IHD, etc)
- Measuring biofields and meridians (Motoyama AMI, Streeter Biofield Viewer, Oldfield Camera, Bio-Well/GDV, etc)
- Promising but poorly understood EMF and electrical devices (Ondamed, Seqex, Wavemaker, etc)
- Ability to foster coherence and help the body attune to its natural rhythms (Voll acupuncture, Lenyo, Mora, Oberon, etc)
- Reharmonizing the body with its surroundings, protecting from EMF electrosmog (Qi-Technologies, Aamora, Qlink, etc)

## Assessment and Next Steps for Biofield and Subtle Energy Devices in the Database

Many of the devices listed in the accompanying database are based on claims of detecting the human biofield, usually in the form of changes in electromagnetic fields, electrical activity on the skin, light emissions from the body, sounds produced by the body, contrast-enhanced photography, effects on physical systems such as pendulums or rotating wheels, and claims of detecting scalar waves, torsion fields and the effects of human conscious intention on physical devices.

However, to date, no technology has been confirmed to directly measure subtle energy and/or the biofield. It may be that we cannot visualize or measure subtle energy or the biofield. The detection of subtle energies may be only possible through measuring their impact on the human body and other living systems.

The lack of scientific validation is holding back scientists and researchers from assessing the safety and efficacy for the majority of biofield devices. Claims made by manufacturers are the primary source of information. Therefore, the public is unable to access clear and unbiased information biofield and subtle energy devices. A full assessment of best technologies for both early stage and/or validation research in specific technology areas should be made by a selected group of experts, including scientists and biofield healing practitioners.

**In summary, diagnostic and therapeutic biofield and subtle energy are a diverse and generally scientifically unsubstantiated group. While some biofield devices have achieved FDA clearance and have entered the medical mainstream (e.g., EEG, ECG) most of the devices lack the scientific foundations needed to establish safety and efficacy. Manufacturer's claims are often the only sources of information available for biofield and subtle energy devices; these claims often contain false or pseudo scientific information. The public is thus unable to access clear, unbiased information on biofield devices. Biofield mapping - developing clear means for measuring biofields is a key priority for further progress.**

## III.6 Subtle Energy and Biofield Healing Education, Training and Certification

Our surveying of training in subtle energy and biofield healing reveals that healing practitioners obtain their knowledge and skills in many ways, including:

- informal learning
- apprenticeships and formal courses in spiritual, religious, and indigenous traditions
- peer learning in modern/eclectic or “new age” spiritual practices and communities
- healing training that have been more secularized for the nursing, medical, or healthcare professional community (such as Therapeutic Touch or Healing Touch),
- energy healing approaches that are part of a integrative care model (such as craniosacral training).

There are several international training programs that vary by length, depth, frequency and cost of training. Examples of subtle energy and biofield healing training programs in the US include: Healing Beyond Borders, Healing Touch Program, Healing Light Center Church, Brennan Healing Science, Reiki Alliance, The Eden Method, Polarity Therapy, Quantum Touch, Reconnective Healing, Bengston Energy Healing, Pranic Healing Institute, Association for Comprehensive Energy Psychology, and many more. For this report, we created a non-comprehensive but extensive database/[map](#) of major subtle energy and biofield organizations, which we will continue to expand, and can be found [here](#).

Associations among biofield healing organizations are forming, such as the [National Alliance of Energy Practitioners](#).<sup>41</sup> There are also efforts to provide an overall certification process across healing modalities, that allow for both ethics and competence reviews that are at once comprehensive and modality specific, such as the work being done by the newly-formed [National Certification Center of Energy Practitioners](#). This group is focused on providing certification for biofield healers across healing modalities, as well as helping introduce legislation to help integrate biofield healers into healthcare settings. The Association of Comprehensive Energy Psychology (ACEP) provides certifications for energy psychology techniques, and continues to work with the American Psychological Association (APA) on accreditation, a process that they report is becoming more difficult to obtain.

However, subtle energy and biofield science concepts and research, as well as simple subtle energy and biofield practices that can be taught to a variety of health professionals, largely remain outside of medical and healthcare education. One notable exception is the emphasis on biofield healing placed in the interprofessional fellowship for the Academy of Integrative Health and Medicine (AIHM). AIHM continues to lead interprofessional education in integrative medicine for MDs, DOs, and other licensed health professionals and has collaborated with CHI to offer education on both the science and practice of biofield healing through pre-conference workshops. However, AIHM notes that continuing education credits for biofield related education, including biofield science, were denied by American Medical Association (AMA) accreditors.

## III.7 Subtle Energy and Biofield Healing Evidence Dissemination, Communications & Public Relations

There are considerable gaps in the education of scientists, health professionals and the public in the general science and practice of subtle energies and biofields, and these shortcomings are not limited to any single healing tradition. A recent advance was the peer-reviewed, published [Special Issue in Biofield Science and Healing](#), undertaken by the Consciousness and Healing Initiative (CHI) community in 2015.<sup>42</sup> This scientific special issue garnered significant readership (thousands of downloads) as well as enthusiasm from an international community of integrative medicine scientists and practitioners. CHI's [infographic](#) on the evidence base of non-touch biofield therapies based on a systematic review of 18 randomized controlled trials continues to receive published [positive acclaim](#) by peers and leaders in the integrative medicine community. The Institute of Noetic Sciences has also shared evidence and practice behind biofield therapies in [books](#), conferences and web resources, and organizations such as ACEP and the NAEP continue to share educational resources for practitioners.<sup>43</sup>

Interest in biofield therapies continue to gain momentum with the popular press – examples include articles in [US News and World Report](#), Prevention Magazine, and the [New York Times](#). However, latest groundbreaking discoveries in biofield science (such as the recent study at MD Anderson showing cancer tumor shrinkage in response to biofield healing in a mouse model of cancer), rarely or never gain the attention of press.<sup>44, 45, 46</sup> This is often because universities decide which studies will be selected to share with the media, and generally groundbreaking studies in biofield science can be overlooked for fear of being too controversial. Skeptics of biofield approaches (who are often also skeptical of mind-body, integrative, and positive psychology approaches generally) work to discredit the field and misinform the public (see for example, Wikipedia's entries on "[energy medicine](#)" which have been labeled as "alternative" and "psuedo-medicine").<sup>47</sup>

To attempt to counter misinformation and share the actual evidence base, several of the groups noted above (including IONS, CHI, ACEP, as well as university clinics including [Johns Hopkins](#) and [Harvard University](#) include biofield therapies in their web resources.<sup>48, 49</sup> Other groups that are working to expand education and communication efforts and that the biofield community should with include the [Integrative Studies Historical Archive Repository \(ISHAR\)](#) by the Chopra Foundation and the [University of Virginia's Mandala system](#).<sup>50, 51</sup> However, these websites and organizations are not generally known to the public. There is still a significant gap in public understanding for the evidence base, utility, and approaches, that underlie biofield healing.

