

INVESTIGATING THE IMPACT OF OPTIMAL HEALING ENVIRONMENTS

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The American healthcare system continues in a crisis mode.¹ For over a decade, there have been multiple attempts to transform the manner by which patients select their clinician, the nature of the contact between clinician and patient, the utilization of inpatient versus outpatient services and reimbursement for the care. In the main, these attempts have not improved patient satisfaction, have left physicians and nurses feeling disenfranchised and have failed to contain escalating costs reflected in the increasing percentage of the nation's gross domestic product.²

In parallel, there has been an increasing emphasis and funding of research to eliminate disease by manipulation of cellular and molecular pathogenesis and through professional sub-specialization. The former has occurred primarily from advances in the technology of science and a dominant focus on discovering physical causes for disease. As a result, the public's health in industrialized countries has markedly improved, particularly in areas where treatment of the disease can be applied to a clear, identified physical or material cause. Examples include infectious disease (vaccines, antibiotics, water sterilization), surgical management of trauma and physical disabilities (anesthesia, sterile methods, surgical

instruments) and the chemical modification of cell and body function (nutritional fortification of foods, drug treatments).

Today, the incidences of many diseases that plagued our ancestors have largely diminished, and we are living longer and more functional lives. The more prominent illnesses in Western developed countries now are chronic conditions reflective of aging populations.^{3,4} While modern medicine succeeds dramatically in the areas just described, it can also fail dramatically in the management of chronic illness treatment of the whole person.⁵

One consequence of the rise of scientific, technologic and economic forces in Western medicine is a diminished focus on the role of healing in the everyday therapeutic relationship between practitioner and patient. The concept of pathogenesis [how disease occurs] underlies today's curative medicine, while less attention is paid to the concept of salutogenesis [processes of healing].^{6,7} However, many major chronic diseases can be prevented and sometimes treated by enhancing a person's inherent and often remarkable capacity to heal and recover.⁸ We believe healing is a core mission of healthcare in general, of primary care in particular, and thus is an essential element in need of renewed emphasis.² We propose that our current system of medicine be examined and investigated with the goal of identifying the components that enhance healing processes.

In this paper, we examine the history of healing in medicine, list and define the components of healing and call for a purposeful investment in clinical research to measure both the clinical and economic impacts of an optimal healing environment.⁹ By "environment" we mean not just the physical space surrounding the individual patient, but the psychological and cultural environment in which patient, provider and healthcare team operate. This optimal healing environment would take full advantage of the advances in science and technology while restoring the ancient traditions of healing to the therapeutic alliance and in healthcare delivery.

HEALING IN HISTORY

Healing is a dynamic process of recovery, repair, restoration and transformation of the mind, body and soul on the path to becoming more whole.^{10,11} Healing occurs at many levels of the human system—mental, physical, emotional and spiritual.¹⁰ Prior to the advent of scientific medicine, the act of healing was the primary approach to disease and illness. Thus, the enhancement of

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healing is not new. Rather, it has been one of the central quests of humans since the beginning of our species.

All cultures have special rituals, techniques and preparations directed toward the support and stimulation of healing. Many ancient medical systems consider spiritual, energetic and physical forces as integral to illness and healing. For example, Native American Medicine uses specific rituals and altered states of consciousness to enter, manipulate or remove spiritual forces thought to be the cause of many illnesses and restore beauty to the individual and their group.^{9,12} Traditional Chinese Medicine is based on the concept "qi", often translated as "life energy", or "bioenergy", and is considered the life force responsible for health, illness and recovery.¹³ Ayurveda, the ancient medicine of Indian cultures, describes a "universal consciousness" that if properly entered through meditation and intention restores order and health to the dysfunctional person and society.¹⁴

Healing also has been a fundamental component of Western medicine. The Hippocratic school of medicine in ancient Greece considered several approaches to the treatment of disease. These included removal of primary causes to supporting natural recovery capacities (hygea) as integral to a physician's duty.¹⁵ The images of Florence Nightingale as the nurturing and caring nurse-healer and paintings such as Norman Rockwell's general practitioner capture the elements of empathy, compassion, warmth, trust, credibility, and respect that are felt to be essential to healing of mind, body and spirit in the West.¹⁶ Arthur Kleinman's classic studies of how and why healers from different cultures are often so successful illustrate the importance of meaning, context and environment for the delivery of effective healing.¹⁷ Studies of the context and manner in which treatments are delivered illustrate that Kleinman's meaning and context effects remain important in modern times and in Western medicine.^{12,18,19}

