

Holistic Benefits of  
Integrative Medicine for Cardiovascular Disease

A thesis submitted to the  
Caspersen School of Graduate Studies  
Drew University in partial fulfillment of  
the requirements for the degree,  
Masters of Medical Humanities

Committee chair: Phil Scibilia, Doctor of Medical Humanities  
Director of Medical Humanities

Komal Chandra  
Drew University  
Madison, New Jersey

May 2014

*Dedicated to my family, the heart of this project:*

*In honor of my Grandparents,*

*Kishan Ram Chandra and in loving memory Hansi Devi Chandra,*

*Julie D'Souza and in loving memory Max D'Souza.*

*My Parents, Govind and Sandra Chandra, for their support.*

*And my Siblings, Natasha and Jaadu Chandra, for their love.*

## TABLE OF CONTENTS

Introduction	1
What is complementary and alternative medicine?	3
Why is complementary and alternative medicine popular?	5
Who is using complementary and alternative medicine?	8
Integrating complementary and alternative medicine	11
Integrative therapies for Cardiac Disease	17
Real world implementation	31
Integrative medicine in the international arena	38
Challenges of integration	39
Financial considerations	41
The future of integrative medicine and healthcare	46
Summary and concluding thoughts	49

**Introduction:**

Fifty years ago medicine was a profession; its worth was determined by the service provided. Overtime medicine has shifted to more of a business and its worth is determined by the fee a physician is able to collect. The medical arena is heavily influenced by insurance factors, coverage, and compensation. Healthcare has become more of a commodity; it can be bought and sold with a troop of healthcare providers and its consumers. After having worked in the healthcare industry for seven years and in that short time, I have witnessed a significant change first hand. Hospital staff is encouraged to “document, document, document” in an effort to insure that charts and patient records are accurate, available, and systemized. More emphasis is placed on documentation, and in turn patient care is sacrificed. The time that a healthcare provider would spend looking into the eyes of a patient is replaced by looking at a computer screen to document and update the patient’s chart. This shift towards a more technologically advanced medical society has positively progressed us to the future however, this progress does come with setbacks. As we embrace our medical advances technologically we can take for granted the importance of the human connection between patient and healthcare provider.

Sometimes we underestimate the power and necessity of medical humanities in healthcare and healing. Listening, eye contact, bedside

manner, cultural humility, and touch are all powerful and important aspects in healing. Some hospitals are now fined if a patient is re-admitted to the emergency room with the same diagnosis code in a short span of time. In today's medical world we seem to test, treat, and bill for a specific diagnosis. These diagnoses, with the exception of mental illnesses, are typically physical manifestations; swelling, pain, tenderness, shortness of breath, obesity. There are times however when one can sense that he or she is unwell, even though they may not be able to pinpoint what exactly is physically wrong.

Health is more than physical well-being, and more than the absence of an ailment. Since 1948, the World Health Organization defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO). Even though the World Health Organization defines health holistically, many health care professionals are still treating patients with a reductionist approach. Complementary and alternative therapies offer holistic healing methods, which is imperative for good health. This approach should be integrated into biomedicine, and can greatly help patients suffering from cardiovascular disease because of its inclusive philosophy. Cardiovascular disease affects a majority of the population and recovery, treatment, and prevention is possible and can be improved with the implementation of these techniques. Complementary and alternative therapies in the form of integrative medicine positively

influence cardiac patients and enhance a more holistic mind, body, soul healing experience.

### **What is complementary and alternative therapy?**

Complementary medicine is therapy used alongside conventional medicine, whereas alternative medicine is used in place of conventional medicine. The term integrative medicine is used to describe the combination of practices and methods of alternative medicine with conventional biomedicine. The National Center for Complementary and Alternative Medicine defines complementary and alternative medicine as “a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine” (National). However, what may be “conventional” to the United States healthcare system may be unconventional to the rest of the world. Alternatively, what is deemed unconventional to the United States may be conventional forms and methods of treatment in other areas of the world. Many families have cultural remedies for ailments that were passed down from generation to generation. This may be a ginger and honey concoction for a sore throat, toothpaste for a burn, or turmeric for joint pain. The current biomedical system of the United States treats a heterogeneous society; however, people come from vastly different cultures, societies, and religions. Other cultures have different healing systems in place of western biomedicine. Some of these systems pre-

date our own and have been passed down from generation to generation.

