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Chapter 2

Conventional, Complementary, and Integrative Medicine

Section 1: Conventional Medicine

Learning Objectives

1. Define conventional medicine.
2. Categorize health practitioners based on the type of care delivered.
3. Analyze the objectives of health care delivery systems from sick care to health promotion.

Section Notes

- **Conventional medicine** is also called biomedical medicine, Western medicine, and allopathic medicine.
 - *Biomedical medicine* reflects the premise that identifiable biological agents—genetic defects, microorganisms, chemical toxins—cause physical illness.
 - Consequently, the treatments are mainly biologically based—pharmaceutical medications, radiation therapy, and surgery.
 - *Western medicine* suggests this type of medicine only occurs in the Western hemisphere, which is no longer the case.
 - *Allopathic medicine* means the treatments oppose the processes caused by the disease.
 - For instance, antibiotics kill disease-causing bacteria.
- Conventional medicine has strengths and weaknesses.

- Strengths include high-tech diagnostic tests and treatments, emergency management of physical trauma, critical care for conditions such as heart attacks, and the prevention of illnesses through vaccinations.
 - Weaknesses include emphasis on biological disease factors over social and psychological contributors, insufficient attention to health promotion and disease prevention, and inadequacies in managing chronic disease conditions.
- The maxim “If it ain’t broke, don’t fix it” sums up a societal approach to health.
 - Under that paradigm, a person without significant disease symptoms is considered healthy and the main reason to visit a doctor is the development of worrisome symptoms.
- Some experts point out that the U.S. health-care system needs to move from being reactive to being proactive.
 - Rather than treat symptoms of these diseases once they develop (and try to prevent undesirable risks of these diseases), people should be taught to eat healthy diets, exercise, stress less, and get enough sleep.
 - We should remove the roots of the disease rather than simply prune errant branches.

Providers of Conventional Medicine

- Conventional medicine is a complex system that utilizes a range of professionals.
 - Collectively, these form the *allied health professionals*, credentialed practitioners who undergo formal education and clinical training.
 - Excluding doctors and nurses, there are over 85 occupations in allied health.
- Physicians include medical doctors (MDs) and osteopathic doctors (DOs).
 - Their education is similar—typically four years of graduate school, followed by years of postgraduate, in-hospital training.
 - One difference is that osteopathic education includes training in physical manipulation and puts greater emphasis on family medicine and treating the whole person.
 - Physicians are categorized based on emphasis and specialty.
- **Primary care practitioners** provide comprehensive health care.

- These are the professionals people turn to first for health maintenance and for diagnosis and treatment of common acute and chronic illnesses.
- In the ideal, primary care also includes patient education and health promotion.
- Usually a physician performs primary care in collaboration with nurses, physician assistants, and other professionals.
- Most of the services are rendered in outpatient clinics.
- Branches of medical practice that fall under primary care include family medicine, internal medicine (diagnosis and nonsurgical treatment of adult diseases), pediatrics (children's health), and geriatrics (management of the health of elders).
- Because of the importance of annual exams, many women rely on doctors trained in obstetrics and gynecology (a branch of medicine dealing with conditions related to the female reproductive system).
 - For that reason, these professionals are also often included in the primary care category.
- If a condition requires more in-depth evaluation and treatment, primary care physicians refer their patients to a relevant **specialist**.
 - Specialists have training in a limited branch of medicine.
 - Examples of specialties include orthopedics (bone and muscle disorders), rheumatology (joint disorders), dermatology (skin), ophthalmology (eyes), otolaryngology (ears, nose, and throat), etc.
 - *Surgeons*, doctors who treat ailments with surgical procedures, usually also specialize by the bodily system they operate upon.
- Nurses include registered nurses (RNs) and nurse practitioners (also called advanced practice nurses).
 - Nurse practitioners undergo graduate-level education and specialized training in an area of medicine.
 - Nurse practitioners function more autonomously than RNs, taking patient histories, ordering some tests, prescribing medications, and performing some procedures.

- Physician assistants (PAs) undergo a two-year postbaccalaureate training program and work under the direction of physicians.
 - Their duties and scope of practice is similar to nurse practitioners.
 - However, nurse practitioners can work alone in practice whereas a PA is supposed to work under a doctor's supervision.
- Dentists complete doctoral-level training to become a doctor of dental surgery (DDS) or a doctor of medical dentistry (DMD).
 - Oral surgeons receive further training.
 - Dental hygienists, who receive an associate's degree in dental hygiene, assist dentists by examining patients' oral health, cleaning teeth, and providing preventive care.
- Optometrists hold a doctor of optometry degree, which licenses them to examine the eyes to detect vision problems and diseases.
 - They prescribe corrective lenses.
 - Ophthalmologists, on the other hand, are medical doctors who specialize in the eye and treat eye diseases medically and surgically.
- Podiatrists receive doctoral-level training and specialize in treating foot conditions.
 - They can prescribe medications and perform foot surgeries.
- Physical therapists treat physical limitations and pain.
 - They complete either a master's degree or a doctoral degree.
 - Occupational therapists receive a master's degree and help people recover the ability to perform everyday activities.
- Clinical social workers earn a master's degree.
 - They counsel people to help them overcome mental health and substance abuse problems.
 - Clinical psychologists receive doctoral education in mental processes and human behavior, earning either a PhD or a PsyD.
 - Psychiatrists are MDs who specialize in mental health.
 - Psychologists do more counseling and psychotherapy; psychiatrists are licensed to prescribe medications and less often engage in therapy.

- Public health professionals, who have master's or doctoral degrees, examine population trends; identify disease outbreaks; and work to reduce health hazards, protect health, and improve health-care access for entire populations (rather than individuals).

Trends in Medical Practice: Sick Care versus Health Care

- Inequities abound in the current health-care system.
 - Many people simply don't have ready access to medical care, mainly because they can't afford it.
 - In 2010, more than 18 percent of Americans under age 65 lacked health insurance.
 - People 65 and up qualify for Medicare.
 - Medicaid, a federal and state program, covers the poor and the disabled.
 - Many people receive insurance that's at least partially subsidized by their employers.
 - The rest pay out-of-pocket with private insurance or go without.
- The passage of President Obama's Patient Protection and Affordable Care Act (ACA) in 2010 led to some immediate changes, such as allowing young adults to remain on their parents' health insurance plans until they turned 26.
 - The number of Americans on Medicaid rose.
 - One of the ACA's overarching goals is health insurance for all Americans.
 - According to the individual mandate, all US citizens must have health insurance or pay a tax penalty. This provision went into effect in 2014.

