



# Concepts of Healing & Models of Care

The Convergence  
of Complementary,  
Alternative &  
Conventional  
Health Care:

**Educational Resources  
for Health  
Professionals**

This publication is one in a series of educational resource materials on complementary and alternative health care issues published by the Program on Integrative Medicine, University of North Carolina at Chapel Hill, entitled:

## The Convergence of Complementary, Alternative & Conventional Health Care: Educational Resources for Health Professionals

Titles in the series include:

*Understanding the Convergence of Complementary, Alternative & Conventional Care in the United States*

*Concepts of Healing & Models of Care*

*Evidence-Based Medicine & Complementary & Alternative Therapies*

*Assessing the Effectiveness of Complementary & Alternative Medicine*

*Safety Issues in Complementary & Alternative Medicine*

*Evaluating Information Sources for Complementary & Alternative Health Care*

*Information Sources for Complementary & Alternative Therapies*

*Integrating Complementary & Alternative Therapies With Conventional Care*

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### **SERIES EDITORS**

Susan Gaylord, PhD, *Director, Program on Integrative Medicine & Assistant Professor, Department of  
Physical Medicine & Rehabilitation, University of North Carolina at Chapel Hill*

Sally K. Norton, MPH, *Project Manager, Complementary & Alternative Medicine Education Project,  
Program on Integrative Medicine, Department of Physical Medicine & Rehabilitation,  
University of North Carolina at Chapel Hill*

Peter Curtis, MD, *Professor, Department of Family Medicine, University of North Carolina at Chapel Hill*

### **SENIOR EDITOR**

Sheilah N. Thomas, MS

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John Claydon, MS, Rebecca Coble, BA, Catherine Fogel, PhD, RNC, FAAN, Editorial Assistance

Program on Integrative Medicine  
Department of Physical Medicine & Rehabilitation, UNC School of Medicine  
UNC-CH - CB# 7200, Chapel Hill, NC 27599-7200  
phone: (919) 966-8586, fax: (919) 843-0164  
website: <http://pim.med.unc.edu>, email: [rcoble@med.unc.edu](mailto:rcoble@med.unc.edu)

# Concepts of Healing & Models of Care

*Peter Curtis, MD, Professor  
Department of Family Medicine  
University of North Carolina at Chapel Hill*

*Susan Gaylord, PhD, Director  
Program on Integrative Medicine & Assistant Professor  
Department of Physical Medicine & Rehabilitation  
University of North Carolina at Chapel Hill*

## **THE CONVERGENCE OF COMPLEMENTARY, ALTERNATIVE & CONVENTIONAL HEALTH CARE**

### **SERIES EDITORS**

*Susan Gaylord, PhD  
Sally Norton, MPH  
Peter Curtis, MD*

*Concepts of Healing & Models of Care* is one publication in a series entitled *The Convergence of Complementary, Alternative & Conventional Health Care*, developed as an educational resource for health professionals by the Program on Integrative Medicine, University of North Carolina at Chapel Hill, with support from the National Center for Complementary and Alternative Medicine (NCCAM), National Institutes of Health.

This series responds to the many questions raised as conventional health care practitioners encounter widespread and increasing use of complementary and alternative therapies. Each publication in the series highlights one or more of the key issues facing health professionals today—including assessing information, safety, effectiveness, and the integration of conventional, complementary, and alternative health care.

*Concepts of Healing & Models of Care* examines the historical and cultural foundations of explanatory concepts of healing and the models of care that have emerged in our contemporary health care system. To communicate effectively with consumers and other care providers, today's care providers must understand and appreciate the varied beliefs and practices that are prevalent in the pluralistic health care cultures of 21st century societies.



# Concepts of Healing & Models of Care

## foreword

Healing and health services are defined and manifested in many ways. Although biomedicine predominates in the United States, it is only one of many forms of healing. Philosophies and therapeutic techniques as diverse as Ayurveda, homeopathy, herbal medicine, chiropractic, and reiki are practiced alongside—and sometimes as a complement to—the medical, pharmaceutical, and surgical approaches of conventional medicine. This many-faceted complex of therapeutic modalities and health services is largely the result of a dramatic increase over the last 10-15 years in the use of “CAM” (Complementary and Alternative Medicine) therapies—a trend that appears to be continuing.

The widespread use of CAM services provides a mandate for health professionals to increase their awareness and appreciation of different traditions of healing. Understanding is required on three levels. First, it is necessary to recognize and respect the philosophical approaches of those who use different forms of health care as well as those who practice health care differently. Indeed, a health provider’s patients may be visiting multiple providers from varying traditions—a situation in which ignorance serves no one. Second, it is important to understand how different healing approaches and

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therapies interact and whether, and under what circumstances, their combined use is helpful or problematic. Third, it appears that a new approach to delivering health care—integrative medicine—is evolving from the convergence of conventional and alternative modalities. Understanding these different modalities is the first step to understanding the paths that health care may be taking.

In this publication, readers are invited to explore the fundamental concepts of healing from which spring different models of care and to understand the connections between them. Specifically, it is hoped readers will:

- Understand the historical and cultural roots of the beliefs underlying different models of care and how those beliefs have shaped contemporary healing models;
- Understand the evolution of the dominant biomedical model in contemporary health care; and
- Become familiar with the emerging integrative model of care and its potential for bringing together diverse healing methods.

Finally, a note about the terminology used in this publication. In recent years, the term “CAM” has come into common usage to describe—in the words of the National Center for Complementary and Alternative Medicine—“*a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.*” Despite its convenient brevity, the acronym CAM has some unfortunate implications. It suggests, for example, a homogeneity among the practices included under the umbrella term—something that is not at all true. It also implies a clear and complete distinction between conventional and CAM systems of care. That also is inaccurate.

The term CAM is therefore used sparingly here. And, when used, it is shorthand for that “group of diverse medical and health care systems. . .” where the emphasis is on the word “diverse.”

*Susan Gaylord*

*Sally Norton*

*Peter Curtis*

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*Series Editors*

# Concepts of Healing & Models of Care

*World travelers who have had to see a doctor in a foreign country have usually discovered that medicine is not quite the international science that the medical profession would like us to believe. Not only do ways of delivering medical care differ from country to country; so does the medicine that is delivered. The differences are so great that one country's treatment of choice may be considered malpractice across the border.*

Lynn Payer, *Medicine & Culture*

Fundamental beliefs about health, illness, and healing influence individuals' health care behaviors and shape various models of care (Kleinman, 1978). Beliefs also can exert powerful influences through mind-body interactions (*see box, right*). These beliefs and their therapeutic manifestations, often culturally based, have existed in various forms in every society throughout history.

All healing models seek to address the varied maladies of the human condition and, in general, they all treat the same health problems and conditions—for example, back pain, headache, or toe infection. But there are also unique illness syndromes, rooted in particular cultures. *Susto*, for example, is a folk illness with strong psychological overtones that is experienced in many Latin American cultures. It is defined as a “fright sickness” and a “loss of soul from the body” (“*Susto*,” 2004).

## THE POWER OF HEALTH BELIEFS

Health beliefs are powerful predictors of future health status and mortality. An extensive analysis of data on self-perceived health found that this variable is a robust predictor of survival over five to ten years, even when controlling for health problems, disabilities, and physicians' objective assessments, as well as internal-resources factors such as depression, optimism, and religiousness (Idler & Kasl, 1991). Another study found that the medico-astrological beliefs of Chinese-Americans concerning years in which they were vulnerable to death were significantly related to their early demise from chronic conditions (Phillips, Ruth, & Wagner, 1993). There is evidence for some degree of personal control over the timing of death, and beliefs seem to play a role. Case reports describe persons who have become ill or died on the anniversary of important life events (Birtchnell, 1981; Fischer & Dlin, 1971; Weisman & Hackett, 1961). Population-based studies have found significant increases in death surrounding birthdays and other symbolically meaningful occasions (Phillips & Smith, 1990; Phillips, Van Voorhees, & Ruth, 1992). While the mechanisms by which beliefs affect health outcomes have not been well defined, it is clear that health beliefs influence health-related behaviors, which may result in better or worse health (Mathews, Lannin, & Mitchell, 1994).