**Stakeholders interviewed for this report agreed that a high priority for the field was an aligned and coherent communication strategy that would include leading influencers, healing practitioners, scientists, doctors and other stakeholders – to counter mis-information and provide clear communication on what biofield healing is, how it works, and in whom is it likely to alleviate suffering.**

## III.8 Subtle Energy and Biofield Healing Policy

To our current knowledge, there are two main organizations that are focused on educating policymakers on biofield approaches. One is the Integrative Health Policy Consortium (IHPC), which has helped form a congressional caucus on integrative health and is including biofield healing, as well as biofield concepts, quite prominently in their discussions with policy stakeholders. Another new organization, the National Certification Center of Energy Practitioners (NAEP), reports that they are introducing state legislation to help ensure coverage of energy practitioners into healthcare settings.

Our group has spoken at length with the founders and leaders of these organizations and have encouraged them to more frequently communicate, in order to synergize efforts. We note that, similar to the needs in other domains, organizations within the policy, education and research domains need to communicate and synergize to achieve common goals of healthcare integration.

Stakeholders in the policy domain report that while certification processes will be helpful for healthcare integration, they also need short, vetted consensus summaries with clear definitions on what biofield healing is, how it works, and what the best evidence is, in order to more readily include biofield therapy into healthcare.

## III.9 Subtle Energy and Biofield Healing Funding and Funders

Historically, funding for subtle energy and biofield healing has been limited, however, due to growing interest and a worldwide increase in chronic health issues for which allopathic medicine does not always provide long term solutions, there has been an increase in interest for funding non-pharmacological solutions to major health concerns including pain, mental health and opioid use.

Domestically, the National Institutes of Health (primarily the National Center for Complementary and Integrative Health or NCCIH, formerly NCCAM) is the NIH funding agency that would be considered to fund biofield modalities under the umbrella of integrative medicine. NCCIH has and continues to complementary healing modalities that historically describe subtle energy/biofield components, such as acupressure, acupuncture, Qi Gong, Tai Chi, and others. However, very little of NIH/NCCIH funding has been focused on biofield therapies themselves, such as Reiki and Healing Touch, with the lack of recent funding for biofield therapies expressly noted by former Director Dr. Josephine Briggs to the [press](#).<sup>52</sup> Interestingly the Department of Defense (DOD) has been perceived by researchers as more open to proposals explicitly studying subtle energy or biofield healing approaches, perhaps due to the pragmatism of the military (“if it works, I don’t care what they call it”), and perhaps less entrenchment in the skepticism of academic culture.

Other recent funders in these or related domains such as spirituality have included the Chopra Foundation, Mindfulness Connections, the One Research Foundation, the John Templeton Foundation, the Fetzer Memorial Trust and the Fetzer Institute, The Emerald Gate Foundation and The Walker Family Foundation (supporters of this report), the Institute of Noetic Sciences, the Samueli Foundation, the Ira I. Moskowitz Foundation, and multiple small family foundations and individual donors who have personal interest in this arena – nearly always because of a personal experience of energy healing.

Universities (domestically and internationally) who have recently supported subtle energy and biofield related research include Grand Canyon University, the University of Minnesota, the University of Southern Maine, Texas Woman's University, Mashhad University of Medical Sciences (Iran), Leopold-Franzens-University of Innsbruck (Austria), and the Arctic University of Norway.

Internationally, the following organizations have supported subtle energy and biofield research within the past 5 years: the National Health Services (United Kingdom), the Centre for Quality in Care (ZPQ) (Germany), Goerd-Stiftung im Stifterverband für die Deutsche Wissenschaft (Germany), MOA Health Science Foundation (China), National Council of Scientific and Technological Development (Brazil), The World Pranic Healing Foundation, the Norwegian Extra Foundation for Health and Rehabilitation, and the Nanjing Health bureau. Interestingly, there appears to have been a substantial increase in interest and funding internationally especially as it relates to biophotons and TCM. Also, in Saudi Arabia and the UAE, projects on why people are going to healers and what impact this is having on their use and trust of allopathic medicine have been launched.

**Our assessment is that many potential individual, foundation, and government funders would be encouraged to support a more coordinated, strategic, rigorous, and large-scale initiative with accountability to the highest standards of research, as well as at high enough levels of funding to have statistical power and adequate controls to increase chances of meaningful findings (whether positive or negative). This is in part the purpose of this report, to create such an initiative.**

## IV Future Directions in Subtle Energy and Biofield Healing: Toward a Systems Change Endeavor

From this Systems Mapping Project, we have created a roadmap for a Systems Change Endeavor that describes a coordinated set of activities in the key domain areas. An accompanying Funding Plan will be used as an invitation for colleagues who wish to join in this effort, for funders who would like to invest in such an endeavor, and for potential grantees who are 1) positioned to carry out one or more of the various activities; 2) interested in working with a coalition as part of a systems change endeavor; and 3) require funding. The recommendations below describe these activities in detail in the key domains for systems change identified in this report:

1. Future Directions in Research: Building the Evidence Base
2. Future Directions in Practice
3. Future Directions in Communications
4. Future Directions in Technology and Innovation
5. Future Directions in Education, Training and Certification
6. A Collaborative Framework, Coalition, and Funding Plan for Advancing Subtle Energy and Biofield Science Healing: Funding and Investment

## IV.1 Future Directions in Subtle Energy and Biofield Healing Research: Building the Evidence Base

As we have reviewed above, while there is a growing body of promising research on subtle energy and biofield healing, most studies to date are grossly underpowered with small sample sizes. Initial promising results on physiological effects of biofield approaches must be made more robust in number and depth to have impact. A collaborative research agenda with significant funding attached will help galvanize synergistic, tier-1 research that will help move the needle on incorporating biofield science into the mainstream. The section below provides examples of types of research that will benefit the field at this juncture.

### IV.1.A Conceptualization and Measurement of Subtle Energies and Biofields

Our interviews, surveys and working group identified two needs as crucial for furthering biofield systems change: 1) developing a taxonomy of commonly accepted language as well as evidence summaries to enable effective communication to galvanize further research and healthcare implementation, and; 2) identifying reliable and promising measures and methods for future studies.

Indeed, a major rate-limiting step in the science of subtle energy and biofield healing is lack of consensus agreement on how these purported energies and biofields are conceptualized. A key need articulated by stakeholders in ALL domains (research, policy, practitioner, education, healthcare integration and technology) was a need for clear consensus language on biofield terminology.

Researchers have often used language to describe biofields that is vague, poorly defined or jargon heavy, thus creating a barrier to communicating with the public and the broader research community. Improved use of language and a clear taxonomy of biofield interactions is needed to build a bridge with mainstream researchers working in areas directly relevant to biofield science (e.g., studies treating neurodegenerative diseases with EMFs and light), but who do not describe their work in terms of 'biofields' or 'subtle energies.' There are widely varying names and definitions for the purported subtle energies and biofields, and for various modalities.

It is important to create a consensus-based taxonomy of biofield/subtle energy terms for stakeholder communication with one another, the healthcare profession, and the general public. A consensus-building process with scientists from multiple disciplines, healers from various traditions, and other stakeholders is recommended. A note of caution here is that such efforts should avoid homogenization – while consensus is important, it is also important to value diversity of theories, language, and approach.