CENTRAL FACTORS OF HEALING

Lifestyle and behavioral medicine offer the most obvious and frequently studied contribution to enhanced healing. It is now well established that health supporting behaviors can both prevent and help reverse chronic disease.²⁰ Low-fat, high-fiber, high fruit and vegetable, whole-food diets are associated with lower incidences of cardiovascular disease, cancer, hypertension, diabetes, stroke, obesity and other conditions.²¹ Regular aerobic exercise has salutary effects on these and other conditions including improved mental and physical health.²² The regular use of mind-body medicine interventions or self care practices such as relaxation and stress management techniques, and the pursuit of creative outlets, are also important for maintaining health and well-being.²³

Healing relationships, social support, and spiritual and religious practices are a second important component of healing. Deep self-disclosure to another person, either in a medical, religious or social context can induce profound preventive and recuperative processes.^{24,25} These healing relationships have at least three dimensions. One, social connectivity provided by family, friends and colleagues is consistently and directly related to mortality, morbidity and recovery.²⁶⁻²⁹ Participation in either personal

or collective spiritual or religious practices is associated with improved mental and physical health outcomes.^{30,31} Finally, the doctor and nurse-patient relationship (the therapeutic alliance) is an important component of healing in healthcare settings.³² The perceived quality of the clinical encounter has been shown to contribute to patient satisfaction and even improved outcomes.³³ The therapeutic relationship is also the primary avenue through which components of optimal healing can be orchestrated and delivered.

Both individual and collective intention and mental attitude contribute to healing and well-being. There is increasing evidence from research in mind-body medicine that consciousness, in the form of belief, expectation and intention plays a central role in healing.²³ A person's self-perception of health is a major correlate of future health.²⁸ Hardiness, a type of self-perception, is a mental state of commitment, coherence and control that enhances resilience to both social and physical stresses.³⁴ Practices such as mindfulness, yoga and transcendental meditation contribute to improved health, function and well-being.^{35,36} Mental control of specific physical functions with methods such as biofeedback, conditioning and other techniques demonstrate our ability to enhance and control self-healing capacities. The breadth of such capacity has been explored in placebo research where expectation and the role of the meaning and context of therapy is profound and widespread, affecting almost every major condition known to humanity.^{12,37,38,39}

Given the value and merit of healing, the essential question is: How can we increase the prominence of healing in our current healthcare system? Any such renewed emphasis on healing should not be a romantic regression to a medicine of yesterday. In modern science, evidence-based information and telemedicine technologies can give us new insight into the core components of healing and how to create optimal healing environments.⁴⁰ These insights must be derived from research on the impact of social relationships and spirituality on health, on the role of lifestyle and environmental factors, on factors in consciousness, intention and self-perception, and on how these factors control adaptive and repair mechanisms in cellular and molecular biology and on whole persons. In addition, research on mind-body interactions, the mechanism of action of the placebo effect, and purposeful investigation of healing elements in complementary and alternative medical systems can all contribute to our understanding of healing and its role in our healthcare system.

INVESTIGATING THE IMPACT OF HEALING

In the United States, holistic healing practices, indigenous medical systems, and alternative forms of medicine have been relegated to the periphery of modern, scientifically oriented medicine. This has included any form of healthcare, modern or ancient, that rests on a vitalistic or "energy" based philosophy and approach.^{41,42} Yet, these practices are used widely in the world and increasingly used in the West.⁴³ Patients and the public find them attractive precisely because they offer approaches that emphasize self-healing with their concomitant increase in individualized, holistic, and high-touch care, and their potential for reduction in side effects, medical dependence and cost.⁴⁴⁻⁴⁶ In addition, scientific data from

research on vitalistic traditions is beginning to emerge. Evidence of efficacy for medical practices that stimulate healing such as homeopathy,⁴⁷ acupuncture,⁴⁸ and energy medicine⁴⁹ are gradually accumulating. Interestingly, the scientific investigation of these systems is converging with modern concepts in biology such as complexity, chaos and self-organization in living systems.⁵⁰⁻⁵²