Each model has its own perspective, approach, and vocabulary for explaining and treating illness. One clinician may speak in terms of blood counts or viruses; another may refer to a disturbance of qi energy. Eliminating or reducing symptoms may satisfy the conventional practitioner's definition of success; the homeopathic physician may regard more or new symptoms as a sign that the body is responding and as an indication of progress or impending cure.

### **a multicultural health care "system"**

Despite the economic and cultural dominance of biomedicine, the U. S. health care system includes many different models of care, reflecting American society's rich cultural diversity. Each model of care can be described as a distinct "healing culture." For each person and ethnic or cultural group, fundamental beliefs (concepts) about health and healing form the basis of an organized way of approaching the healing process (model of care).

Population-based surveys show that a large majority of U.S. health-care consumers use both conventional and complementary therapies (Eisenberg, et al., 1993; Eisenberg, et al., 1998). Varying beliefs about healing may influence an individual to choose either a conventional health-care treatment, an alternative treatment, or a combination of both for a particular illness-event. As a result, alternative and conventional healing practices do not simply coexist within U.S. society, but interact continually—often without the knowledge of the clinicians involved. Such pluralistic health-care use provides an especially strong argument for educating today's health care providers—conventional and otherwise—about the philosophies and practices of the many diverse healing systems in use today. Such understanding may lead to better communication and, ultimately, better health care. Understanding different models of care means acquiring a degree of clinical "multilingualism" and an appreciation for the founding concepts of each one.

Conventionally trained health professionals are reported to be quite ready to acquire these skills (Corbin Winslow & Shapiro, 2002; Sohn & Loveland Cook, 2002). Their continued attendance at CAM and integrative medicine conferences attests to their interest. Moreover, increased referrals by conventional practitioners to complementary and alternative practitioners, and growing numbers and varieties of integrative health care practices, suggest an openness on the part of conventional clinicians to explore new models of care that draw on strengths of many healing traditions.

## **concepts of illness & healing: a cultural & historical overview**

Throughout the world—including the U.S.—there exists a wide variety of beliefs and practices about health, illness, and healing, which shape the various contemporary models of care (Kleinman, 1978). Many of these beliefs and practices trace their roots to the ancient healing systems of Egypt, China, India, Greece, and Rome. Others originated in indigenous cultures worldwide, systems that are still the primary source of care for the majority of people in the world (Ernst, 2001; Ernst & Cassileth, 1998). Many of these traditional healing systems have much in common, for example, the use of local plants for medicinal purposes as well as spiritual healing beliefs (Gaylord & Williams, 1994). Others are unique to an individual culture.

Some healing systems combine several beliefs or concepts. Traditional Chinese Medicine,



for example, is based on belief in the existence of a vital force (the qi, or chi) that animates the body and flows through the meridian system. This concept of energy flow is supplemented and modified by another concept, the Five Elements (wood, fire, earth, water, and metal) believed to interact with each other in cycles of generation and decay. Yet another concept embraced by Traditional Chinese Medicine is that of the opposing, interactive forces of yin and yang, derived from the contrasts and harmonies of the natural world (e.g., light and dark; expansion and contraction; feminine and masculine). In the human body the correct balance of yin and yang is said to result in happiness and health (Kaptchuk, 1983). In the biomedical model of care, this idea of balance is reflected in the way the human body continuously adjusts physiologic function, adapting to changing conditions.

Described below are some fundamental concepts of healing contributing to today’s health care systems, including concepts such as the life force, magical power, naturalism, and vitalism, found in many CAM systems of care, as well as concepts found in western biomedicine.

### the concept of the “life force”

Many ancient cultures subscribed to the belief in a life force that operates through a universal design or purpose of nature. This belief continues to be held today by many individuals and cultures and is fundamental to such healing traditions as reiki, homeopathy, and Native American medicine (*See Table 1*). It proposes that the human mind, spirit, and body function inseparably and purposefully together in interaction with the environment. This life force animates not only humans but also all living organisms. Over the centuries, this belief in a governing life force, often called “vitalism,” has been described and interpreted in many ways.

Most early societies linked the concept of a life force to religious and magical beliefs. Health and illness often were connected to deities and the supernatural. Thus, in ancient Egypt, the life force was Ra, Seth was the god of illness, and Isis was the goddess of health and fertility. Healers such as Imhotep (c. 2980 BC) were magician-priests who practiced a model of medical care that included magical divination. The latter included diagnosis and prognosis based on the detailed examination of the organs of sacrificed animals (Lyons & Petrucelli, 1978). Egyptian healing was a complete system of established clinical knowledge, involving an extensive

**TABLE 1  
EXAMPLES OF CULTURAL  
INTERPRETATIONS OF “LIFE FORCE”**

	<b>AGENT OF LIFE FORCE</b>	<b>CULTURAL SOURCE</b>
<b>ANCIENT SOCIETIES</b>	Sungod Ra	Egypt
	Jehovah	Biblical Israel
	qi	China
	pneuma	Greece
	prana	India
<b>CONTEMPORARY SOCIETIES</b>	Christian God	Christianity
	Allah	Islam
	biochemistry/the genome	western science
	electromagnetism	physics/energy theory
	nature itself	philosophy & indigenous beliefs

pharmacopoeia, worship of the appropriate gods and goddesses, and magical beliefs, with recommended treatment strategies based on a system of data collection and interpretation (Ebbell, 1937).

## magico-religious concepts of illness & healing

In this group of concepts, illness is considered a curse, bad luck, or an affliction brought on by a deity, the life force, an evil spirit, or a magical event. Illness may be perceived as the result of the individual's or group's transgressions, sins, or lack of adherence to religious norms (Ehrenreich & English, 1973). In societies throughout history, many people have held the belief that ill health is directed by an unknown or known entity possibly as punishment for not behaving correctly or not adhering to religious practices (Becerra & Inglehart, 1995).

Magico-religious healers have included shamans, high priests and priestesses, curanderos (Latin America), and faith healers, and an individual's power or social status has often been linked

with the presumed ability to heal or harm. For example, in the 17th and 18th centuries, royalty in some European countries were thought to have special healing powers through their divine regal position, and thousands of supplicants made their way to the royal courts for the "laying on of hands" by the king or emperor (Lyons & Petrucelli, 1978).

Treatment in magico-religious modes involves first identifying the cause (often with the help of the healer and the use of prayer). Cure is achieved by lifting the curse through charms, trances, or rituals. Preventive strategies include regular propitiation of and maintaining connection with ancestors and deities, and the adherence to religious norms and rituals.

Magico-religious healing finds its contemporary place among spiritual traditions (whose faith healers practice distance healing through prayer), and, in some sense, in the powerful effects on the patient of the physician's white coat and the reassuring X-ray. A more traditional example still practiced in the southern United States is root work—a healing practice evolved from African traditions. It involves the belief that supernatural forces can be manipulated by humans to either heal or harm. In the case of harm, the damaging "root" or magical substance is believed to have been placed on or near the patient and must be removed by an expert root doctor using special potions and incantations (Matthews, 1992; Cook & Baisden, 1986).

### HEALTH-RELATED CONCEPTS OF ELDERLY PEOPLE IN RURAL NORTH CAROLINA

A recent qualitative research study of health practices and health beliefs among mostly poor Native American, black, and white elderly people in rural North Carolina found that almost all viewed being healthy in terms of the ability to work or to carry out normal activities of daily life, and sickness as being unable to do so.