Examples of these systems include Ayurvedic medicine, traditional Chinese medicine, and homeopathy. Ayurveda originated in India and aims to integrate the body, mind, and spirit to prevent and treat disease. Therapies in this medical system utilize herbs, massage, and yoga. Traditional Chinese medicine uses herbs, acupunctures, and concepts of balance, including yin-yang. Homeopathy, which originated in Europe, is a therapy that allows the body to heal itself by prescribing small doses of diluted substances of something that in a high dose would produce illness symptoms (Anderson 166). These are only three examples of the many unique healing systems of the world. When comparing these systems to our own there are more than biological boundaries, but also cultural boundaries. Moreover, these are not definite boundaries but are unstable outlines. Some cultures believe in the duality of mind and body while others do not. This raises the question of “the matter of the self”, are we treating the physical person or their total self. This thought process can aid us in providing good health as defined by the World Health Organization.

Complementary and alternative practices are typically grouped into three broad categories of natural products, manipulative and body based practices, and mind-body medicine. Natural products include

botanicals, vitamins, minerals, and herbal medicines. This would also include over the counter dietary supplements and multivitamins. Manipulative and body based practices focus on body structure and body systems (bones, joints, soft tissues, circulation). Massage therapy and spinal manipulations are two examples of this practice. The intended purpose can be for rehabilitation or to relieve stress and increase relaxation. Mind and body medicine focuses on the relationships between the body, mind, brain and behavior. Examples of this practice include meditation, yoga, and acupuncture and are concepts rooted from traditional Chinese and Ayurvedic medicines. Other forms of complementary and alternative medicine include traditional healers, manipulation of energy fields, and healing touch (Bayles 31). These therapies all give a sense of relaxation and relief mentally and emotionally, and this affects patient well-being.

### **Why is complementary and alternative medicine popular?**

Complementary and Alternative medicine has been gaining significant popularity recently. Some may question the popularity of significantly older techniques in a medically progressive time period. Studies show that satisfaction with mainstream medicine is not an important factor in deciding to use complementary and alternative medicine, and users are generally satisfied with their mainstream care. Many supporters of complementary and alternative therapies say



that they use it because it aligns with their philosophy, and they simply want to expand their options from mainstream biomedicine (Bishop, Yardley, Lewith 177). Though we cannot pinpoint a specific cause for the increased attention on complementary and alternative medicine, there are several contributing factors to its popularity.