While some very promising evidence exists for subtle energy and biofield healing, the field remains in a relatively fledgling state. Ways to measure purported subtle energies or biofields exist but remain inadequately validated. There are currently no agreed upon reliable, validated means of measuring subtle energies or biofields. The hodgepodge of measures of EMFs, biophotons, healing interactions, etc., needs to be evaluated, and the most promising measures and tools for research studies identified. It is not overstating things to suggest that developing measures of subtle energies and biofields is of the highest scientific priority at this time.

When a research effort is still at a definitional stage, high quality qualitative research and case reports can be very useful for a natural history approach to conceptualization, definition of terms, measure construction, and hypothesis generation. The natural history approach examines multiple cases of unusual symptoms or diseases, describing their pre-morbid circumstances and course in rich detail, to see if common elements appear that illuminate causes or targets of treatment (for example, detailed accounts of children who developed inexplicable cases of cancer led to the identification of lead in paint as the culprit). [Typically used for better understanding rare diseases and their causes](#), the natural history approach can be applied to the subtle energy and biofield healing in a paradoxical fashion: analyzing multiple cases of extraordinary healing to look for clues across cases that may illuminate causal factors and commonalities between diverse types of practice.<sup>53</sup>

Credible healing stories like Meera's exist, but there is no repository for such information, and these cases are often not reported in the scientific literature. The field could benefit from creating a central repository for healing stories - whether anecdotal or formal case reports, akin to the [Spontaneous Remission Bibliography](#) published by the Institute of Noetic Sciences, or the [Radical Remission](#) site by Kelly Turner.<sup>54, 55</sup> These serve the purpose of advancing the science, as well as raising patient, practitioner/professional, and public awareness.

Finally, It may be useful to collaborations with disciplines not typically considered scientific or medical. For example, there may be fruitful collaboration between subtle energy and biofield healing scientists, practitioners and artists in terms of creating imagery and maps of the human biofield generating hypotheses for eventual scientific validation.

## IV.1.B Subtle Energy and Biofield Healing Researcher Network

This project has provided an initial network map and database of subtle energy and biofield researchers and research institutions worldwide. This network should continue to be expanded and documented, and may lead to a formal association of scientific researchers in the domain with associated journal, conventions, etc. The wisdom of creating a formal association remains to be seen, as it may be more effective to create divisions within existing scientific and medical/healthcare associations to avoid positioning limited to the alternative/complementary landscape. In any case, helping to connect and support a diverse and geographically spread network of rigorous researchers, via a collaborative backbone, as well as with services such as fundraising/communications coaching, will go a long way toward fostering meaningful connections and collaborations between biofield researchers.

## IV.1.C Systematic Review and Evidence Map

The evidence base for subtle energy and biofield healing has grown over the past ten years. However, a synthesized understanding of the most promising research directions, as well as which modalities warrant more research for specific clinical conditions is needed. The most recent review of biofield therapies for all conditions is nearly 10 years old, while the last broad review of biofield therapies for pain appeared in 2008. Additionally, in previous reviews, biofield therapies used by energy psychologists (such as Thought Field Therapy (TFT) and Emotional Freedom Technique (EFT)) were not included, and such therapies have gained a substantial number of studies focused on trauma and to some degree, pain.

This report has conducted an initial screening, organization, and “landscape synthesis” of the peer-reviewed research conducted on subtle energy and biofield healing to date. The report indicates that a considerable number of studies on biofield therapies have been conducted. However, an up to date understanding of the impact of biofield therapies on specific clinical outcomes is still needed. There appears to be enough evidence in particular clinical areas of importance (for anxiety and pain, for example) to be synthesized. However, clear systematic reviews and evidence summaries must be provided to influence policy and practice guidelines.

**A credible assessment of the evidence to date requires a formal systematic review and evidence map that utilizes gold-standard methods. This will help to 1) choose informed outcomes, measures and modalities with the greatest potential for success; 2) identify best-bet funding and investment opportunities for biofield science research; 3) guide clinical, funding, and policy decision making; and 4) provide the basis for communication and professional training in evidence-based subtle energy and biofield healing modalities.**

Both an evidence map and a systematic review of biofield therapies will be critical at this juncture. An [evidence map](#) will provide stakeholders and researchers a better understanding of the scope of peer-reviewed research conducted to date, and will help to identify best-bet funding and investment opportunities for biofield science research. A [selective and systematic review](#) critically assessing the quality of peer-reviewed studies and synthesizing results for a specific clinical condition will provide a detailed view of clinical impact that will shape evidence-based practice guidelines and policy decisions.<sup>57</sup>

## IV.1.D Individual Research Studies

There is a need for adequately powered, mixed-method clinical studies examining the effects of biofield therapies on subjective and objective outcomes. We recommend funding promising new research studies in efficacy and effectiveness in high impact areas such as pain, trauma, and cancer. Here is a set of [Prioritized Research Studies](#) from the systems mapping project.

An exemplar individual research study was recently completed by the Institute of Noetic Sciences, under the direction of molecular biologist Garret Yount (see figure below). More studies like this should be conducted, using 1st, 2nd, and 3rd person measures, questionnaires, interviews, surveys, and objective physiological outcomes, measures of potential mechanisms, and attempts to measure environmental indications of the purported subtle energy or biofield.

## IONS Exceptional Healer Pilot Study

This study sought to discover and/or develop objective ways to measure shifts in subtle energy during non-contact healing, explore underlying mechanism(s) of action, and identify practical applications.

In 2019, led by biofield science researcher Garret Yount, PhD, The Institute of Noetic Sciences evaluated a selected set of 17 healing practitioners reputed to have exceptional skills treating human subjects (clients) with pain caused by carpal tunnel syndrome. The study focused on developing a standardized set of subjective and objective measures to explore the effect of these therapies.

Extended human capacities measures included: intuition, remote viewing, time estimation, precognition, and psychokinesis. Biophysical measures included: nerve conduction velocity, heart rate variability, heart rate synchrony (between subject and practitioner), and salivary neutrophils were collected for epigenetic analysis. Environmental measures included potential changes in: water pH, water conductivity, water evanescence, quantum noise, magnetic field, and psychic perceptions.

There was an average decrease in pain score of  $-2.1 \pm 2.2$  (range -9 to +5) from before to immediately after the healing session across all clients. The greatest individual reduction in pain score was -9 and the greatest increase in pain scores +5. There was an average decrease of  $1.2 \pm 2.4$  (range -5 to +9) in worst pain score from before the session to three weeks later across all clients. Using a repeated measures model, reported pain significantly decreased across the three measurement points ( $p < 0.00005$ ). There was no discernible improvement in nerve conduction velocity following healing sessions when averaging all clients as one pooled group.

Overall, the heart rate and heart rate variability changes reflected an increase in parasympathetic activation when receiving an energy healing session. Some of the most encouraging results were found with the analysis of the quantum noise generator data, which showed that over the course of the healing sessions the spacetime metric started out near zero and increased to over 3 sigma ( $p < 0.001$ ) by the end of the healing period. Then, after the healing sessions, the metric reverted back to near zero. The investigators suggest that the healing sessions may have caused “entropic ripples in spacetime.”