Unfortunately, many suffered a disproportionate burden of illness and disability, and often delayed seeking help until well after what may be judged optimal intervention points. Beliefs about the cause of illness revealed a great degree of fatalism, particularly among Blacks in poverty. The belief that one was "born to be sick" or that illness was a punishment from God was a common theme. Timing of death was often viewed as being "in the Lord's hands." This strong faith, while a comfort, may be a negative factor in self-care and help-seeking behaviors. Health care providers should learn about the underlying beliefs of their patients in order to understand their motivations and to work skillfully in promoting healing interventions.

(Gaylord, 1998)

## the naturalistic concept of illness & health

The naturalistic concept holds that the natural world is a dynamically balanced ecosystem in which the inanimate and animate are interactive and interdependent. Contemporary examples of threats to the health of the ecosystem include global warming, exotic plant invasions, acid rain, and pesticide run-off. Similarly, health comes from a balanced life, balanced internal body systems, and balance with nature. Illness follows imbalance in the context of a patient's age, body function, physical activity, and personal and social settings; or it may result from external threats such as infections or toxins (Kaptchuk, 1983).

Natural elements may be used to restore balance to the organism or body systems. Thus, the term "naturalistic" indicates healing that results from the use of natural approaches, such as local plants, water, and heat. Practitioners strive to identify the cause of the imbalance using a variety of well-defined procedures and skills. Treatment uses naturally based specific remedies and approaches including herbs, homeopathic preparations, nutritional regimens, massage, exercise, and relaxation techniques. Naturally based preventive and health-enhancing measures are emphasized. Naturopathic medicine is a system of care in the U.S. that makes use of this concept.

Another contemporary example of the naturalistic healing approach involves the search for toxic elements in the body tissues or bowel (e.g., heavy metals, yeast) using modern toxicology and biological techniques. Such "bioterrain studies" are performed by non-conventional laboratories (Fetrow & Avila, 1999). Toxicity can be rectified by avoiding and removing exposures and with specific biological, dietary and herbal treatments.

Several systems of healing substantially based on the naturalistic concept, including Ayurveda, Greek and Roman medicine, and Traditional Chinese Medicine, are described below.

### ayurvedic medicine

Ayurveda is a traditional medical system of India that is still especially popular with the poor of India and increasingly available in the west. It originated several thousand years ago and was developed through the work of ancient seers, sages, or rishis. It is said to incorporate teachings from seven ancient philosophies (Lad, 1999; Halpren, 2000). Ayurveda is used not only to treat chronic disease, but to enhance wellness and prevent disease.

Ayurvedic medicine offers a comprehensive system for designing an individualized treatment plan. Ayurveda teaches that each person is born with a constitution (prakruti) that determines body type and personality and provides the predisposition for certain types of illness. Often the constitutional type is described as the relative balance between three functional principles or energies (patterns) called Doshas (Pitta, Kapha, Vata). Each person's qualities and disease manifestations are unique. Evaluation methods include a detailed case history, abdominal palpation, observation of speech and voice, and examination of the pulse, tongue, eyes, and physical features.

Treatments are tailored to the individual. Ayurvedic medicine emphasizes restoring balance, peace, and connection with a higher power. It employs lifestyle change, spiritual counseling, and five-sense therapies: tastes, colors (chromotherapy), sounds (mantras), aromatherapy, and massage. Therapy may include meditation and yoga practice. Ayurvedic treatments are based on a key premise that health requires a mind at peace and a greater reliance on internal fulfillment than

### THE HIPPOCRATIC NATURALISTIC APPROACH

Hippocrates is recognized as the father of rational medicine, not so much because of the humoral theory (which continued, through Galen's influence, to guide western medical practice for the next 1,800 years), but because of his brilliant clinical teachings and descriptions of disease (Adams, 1849), many still relevant to this day. He advised the clinical approach as follows:

- Observe all things
- Study the patient rather than the disease
- Learn the "general truth" about the patient
- Evaluate evidence critically and honestly
- Assist nature to help the body achieve harmony
- Forswear arrogance
- Shun dogma

external actions or events. This quality is referred to as "non-attachment."

### greek and roman medicine

From about 600 BC, Greek medicine, through the teachings of Pythagoras and Hippocrates, evolved the concept of the four humors: earth (dry, blood), air (cold, phlegm), fire (hot, yellow bile), and water (wet, black bile) (Adams, 1849). These humors in various combinations were thought to be the essential components of all substances. Imbalance in any combination of the humors could cause disease, exhibited by specific body reactions. Healing occurred through discharges of fluids (sputum, pus, blood) after which recovery or death would ensue (Lyons & Petrucelli, 1978). Galen (129-200 AD) later added the concept of inner heat and the breath of life (pneuma) to that of the humors. Consistent with these concepts of humoral balance, Greek and Roman societies employed specific temples of healing where a variety of therapies—including sleep, massage, aromatherapy, meditation, music, and herbal remedies—were used to treat and "balance" patients.

During the early Middle Ages in Europe, the Hippocratic and Galenical legacy of the Greeks and Romans was mostly forgotten (and replaced by herbal traditions and magico-religious healing) but returned to Europe from the Islamic world, where it had been kept alive and improved over the centuries. When Europeans discovered through trade and the crusades that the Islamic world had better medicine, there was a great demand for texts translated from Arabic to Latin, mostly by monks working in southern Italy and Spain. This new influx of knowledge led to the creation of the first great European medical schools in the 12th and 13th centuries, graduating physicians who grew in number and influence.

Humoral theory continued to dominate medical practice until the late 19th century, evolving to include far more aggressive and sometimes harmful therapies—including bloodletting, purging, harsh herbal regimens and diets, vomiting (emetics), and fasting—to redress humoral imbalance. This system eventually challenged and often cruelly suppressed the mostly female folk healers (frequently labeled as witches) who saw healing as a naturalistic, gentle process.

### traditional chinese medicine

From at least 3000 BC, philosophy of health and disease in China was based on the Tao. Following the Tao (or "the way") meant living in balance, with moderation, equanimity, and proper conduct. The human body was believed to have an internal life force—the qi. Nature was in dynamic balance through the duality of "yang"—the active, warm, dry, light, positive, masculine principle; and "yin"—the cold, wet, dark, negative, feminine principle. The *Yellow Emperor's Classic*

of *Internal Medicine (The Huang Ti Nei Ching Su Wen)*, the oldest-known document of Chinese medicine, describes illness as imbalance between yin and yang, and between the five elements (earth, fire, air, water, and metal) (Veith, 2002). In Traditional Chinese Medicine (TCM) as practiced today and in ancient times, the chief method of diagnosis is examination of the pulse; other methods include examination of the tongue and complexion, as well as questioning about diet and lifestyle. It is considered imperative that the physician be in good health when examining the patient, since in order to take the pulse, the physician must use his own respiration as a norm.

Treatment involves various methods to restore balance. The *Nei Ching* lists five methods of treatment, said to have been developed in historical succession: “The first method cures the spirit; the second gives knowledge on how to nourish the body; the third teaches on the true effects of medicines; the fourth explains acupuncture and the use of the small and large needle; the fifth gives instruction on how to examine and treat the bowels and the viscera, the blood, and the breath” (Veith, 2002, p. 53). Treatment of the spirit involves guiding persons towards the Tao. Often those needing such spiritual guidance have, by disregarding “the basic rules of the universe . . . severed their own roots and ruined their true selves” (Veith, 2002, p. 53). According to the *Nei Ching*, cure of the spirit is primary and brings about cure of the body. Other treatments include dietary recommendations, herbal remedies, acupuncture, moxibustion, massage, special breathing exercises, and prescribed physical activity. Prevention plays an important role. As is said: “The superior physician helps before the early budding of the disease. The inferior physician begins to help when the disease has already developed” (Veith, 2002, p. 58).