Temporary
- Until ACA's mission is fulfilled, the current high number of uninsured Americans presents problems.
 - Polls show that one-third to one-half of Americans put off health-care visits to doctors and dentists because of costs, relying instead on over-the-counter drugs and home remedies to manage symptoms.
- The next problem lies with the organization of the health-care system, which has become increasingly fragmented.

- That means there are too many decision makers and too little coordination of care.
- In addition, the health-care system focuses much more on treating illnesses than preventing them.
 - It's reactive rather than proactive.
 - The approach has nearly bankrupted the nation's economy and the collective health of Americans.
 - Health-care expenditures in the United States have soared, reaching 2.7 trillion dollars in 2011.
 - Seventy-five percent is directed toward the management of chronic diseases.
 - And much of that money goes toward hospital care, physician services, and prescription drugs
 - In contrast, public health (population-wide approaches to improve health and prevent illness) spending represents only about 5 percent of total expenditures.

Sick Care and Crisis Care

- Under this model, patients enter the health-care system because they're ill or wounded.
- Crisis care refers to the treatment of serious disease and injury.
- Conventional medicine excels at dealing with medical emergencies involved in unintentional injuries, homicides, suicide attempts, natural disasters, terrorist attacks, and other community and national tragedies.
- Heart attacks, strokes, overwhelming infection, and other life-threatening illnesses require emergency treatment.
- Crisis care involves professional medical treatment, counseling, the provision of shelter and food (as when natural disaster strikes), and rehabilitation.
- Although health-care reform promises to remedy this situation, many people lacking health insurance have relied upon emergency departments for more mundane medical care.

- Without health insurance, people don't receive routine care and treatment for mild illnesses.

Preventive Care

- Preventive medicine's goal is to reduce the likelihood of disease and injury.
- In theory, people never develop preventable illnesses, don't develop them until much later in life (in the case of chronic diseases), or are diagnosed and treated early to avoid severe illness.
- There are three types of prevention:
 - **Primary prevention** relies on methods that prevent diseases from occurring in the first place.
 - Examples include vaccinations against infectious diseases and education about following healthy lifestyle habits to reduce the risk of heart disease and cancer, wearing a condom to protect against sexually transmitted infections, etc.
 - **Secondary prevention** identifies illnesses at their early stages.
 - Early detection and prompt treatment of many conditions can cure the patient, slow the progression of the condition, or otherwise reduce its severity.
 - Screening tests are important because many conditions don't cause signs and symptoms until they're relatively advanced.
 - Examples include cancer screening tests and tests for sexually transmitted infections.
 - Questionnaires and conversations with health practitioners can also screen for depression, substance use disorders, sleep disorders, and stress overload.
 - **Tertiary prevention** targets people who already have the illness in hope of minimizing the harmful effects of disease, controlling symptoms, or preventing recurrence or progression.
 - For instance, people with diabetes can learn to use diet, exercise, and medications to regulate their blood sugar and thereby reduce their risk

of diabetes-induced damage to arteries, kidneys, and eyes.

- Of the three, primary prevention is the clear winner in terms of longevity, quality of life, and economics.
 - An emphasis on healthy lifestyles and environments thwarts a host of illnesses.
 - These also help achieve *compression of morbidity*, the delay of age-associated illnesses until the end of life.
- However, for decades the emphasis has too often been on secondary and tertiary prevention.
 - The fact that primary preventive care in the United States has lagged other developed countries is one explanation for the relatively poorer health of its citizens.
- In a positive sign, recent health care reform promises to increase insurance coverage for preventive services.
 - Improved primary prevention of chronic conditions such as obesity, diabetes, and cardiovascular disease will reduce human suffering and health-care expenditures.

Health Promotion

- The World Health Organization (WHO) defines **health promotion** as “the process of enabling people to increase control over, and to improve their health.”
 - The goal of health promotion is to increase physical, mental, and social well-being.
 - To achieve the goals, people need jobs or other means of securing adequate income, quality working conditions, safe housing and neighborhoods, food security, clean air and water, etc.
- Health promotion draws upon diverse disciplines (including medicine, public health, and public policy) to identify factors that determine health and create strategies to optimize health and prevent disease.
 - Governments need to protect the natural environment and ensure social justice, equity, and peace.

- For instance, government entities can regulate vehicular safety; establish highway speed limits; enforce seat belt laws; ban cell phone use while driving; and prohibit smoking in public places.
 - Public health initiatives can create environments that support health.
- Health practitioners can educate their patients about lifestyles that promote health and wellness.
 - Some conventional doctors have begun to add elements to their practices such as nutrition counseling and stress management.
 - Some employers, recognizing that healthy employees are happier and more productive, have established workplace wellness programs.
- A number of factors have started to push the US system toward prevention and health promotion: the cost of health care, the evidence that positive lifestyle changes improve health, and a growing societal interest in wellness.
 - More consumers are willing to take personal responsibility for their health and well-being.
- A recently proposed remedy to the current fragmented system is the patient-centered medical home.
 - Under this model, a physician, nurse practitioner, or physician's assistant provides continuous and comprehensive care of each patient.
 - The primary care provider also guides and coordinates care when the patient requires treatment from other practitioners.
 - It's more of a team approach, with the primary practitioner acting as the coach.
 - Rather than simply manage disease, medical homes are supposed to help patients meet health-care goals.
 - Another element is that treatments must have evidence of effectiveness.
 - Health information technologies include patient-education tools and electronic health records which help practitioners track information about any given patient, and reduce the likelihood of repeating tests unnecessarily or prescribing too many medications, and so on.
 - A number of barriers hamper swift progress.

- The population of primary care practitioners, who play a critical role in medical homes, is shrinking.
- While half of first-year medical students begin their education committed to primary care, the majority switch to specialty training by the time they graduate.
 - Similar trends have occurred in nurses and physician assistants.
- Practitioners don't have enough time with their patients.
 - Multiple pressures (high patient loads, administrators and insurance companies, declining revenue) shorten physician visits.
- The current economic system favors reimbursement for sick care versus counseling patients in health behavior modifications.
 - Drugs and diagnostic and treatment devices are patentable and therefore profitable.
- Promoting health and preventing chronic noncommunicable diseases requires the participation of individuals, families, communities, the food industry, and government.
 - Medical education will need to change in order to train practitioners with the necessary skills.
 - Patient expectations will have to adapt.
 - Undergoing a comprehensive lifestyle overhaul requires a commitment of time and energy and yields gradual, albeit more vital, improvements.
 - In comparison, it's far easier to prevent infectious diseases through vaccinations, personal hygiene, clean water, and food safety.
- None of these barriers are insurmountable.
 - Other countries have successfully advanced health promotion.
 - An example is the Victorian Health Promotion Foundation—VicHealth, for short—in Victoria, Australia, which was funded by a tax on tobacco.
 - This entity works with a number of organizations, communities, and individuals to promote health and prevent disease.