Analysis of distilled water directly treated by the healers also revealed encouraging results. The difference in the measure of evanescence between treated and untreated samples was evaluated using a paired t-test that resulted in  $t = 2.191$  ( $p = 0.049$ ). Similarly, the same analysis applied to the distilled water samples held in proximity to the healers as they were healing showed a visually obvious difference at 3200 wavenumbers. The difference at that point is associated with  $t = -3.8$ ,  $p = 0.00016$ . This indicates that the water samples absorbed more infrared after the healing session, suggesting that a property of the H-O bond was influenced, causing the bond to stretch.

## IONS Exceptional Healer Pilot Study (cont.)

The reductions in pain with biofield therapies and provocative results for water and environmental measures supports the collection of multiple outcome measures while studying effective energy medicine practices in the laboratory setting. Results from each measure warrant more in depth analyses to better understand the commonalities and differences in effects and mechanisms of action due to different healing approaches.

### IV.1.E Emulate NIH U01 Collaborative Research Funding Mechanism

In addition to individual research studies, we recommend developing a coordinated research program akin to the National Institutes of Health U01 program. In these initiatives, funding is provided for between eight and sixteen large research groups with perhaps another 8-16 small exploratory grants, that work independently on projects to advance our understanding, but also meet periodically to share methods, measures, challenges, and solutions. This will require a case statement, a set of topics and project areas requesting proposals, skilled reviewers, and skilled program officers to coordinate the overall program. In the clinical domain, the **ORBIT model of behavioral intervention development** may provide a helpful model for subtle energy and biofield therapies.<sup>58</sup> While most subtle energy and biofield modalities are not behavioral in nature, they lend themselves more to a behavioral development model than a drug development model. This overall initiative would become a large-scale, multisite, targeted research program to enhance scientific support for biofield therapies a necessary step for further integration of these therapies into healthcare delivery and policy.

### IV.1.F Best-Bet Topics for Subtle Energy and Biofield Healing Research

There is a need to more deeply investigate the effects of biofield therapies on physiological processes associated with costly and sometimes seemingly “incurable” diseases. There is some evidence from Tier 1 research institutions suggesting that biofield therapies are helpful for cancer patients including **mitigating fatigue, depression and impacting biomarkers in clinical cancer populations**.<sup>11</sup> There is also initial evidence from well-controlled per-clinical (animal) studies at top-tier research universities and hospitals suggesting that biofield healing can reduce cancer tumor size as well as affect **inflammatory markers associated with tumor progression**.<sup>19, 20</sup> However, the number of studies is minimal and currently, governmental and philanthropic funding for these studies is relatively non-existent. This makes it difficult to determine both the robustness and extent of effects, as well as more deeply understand the “biofield physiology mechanisms” by which these healing approaches are affecting tumor progression at the cellular level.

In addition, the field may benefit from focusing on clinical studies on unmet needs and treatment-resistant conditions. It may be useful to target areas where current approaches are either costly in terms of quality of life or dollars, simply lacking, or fit the “anything goes” category such as end-of-life or “incurable” illness (a fruitful approach taken in the early stages of the revival of FDA approved psychedelic research in the 1990’s and early 2000’s, which has now resulted in approvals for more common conditions). Another opportunity may lie in examination of biofield approaches to diagnosis (e.g., medical intuition) for populations where conventional medical diagnosis is costly, invasive, unreliable until too late in disease progression, or other unmet needs.

It is also important to note that the science of subtle energy and biofield healing will likely require the development of new research methods, tools, protocols, and statistical models that go beyond the randomized controlled trial, but remain rigorous (or even exceed the RCT in terms of scientific merit and academic rigor). Studies emulating conventional drug trials is likely not the ideal method for studying the nature and effectiveness of subtle energy and biofield healing. The field is challenged to innovate new, and even more rigorous methods of determining to what degree these modalities warrant inclusion into mainstream healthcare.

Based on our assessment of current evidence and biofield healing practitioners’ accounts, prioritized areas of study include pain, trauma, and “mystery illnesses” of a somatic nature that have not been adequately addressed by allopathic medicine (these include highly prevalent population symptoms, such as stress, stress-related illnesses, and fatigue).

Our initial mapping of key researchers, laboratory resources, and promising research directions has yielded a grid of recommended investigators and research areas across the US and abroad who are poised to carry out successful studies in biofield science, including investigating biofield therapies and devices. Studies include those with clinical and practical application, as well as studies exploring biological and mechanistic processes. [A list of prioritized studies can be found here.](#)

## Sample projects include:

### **Systematic Review of Biofield Therapies for Pain**

- A published systematic review of biofield therapies on acute and chronic pain will guide research directions, identify promising measures and methods, and support recommendations for implementation of biofield therapies for pain patients.
- Principal Investigator(s): Dr. Richard Hammerschlag, Dr. Shamini Jain, and Cindy Crawford
- Research Centers/Universities: Cochrane Collaboration (Dr. Susan Weiland), Consciousness and Healing Initiative and Oregon College of Oriental Medicine (Dr. Hammerschlag); Consortium for Health and Military Performance Uniformed Services University (Cindy Crawford); Institute of Noetic Sciences (Dr. Helane Wahbeh), Wake Forest University (Dr. Remy Coeytaux), UC San Diego (Dr. Jain)
- Population/Targets: Pain populations
- Primary Outcome: Pain
- Focus Area: Healthcare integration

## Sample projects include:

### **Biofield Therapy on Cancer Tumor Progression**

Test the hypothesis that medical intuition can identify cardiac, pulmonary, or gastrointestinal disorders.

- Principal Investigator(s): Dr. Lorenzo Cohen
- Research Center/University: MD Anderson Cancer Center
- Population/Targets: Cancer
- Primary Outcome: Biological markers of tumor progression
- Focus Area: Healthcare integration,

### **Medical Intuition**

Test the hypothesis that medical intuition can identify cardiac, pulmonary, or gastrointestinal disorders.

- Principal Investigator(s): Dr. Paul J. Mills and Wendie Colter
- Research Center/University: UC San Diego
- Population/Targets: GI, Cardiovascular, Pulmonary
- Primary Outcome: Determination
- Focus Area: Mechanism/Healthcare integration

### **Biofield Therapy for Chronic Back Pain in Veterans**

Test the hypothesis that biofield therapies can improve lower back pain and post-traumatic stress in veterans, and potentially reduce opioid abuse

- Principal Investigator(s): Dr. Remy Coeytaux
- Research Center/University: Wake Forest University
- Population/Targets: Veterans
- Primary Outcome: Pain and Traumatic Stress
- Focus Area: mixed-methods research, clinical effectiveness

A more detailed set of recommendations can be found in the accompanying [Plan for Subtle Energy and Biofield Science and Healing Systems Change](#).