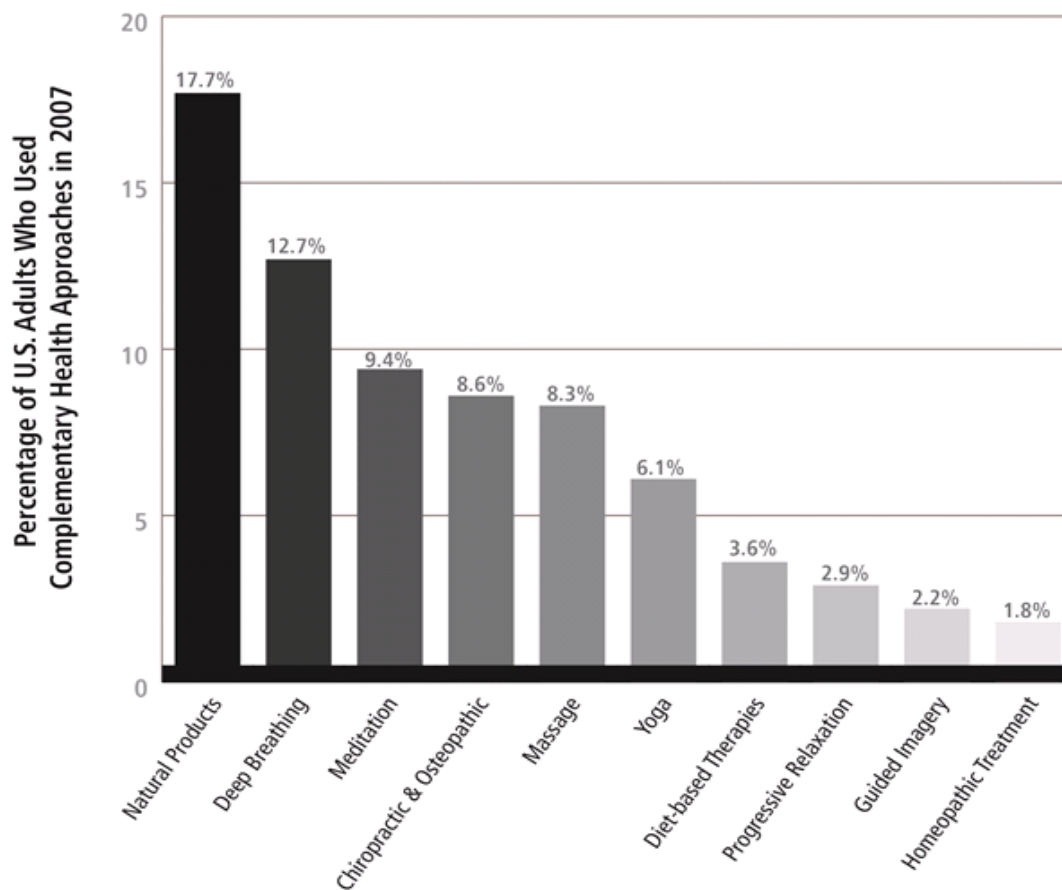
As the world has progressed medically and technologically, it has also progressed as a society. The term “stress” was not utilized as often as it is today. Stress was used to describe a physical force, now it is more used to describe an emotional pressure. Stress is often the cause or contributor of many critical medical ailments, especially cardiovascular disease. People often use complementary therapies to help them feel better. How you feel plays a part in how you cope. Many complementary therapies concentrate on boosting relaxation and reducing stress. They may help to calm emotions, relieve anxiety, release pressure, and increase general sense of health and well-being. This may just be a placebo effect, however the mind plays a significant effect on overall health. There has been a push for a healthier lifestyle; physically, mentally, emotionally and spiritually. Mind body therapies help achieve that kind of lifestyle.

Complementary therapies allow people to take a more active role in their treatment of chronic conditions. They can decide which therapy to use and how often they use it, allowing for a more empowered

patient. Complementary therapies or medicines can also be used alongside with a prescribed treatment to help boost recovery. Many patients use complementary therapies because they like the idea that they seem more natural. Some people may believe that specific alternative therapies may help control or cure their condition if alternative methods are used instead of conventional treatment. To some, alternative treatment can become more important to people with critical conditions if their conventional treatment is no longer controlling their ailment.

Ernst elaborates that positive factors aiding in the popularity of complementary and alternative therapies include perceived effectiveness, perceived safety, philosophical congruence, “High touch, low tech”, non-invasive nature, affluence, and good patient/therapist experience (Ernst 1134). He also lists the negative motivations for complementary and alternative methods as dissatisfaction with (some aspects of) conventional health care (ineffective for certain conditions; serious adverse effects; poor doctor patient relationship; insufficient time with doctor; waiting lists; “high tech, low touch”), rejection of science and technology, rejection of “the establishment”, and lastly desperation (Ernst 1135). All in all, there is no single determinant of the present popularity of complementary and alternative medicine and each individual may have his or her own reasons for pursuing complementary or alternative therapies.