Discussion Questions and Solutions

1. Examine your attitude about health. Are you more concerned about how you feel right now or about how you might feel decades later? Do you take personal responsibility for your health? Do you think your attitudes are unusual among your peers?

Answers: Students' answers will vary.

2. Reflect on your childhood and adolescence. Did you have a family doctor or pediatrician who consistently took care of your medical needs? Or did you instead see a number of doctors? Did you go to the doctor for health maintenance (regular checkups)? Or did you only see the doctor if you had symptoms of illness?

Answers: Students' answers will vary.

3. Find the website to your college or university's health clinic. Report on any programs dedicated to preventing illness and injury and to promoting health.

Answers: Students' answers will vary.

Key Takeaways

- In conventional medicine, trained professionals such as doctors, nurses, and physicians treat illness with agents such as medications and surgical procedures that modify biological processes.
- Medicine has become increasingly fragmented and specialized.
- Health-care reform seeks to counter this fragmented approach through the use of medical homes.

- Many health-policy experts have advocated shifting the emphasis from sick care to disease prevention and health promotion.

Key Terms

- **Conventional medicine:** A system of medicine in which health-care practitioners such as doctors and nurses treat illnesses with medications and surgery.
- **Health promotion:** Providing people with tools to improve their health such as information about risk factors and healthy lifestyles and provision of safe working and living environments.
- **Primary care practitioners:** Health care providers who deliver comprehensive, continuous medicinal care.
- **Primary prevention:** A prevention strategy that uses methods to avoid the development of diseases.
- **Secondary prevention:** This second level of prevention catches illnesses in their early stages and attempts to cure or prevent progression.
- **Specialist:** A medical practitioner with advanced training in a relatively narrow field.
- **Tertiary prevention:** This third level of prevention targets individuals with disease symptoms and attempts to slow progression and prevent further damage.

Section 2: Complementary and Alternative Medicine

Learning Objectives

1. Define complementary and alternative medicine.
2. Examine statistics and trends in the use of complementary and alternative medicine.
3. Discuss the major categories of complementary and alternative medicine

and provide evidence for effectiveness and safety.

Section Notes

- **Complementary and alternative medicine (CAM)** encompasses a diverse group of therapies considered outside of the realm of conventional medicine.
- **Complementary therapies** refer to practices that are used alongside conventional medicine.
 - For instance, people might add therapeutic massage to treatment recommended by their doctor and physical therapist for a shoulder injury.
- The term **alternative therapies** refer to those employed instead of conventional medicine.
 - In this case, people try meditation rather than medication to manage insomnia.
- People use CAM for a variety of reasons.
 - Some hope to improve their health, prevent illness, and take a more active role in their health care.
 - Many seek relief from acute and chronic illness.
 - CAM practitioners often provide a holistic approach to health.
 - People lacking health insurance may use CAM because many of these therapies are relatively inexpensive.
- In 1992, an increase in the public's use of CAM led to the establishment of the Office of Alternative Medicine (OAM) within the National Institutes of Health (NIH), the US government's medical research agency.
 - The OAM's mission was "to investigate and evaluate promising unconventional medical practices."
- In 1998, Congress established the National Center for Complementary and Alternative Medicine (NCCAM), which replaced the OAM and elevated its status. In December 2014, NCCAM revised its name to the national Center

for Complementary and Integrative Health (NCCIH).

- The mission was to facilitate research on CAM, evaluate the effectiveness and safety of CAM, and disseminate accurate, authoritative information to the public.
- About 0.4 percent of the NIH budget is appropriated to NCCIH.
 - Pharmaceutical and other private industries are not likely to fund CAM research because, unlike pharmaceuticals, CAM therapies such as herbal medicines, acupuncture, and yoga cannot be patented.
- Nearly 4 out of 10 American adults regularly use CAM, according to a 2007 National Health Interview Survey.
 - More precisely, 33 percent of adults and 12 percent of children had used CAM in 2012.
- The popularity of CAM treatments seemed to plateau in about 2008, around the time of the economic recession.
 - While insurance plans cover some CAM services, many people must pay for products and services out of pocket.
- NCCIH divides CAM therapies into several broad categories—mind-body medicine, manipulative and body-based practices, natural products, and whole medicine systems.
 - Excluding prayer, the most commonly used CAM therapies are nonvitamin/nonmineral natural products, deep-breathing exercises, yoga, tai chi, or qi gong, and chiropractic or osteopathic manipulation.

Mind-Body Medicine

- This type of medicine fits the holistic paradigm—mental, emotional, and physical states all interact.
- Mind-body techniques provide a means to relax the body and mind to restore a sense of well-being.
- This category includes meditation, breathing exercises, yoga, t'ai chi, chi gong, acupuncture, progressive muscle relaxation, and guided imagery.

Meditation

- This ancient practice is a common part of healing techniques around the world.
- Meditative techniques put people in a state of focused relaxation.
- There are many types of meditation.
 - Their goal is to quiet the unsettled, restless, and worried mental state; relax the entire body; and achieve a focused and calm but alert mental state.
- Physical postures or repetitive movements can produce a meditative state.
 - Some people find that slipping into the flow of jogging, walking, swimming, or cycling creates a focused, relaxed state.
 - Many meditation techniques employ concentrated attention.
 - The focus of concentration could be visual or auditory.
 - Many people use chanting, praying, or silently repeating a mantra.
 - Some meditation practices involve thinking compassionate thoughts and feeling a sense of gratitude or love.
 - Many techniques focus attention on the breath.
- Transcendental Meditation (TM) is a type of mantra meditation.
 - A certified TM instructor assigns an individual a mantra, a sound derived from the Vedas that is thought capable of creating spiritual transformation.
 - The goal is to empty the mind and transcend ordinary thinking.
- Mindfulness meditation involves paying purposeful attention to the present moment.
 - Much credit goes to Jon Kabat-Zinn, author, researcher, and founding director of the Stress Reduction Clinic and the Center for Mindfulness in Medicine, Health Care, and Society at the University of Massachusetts Medical School, for introducing Americans to the benefits of mindfulness.
 - He defined mindfulness as “the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment.”
 - He created a protocol for Mindfulness-Based Stress Reduction (MBSR).
 - Training sessions, which can be conducted online, lasts eight weeks and