Traditional Chinese Medicine is widely practiced today in China (often side-by-side with western medicine) and variants are practiced in Korea and other countries. Use is growing in the United States.

## the vitalistic concept of illness and health

While many of the ancient healing systems of Egypt, India, Tibet, China, and Greece subscribed to a life force that animated living things, a more specific theory of “vitalism” emerged in the 18th century in Europe. This force was called “the anima” or soul, which regulated body secretions and transmitted its powers through nerve and muscle fibers as “nervous energy” (Whorton, 1999). Vitalism was also a societal and intellectual counter-reaction to the rapid growth in western society of scientific discoveries in anatomy, physiology, and chemistry, and may have reflected concern about the budding industrial revolution with its toxic wastes, exploited workforce, terrible living conditions, and desecration of the countryside.

From the late 18th century onward, a variety of new approaches to illness and health based on vitalism appeared in western countries. Among them were hydrotherapy, homeopathy, chiropractic, magnetic therapy, and naturopathy—all based on the concept of assisting the body in self-healing, and all still in use today. Their popularity was partly a reaction to the unpleasant, aggressive (often described as “heroic”), and comparatively unsuccessful therapies of conventional medicine—cupping, bleeding, purging, and the use of dangerous medicines such as calomel, antimony, strychnine, and laudanum (opium), which were based on the old theory of disordered humors (Coulter, 1994; Berman, 1978). In the late 1800s, about 20 to 30 percent of all practitioners in the United States were “irregulars” offering vitalistic alternatives to conventional western medicine.

The vital force is thought to permeate the body, governing and harmonizing life processes. It is believed to be sensitive to external environmental influences such as pathogens or stressors, and may also be linked through subtle energy fields to other living things. Blockage or derangement of the vital force can lead to illness and manifest in symptoms. Removal of obstacles to cure, followed by specific healing influences (e.g., medicines, exercise, diet, meditation, massage, herbs) can strengthen and re-balance the vital force. Thus vitalistic healing produces “salutogenesis” (the promotion of health within the body) rather than “pathogenesis” (an attack on the body).

## mechanistic/reductionist concepts of health & illness

The idea that living organisms were made up of tiny discrete particles that interacted was first proposed in 120 BC by Asclepiades, who called it “structural atomism.” Disease was thought to result from atomic dysfunction.

This idea was not well accepted until the 17th century, after Descartes expounded the concept of “man as machine,” in his treatise *De Homine*. Previous discoveries about the detailed anatomical structure of the body, circulation, and the invention of the microscope made the corpuscle theory and materialism more plausible and appealing (Garrison, 1913). Health and illness were proposed by scientists of the times to have either an “iatromathematical” basis (based on the new laws of physics expounded by Newton and others) or an “iatrochemical” basis (based on the new discoveries in chemistry). This marked the point in western history where mechanical and measurement-based concepts about health and healing diverged from magical and religious concepts. The mechanistic concept held that the world was essentially inert and manipulable, and broke with the previously prevailing belief that humans were participants in an interconnected universe (Davis-Floyd & St. John, 1998).

In the the 18th century—the age of enlightenment in western societies—philosophers for the first time proposed that history might not necessarily repeat itself with the rise and fall of civilizations and the disappearance of their knowledge, but that man could progressively build skills, knowledge, and wisdom—and eventually come to dominate and control nature itself.

In the United States in the late 19th century, medical practice was in crisis. The average conventional physician was still practicing based on beliefs in the humoral concepts, but treatment had degenerated into aggressive, dangerous therapies. These included the use of leeches, bloodletting, purging, and toxic remedies such as opium, antimony, and strychnine. Unproven and sometimes dangerous patent medicines (especially alcohol) were easily purchased by the public, and there was no effective control of practice through licensing (Rosenberg, 1978). Diagnostic approaches had changed little since the 1700s, and quite often were not considered at all. Disease was thought to be the result of constitutional and environmental factors and the perception and reputation of a good or accomplished physician were based mostly on whether the outcome of the illness—death or recovery—had been accurately predicted!

An increasing number of clinicians, however, did not accept such “he-

### GOALS OF THE REDUCTIONIST CONCEPT IN HEALING

- To define pathophysiology of disease using the molecular basis of living systems;
- To focus narrowly and objectively on specific problems or diseases to eliminate confounding factors and get at the “hard data” or “truth;”
- To modify illness by manipulating biochemistry and structure of the body;
- To focus on active therapy; and
- To achieve control over the body

roic” practices. Known as “conservatives,” they focused on conserving the body’s natural healing powers, avoiding the prescribing of large amounts of alcohol (usually whiskey) and other harsh treatments. Because of their relative gentleness and often better outcomes, these new alternative therapies became popular, and a variety of new healing models emerged, including chiropractic, naturopathy, homeopathy, and electromagnetism.

At the same time, it became clear that there was a need to reform the chaotic medical education environment. Medical training was inconsistent and of variable quality, often offered by low-quality medical schools with degrees purchasable by mail order. The need for reform coincided with a revolution in higher education, prompted by the 1862 *Morrill Act*, which promoted the creation of public high schools and universities.

The convergence of these two trends eventually led to the Flexner Report (Flexner, Pritchett, & Carnegie Foundation, 1910). This landmark paper called for much more stringent training for physicians in the new basic sciences and proposed the creation of the National Institutes of Health (modeled on the German scientific establishment) to concentrate resources and talent in the quest for new discovery. The report also recommended the creation of academic centers where research, training, and practice would occur together and inform each other (Coulter, 1994).

The Flexner Report, in fact, coincided with a scientific revolution that would shape 20th century medicine. The basic sciences of physics, pathology, physiology, and bacteriology expanded rapidly in Europe and subsequently in the United States early in the century. In particular, the fields of anatomy, pathology, and bacteriology advanced dramatically as a result of the discovery of cellular staining techniques using aniline dyes.

Paul Ehrlich, a German pharmacologist and chemist who developed stains for plants, human tissues, and bacteria (especially the tubercle bacillus) set about looking for a cure for syphilis. He was convinced that chemicals would be the answer to this devastating and widespread infection that medicine could not prevent or cure. In 1909, the 606th compound he tested, Salvarsan, turned out to be effective, and came to be known as “the magic bullet” (Lyons & Petrucelli, 1978, p. 561). This discovery was followed by the discovery of the use of methylene blue for quartan fever (Garrison, 1913). The idea that scientists could modify, manipulate, and even create chemicals and biological products to arrest or cure disease ushered in a new era of medicine, and quickly gave rise to the pharmaceutical industry. Subsequently, two world wars accelerated health technology, and the conventional medical profession—with its focus on scientific method and technology—grew in power, wealth, and esteem (Starr, 1982). In the 1950s, it seemed that science would eventually provide the answer to most medical problems—it was only a matter of time and money.

The mechanistic/reductionist concepts that came to dominate medicine in the 20th century United States were based on the Newtonian model of a universe made up of untold molecules and atoms that interact electronically, mechanically, chemically, and predictably. These molecules and atoms could be studied and manipulated, some for good uses (e.g., antibiotics) and some for bad (e.g., poison gas). It was possible to identify disease and health by reducing structures, organisms, and cells to their basic building blocks, finding out how these worked and how they could be modified. In medicine, this “reductionism” enabled researchers and clinicians to focus narrowly on verifiable findings that linked cause and effect. This process produced a greater understanding of the biochemical factors in health and disease and a growing body of knowledge used in clinical applications—what we now term “biomedicine.”