There is a science pertinent to healing processes. In 1987, Antovofsky used the term "salutogenesis" to describe the process of healing that strives toward human growth and development.⁷ We think it should be used more broadly to refer to this science. The term serves as an important comparison and contrast to "pathogenesis", the processes by which disease is generated. Modern science is already laying the foundation for understanding salutogenesis, but urgent development and expansion is needed in face of the joint epidemics of chronic illness, emergent infections and rising healthcare costs.⁴ New models for dealing with whole system complexity in genetics,⁵³ cell biology,⁵⁴ immunology,^{53,55,56} epidemiology,^{57,58} cardiology,^{59,60} nursing,⁶¹ psychiatry,⁶² and neuroscience,^{63,64} are helping us develop a scientific basis for understanding the biology of healing. Data emanating from molecular and cellular biology reveal the complex and redundant nature of repair and recovery.^{53,54} For example, stress proteins are a complex system of cellular protection and repair responsive to multiple toxins and environmental stressors.⁶⁵ DNA repair is a redundant process with factors essential to organism survival and reproduction.⁶⁶

The principles of evidence-based medicine require the application of rigorous clinical research protocols with valid measurements to evaluate the components and impact of optimal healing environments in our current healthcare system. The ample anecdotal experiences in which a patient attains wellbeing or is successfully healed after a therapeutic encounter are insufficient proof. Important clinical questions that derive from these types of occurrences include: What outcome measures are relevant? What is the role of variables such as age, gender, culture, religion, life experiences, expectations and beliefs? What was in the physical, psychological or cultural environment that results in healing? Is it possible to define and identify the essential elements of an optimal healing environment? If so, what characteristics are required in the patient, the clinician, their partnership, significant others and the surroundings of place, community, and/or worksites to achieve this phenomenon? The purpose in answering these questions is to then implement the essential components of enhanced healing environments in the care of all patients. A recent publication has described emerging definitions and guidelines for healing research useful in primary care for investigating the impact of healing in medicine.⁶⁷

The creation of clinical protocols has to be based on all investigators using consistent definitions of an optimal healing environment, and what are currently believed to be the core components of these environments. Accordingly, we offer the following listing and definitions of seven interdependent, collaborative and non-competitive physical and nonphysical elements we have culled from the literature. We believe these represent working definitions suitable for moving research forward at this time. However, we also recognize the potential for a lack of consensus in part sec-

ondary to a certain impoverishment of language and words already steeped in subjective connotations. Another consideration is that healing is unique to the individual, and that associated features such as pain and suffering, which so frequently accompany illness and disease, are complex, adaptive and dynamic processes.

In addition, individuals exist as part of a community with which they are connected both dependently and independently. Since individuals spend more time at work than sleeping and employers have an inherently vested interest in their health, performance, and productivity, the worksite is an essential optimal healing environments node. Additionally, the private corporate sector is second only to the US government in its role as a payor for healthcare. Over 115 studies to date have demonstrated both the clinical and cost effectiveness outcomes of worksite focused interventions. These studies yield insights into some dimensions of optimal healing environments. Within these communities, there are multiple pathways and multiple systems to achieve both healing of individuals and of their relationships. Thus, there is a creative tension and dynamic change in healing environments and no signal pathway to health may emerge as best in all situations.

DEFINITIONS

Healing is the dynamic process of recovery, repair, restoration, renewal and transformation that increases resilience, coherence and wholeness. Healing is an emergent process of the person's whole system- physical, mental, social, spiritual and environmental.¹¹ It is a unique personal and communal process and experience that may or may not involve curing.

An *optimal healing environment* is a system and place comprised of people, behaviors, treatments and their psychological and physical parameters. Its purpose is to provide conditions that stimulate and support the inherent healing capacities of the participants, their relationships and their surroundings. This environment can include both general and specific physical, behavioral, psychological, social and spiritual components including medical treatment.

Healing intention and awareness is the mindful determination by one or more participants through both intuitive and conscious action to improve the health of another person or oneself. It involves using intention and education to increase awareness of and then to establish hope, belief and expectation in the possibility of wholeness and well-being and positive change.

Healing presence and energy refers a deep emotional presence that enhances recovery and repair. In the West, the concept is understood as the physical and emotional wholeness from which deep personal engagement, caring and communication emerge. In the East, the concept of deep healing presence is sometimes conceptualized as "bioenergy", and is said to be accumulated, stored and transmitted between healer and healee. Eastern concepts such as qi, ki, or prana, ancient Western concepts such as mana, pneuma, the spirit, life force or vital force, and more recent concepts such as bion, orgone, or paraelectricity are examples of the latter. In most traditional healing practices, this energy is said to derive from spiritual sources and to arise from the cultivation of compassion and altruistic love.