## IV.2 Future Directions in Subtle Energy and Biofield Healing Practice

A group of leading biofield healing practitioners from both indigenous cultures and traditions, as well as more modern approaches, has shared enthusiasm for collaboration to meet common goals including licensure, policy integration, education, research and technology. We suggest aligning practitioners who are specifically interested in projects that will move the field forward, including but not limited to:

- Engaging with scientists and other stakeholders to create a healing taxonomy and communication strategy for stakeholders and the public
- Engaging with other healers as well as scientists, to compare and communicate methods used for healing trauma and pain – this will inform future research as well as provide public education
- Contributing to a comprehensive database of healer training programs worldwide, and help form accurate estimate of healing practitioners in the US and worldwide
- Exploring and co-creating healer certification programs as well as informing policy decisions regarding healthcare integration
- Co-creating a healer search and recommendation engine

We expect the workforce and market share for biofield healing to increase along with significant upward trends seen in the wellness market (currently estimated at \$4.2 trillion based on 2017 figures).<sup>59</sup> Significant market share and impact may also be gained via public education and connection platforms, as well as through biofield devices, many of which are already in market. The biofield healing workforce, market and impact is poised to grow in a manner similar to that already seen in the mindfulness industry, provided that the necessary steps in communication, research, biofield device validation, and education are carried forth.

## IV.3 Future Directions in Subtle Energy and Biofield Healing Communications

Representatives from the policy, practitioner, education, community and research domains noted that one of the main barriers to advancing the field is lack of ability to communicate effectively and coherently about subtle energy and biofield science and healing. Emerging from our research was a strong need for a strategic and coordinated approach to communicating to the public about subtle energy and biofield healing and science.

Stakeholders emphasized that to advocate for integrating subtle energy and biofield approaches into their respective domains, they need to be better able to communicate the nature and impact of the biofield on health. Particularly in the domains of policy and education, our respondents suggested that providing direct experiences with subtle energy and biofield therapies to key influencers would also help in helping these influencers better understand the impact of such therapies and their unique. Stakeholders also agreed that it would be highly beneficial to educate the public on the nature and evidence base of biofield approaches- both to better augment self-care practices and to increase patient demand of evidence-based biofield therapies in their healthcare settings.

Specifically, stakeholders emphasized an immediate need to create/receive the following:

- Clear lay-friendly language to share with legislators, clinical administrators and those in medical leadership organizations about what the biofield/subtle energy is, how biofield therapies work, and what the evidence to date says about their effects;
- Creation and dissemination of both scientific and lay summaries of the evidence for subtle energy and biofield therapies;
- Domain leader and working group collaboration and agreement on terms to describe subtle energies and the biofield, and subtle energy/biofield therapies and technologies for stakeholders in varied domains;
- Consensus language to be used by practitioners for explaining the processes of healing as well as the nature of the biofield in healing, for the public;
- Scientific discussion papers that attempt to bridge the materialist-non materialist divide (a key divide that has hindered the study of biofield therapies in mainstream science and medicine) by posing a “middle ground” view (such as emergentism) - in an effort to open the conversation and consideration of evidence behind biofield therapies.
- Development of a communication strategy with seasoned PR firm who is well-versed in areas of consciousness science and integrative medicine;
- Identification and recruitment of the best key influencers to deliver the message across a variety of archetypes and domains (e.g. business, science, clinician, householder)

Our stakeholders report encountering that taboo/stigma exist within the scientific, academic, and medical community hold toward subtle energy healing and biofield science. Scientists face biases in funding decisions, where projects are not evaluated on the basis of their merit or preliminary data, but rejected solely because of the topic being studied. The peer review process for publications contains similar bias, and at times, even when reviewers recommend publication, editorial staff may reject or even retract articles on subtle energies and biofields, again due to the topic being controversial. Public relations on the topic are closely monitored by skeptics: as an example, attempts to edit [this Wikipedia page on Energy Medicine](#) with more up to date information have been thwarted, with edits disappeared shortly after being posted. Approval for continuing education credits for licensed healthcare professionals continuing education workshops have been withdrawn or removed, despite content being backed by peer-reviewed evidence. Most recently, [some have suggested](#) that Google and other social media platforms such as Facebook have changed their algorithms in a manner that [effectively buries many integrative and alternative health sites](#).<sup>60, 61</sup>

While some of these actions are clearly biased and irrational, the field as a whole (and for that matter, alternative, complementary and integrative medicine) must take responsibility for some of this climate. The field is unfortunately rife with overstated conclusions from less than rigorous studies, unsubstantiated claims of subtle energy and biofield practitioners, and confusing anecdotes and correlations with evidence and causation. The opportunity that presents itself is to 1) work to differentiate the field from, and to actively discourage, fraudulent or exploitive claims, 2) strengthen the scientific “arm” of the overall subtle energy and biofield community, and 3) develop a cohesive communication effort that unites stakeholders in integrative and “alternative” medicine. There is a need to both 1) accurately describe the state of the evidence; 2) engage in rigorous theoretical work on the underlying ontology/frameworks that underlie these therapies (beyond symptom reduction and pathogenesis); and c) utilize concepts including the biofield and salutogenesis to explain the effects of not only subtle energy healing practices, but integrative medicine (IM) modalities as a whole. This could help to unite stakeholders in the IM field around a need for communication strategies, and release biofield therapies from marginalized status to helping provide valued frameworks that are useful to the IM community.

Finally, some stakeholders emphasized the need to improve the rigor and discernment of communications in our own field. Training scientists and practitioners to make clear distinctions between when they are talking about theory vs. evidence, learning to avoid over promises and claims, learning about their own cultural or religious biases and how that could impact their scientific or clinical objectivity, and speaking in clear and jargon-free language could be very helpful to the overall field.

## IV.4 Future Directions in Subtle Energy and Biofield Healing Devices and Technology

A large number and variety of biofield devices are now marketed to the public. Many of these devices deliver electric currents, electromagnetic fields, pulsations of light and sound, purported subtle energies, etc., which the scientific evidence suggests can have both beneficial and negative impacts on health and wellbeing. However, the substantial majority of devices summarized in the Biofield Devices Database are not supported by peer-reviewed scientific evidence and have not been assessed for safety and efficacy by the FDA or other regulatory authorities. Manufacturers' claims, which are often anecdotal, unproven or pseudoscientific, are the dominant, and often only, sources of information available to the public about particular devices.

As a result, the public currently has few sources of reliable scientifically validated information regarding the safety, efficacy and appropriate uses for devices. A clear need thus exists for the impartial evaluation of biofield devices, coupled with a means for making this information readily available to the public.

Further, to reiterate one of the lessons learned from the Research and Device databases: to date, no technology has been confirmed to directly measure subtle energy. While biological fields such as biophoton emissions, bioelectric activity, etc., can be measured, their relevance to healing is not well-understood. A number of devices for purported to measure subtle energies or biofields have been suggested by the manufacturers listed in the Biofield Devices Database, yet these remain inadequately validated. Validated maps of human biofields will encourage further research and are a necessary step towards a broader public understanding of biofield science.

Thus, developing meaningful, validated measures of subtle energies and biofields is of the highest scientific priority at this time. A comprehensive means of measuring biofields is needed, and work is needed to fill gaps in present knowledge (e.g., assessment of device claims, contraindications, risks, long-term device usage, etc.).