- involve meditation, stretching, yoga poses, body scans, and discussions.
- In mindfulness meditation, people focus on what's going on in real time.
 - In a detached, objective manner, people notice their emotions, thoughts (always bringing them back in a nonjudgmental way to the moment at hand), and physical sensations.
- People start with short (15- to 20-minute) practices.
 - With practice, people become aware of thought patterns, which allows them to question and rephrase them.
 - Gradually, people become mindful of everything they are doing, which increases enjoyment and performance.
 - Because energized focus and complete immersion in an activity can make it seem effortless, professionals sometimes refer to this mental state as “flow.”
- All types of meditation affect the functioning of several bodily systems.
 - People become more adept at switching from an alert state (as indicated by alpha waves on electroencephalograms) to a relaxed state (as indicated by theta waves).
 - Heart rate, blood pressure, and respiratory rate decrease.
 - Endorphins, natural pain-relieving compounds, are released.
 - Benefits at the cellular level show that regular meditation has the potential to promote healthy longevity.
 - A regular meditation practice can also reduce high blood pressure and low back pain.
 - Studies in college students show improved attention.
 - Meditation helps relieve emotional distress and improve quality of life in people with chronic illnesses such as diabetes, heart failure, rheumatoid arthritis, and fibromyalgia.
 - Studies show that MBSR and TM relieve stress and mild anxiety.
 - MBSR can act as a useful complement to conventional treatment for anxiety disorders, depression, substance abuse, and eating disorders.

Breathing Exercises

- Many healing traditions employ breathing techniques.
 - Most of our breathing occurs without conscious thought.
 - When people are tense or nervous, breathing can become shallow and rapid.
 - Conscious awareness and control of breath provide great tools for managing stress, anxiety, pain, and insomnia.
 - If people deliberately slow and deepen their breath, heart rate slows, blood pressure declines, thoughts become more calm and focused, and awareness of sensations coming from within and without rises.
- There are a number of breathing exercises.
- Benefits of breathing exercises include the reduction of hot flashes associated with menopause, feelings of nervous tension and fatigue, pain perception, and test anxiety.

Yoga

- This ancient practice originated in India some 5,000 years ago.
- Ancient texts describe eight limbs or aspects of yoga.
- Hatha yoga, the form most often practiced in the Western world, emphasizes only three of those limbs—*asanas* (physical postures), *pranayama* (breath control), and *dhyana* (meditation).
- Often, the meditation involves awareness of breathing and concentration on physical postures.
- Chanting may also be included.
- Hatha yoga comes in various styles.
 - Examples include vinyasa (flowing postures linked to rhythmic breathing), ashtanga (a relatively fast-paced series of postures), and Iyengar (a slower, deeper exploration of postures with or without the use of props).
- A regular practice enhances strength and flexibility—mentally and physically.
- Studies show it enhances overall well-being, reduces feelings of stress and anxiety, improves sleep, eases low back pain, lifts mild depression, augments depression

relief when added to antidepressant medications, lessens discomfort during pregnancy, reduces blood pressure, improves quality of life in the face of chronic conditions such as asthma, and more.

- A qualified yoga teacher can help students learn to do the postures correctly and without exceeding any one individual's limits.
- While the rate of injuries is low, they can occur.

T'ai Chi Ch'uan and Qigong

- Both of these ancient Chinese practices are moving meditations designed to improve the flow of *qi*, the life energy that is thought to move through our bodies.
- In traditional Chinese medicine (TCM), blockages or imbalances of *qi* are thought to cause disease.
- Both practices help regulate movements, thoughts, and breathing.
- T'ai chi ch'uan (tai chi for short) is derived from the martial arts, though the practice is nonviolent.
- Qigong involves slow, rhythmic movements timed with breathing.
- The exercises are designed to open the meridians (energy channels) through which *qi* travels.
- People young and old can pick up the basic movements, which require low-to-moderate amounts of exertion.
- Tai chi and qigong both tame stress.
- Studies in older adults indicate that tai chi and qigong may improve balance and strength, reduce falls, lower blood pressure, improve sleep, ease depression, relieve arthritis pain, and enhance immune response.
- In addition, tai chi has been shown to improve exercise capacity in people with chronic obstructive lung disease.
- Qigong has been shown to improve sleep and reduce symptoms associated with menopause.
- In people with fibromyalgia (a condition characterized by fatigue, pain, and multiple tender areas), qigong can reduce pain and improve sleep, physical

function, and mental function.

Acupuncture

- **Acupuncture** is a primary form of treatment in TCM.
- Ancient texts describing acupuncture date back to 100 BCE.
- Acupuncturists insert fine, sterile needles into points along the meridians to restore the normal flow of qi and thereby facilitate healing.
- Western scientists have trouble explaining how acupuncture works.
 - One theory is that the needles release natural pain-relievers called endorphins or otherwise act to relieve pain.
- Regardless of how it works, acupuncture has been shown to reduce back pain, labor pains, arthritis pain, headache, menstrual cramps, tennis elbow, carpal tunnel syndrome, and other painful conditions.
- According to NCCIH, acupuncture is safe if performed correctly.

Relaxation Techniques

- In addition to deep breathing and mediation, a number of other mind-body practices improve relaxation.
 - They include progressive relaxation, guided imagery, biofeedback, and self-hypnosis.
 - All can release muscle and mental tension, slow breathing and heart rate, lower blood pressure, and enhance well-being.
 - All provide a means to evoke what Herbert Benson, MD, termed the “relaxation response.”
- Progressive relaxation, also called progressive muscle relaxation, involves sequentially tightening and relaxing each muscle group.
- Guided imagery utilizes people’s imagination for relaxation.
 - In some ways, guided imagery seems opposite to mindfulness meditation.
 - Rather than focusing on the now, people should imagine something better.
 - However, what they are changing isn’t the circumstances but their negative

views about them.

- Mental rehearsal helps people improve future performances.
- Self-hypnosis relies on phrases or nonverbal cues to trigger relaxation.
- Biofeedback requires electronic devices to teach people how to gain conscious control over the relaxation response.
 - For instance, the device might monitor the temperature of people's fingertips, heart rate, breathing rate, muscle tension, and/or brain wave patterns.
 - A display shows how these variables change while using relaxation techniques such as deep-breathing or guided imagery.
 - With practice, people can learn to control those processes without the electronic gadgetry.
 - In addition to managing stress, biofeedback can help people reduce high blood pressure and migraine headaches.