## the concept of energy healing

The concept of energy healing is a modern version of the ancient “vital force” concept expressed in scientific terminology. It recognizes that various forms of energy have potential healing effects (Oschman, 2000). Such forms include light, heat, vibration and motion, elasticity, sound, biochemical reactions, electricity, and electromagnetic and other forms of radiation. Contemporary research in quantum physics and biological systems (Becker & Selden, 1985) shows that all living organisms use and emit energy. Moreover, inanimate objects—including the earth itself—form an electromagnetic system subject to energy transfer within and between systems. Proponents of energy healing believe that these electromagnetic forces are the key organizing factors in living structures and that other forms of energy—such as biological, physical, and biochemical processes—are expressions of the energy that sustain life (Carpenter & Ayrapetyan, 1994).

Several areas of research have contributed to the theory of energy as the basis of health and disease. In the 1970s, research by Arnold Burr, anatomy professor at Yale University, showed

that plants, animals, and humans could project and respond to electromagnetic fields (Burr, 1972). These fields are now easily measurable, using devices such as those developed at the Massachusetts Institute of Technology (e.g., SQUID magnetometer) (Oschman, 2000). More recently, Donald Ingber at Harvard University (Ingber, 2000) demonstrated that cellular structure consists of a lattice matrix that connects living cells and is responsive to mechanical forces. For example, mechanical distortion of stem cells can lead to differentiation to different types of cells, depending on the mechanical force. This matrix, called “tissue-tensegrity,” forms a type of solid-state biochemical and electromagnetic messaging system within the body. Ingber and Oschman believe that, as a likely evolutionary mechanism, life at the cellular level is based more on tensegrity structures and electromagnetic forces than biochemistry and gene expression (Ingber, Prusty, Sun, Betensky, & Wang, 1995; Ingber, 2000).

The energy concept proposes that the mechanical, electromagnetic, electrical, and biochemical messaging systems within the body are all created and affected by energy, supporting auto-regulatory mechanisms. Moreover, it is proposed that certain types of energy are transmitted beyond the cellular structure between organisms over distances. External application of various forms of

**TABLE 2**  
**VARIETIES OF ENERGY HEALING**

energy source	treatment
electrical energy	TENS unit, cautery, acupuncture
magnetic energy	pulsed electromagnetic therapy, static magnets
biochemical energy	pharmaceuticals, nutritional supplements, food
light	UV light
heat	hot packs, short-wave diathermy, steam, saunas
motion	exercise, massage, spinal manipulation, dance, Feldenkrais
vibration/oscillation	craniosacral massage, vibrational massage, Trager massage
sound	drumming, music, shamanism, chanting
elasticity	Rolfing, osteopathic muscle energy, yoga, Shiatsu
internal “subtle” energy	meditation, yoga, qi gong
external “subtle” energy	reiki, therapeutic touch, intercessory prayer, qi gong
human consciousness & attention	listening, social support, prayer, love



energy to the body could potentially modify auto-regulation and affect healing capacity, explaining the mode of action of apparently widely varied modalities used in complementary medicine as well as the biochemical basis of conventional medicine. This theory is comprehensively discussed by Richard Gerber in his landmark book, *Vibrational Medicine* (Gerber, 1988).

There have been over 2,000 published reports on energy healing (including 75 randomized controlled trials), although the magnitude of the proven beneficial effects is still unclear (Jonas & Crawford, 2003). The use of electromagnetic energy for bone healing has been well established and it is now also known to stimulate cell growth and promote healing for other tissues (Hulme, et al., 2003). Weak pulsed electromagnetic fields have been shown to alter animal and human behaviors including pain perception and posture, and numerous case reports describe improvements in multiple sclerosis, Alzheimer's, and Parkinson's disease (Sandyk, 1997). There also is evidence that energy could be projected by the body as a healing force, as has been shown in research on qi gong and other biofield therapies (Byrd, 1988; Krucoff, et al., 2001; Miles & True, 2003). Table 2 provides additional examples of energy healing used in contemporary complementary medicine.

The concept of energy healing folds into a larger concept of what has been called "integral science," a comprehensive explanatory and methodological shift beyond the mechanistic/reductionist conceptual paradigm (Goerner, 1999). Research into complex causal networks of phenomena in physics, biology, mathematics, and ecology suggests that the universe is better understood from the perspective of energy rather than matter, and interdependence (complex causality) rather than independence (simple, sequential causality). Integral science is now being applied across scientific disciplines, facilitated by the computer revolution (Goerner, 1999).

Energy medicine, as utilized in integrative therapeutics, is based on the following principles:

- Energy flow is the basis of biological systems.
- Mind, consciousness and body are completely integrated.
- Causality of illness is most often subtle and complex.
- The whole range of energy systems (chemical, electrical, mechanical) within the human body are normally in balance, but are sensitive to change when one energy system becomes disturbed.

Support for energy medicine and its integrative role is found in mind-body medicine, which is based on the well-established data that psychosocial factors and behavioral disposition can affect physiological function. Therapies such as relaxation, meditation, imagery, hypnosis, biofeedback, yoga, and distant healing all are supported by considerable evidence of efficacy through randomized trials and meta-analyses (Astin, Shapiro, Eisenberg, & Forsys, 2003).

Several research centers currently are exploring energy medicine research. For example, the Samueli Institute—a private foundation supported by funding from the National Institutes of Health (NIH) and the U. S. Department of Defense—is currently undertaking energy medicine research on such topics as the energy imprint in water (applicable to the mode of action of homeopathy), development of biosensors to detect healing energy (qi gong), effects of healing energy on cells and brain tumor growth, and intentional deviations of the machine-generation of random events ([www.Samueliinstitute.org](http://www.Samueliinstitute.org), accessed December 31, 2004).

## the development of contemporary models of care in the united states

To understand the factors at play in contemporary medical care, it is useful to explore the recent evolution of both biomedical and complementary and alternative models of care delivery. Over the last century and a half, western medical practitioners shared a common tradition and then split along two distinct paths (Starr, 1982). Those practices now referred to as complementary and alternative medicine generally retained naturalistic and holistic belief systems; biomedicine followed the path of scientific method and reductionist thinking. Each model of care had its own social, political, and economic effects, but the biomedical model came to dominate through its political structure, innovative research, and therapeutic and economic successes.

### the emergence of alternative therapeutic models in the united states

As previously described, for most of the 19th century, conventional medicine functioned on the concept of the humoral balance of the body, with treatment consisting of adjusting the imbalance of these humors by bleeding, diets, fasting, purging, cupping, and the use of herbs and metal-based compounds. Toward the end of the 19th century, however, the relatively high cost of conventional medical care and the unpleasant and often fatal treatments, together with the influx of immigrants from many cultures, encouraged both patients and health professionals to turn to traditional healers and new healing ideas (Kaptchuk & Eisenberg, 2001a; Kaptchuk & Eisenberg, 2001b; Matthews, 1992; Whorton, 1978). Among these new healing practices (Whorton, 1999):

#### thomsonianism

In 1813, American Samuel Thomson patented a holistic healing “system” of botanical healing (with an emphasis on the Lobelia plant). It was designed to build the body’s capacity to heal itself through nutrition, diet, cleanliness, and correct living. He believed disease resulted from a clogged system and could be cured by purging and sweating.

#### mesmerism

This system was founded in the eighteenth century by Austrian physician Franz Mesmer, who believed bodies had invisible magnetic fluids that caused illness when disturbed. Magnets and hypnotic suggestion were used to manipulate these fluids in order to cure illness.

#### hydropathy

Popular between 1820 and 1860, this movement was developed by a Silesian peasant, Vincenz Preissnitz. In the United States, hydropathy was promoted by Dr. Joel Shew. The system used cold baths, diet, exercise, and sleep to promote inner healing.

#### eclectic medicine

New York physician Wooster Beach developed this system of healing in the mid-1800s. Influenced by Thomsonianism, eclectic medicine used herbal medicines and hydrotherapy.