To begin this effort, we recommend that the most promising device technologies and scientific methods listed in the Research and Devices Databases be identified by consensus by a selected group of experts. In order to provide a transdisciplinary perspective on device technologies and biofield mapping, we recommend that biofield healing practitioners and healing practitioners who are experienced using devices be included in this group. This will make it possible to draw connections between device measures and the first-person perceptions of healers and clairvoyants, and to integrate these into a unified model for subtle energies and biofields.

We recommend convening biofield “mapping” and technology working groups of technical experts and healers to:

- Identify “state of the art” technologies for biofield mapping (e.g., electromagnetic fields, biophotonics, infrared imaging, acupuncture meridian system analyses, near infrared spectroscopy, fMRI, electrophysiology (EEG/HRV/GSR), etc.)
- Create images of biofields informed by both healer/clairvoyant and device/sensor methods. Focus on changes in human biofield during healing sessions, health, stressed conditions, and disease states. Gather biomarkers for mechanisms.
- Identify and seed studies on therapeutic technologies with greatest promise for further study, e.g., devices for pain in an elderly population.
- Seed validation studies on key technologies claiming to measure or modify the biofield.
- Develop 5-year plan for a tech development and device testing collaborative.
- Establish an X Prize/Moonshot program to engineer a realtime sensor which measures the biofield, like the recent Qualcomm Tricorder XPrize, but for a Biofield Tricorder.

## IV.5 Future Directions in Subtle Energy and Biofield Healing Education, Training and Certification

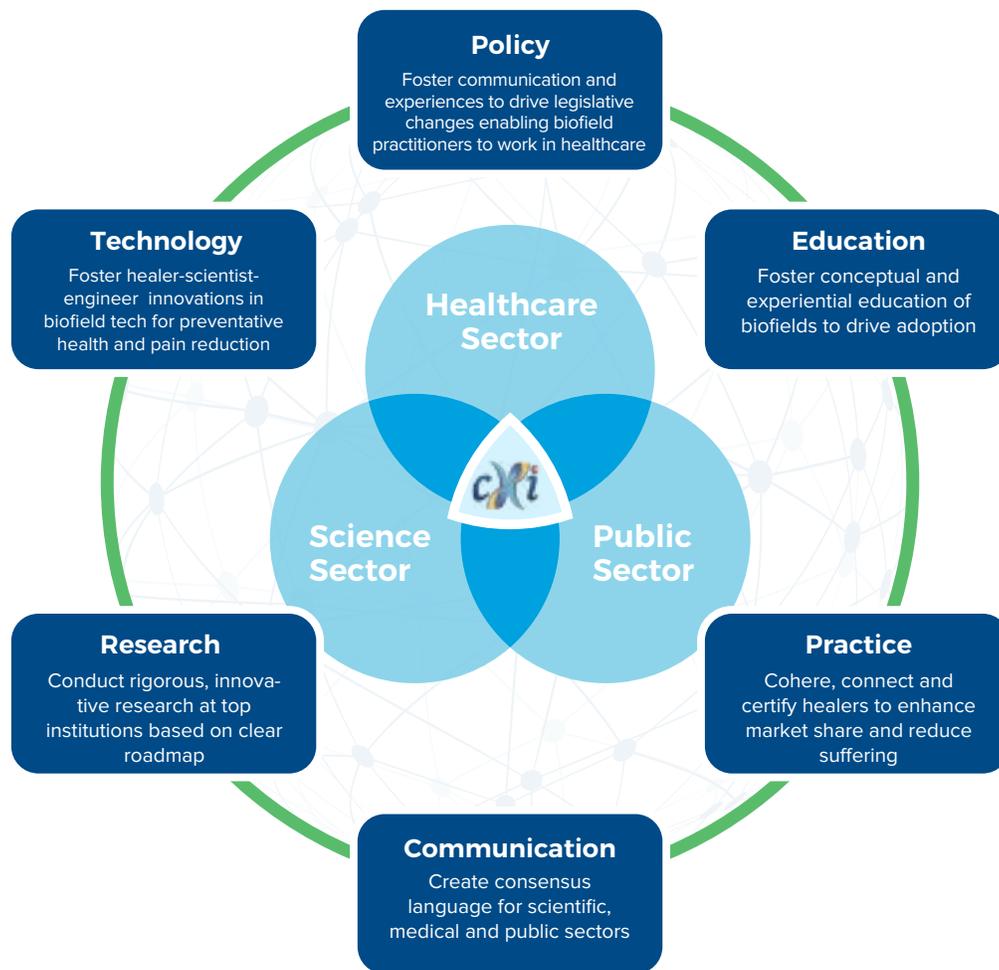
In order to realize the power inherent in the subtle energy and biofield healing practitioner workforce, practitioners would benefit from aligning under an umbrella organization that provides clear certification across modalities and therefore can help drive legislative efforts toward adoption of biofield practitioners into healthcare sectors. Dr. Melinda Connor has been working hard at these efforts and has established a new organization called the National Association of Energy Practitioners (NAEP). This nascent organization needs initial support in terms of messaging, communication with policy and research stakeholders, and internal analysis and classification of healing domains to achieve its aims. In addition, leading stakeholders (such as Dr. Leonard Wisneski and Dr. Lissa Rankin) are attempting to bring together energy healing and biofield healing practitioners grounded in indigenous, spiritual and religious traditions for helping understand the impact of healing on trauma and pain. Opportunities exist to connect these people and groups for larger understanding and collective impact.

- In academia, there are multiple opportunities to increase subtle energy and biofield science and healing education. To overcome taboos and knee-jerk discrediting, strategies might include:
- Fund Fulbright scholarship/tenured chairs at universities
- Provide small grants for thesis and dissertation work
- Author a definitive/foundational textbook
- Develop and provide course curricula for graduate programs for healthcare professionals

## IV.6 Building the Collaborative Framework for Systems Change

A key finding of this Systems Mapping project was confirmation of the need to connect, cohere and synergize efforts across domains in the subtle energies and biofield science and healing sector. Recommendations that emerged from one domain were echoed in other domains, and many needs expressed from one domain could be addressed with help from other domains.

A comprehensive approach to advancing the understanding and application of subtle energy and biofield healing would ideally spring from coordinated collaboration among the following domains:



## IV.6.1 The Consciousness and Healing Initiative: A Collaborative Accelerator

A collaborative backbone/hub is essential to foster communication and collaboration amongst scientific researchers, healing practitioners, and stakeholder organizations globally. Because domain leaders and representatives need regular opportunities and reliable methods to communicate, we (the authors of this report) created a “collaborative accelerator” called the Consciousness and Healing Initiative (CHI). Inspired by the collaborative backbone approach, CHI exists to evolve the scientific understanding and real-world application of consciousness and healing practices, so that individuals and societies are empowered with the knowledge and tools to ignite their healing.<sup>62</sup> CHI facilitates communication and engagement between organizations to increase the impact and global understanding of consciousness and healing, including the role of subtle energy and the biofield in healing.