Manipulative and Body-Based Practices

- Manipulative practices are hands-on practices that address the proper alignment and function for bones, joints, muscles, and other soft tissues.
- NCCIH divides body-based practices into spinal manipulation, massage therapy, and movement therapies.
- In spinal manipulation, the practitioner uses hands or other devices to apply gentle force to the spine to improve alignment and physical function and to relieve pain.
 - In addition, practitioners often adjust joints all over the body.
 - Professionals who employ manipulation techniques include chiropractors, osteopathic physicians, naturopathic physicians, some medical doctors, and physical therapists.
 - Doctoral-level training is required for all these professions.
 - Most of the research on manipulation examines chiropractic manipulation.
 - A number of studies show that such treatment can reduce low back pain on par with conventional medical treatment.
 - Manipulative therapy may also reduce crying in infantile colic.
 - It may also relieve chronic headache.

- Properly performed, spinal manipulation is safe.
- Throughout the world, massage stands as an ancient form of healing.
 - A number of therapeutic massage techniques exist.
 - Most use fingers, hands, and sometimes forearms and elbows to rub the soft tissues.
 - Asian techniques, in theory, stimulate the energy meridians.
 - Application of pressure at acupuncture points is called *acupressure*.
 - In the United States, massage therapists must complete a training program and pass an exam before receiving a license to practice.
 - Therapeutic massage relaxes tight muscles and improves the local circulation of blood and lymph (tissue fluid and white blood cells that circulate in the lymphatic system).
 - Tight muscles are tender, impair blood flow, and pull on bones and joints to affect postural alignment.
 - Massage has been shown to relieve pain and tension, relax body and mind, and heighten well-being
 - Massage positively influences people of any age.
 - Giving massage to infants born prematurely enhances immune function, improves weight gain, and shortens hospital stays.
 - In adults who have undergone heart surgery, massage can reduce pain, anxiety, and muscular tension.
- Some body-based practices involve the active participation of the client.
 - These movement-based therapies include the Feldenkrais method, Alexander technique, and Trager psychophysical integration.
 - The therapist may use a combination of gentle manipulation, massage, and education about proper movements to avoid misalignment and unnecessary tension in performing everyday activities.
 - Pilates instructors use machines and mat exercises to train people in motions that improve alignment, balance, and strength.

Natural Products

- Natural products are usually sold over the counter as dietary supplements.
 - They include vitamins, minerals, medical herbs, plant and fish oils, amino acids, enzymes, organ tissues, and even some hormones.
- The Food and Drug Administration (FDA) regulates dietary supplements under the Dietary Supplement Health and Education Act (DSHEA), passed by the US Congress in 1994.
 - This act defined dietary supplements as products taken by mouth that contain a “dietary ingredient.”
 - These ingredients include vitamins, minerals, enzymes, amino acids, certain hormones, organ tissues, and botanicals (medicinal plants, algae, and fungi).
 - The regulatory process is not as rigorous as it is for pharmaceutical medications.
 - In the United States, three nonprofit organizations have formed the Botanical Adulterants Program to educate the industry about product adulteration.

Herbal Medicines

- Humans have probably always relied upon **herbal medicines**, the use of medicinal plants for health and healing.
- A variety of plants have medicinal properties.
- The word “herb” is often used, though the botanical definition is a nonwoody plant.
 - Peppermint, oregano, basil, and chamomile are examples of herbs.
 - Herbalists also make use of shrubs and trees (bark, berries, leaves, nuts, seeds)—plants that aren’t, technically speaking, “herbs.”
 - They also use fungi and algae, neither of which belongs to the plant kingdom.
- Scientists have derived most of the pharmaceutical drugs from plants.
 - Examples include morphine and codeine (opium poppy), aspirin (willow bark and meadowsweet), quinine (cinchona), digitalis (foxglove), and menthol (peppermint).
- The World Health Organization (WHO) notes, “In some Asian and African countries, 80% of the population depend on traditional medicine for primary health

care.”

- Medicinal plants play a huge role in these traditional healing practices.
- Medicinal plants may be sold in fresh or dried and as teas, tinctures, syrups, tablets, and capsules.
 - Topically applied herbal products include creams, oils, salves, and liniments.
- There are several advantages of herbal medicines.
 - Our genome evolved with some familiarity of plant chemicals.
 - Herbs contain a complex blend of chemicals, some of which act together to achieve the desired effect, others of which buffer potential toxic effects.
 - Herbal medicines are also generally inexpensive and accessible.
- Disadvantages of herbal medicines include a generally slower onset and less dramatic effect.
 - Only some herbal products have been standardized to ensure similar potency from batch to batch.
- Not all herbs are safe.
 - Some plants are poisonous and are often ingested accidentally.
 - Some herbs used medicinally can be toxic in larger amounts or are not safe in pregnant women and children.
 - Some cannot be taken by people with chronic diseases (especially those involving the liver and kidneys).
- With the exception of some weight-loss and sports-endurance products, most herbal products made and sold in the United States are safe when taken within recommended dosage guidelines by otherwise healthy adults.
 - Unfortunately, because dietary supplements form a lucrative market, not all are safe.
 - According to the WHO, “Counterfeit, poor quality, or adulterated herbal products in international markets are serious patient safety threats.”
 - In addition, some otherwise safe herbs—as well as vitamins, minerals, and foods—can interact with prescription and over-the-counter medications.
 - Interactions can be beneficial or undesirable.
 - Dietary supplements that inhibit blood clotting (fish oil and herbs such as

ginger, garlic, and ginkgo) should not be taken within two weeks of surgery.