## homeopathy

This system was founded in the late 18th century by German physician Samuel Hahnemann, who also made less well known contributions in pharmacology, hygiene, public health, industrial toxicology, and psychiatry. Homeopathy employs minute doses of substances, vigorously shaken between dilutions, which produce similar symptoms to those of a particular ailment, thus helping the body heal.

## chiropractic

Daniel David Palmer, an American magnetic healer, developed chiropractic medicine in the late 1800s. This healing system uses spinal manipulation to realign misaligned vertebrae (called subluxations), thought to interfere with the transmission of nerve impulses. The smooth flow of nerve impulses can then stimulate the body's natural self-healing capability, thus promoting health and healing.

## naturopathy

Modern naturopathy was founded in 1896, by a German-born physician, Benedict Lust, who combined principles of hydrotherapy, herbal remedies, manual treatment, and homeopathy. He introduced naturopathy to the United States in the early 20th century, establishing the country's first naturopathic medical school.

## vegetarianism

This practice was promoted in the U.S. in the mid-nineteenth century by American Presbyterian minister Sylvester Graham, a hygienic crusader, who urged a life of loose clothes, cold baths, daily exercise, hard mattresses, and vegetarian diet.

By the end of the 19th century, 20 percent of all medical practitioners in the United States were "alternative" clinicians (Whorton, 1999; Kaptchuk & Eisenberg, 2001a; Kaptchuk & Eisenberg, 2001b). Some physicians supplemented their conventional practices with aspects of these other healing approaches. This was also a time of great developments in the basic medical sciences, especially in Europe, and it became clear that the conventional medical profession in the United States required serious reform in terms of standards of medical education and ethical clinical practice. Conventional medicine was entering a new era of scientific discovery and, through its links to academic institutions and political and financial power, marginalized alternative health care practitioners through licensing, regulation, and often unethical and illegal tactics (Kaptchuk & Eisenberg, 2001a; Coulter, 1994).

## NURSING: SPANNING TWO HEALING CULTURES

Historically, nursing has utilized both naturalistic and biomedical concepts in a comprehensive approach to healing. Treatments such as hygiene, diet and lifestyle behaviors were incorporated into nursing practice long before conventional medicine recognized their significance in the curative/healing process (Nightingale, 1859). For example, Florence Nightingale, the mother of modern nursing, suggested massage, heat and cold, and good nutrition in the care of patients. She stated that "all disease . . . is more or less a reparative process . . . an effort of nature to remedy a process of poisoning or decay which has taken place beforehand" (Shames, 1993). Herbs such as belladonna, ergotamine and digitalis were used by nurses long before their acceptance into mainstream medicine (Ehrenreich & English, 1973).

However, as nurses began to be employed in hospitals that largely supported the Western biomedical concept of care, nursing education and practice focused increasingly on technology and achieving a cure (Libster, 2001). More recently, the nursing profession has begun to focus again on its rich tradition of holistic care. Contemporary nursing includes dependent, collaborative, and independent actions or interventions—which now include aspects of complementary and alternative medicine (Fogel & Woods, 1995).

## expansion of the mechanistic/reductionist conceptual paradigm & the biomedical model of care

Immediately after World War II, biomedicine was riding high. It had achieved remarkable successes in combating infectious disease, promoting safe birth and improved child health, and developing new surgical techniques. Physicians were held in uncritical esteem and federal government funds poured into the research institutions.

The 1960s and 1970s brought social upheavals and general public unease about the increasingly materialistic life in western industrial societies. With increasing contact with China and the Indian subcontinent, Americans took a greater interest in eastern philosophies and healing practices. Various segments of American society (with women leading the way) began rejecting the dominating paternalistic style of business, politics, and medicine—symbolized in the maxim “the doctor knows best” (Ehrenreich & English, 1973; Gaylord, 1999).

In addition, new research in psychology, psychiatry, and stress disorders confirmed the interaction between mind and body, revealing that emotional problems could produce physiological changes and even illness in the body. This research had some influence on medical practice, most notably with the introduction in the 1970s of the biopsychosocial (Engel, 1979) and humanistic models of care. However, for the most part, mind-body connections were discounted by mainstream biomedicine—not only because the field did not lend itself easily to randomized, controlled-trial research methodology, but also because the reported findings complicated, confused, and did not align with the reductionist concept (Kaptchuk & Eisenberg, 2001a).

The biomedical model of care-delivery continues to dominate American medical culture (Dossey, 1999; Gaylord, 1999). In this model, illnesses (e.g., low-back pain, irritable bowel syndrome, chronic fatigue syndrome, Gulf war syndrome) that are not explainable biologically using the scientific cause-and-effect method are often labeled as imaginary or attributed to emotional or mental dysfunction. Similarly, homeopathy and faith healing have been rejected as invalid or pure placebos because their mechanisms of action do not fit the mechanistic/reductionist paradigm. This is in spite of the fact that randomized controlled trials and meta-analyses have shown that these interventions provide some positive benefit to patients (Ernst, 2001).

As the 20th century drew to a close, many aspects of the conventional health care system began to be questioned. Medicine and its close partner, the pharmaceutical industry, were increasingly viewed as a huge medical-industrial juggernaut, with the health care needs of the American population overshadowed by the profit motive and partisan politics. Those who complained about the medicalization of aspects of the human life cycle (e.g., the “male menopause” and “female sexual dysfunction”) charged that such syndromes were developed and marketed to promote and expand the scope of pharmaceuticals and clinical practice. Other charges, often substantiated by research findings, were that the increasing emphasis on pharmaceutical and surgical interventions produced corresponding effects of high costs, large numbers of medical errors (Institute of Medicine, 2001; Phillips & Bredder, 2002), side effects, adverse drug interactions, and unnecessary interventions. Appreciation of the glamor and benefits of breakthroughs and “cutting edge” treatments only recently has been balanced by discussions about the untoward consequences of high-technology medicine, such as substantial risks for patients, the undermining of ethical research, and inappropriate manipulation of therapeutics by the pharmaceutical industry (Kohn, Corrigan &

Donaldson, 2000; Deyo, Psaty, Simon, Wagner & Omenn, 1997; Angell, 2001).

These and other attitudinal and economic issues have fueled public interest in alternative therapies and their accompanying concepts of healing. The number of complementary practitioners has grown enormously and conventional physicians and nurses are exploring alternative therapies and possibilities of integrated practice. Because they so often find themselves simply treating the consequences of modern lifestyle, conventional health professionals are more frequently questioning the effectiveness, safety, and clinical relevance of their work (Davis-Floyd & St. John, 1998).

Fortunately, there is a difference between the current debate regarding complementary/alternative and conventional medicine and the vicious inter-practitioner antagonisms of 150 years ago in America. Today's conversations and debates more reasonably explore the merits and risks of the varied models of healing being offered—and address how the different cultures might co-exist or come together in the name of improved patient care (Pelletier, 2003; Mann, Gaylord & Norton, 2004).

## contemporary models of care in the united states

### health care pluralism

Despite the dominance of the biomedical model of care and its mechanistic/reductionist concepts of healing, American health care embraces a number of different models of care. These do not necessarily operate discretely or separately—within an individual, a practice, or a healing model.

A person's use of two or more systems of care—conventional and non-conventional—for example, is fairly commonplace, as is the ability to hold multiple and sometimes conflicting health beliefs (King, Sobal, & DeForge, 1988; Eisenberg et al., 1998). For example, an individual with cancer may use reiki (a subtle energy therapy) along with chemotherapy, with faith in the effectiveness of both.

Table 3 (*above*) depicts various concepts of healing and models of care in use in contemporary American society. Most models of care fall into the broad categories of “biomedical,” “complementary & alternative,” or a combination (“integrated”) of the two.