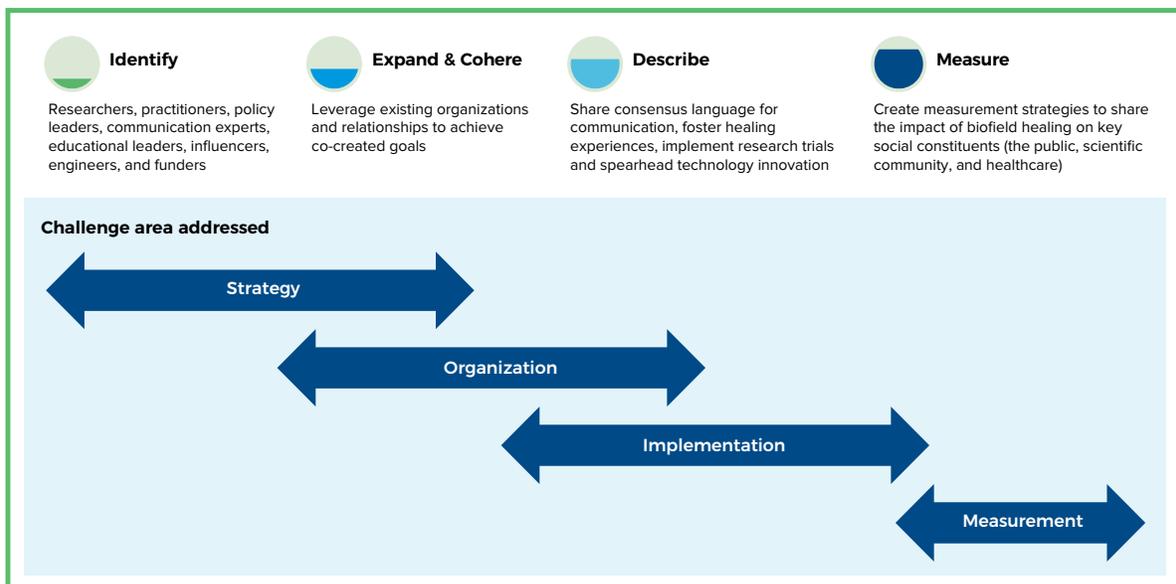
There is also a need to continue to expand the network and its assets, and continue to identify key players (funders, influencers, and research institutions) whose involvement is required for the success of the endeavor. Assets, including researchers, healing practitioners, and organizations, need input and buy-in secured for a clear plan of action. Cultivating this network is crucial to a coherent and collaborative research agenda and further integration of evidence-based subtle energy and biofield science and healing into the mainstream.

Our recommendation is to now establish a Subtle Energy and Biofield Science and Healing Coalition: a transdisciplinary alliance of individuals, groups and organizations representing each of these domains that would work together to foster ongoing communication and collaboration, collectively mobilize funding, and collectively implement the systems change recommendations, by both personal and organization efforts, as well as supporting each other's endeavors toward this systems change.

Specific next steps for creating the Coalition include:

- Creating an infrastructure (including regular teleconference, project management systems and in person gatherings) to foster consistent communication to synergize efforts in multiple domains, including policy, practitioner, research, technology, healthcare integration, communication, and education;
- Continuing to assess capacity and resources needed for domain leaders, aid domain leaders in key areas needed to move forward;
- Expanding the network of subtle energy and biofield researchers, practitioners and organizations worldwide.

Our strategy would be move systematically through identification and engagement of key stakeholders to implementation and measurement of impact. The figure below provides an example of how such a process would be executed:



Such an approach is associated with challenges, risks, and opportunities. The table below describes these:

## Collaborative Approach Challenges and Opportunities

	Challenge	Risk	Opportunities
<b>Strategy</b>	Aligning a disparate group of stakeholders to formulate and execute a cohesive consensus strategy in biofield practice, science, policy, technology and education	Possibilities of driving narrow agendas without properly listening to key stakeholders; possibilities of splintered efforts that do not synergize for effective systems change	Creating a new understanding and practice of medicine that leverages the talents of the biofield practitioner workforce and foster key innovations in science and technology; markedly reduce human suffering
<b>Organization</b>	Establishing key clear roles for domain leaders that allow for multiple points of view to be heard and remain effective	Alienation of key constituents, misunderstandings of collaborative goals and strategies, lack of clear leadership roles	Collaborative backbone that effectively leverages resources and opportunities across domains to foster systems change
<b>Implementation</b>	Implementing key activities across multiple domains requires significant time, effort, and talent	Poorly implemented strategies may cause backfires in collaborative goals and drastically reduce impact	Clear and effective implementation of collaborative strategies will catapult impact in all sectors
<b>Measurement</b>	Identifying the correct indicators that are meaningful across a variety of domains that speak to financial, healthcare, scientific and social impact	Poorly defined measurement prohibits clear understanding of impact of biofield market on health, science and public sectors	Proper measurement conveys the significance of synergistic biofield healing and science efforts in reducing human suffering and galvanizing new markets

### IV.6.2 Increase Funding and Investment

Lack of funding is one of the key barriers to advancing the science and practice of subtle energy and biofield healing. Comprehensive, synergistic and collaborative funding strategies in both for profit and non-profit sectors are needed. Long-term, just like with other major scientific and translational efforts, there will be a need to integrate philanthropy, venture capital funding, and government and corporate support to move the needle.

In short, implementing any part of this plan requires funding. To this end, the funders of this report are creating a **Subtle Energy and Biofield Funding Collaborative**, to encourage the interest of individuals and foundations who might not only feel more comfortable providing funds if joining with others to do so, but would get more impact leverage by combining their funds with others. Collaborative, larger scale funding will move the field beyond small, incremental grants and underpowered projects which are well-intentioned, but also an Achilles heel for the field. The funding collaborative will utilize the **systems change approach** to invest in impact-driven activities.<sup>63</sup> Emulating funding strategies such as the U01 Collaborative Research mechanism at NIH may be useful, in which funders act as allies of biofield scientists, and also offer useful strategic, pacing and accountability support from their expertise in the start-up and entrepreneurial world.

Experience from the Mind and Life Institute, Fetzer Institute, Templeton Foundation broad-reaching field formation initiatives in the fields of Awe, Gratitude, and Spiritual Transformation, and U01 groups demonstrates that beyond just funding the work, such a collaborative funding mechanism can serve to unify researchers toward a common cause.

### IV.6.3 Plan for Subtle Energy and Biofield Science and Healing Systems Change

To encourage such funding, we have developed a Plan for Subtle Energy and Biofield Science and Healing Systems Change to accompany this report. Informed by this report, previous research, and the larger community, it includes a strategy for advancing the field of subtle energy and biofield science and healing, and a specific set of key projects in each domain. The goal is a persuasive and well-informed large-scale agenda ready to share with partnering funders/foundations/government agencies. Some of these recommended projects have associated groups who are already, or who are interested in, completing the work. Others are projects that could be funded through a request for proposals (RFP) from interested groups. The purpose of this funding plan is to demonstrate an integrated, comprehensive, and strategic “well thought out” approach that would be supported by existing funders and excite matching funds from others. Our perception is that many may have been interested in supporting projects in this domain but have shied away from contributing because they were at a loss regarding what to fund or accurately perceived the field as being somewhat scattershot.