Energy Medicine

- These CAM practices manipulate the body's energy fields to affect health.
 - Some are easier to explain because they use forms of energy scientists are familiar with: electromagnetic fields and visible light.
- Magnet therapy affects the electromagnetic fields.
 - Strong static and dynamic magnets have been used to ease various types of pain in people—neck pain, carpal tunnel syndrome, stroke, and diabetes.
 - Small, static magnets, such as those embedded in bracelets, do not seem to produce significant relief in people with arthritis.
 - People with pacemakers or insulin pumps should not use commercially available magnets without consulting their physicians.
- Light therapy involves exposure to natural light or bright lights.
 - Most of the research involves bright light (light boxes, special lighted visors), which mimics outdoor light.
 - Bright light therapy has been used to help people reset their biological clocks and to combat several types of depression, and possibly eating disorders.
 - Exposure to bright lights in critical times of the day helps regulate circadian (daily) rhythms and restores rhythms disturbed by night shift and jet travel.
 - Bright light therapy can also help improve sleep in people with certain neurologic diseases.
- Sound energy therapy involves the use of sound waves.
 - Tuning forks, wind chimes, gongs, Tibetan singing bowls, and music are all examples of means of releasing sound energy for therapeutic effects.
 - Soothing music can reduce blood pressure, pain, and anxiety.
- In therapeutic touch (also called healing touch) and Reiki, practitioners are said to manipulate subtle energy fields in the human body with their hands, which are placed near or on the person.
 - Qigong and acupuncture are also presumed to affect energy.
 - Intercessory prayer (praying for someone else's health) is another example of

- a therapy that might work by altering subtle energy.
 - Therapies believed to affect subtle energy (including homeopathy) are controversial because scientists haven't yet measured these energy fields.
 - Nevertheless, Reiki has been shown in studies to improve relaxation and sleep and reduce anxiety, pain, fatigue, and loneliness in people undergoing cancer chemotherapy.
 - Reiki therapy and therapeutic touch may also improve memory and reduce behavior problems in people with mild Alzheimer's disease.
 - Therapeutic touch has reduced stress in college students.
- **Homeopathy** is concerned with energy medicine, even though it involves ingestion or topical use of products.
 - German physician Samuel Hahnemann started homeopathy over 200 years ago.
 - A central tenet of homeopathy is that "like cures like," and this principle became known as the law of similars.
 - For example, restlessness and insomnia might respond to homeopathic coffee (*Coffea cruda*).
 - Another homeopathic principle is that the more dilute the remedy, the more potent it is.
 - To create these miniscule doses, the substance in question is diluted, succussed (vigorously shaken), diluted, succussed, diluted, and so on until not one molecule of the original substance remains.
 - Theoretically, what remains is an energetic fingerprint of that substance in the water, the so-called memory of water effect.
 - Experiments have shown that homeopathic solutions can alter the structure of the water in which they're dissolved.
 - Another principle is that a single remedy should clear most of a person's symptoms.
 - In addition, homeopaths view each person as unique.
 - Treatment is highly individualized.
 - This treatment philosophy makes it tough to design the usual

randomized, placebo-controlled clinical trial, wherein people are randomly assigned to receive a placebo (dummy pill) or active treatment.

- Some studies show benefits and some don't.
- While many people confuse homeopathy with herbal medicine, the two are entirely different.
 - Herbal medicines come from plants, as well as algae and fungi.
 - Homeopathy makes use of animal, plant, and mineral substances.
 - Some of them are toxic unless highly diluted.
 - Furthermore, herbal medicines usually concentrate the active ingredients rather than creating infinitesimal dilutions, as happens in homeopathy.
- Energy therapies such as therapeutic touch, Reiki, and highly diluted homeopathic remedies are generally considered safe.
 - Homeopaths note that symptoms may initially worsen before improving.
 - The other possible ill effect—one that holds true for any alternative treatment—lies in delaying timely medical treatment.

Whole Medical Systems

- NCCIH defines whole medical systems as “complete systems of theory and practice that have evolved over time in different cultures and apart from conventional or Western medicine.”
 - Most of these are traditional forms of medicine.

Traditional Chinese Medicine

- **Traditional Chinese medicine (TCM)** dates back more than 2,000 years.
 - A central tenet is that each person has a limited amount of qi.
 - Qi circulates along 12 meridians, or energy channels, each of which links with internal organs.
 - If qi becomes depleted, stagnant, or blocked, ill health ensues.
 - Another key concept is the importance of balancing of the opposing forces of

yin and *yang*.

- To restore yin-yang balance and the healthy flow of qi, TCM practitioners use a variety of treatment modalities.
 - They may recommend dietary changes.
 - They may stimulate meridians with acupuncture needles, suction cups, and *tui na* (massage).
 - They may prescribe herbal formulas, meditation, and exercise.
 - Mind-body exercises such as tai chi and qigong focus the mind, manipulate qi, and improve strength, balance, and agility.
- In the United States, practitioners complete training programs for either a master of science in oriental medicine (MSOM) or a master of acupuncture (MSAc).
 - The MSOM program usually takes three to four years to complete.
 - During that time, students learn acupuncture, moxibustion, cupping, tui na, Chinese herbal medicine, Chinese nutrition, meditation, movements (qigong, tai chi), and more.
 - Students graduating from accredited acupuncture programs, which take two to three years to complete, can become licensed acupuncturists but do not get significant training in Chinese herbal medicine.

Ayurvedic Medicine

- Ayurvedic medicine, or **Ayurveda**, originated in India more than 5,000 years ago, as described in ancient texts called the Vedas.
 - As with TCM, treatments include dietary modifications, medical herbs and spices, bodywork, movement (yoga), breathing exercises, and meditation, as well as treatments designed to remove toxins.
- Ayurvedic practitioners believe health and healing can be found through daily living practices and, when needed, the application of gentle healing modalities.
 - Furthermore, each person has a unique combination of the five primary elements—ether, air, fire, water, and earth.
 - These elements combine in pairs to form *doshas*.
 - A person will have a predominance of one or two of these doshas.

- Imbalances in these energetic forces can lead to disease.
- Although certification programs are available, Ayurveda is not a licensed health-care practice in the United States.

Curanderismo and Native American Healing

- Curanderismo is a form of Latin American folk healing.
- Native American healing refers to the techniques used by the first people on this continent.
- Curanderos (male healers) and curanderas (female healers) may specialize as herbalists, midwives, body workers, or counselors.
- Both Native American healing and curanderismo employ techniques for spiritual healing.
 - Spiritual rituals for native traditions can include prayers, cleansing baths, singing, drumming, dancing, and sweat lodge ceremonies.

Naturopathy

- **Naturopathy**, or naturopathic medicine, officially began in the early 1900s when German physician Benedict Lust immigrated to America.
 - He brought with him a European system called the “Nature Cure,” which relied upon good diet, exercise, hot baths, and other nontoxic means to restore health.
- Similar to the training of a medical doctor, naturopathic physicians (NDs) undergo four years of graduate training.
- Naturopathic physicians work with patients to address imbalances within the domains of wellness.
 - The goal of treatment is to address the root of the illness rather than suppress symptoms.
 - Practitioners employ a unique combination of modern medical science and natural medicines.
 - Treatment is custom-tailored to meet the needs of the individual.