**TABLE 3  
HEALING CONCEPTS & MODELS OF CARE  
IN THE UNITED STATES**

<b>CONVENTIONAL BIOMEDICAL MODELS OF CARE</b>		
<b>MECHANISTIC</b> Disease-centered	<b>BIOPSYCHOSOCIAL</b> Context-centered	<b>HUMANISTIC</b> Patient-centered
<b>COMPLEMENTARY &amp; ALTERNATIVE MODELS OF CARE</b>		
<b>HOLISTIC/NATURALISTIC</b> Patient-centered/ Self-healing-centered	<b>MAGICO-RELIGIOUS</b> External diety or life force Faith- & healer-centered	<b>ENERGETIC</b> Biofield balance Modality-focused
<b>INTEGRATED MODELS OF CARE</b>		
<b>HOLISTIC/SCIENTIFIC</b> Foundation in science-based biomedicine Embrace holistic elements		

### THE BIOMEDICAL MODEL IS CHARACTERIZED BY:

- High cost and profitability
- Sophisticated testing
- Vast range of therapies, drugs
- Good short-term outcomes
- Fair long-term outcomes
- Definite risk/safety issues
- High-tech research
- Development of new knowledge
- Difficulty addressing chronic disease
- De-emphasis on primary care, prevention, individualized care
- System complexity

The term “complementary and alternative medicine” embraces therapies that vary widely in terms of mode of action, philosophy, technique, and application. Nonetheless, many of these systems of care—such as Ayurveda and Traditional Chinese Medicine—share the fundamental belief that the key to healing is to help the body heal itself, rather than using “outside-in” interventions (Davis-Floyd & St. John, 1998).

Finally, a new model of care has emerged, represented by a rapidly growing number of practices, hospitals, clinics, and healers who offer services described as “integrated.” Integrated (or “integrative”) care takes many forms. For example, a conventionally trained nurse may also be trained in energy healing or an otherwise conventional hospital clinic may employ many different kinds of healers, including complementary practitioners. The principal characteristics shared by integrated care models include acceptance of the biomedical commitment to scientifically based medicine along with a holistic approach to patient care. See *Integrating Complementary and Alternative Therapies with Conventional Care* (Mann, et al., 2004), in this publication series, for a detailed description of integrative health care.

## conventional biomedical models of care

Three models of conventional medicine are described below: the basic biomedical model, the biopsychosocial model, and the humanistic model of care.

### biomedical model

Biomedicine is the official and dominant system of health care in 20th century western societies (Engel, 1979). According to its founding concepts, diseases, including mental illness, are explained as abnormalities in the function of genes, cells, organs, and biological systems, caused chiefly by trauma, pathogens and toxins, biochemical changes, genetic abnormalities, and neurophysiological dysfunction. Its key sciences are biochemistry and anatomy. Conceptually there is a specific cause for disease, which may be uni- or multi-factorial. Diagnosis involves identifying the pathogen or process responsible for the abnormality through clinical history, examination, and sophisticated testing.

Treatment in biomedicine generally consists of *repairing* and *removing* (surgery), *attacking* (antibiotics, anti-cancer agents), or *modifying* (hormone therapy) the entity causing the disease or trauma. *Prevention* includes avoiding toxic and dietary agents that cause damage to the body, good hygiene and nutrition, exercise, immunization and the use of drugs to modify physiology. Biomedical clinicians are highly skilled and specialized, working in controlled settings with scientifically tested agents and procedures.

Biomedicine’s reductionist concept relies on scientific methods to isolate the main cause of a medical problem so a specific solution can be identified as efficiently and speedily as possible,

either in the laboratory or in clinical situations. Treatment outcomes are most commonly measured by experimental designs such as the randomized controlled trial, using large numbers of subjects. The epidemiological results from these trials (usually in the form of means and odds ratios) give data on populations responding to treatment rather than how each individual reacts to therapy.

The desire for speed, efficiency, and obtaining a powerful biological effect in healing often results in aggressive treatment. The emphasis of the biomedical approach is to control the symptoms of the human body using outside interventions. In general, little research has been done (other than immunization) to identify approaches that specifically assist the body in healing itself or that augment resistance to illness.

The primary approach is the specific correction of dysfunction and the use of specific interventions and remedies that produce rapid effectiveness. Consistent with this approach, practitioners increasingly tend to specialize and work semi-autonomously within the health care system hierarchy, adhering to the authority of institutions. The model focuses primarily on trauma management, and pharmaceutical and surgical interventions. Care tends to be standardized rather than individualized, with an emphasis on technological solutions.

Less emphasized aspects of the biomedical model include the delivery and organization of primary care; the provision of public health and preventive services; the clinician-patient relationship; the meaning of illness to patients and families (Dossey, 2003); the context of care; patient autonomy; costs of care; the risks and safety of medicine; and mental health. These components consistently receive fewer funds, less esteem, and less professional and public national interest. As mentioned previously, the biomedical model increasingly has been driven by commercial and technological needs rather than by the best interests of the population it serves, resulting in increasing alienation of both patients and health care providers (Lock & Gordon, 1988a; 1988b; Starr, 1982; Davis-Floyd & St. John, 1998).

## the biopsychosocial model

A modified version of the biomedical model of care—the biopsychosocial model—considers the patient's context a key component of the healing process. In the late 1970s, George Engel, a psychiatrist, called for a new way of thinking about medical problems that embraced the patient's total environment—from molecules to community (Engel, 1979). His rationale was the realization that the cause of disease was usually multi-factorial and complex, and he echoed Hippocrates in asserting that understanding and treating the *whole* patient—within the context of family and community—could lead to better outcomes. To achieve optimal health for the patient, Engel believed, clinicians needed to use this model of care.

Engel's model is illustrated in the example in Table 4 (*above*). The patient, living in difficult social circumstances, has suffered a stroke. Ideally, according to the biopsychosocial model, the clinician considers the full range of factors in the patient's care. These factors encompass multiple levels, from molecular activity to the social implications of a disability arising from the stroke. This approach permits a more complete evaluation and a more comprehensive plan for treatment, intervention, and rehabilitation.

Theoretically, this approach would lead to improved outcomes. However, this model of care has rarely been effectively incorporated into medical practice, because it is time consuming

**TABLE 4**  
**BIOPSYCHOSOCIAL APPROACH TO CARE - EXAMPLE OF STROKE**

level	causation factor	biopsychosocial effects of stroke
Society	Uninsured. No regular access to care	Disabled
Subculture	Low economic status	Inadequate resources for rehabilitation
Community	Works three jobs	Unemployable
Family	Dysfunction, stress	Increased dysfunction
Person	Diabetes, hypertension	Depression, disability
Body Systems	Vascular, neurologic	Damaged, at risk
Organs	Brain	Damaged, at risk
Tissues	Blood vessels, gray matter	Potential deterioration
Cells	Neurons	Minimal recovery
Molecules	Lipids	Modifiable

(ENGEL, 1979)

and requires the presence of an appropriately organized health care system. These requirements are not compatible with the current pressures of medical practice, and outcomes under this model have not been well researched (Astin, et al., 2003).

### the humanistic model

In recent years, there has been growing interest in the value of the clinician-patient relationship as an important diagnostic and therapeutic tool. This relationship was not specifically identified as important in Engel's biopsychosocial model of care. "Patient-centered care," while adhering to the reductionist concept and biomedical model, addresses the patient's beliefs and expectations and emphasizes the partnership of healer and patient (Stewart, et al., 1999; Robinson, Priest, Susman, Rouse & Crabtree, 2001; Epstein, 2000; Gerteis, Edgman-Levitan, Daley, & Delbanco, 2002). The philosophy is conducive to a more collaborative therapeutic approach and reflects an openness to other non-conventional healing models. This model has shown improved outcomes for a range of primary care problems; however, because it relies on the clinician's cognitive skills rather than on procedures, reimbursement is poor (ICD-9-CM, 2002). Patient-centered care does not suit the current emphasis in the American health care system on seeing large numbers of patients to maintain clinical income. In addition, long-term outcomes of this model of care have not been studied.