## V DISCUSSION AND CONCLUSION

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This report is a snapshot in time and will begin to become outdated as soon as it is printed and posted online. However, every Systems Change effort requires moments where those involved step back, take an honest look at the state of the field, assess whether continuing to advance a new field is warranted, and outline next steps. This has been our attempt to do so, and while we interviewed, surveyed, and reviewed the work of many colleagues and stakeholders from multiple domains, we have not thoroughly reviewed the work of dozens more. We recognize this limitation, and would be happy to [hear from you](#) if you'd like to be included in future work, or have feedback.<sup>64</sup>

This report captures a moment in time. Nevertheless, we intend to continue to expand the databases of [research groups, healing practitioner organizations](#), and [peer-reviewed publications](#) as well as update the landscape with clinical studies. Additionally, we intend to use this report as a roadmap to guide our future efforts, we are taking an open-source approach, and hope others will use it to guide their work, strategic planning, and funding priorities as well. In addition, the accompanying *Funding Plan for Subtle Energy and Biofield Science and Healing* is a living document that we fully intend to be dynamic - revised and course-corrected periodically.

We are dedicated to exploring the viability, understanding and measurability of the biofield in an unbiased manner. We also recognize that biofield science is an area of inquiry that may or may not be able to be understood or explained 100% via the scientific method. It remains to be seen whether subtle energy and biofield healing phenomena will eventually be amenable to integration into the mainstream scientific and healthcare domains. It is possible that subtle energies and biofields are no more than a way of framing mind-body, expectancy-based (placebo) effects. It is also possible that these subjectively reported effects are ontologically real, but are nonphysical, idiosyncratic, unpredictable, and capricious and more suitable for application in religious/spiritual settings, and more amenable to an anthropological research approach.

We would not have engaged in this project or made recommendations for next steps if we did not propose/hypothesize that there is enough promise in the anecdotal reports, case examples, qualitative literature, quasi-experimental, case-control, and randomized controlled trials to date to warrant serious scientific attention. We anticipate that some biofield modalities have enough evidence to be integrated into clinical practice, especially for anxiety, pain, trauma, and treatment-resistant illnesses.

We live in a time of needless suffering. This truth is reflected by our current healthcare system's failure to address suffering from chronic ailments such as pain, depression, heart disease, cancer and other treatable medical conditions. The failure to address poor mental and physical health has led to both a diminished lifespan and quality of life, in addition to financially burdening society. Preventable diseases have in some cases been made worse through an attachment to materialistic medicine, which views life mechanistically, and thus is prone to providing chemical and surgical solutions. This materialist model of medicine forces the erroneous belief that patients can do nothing to alleviate their suffering except to seek medicine outside of themselves - rendering them feeling powerless to take charge of their health and wellbeing.

This over-attachment to materialist medicine and the problems it has fostered, have been noted by mainstream healthcare organizations, who are now recommending non-pharmacological treatments for ailments such as pain, in attempts to curb damage that has already been done with opioids as first-line treatments.

This attachment to materialist medicine is not in line with current data in psychoneuroimmunology, mind-body health, and placebo research, which all point to the latent power of consciousness on the healing process. However, to date, holistic forms of healing and spiritual practices such as yoga, meditation, acupuncture and more, have been relegated to materialist-based perceptions, resulting in materialist-guided science, and never fully addressing the question of consciousness itself in guiding the healing process. “Mechanisms” have been relegated to brain process, and actual healing occurrences are conjectured to be “spontaneous remissions” or “placebo”, with no clear scientific explanation that can explain these frequent experiences of healing, nor create a system to replicate them.

In contrast, for millennia ancient healing traditions have been based upon whole-person approaches to restoring and maintaining health that recognize the role of spiritual practices for enhancing the body’s innate ability to heal. Indigenous healing traditions are often based upon concepts of subtle energy systems comprised of living energies (e.g., Qi, Prana, the acupuncture meridian system, etc.), where mind, body and spirit all contribute to health and healing.

Key to the future of healing is expanding our models of salutogenesis (the processes that create health). We can look both to the past and the future to do so. Biofield Science and Healing is a growing field of inquiry among scientists worldwide; this reflects both a scientific and practical model of examining fields of energy and information that guide our health. Biofield Science and Healing oriented disciplines examine how fields of energy and information might impact the healing process and whether they may provide the “missing link” to help explain the role of consciousness on the healing process.

Biofield Science is emerging as the next step forward from an overemphasis on chemistry-based biology and medicine. This paradigm, which integrates scientific investigation of indigenous-based subtle energy healing practices as well as modern research investigation of the impact of weak electromagnetic fields on biological processes and health, describes life in terms of biological fields, or biofields: fields of energy, information and consciousness. Biofield Science provides a necessary framework for a deeper understanding of systems biology, mind-body practices, and the diversity of healing therapies in widespread use today. From the biofield perspective, healing can be seen as fostering our innate ability to return to a state of wholeness and wellbeing, through bridging consciousness with the healing process.

Scientific study demonstrating the effectiveness of subtle energy-based practices such as acupuncture, qigong and others is contributing to widespread clinical adoption and acceptance of these healing methods. And as more is understood about the nature of healing and salutogenesis, the innate ability of the whole self (body, mind, and soul) for sustaining and returning to health, a new scientific paradigm for medicine is emerging. Nevertheless, research on subtle energy-based practices has primarily been conducted within a materialist-based scientific and healthcare paradigm that examines these practices for symptom reduction and brain changes, rather than seeking to more deeply understand the role of subtle energy on igniting the innate healing system.

Despite the barriers, the potential payoffs to society are enormous. The promise of engaging in a collaborative systems change endeavor in the arena of subtle energy and biofield healing includes:

- Profoundly decreasing human suffering from pain and related mental health issues for billions of people worldwide through utilizing biofield based therapies as well as biofield based self-care;
- Dramatically reducing health care costs and improving quality of life for pain patients and those suffering from trauma-related illnesses;
- Development of biofield technologies that lead to early detection and prevention of disease;
- Development of biofield technologies that can assist in treating persistent symptoms or illness without side effects of current approaches;
- A coherent, robust network of healing practitioners that will realize its full potential in contributions to society as well as the wellness economy;
- A new paradigm in science and medicine that recognizes the role of consciousness and the biofield in driving biological processes, as well as fostering whole-person health across biopsychosociospiritual dimensions; and
- An empowered human society that is awake to their tremendous healing capacity and utilizing biofield-based approaches to enhance their wellness as well as greater societal harmony.

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## VI APPENDICES

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Mendeley Research Database

Research Database Search String/Rulebook

Mendeley Clinical Research Database (Public Database)

Clinical Research Graphic

Mendeley Report Citation Database

Researcher Database

Research Organization Database

Healer Organization Database

Subtle Energy Technology Database

Biofield Healing Practitioner, Researcher, and Stakeholder Interviews

Researcher Survey

Researcher Survey Responses

Healer Survey

Healer Survey responses

Allies & Stakeholders Database

List of Prioritized Research Studies

July 17 Systems Mapping for Healing Evolution Meeting Summary

July 17 Systems Mapping for Healing Evolution Meeting Breakout Group Results

Funding Plan for Advancing Subtle Energy and Biofield Science and Healing

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