Healing relationships consist of two domains that involve the designated clinician or others. One relationship, also called the therapeutic alliance, encompasses the embodied social and psychological interactions between healers and healee that facilitate healing. The second domain is social and involves the household, family, friends, support groups and community. To various degrees, each works to provide a sense of belonging, caring and coherence to the patient's life. Characteristics of both these interactions involve empathy, compassion, beneficence, mindfulness, demeanor, caring, hope, love, inspiration, reassurance, comfort, warmth, trust, confidence, credibility, honesty, expectation, courtesy, respect, harmony, challenge and communication.

Health promoting behavior is the employment of adequate amounts and types of exercise, diet, relaxation, creative outlets, social service and support, and spiritual development. This category includes patient and family education programs dedicated to forming cognitive skills through modeling optimistic and positive behaviors.

Healing collaborations arise from healing relationships for the purpose of identification, choice and application of individualized treatments and care strategies. Selection of treatment is a combination of science, experience and values and requires a dynamic and trusting interaction to identify the best treatment for individual situations. Finding the right evidence for such health care decisions is one of the main functions of a patient-oriented practice.^{38,60}

Healing treatments are methods to stimulate the body's healing processes and repair with a focus on disease management and a goal of cure when appropriate. These modalities include surgery and drugs, and also can involve dietary changes and supplements, transformative psychological and social therapies, pharmacology and physical treatments that stimulate repair and recovery processes and other specific and non-specific interventions. Both conventional approaches such as psychotherapy, physical therapy, nursing care and complementary medicine approaches such as acupuncture, massage, homeopathy, manipulation and electromagnetic treatments provide examples of treatments focused on healing.^{4,6,70}

Healing spaces are the physical environment, including the visual esthetics, sound, music, smell, taste, lighting, air, art, water, horticulture, architecture and conditioning processes that support and stimulate recovery and repair processes.

HEALING THE HEALER

All of the above components point towards the importance of healthy healers in the creation of an optimal healing environment. Physician and nurse morale and enthusiasm in their provision of healthcare are very low.¹ How can a provider maximize a healing presence, deliver credible expectations for recovery and care, and teach health supporting behaviors if they cannot attain and maintain a degree of wholeness and wellbeing themselves? Negative attitudes, expectations, statements and emotions can have a devastating effect on patients when coming from a medical authority.³⁸ At the same time, the appropriate and measured delivery of stressful information and interventions can challenge and stimulate a patient to a more healthy level. Thus, training in the skills of self-care, patient insight, communication, empathy and

compassion may be an essential first step in the establishment of an optimal healing environment. This is especially critical as health care services in hospitals and practices struggle to remain effective within our financially strained and highly time-stressed health care system. There is a continuous need to support and work with staff, with patients, and with colleagues to heal their negative experiences with the system and attitudes with themselves and each other.

We believe that each of these categories and their contents lend themselves to scientific investigation. Using standard accepted research protocols, it is possible to obtain data that will allow evidence-based decisions to be made on what are the dominant factors required for an optimal healing environment? Some of this work is presently in progress and some has been published. We ask that more research be initiated and thus become a focus for a renewal in primary care research.

SUMMARY

The current focus of Western medicine is on pathogenesis with cure as the primary goal. Secondary goals tend to be the patient's quality of life and sense of wellbeing. We propose a second primary focus to complement and balance curative medicine that is focused on salutogenesis with healing as the primary goal. That is, to concentrate on whole person healing, the patient's recovery and the restoration of balance as the primary outcome, the improvement in function or dissipation of symptoms as the secondary outcome and cure as the third. One result will be an increased focus on health promotion and prevention. We also believe that such an orientation also will produce positive outcomes on chronic disease and costs in healthcare.^{36,71}

Our current healthcare environment contains a mixture of conventional Western medicine and elements from holistic and non-Western healing-based systems. No single system is completely suited to respond to the panoply of wellbeing, disease and illness experienced by humans. Reordering of our priorities can be accomplished by drawing those elements that form the essence of an optimal healing environments. To do so requires all health professionals and administrators share their commitment to competence, compassion, and collaboration in the prevention, diagnosis and treatment of disease, and in caring for self and the individual patient. In this manner, the role of medicine in serving public interests, addressing societal needs, and the alleviation of human suffering will remain paramount.⁷²

CONFLICT OF INTEREST STATEMENT

There are no conflicts of interest among all authors. Wayne Jonas and Ronald Chez had full access to all data in the study and shared final responsibility for the decision to submit for publication.

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