#### **THE HUMANISTIC MODEL IS CHARACTERIZED BY:**

- Adherence to the reductionist concept
- Diagnosis and treatment—open to unconventional approaches
- Compassion-driven
- Strong clinician-patient relationship
- Emphasis on prevention
- Low profitability; short- and long-term benefits unclear



## complementary & alternative models of care

Despite their diversity, most healing modalities described as “complementary” or “alternative” are rooted in common beliefs about health and healing, drawn primarily from energetic and naturalistic concepts (*see box, right*). The principal belief is that the body has the ability to heal or rebalance itself through its own energy and auto-regulatory system. Illness is considered to be the result of complex interacting factors involving internal imbalances and external toxicity. Thus, most CAM healing practices are holistic and individualized. Considerable time is spent at the clinical visit exploring patient beliefs and expectations, the meaning of illness, and the context of the symptoms or problems. Further, CAM practices typically rely largely on non-pharmaceutical and non-surgical interventions. Indeed, many CAM clinicians have a distrust of the biomedical approach, perceiving it to be aggressive, often dangerous, and overusing and misusing synthetic biochemical products.

These beliefs form the foundation of an exceptionally wide variety of healing models and practices. For example, homeopathy (a healing *system*) is designed to treat the individual patient—not the disease process—guided by knowledge of his or her unique characteristics and symptoms (Dooley, 1995). Therapy is based on the “law of similars”—based on observations that a remedy or drug that produces certain symptoms in a healthy person will produce healing when a sick patient exhibits some of the same symptoms. It follows that a given homeopathic medicine might be appropriate for many different clinical problems, or many medicines could be used for a given problem.

Chiropractic adjustment—an example of a healing *technique*—is a therapy believed to abate nociceptive stimuli emanating from mal-aligned spinal elements (disk, ligaments, muscles, joints), thus facilitating the body’s autonomic regulation and promoting the organism’s self-healing capabilities (Gatterman, 1990).

In medical acupuncture (another *technique* that is also part of the Traditional Chinese Medicine *system*), needles placed in the appropriate points on meridians modify the electrical and energy fields in surrounding tissues—thereby reducing pain. More distant effects include physiological auto-regulation and symptom reduction (Huard & Wong, 1968).

The above three examples have widely disparate explanations of how they work on the patient, with little theoretical overlap. Yet they all rely on the concept of harnessing the patient’s own healing capacities and processes.

Although many complementary and alternative practitioners share beliefs about health and healing, they generally practice autonomously, without even the loose affiliations that link primary care generalists and specialists in the biomedical model of delivering care.

### CHARACTERISTICS OF COMPLEMENTARY & ALTERNATIVE HEALING MODELS

- Body-mind-spirit are one entity.
- The body has an energy system that may interact with other living organisms.
- Causality of illness is complex, chaotic—involving imbalances, toxicity.
- Diagnosis is based on detailed evaluation of patient’s perceptions, feelings, and symptoms.
- Patient has authority and responsibility for his/her own healing.
- Healing focus is on multiple therapies aimed at enhancing body auto-regulation and health.
- Interventions avoid use of synthetic products.
- There is concern about hazards of the medical-industrial complex.
- Low-tech; cost and care tend to be variable and not usually covered by insurance.

### THE INTEGRATIVE MODEL IS CHARACTERIZED BY:

- Embracing both biomedical and complementary/alternative healing concepts
- Centrality of clinician-patient relationship for healing effect
- Emphasis on the psychosocial context of illness and health
- Clinician as guide and role model of healthy living
- Key activity is to stimulate and enhance the self-healing capacity through nutrition & lifestyle changes.
- Clinician possesses fundamental knowledge of CAM concepts, principles, and effectiveness
- Often covered by insurance
- Seeks synergistic benefits of combining biomedical and complementary/alternative approaches.

## integrated models of care

The convergence of biomedical and complementary/alternative models of care in the American health care system has begun to produce a hybrid model that is most often described as “integrated” or “integrative.” This relatively new model of care is evolving in tandem with the increasing interest in and growth of complementary and alternative medicine (Snyderman & Weil, 2002).

Typically delivered by conventionally trained practitioners, often in partnership with CAM providers, an integrated practice uses elements of mechanistic/reductionist concepts and requires access to all the resources of modern scientific medicine. However, it also embraces many aspects of naturalistic and energetic concepts. Chief among these are a more holistic and contextual approach to diagnosis and treatment; greater emphasis on promoting and stimulating self-healing capacity; and use by conventional practitioners of CAM modalities or collaboration with CAM practitioners.

Physicians and nurses who practice this integrative approach profess to look at the whole setting in which the patient lives and to consider all the healing possibilities (Libster, 2001; American Holistic Medical Association, 2004). They are sometimes known as holistic clinicians and place high value on first prescribing treatments that are least harmful. Many spend consid-

### INTEGRATIVE MEDICINE: MANY NEW MODELS OF CARE

The term “integrative” health care is used to describe health care practices that are configured in a variety of ways. Examples:

- **Integrating knowledge of other disciplines.** A family medicine physician studies herbal therapy or acupuncture, and uses knowledge to inform referral decisions.
- **Networking among conventional and complementary/alternative practitioners.** A neurologist integrates skills and services of local alternative practitioners in a headache clinic.
- **Knowledge, networking, plus training.** A conventionally trained MD becomes a certified and licensed acupuncturist, thus expanding treatment options offered.
- **Limited partnerships.** A back pain clinic utilizes a team that includes an orthopedist, an osteopath, a family practitioner, a massage therapist, and a biofeedback therapist.
- **Group practice.** A group practice mixes a variety of complementary/alternative and conventional practitioners including family physicians, dermatologists, homeopaths, naturopaths, hypnotherapists, and internists.
- **Hospital-based care.** A hospital or major medical center staff includes complementary and alternative as well as conventional practitioners.

erable time training in complementary therapies such as homeopathy, naturopathy or Ayurveda while retaining their biomedical skills; although in many cases, they intentionally turn away from the biomedical model (Davis-Floyd & St John, 1998).

The integrative model is appearing in many forms and many settings throughout the country—in academic centers, hospitals, clinics, and in private practice (Mann, et al., 2004). An example of integrative medicine in its simplest form is the physician who has studied herbal/supplement therapies and has built a network of CAM practitioners for referrals or a nurse practitioner who has acquired training and experience in healing touch (Fenton, 2003). More complex variations on the integrative health care model include the medical acupuncturist or board-certified holistic physician. Other integrative practices include conventional and complementary health care providers who work with patients both individually and as a clinical team. Often these practices focus on a particular clientele or health issue, such as women’s health or chronic pain syndromes.

Regardless of the specific design of the practice, the commitment is the same: to bring the strengths of the different healing systems together for the benefit of the patient.

## summary

Clearly, there exists in contemporary American society a kaleidoscope of healing concepts and models of care. Patients now have a wide array of choices, and many of them will explore different models of healing depending on their illness, beliefs, personalities, and ability to pay for services. A review of the characteristics, strengths, and limitations of the various models suggests that the emerging “integrated” model (or models) may be ideologically the most desirable health care approach to pursue (Snyderman & Weil, 2002). However, the political and economic dominance of the biomedical model and its cultural position in society present a major barrier to the realization of that objective. The potential integration between holistic and biomedical models of care will depend very much on the ability of practitioners and researchers to demonstrate the benefits of integrated healing practices and to appreciate the value of many different healing beliefs. Politics and economics will figure prominently in the achievement of this vision.

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