- To maintain health and manage disease, naturopathic physicians employ a variety of nontoxic, noninvasive therapies such as a healthy diet, exercise, water therapy, physical manipulation, acupuncture, herbs and other nutritional supplements, and homeopathy.
 - NDs may specialize both in the type of therapies they typically recommend and the types of health conditions they treat.
 - In some states, NDs are licensed to prescribe some classes of pharmaceuticals.

Discussion Questions and Solutions

1. Go to the NCCIH website and check for recent research (<http://nccam.nih.gov/research>). Links to research are under “Research Results.” Click on “See more research results.” Select a study to read about. Summarize the findings in your words.

Answer: Students’ answers will vary. The website

(<http://nccam.nih.gov/research>) as accessed on July 26, 2013 listed the following research results:

- [Weekly and Twice-Weekly Yoga Classes Offer Similar Low-Back Pain Relief in Low-Income Minority Populations](#)
 - [NCCAM Review Analyzes Evidence on Brain Effects from Chronic Pain and Mind and Body Approaches](#)
 - [Creating a Potential New Drug-Delivery System From Grapefruit Juice](#)
 - [Yoga Practice May Improve Pain Tolerance and Alter Brain Anatomy](#)
 - [Study Finds Association Between Biological Marker and Susceptibility to the Common Cold](#)
 - [Study Quantifies Physical Demands of Yoga in Seniors](#)
2. Go to the FDA’s website on dietary supplements:

<http://www.fda.gov/Food/DietarySupplements/default.htm>. What information must a dietary supplement manufacturer put on the product's label? What kind of health claims can be made on the label?

Answer: Students may refer to the following link:

http://www.fda.gov/Food/DietarySupplements/QADietarySupplements/ucm191930.htm#what_info

3. Bring a piece of fruit back to your residence. Find a place where you won't be disturbed for a quarter hour. Take a comfortable seat. Scan your body from head to toe for areas of tension. Unless you need those muscles to remain upright, let them relax. Set the fruit before you and visually inspect it—every nook and cranny. Stay aware of your thoughts. If they stray, bring them back to your inspection of the fruit. Pick up the fruit and appreciate its texture. Smell it. If the fruit has a rind, peel it away, noticing all the sensations associated with this action. Take one bite. Savor it. Take another. Eat as much as you need to satisfy hunger. Write down your thoughts about this experience with mindfulness meditation.

Answer: Students' answers will vary.

Key Takeaways

- Complementary and alternative medicines (CAM) are a diverse group of therapies that fall outside the realm of conventional medical practices. Complementary therapies are used alongside conventional treatments; alternative treatments are used instead of conventional treatments.
- Nearly 40 percent of American adults use CAM. The most commonly used CAM therapies are nonvitamin/nonmineral natural products, deep-breathing exercises, and chiropractic or osteopathic manipulation.
- NCCIH divides CAM therapies into three broad categories: mind-body medicine,

manipulative and body-based practices, and natural products.

Key Terms

- **Acupuncture:** The insertion of fine needles into points along meridians (energy channels) to restore balance and promote healing.
- **Alternative therapies:** Health practices that are used instead of conventional medicine.
- **Ayurveda:** A traditional healing system that originated in India.
- **Complementary and alternative medicine:** Treatments that are not considered part of conventional medicine.
- **Complementary therapies:** Health practices that are used with conventional medicine.
- **Herbal medicines:** Preparations derived from medicinal plants.
- **Homeopathy:** A system of medicine that treats illnesses with highly diluted substances that, in larger doses, would cause similar symptoms.
- **Naturopathy:** A system of medicine that relies on natural treatments to correct imbalances and allow the body to heal.
- **Traditional Chinese medicine:** A system of medicine originating in ancient Chinese that employs acupuncture, medicinal plants, massage, meditation, diet, and movement.

Section 3: Holistic Medicine and Integrative Medicine

Learning Objectives

1. Define holistic and integrative medicine.
2. Describe the premises and objectives of both.

Section Outline

Holistic Medicine

- **Holistic medicine** addresses the health of the whole person—body, mind, and spirit.
 - This view is quite different from a mechanistic, reductionist view that has dominated medical science over the last couple of centuries.
- In a mechanistic view, the doctor's role is to repair and replace broken parts.
 - The scope of interest narrowed to the disease part.
- The scientific method lends itself to a reductionist strategy, controlling as many variables as possible.
 - Rather than study the effect of a food or dietary pattern in populations of humans, it's easier to narrow to the effect of a single vitamin or mineral.
 - Doing so provides interesting information but misses out on the interactions of multiple chemicals within foods and herbs.
- For many conditions, a holistic approach makes sense.
- Holistic medicine follows several principles:
 - Humans have an innate ability to heal.
 - In order for a person to feel truly healthy, all the dimensions of wellness—physical, environmental, mental, emotional, social, spiritual, financial—must function optimally.
 - Patients are people not diseases.
 - The goal of treatment is to correct the underlying cause of illness rather than merely to relieve symptoms.
 - Patients and practitioners are partners with practitioners.
- Any type of practitioner can practice holistically.
 - Many conventional doctors, nurses, and physician assistants take the whole person into account.
 - Most practitioners of complementary and alternative medicine do as well.
 - Traditional healers have always taken a holistic viewpoint.
- Nineteenth-century French physiologist Claude Bernard established the concept that the body seeks to maintain an internal steady.
 - American physiologist Walter Cannon applied the term **homeostasis** to this

internal status quo.

- Advanced age, illness, and stressful events challenge homeostasis.
- In essence, holistic medicine seeks to restore homeostasis.
- Stress researchers such as Hans Selye proved that psychologically and physically stressful events affect multiple bodily systems, including the nervous, immune, hormonal, and cardiovascular systems.
- In the mid-1970s, Robert Ader and Nicholas Cohen at the University of Rochester coined the term **psychoneuroimmunology** (PNI), the study of how nervous, hormone, and immune systems interact.
 - Thoughts and emotions influence levels of brain chemicals and hormones.
 - Nerve signals and hormones then affect the immune system, as well as other organ systems.
 - Physical events lead to a pattern of molecular events that affect thoughts and emotions.
- Hundreds of studies have shown that mental and emotional health affects physical health and vice versa.
 - Grieving widowers have suppressed immune function.
 - Laughter, on the other hand, enhances immune function.
 - Adults who feel their lives have meaning and purpose have greater longevity.
 - People with major depression are more likely to have heart disease, diabetes, asthma, and strokes.
 - Likewise, having these serious conditions can undermine mental and emotional health.
- PNI research also sheds light on how placebos work.
 - A **placebo** is something people would not expect to have a significant effect on the body's functioning.
 - The gold standard of clinical trials (research involving human volunteers) is the placebo-controlled trial.
 - People in one group get the active treatment; people in the other get a placebo.
 - If a drug is the treatment, the placebo group gets a pill without active

ingredients.

- Clinical trials are frequently subject to a **placebo effect**.
 - People who enroll in these studies often have an illness.
 - They know they have a 50-50 chance of getting the new drug or therapy.
 - Researchers ask them how they are, how they're feeling.
 - If the researchers behave in a kind and compassion manner, that alone can help.
 - So the people in the placebo group often get a bit better.
 - People with depression, anxiety, pain, and insomnia are particularly likely to improve on placebo treatment.
 - PNI research has demonstrated that placebos can produce boosts in immune responsiveness, allergic reactions, changes in blood pressure, and other biological effects in response to placebos—as long as study participants believed they received the “real” treatment.
 - Traumatic injuries and serious ailments are obvious exceptions.
 - Medical practitioners of all stripes use the power of placebos in healing.

Integrative Medicine

- **Integrative medicine** represents the blending of CAM with conventional medicine.
 - Key to this definition is that all therapies have scientific evidence of effectiveness and safety.
 - The goal is to utilize therapies that effectively improve health and well-being while minimizing side effects.
 - It's an inclusive type of holistic medicine that remains sensitive to traditional medical systems.
- The principles are similar to those under the holistic model and include additional features:
 - Patients and health practitioners work in partnership to affect healing and share in the decision-making process.
 - Practitioners consider all the dimensions of wellness when evaluating patients.

- Both conventional and CAM treatments are used, with a goal toward finding the most natural and least invasive treatment.
 - In addition to treating disease, practitioners also work to promote healthy lifestyles and prevent illness.
 - While science is important, the conventional randomized placebo-controlled trial may not be applicable to some CAM therapies.
- An integrative approach increases the therapeutic options to prevent and manage illness.
- In an integrative model, physicians use a holistic assessment and help their patients design an individualized treatment plan from an array of options.
 - Sometimes a team of experts—dietitians, physical therapists, massage therapist, chiropractors, acupuncturists, conventional doctors—work together to prevent and treat illness.
 - Whenever possible, practitioners recommend the least invasive and least toxic therapies first.
- Integrative medicine offers some advantages for aging populations with increasingly complex conditions.
 - An integrative approach can be used to prevent illness, improve disease symptoms and quality of life, and reduce reliance on medication.
 - Many of the treatments are relatively inexpensive and hold the promise of keeping people healthier longer, which could ultimately reduce health-care expenditures.
 - Future studies will need to evaluate the outcomes of integrative treatment approaches.

Discussion Questions and Solutions

1. Explain the differences between conventional, alternative, complementary, and integrative medicine. Give an example of each.

Answer: Conventional medicine is often called biomedical medicine, Western

medicine, or allopathic medicine. Examples include critical care for conditions such as heart attacks, and the prevention of illnesses through vaccinations. Medications and surgery are prime treatment modalities. Complementary therapies refer to practices that are used alongside conventional medicine. An example is the addition of therapeutic massage or acupuncture to treatment recommended by the doctor and physical therapist for a shoulder injury.

Alternative therapies refer to those employed instead of conventional medicine. In this case, meditation rather than medication to advised to manage insomnia.

Integrative medicine represents the blending of complementary and alternative medicine with conventional medicine. For someone with heart disease, integrative treatment might entail meeting with a dietitian, working with an exercise trainer or yoga instructor, learning relaxation techniques, and taking physician-prescribed medications to lower cholesterol.

2. Do an Internet search on a health topic that interests you. Examples include treatments for depression, magnets for cancer (or arthritis), supplements for athletic endurance, weight-loss supplements, and causes of chronic fatigue syndrome. Using the criteria listed in the sidebar “Becoming a Savvy Health Care Consumer”, critically analyze the credibility of the information you find on three different websites.

Answer: Students’ answers will vary. For example they may refer to the following links for information on chronic fatigue syndrome:

- <http://www.cdc.gov/cfs/>
- <http://www.nlm.nih.gov/medlineplus/chronicfatiguesyndrome.html>
- <http://www.webmd.com/chronic-fatigue-syndrome/default.htm>

Key Takeaways

- Holistic medicine addresses the needs of the whole person. The main principles are

that the body has an innate ability to heal itself, that removal of underlying causes of illness is necessary for complete healing, that patients and practitioners are partners, and that treatment should be individualized.

- Integrative medicine represents the blending of conventional medicines and CAM (complementary and alternative medicines) with the most evidence for effectiveness and safety. The approach is holistic and inclusive.
- Consumers have a range of diverse health-care options and means of acquiring health-related information. In order to make wise decisions, consumers need to maintain a healthy skepticism and learn to evaluate health claims.

Key Terms

- **Holistic medicine:** A form of healing that takes into account the whole person—body, mind, emotions, and spirit.
- **Homeostasis:** The internal state maintained by bodily processes.
- **Integrative medicine:** A system of medicine that combines evidence-based conventional CAM treatments.
- **Placebo:** Anything that is not expected to affect medical treatment.
- **Placebo effect:** Any effect that appears to arise from administering a placebo.
- **Psychoneuroimmunology:** The study of the interaction of mental and emotional states, nervous system activity, and immune function.

Additional Resources

Maizes V, Rake D, Niemiec C. Integrative medicine and patient-centered care.

Commissioned for the IOM 2009 Summit on Integrative Medicine and the Health of the Public. Available at:

<http://www.iom.edu/~media/Files/Activity%20Files/Quality/IntegrativeMed/Integrative%20Medicine%20and%20Patient%20Centered%20Care.pdf>

ESCAPE FIRE (<http://www.escapefiremovie.com/>) is a film on our nation's healthcare.

“ESCAPE FIRE examines the powerful forces maintaining the status quo, a medical industry designed for quick fixes rather than prevention, for profit-driven care rather than patient-driven care. After decades of resistance, a movement to bring innovative high-touch, low-cost methods of prevention and healing into our high-tech, costly system is finally gaining ground. This film follows dramatic human stories as well as leaders fighting to transform healthcare at the highest levels of medicine, industry, government, and even the US military. ESCAPE FIRE is about finding a way out. It's about saving the health of a nation.”