## 10 Most Common Complementary Health Approaches Among Adults—2007



Source: Barnes PM, Bloom B, Nahin RL. Complementary and Alternative Medicine Use Among Adults and Children: United States, 2007. CDC National Health Statistics Report #12. 2008.

### Who is using complementary and alternative medicine?

The National Institute of Health states that “nearly 40 percent of Americans use health care approaches developed outside of mainstream Western, or conventional, medicine for specific conditions or overall well-

being” (NCCAM). A 2002 study conducted by the National Health Interview Survey concluded that sixty two percent of adults used some form of complementary and alternative medicine therapy during the past 12 months (Barnes 56). This definition of complementary and alternative medicine therapy included prayer specifically for health reasons, and when prayer was excluded from the definition, thirty-six percent of adults reported using some form of complementary and alternative medicine therapy during the past 12 months. The research identified the ten most common complementary and alternative medicine therapies to be “use of prayer specifically for one’s own health (43.0%), prayer by others for one’s own health (24.4%), natural products (18.9%), deep breathing exercises (11.6%), participation in prayer for one’s own health (9.6%), meditation (7.6%), chiropractic care (7.5%), yoga (5.1%), massage (5.0%), and diet-based therapies (3.5%)” (Barnes 57). This study indicated that these therapies were most often used to treat back pain or back problems, head or chest colds, neck pain or neck problems, joint pain or stiffness, and anxiety or depression. Adults were more likely to try these complementary therapies because they believed that it combined with conventional medical treatments would help treat their problem (Barnes 62).

Five years later, the National Health Interview Survey conducted another study from 23,393 completed interviews with U.S. adults aged 18 years and over and 9,417 completed interviews for U.S. children aged

0–17. The 2007 Complementary and Alternative Medicine concluded that approximately 38 percent of U.S. adults aged 18 years and over and approximately 12 percent of children used some form of complementary and alternative medicine (Nahin et al). The studies also indicated that in 2007, U.S. adults spent \$33.9 billion out-of-pocket on visits to complementary and alternative practitioners and purchases of complementary and alternative products, classes, and materials (Nahin et al). There has been an increase in complementary and alternative medicine usage in the United States in five years. Since 2007 there has been even more increased popularity for this type of treatment.

Another study conducted by the University of Hawaii, studied the use of complementary and alternative medicine among American women. This study concluded that 33.5% of American women used complementary and alternative medicine in the past 12 months with spiritual healing/prayer and herbal medicine are the most commonly used (Upchurch 10). Interestingly, the researchers said “multivariate results show that women who are older, have more education, poorer health, or live in the West or Midwest (versus south) are more likely to use complementary and alternative forms of medicine. Compared to whites, blacks, Hispanics, and Asians are less likely to use complementary and alternative medicine. Interestingly, according to Upchurch “white, older, educated” women are more likely to use complementary and alternative medicine (10).

This article focused on therapies however that focused on spiritual and herbal medicines. These herbal medicines are expensive which would possibly support the claim of older, educated women using these therapies. The findings also suggest that women who have poorer health and are sicker are more likely to try alternative methods of healing for their conditions.

### **Integrating complementary and alternative medicine**

As we can see from the data, there is a growing demand in today's society for complementary and alternative medicine. According to two sociologists in Australia, an explanation considered for this demand is the postmodern thesis as well as more general changes in society (Coulter 220). The post-modern thesis findings indicate that the combination of a general dissatisfaction with various aspects of conventional biomedicine, there is a greater attraction to a holistic model of health (Coulter 225). The post-modernism theory focuses on social change processes and emphasizes differences, cultural diversity, and options for identity formation. This view has had an impact on biomedicine with a demand for more integrated health systems. The paper concludes that the trend is likely to continue, as will the role of social scientists in observing and documenting complementary and alternative medicine.

Medical anthropologists need to integrate the field of integrative medicine to make it more interdisciplinary. Our understanding of traditional healing systems should be applied to our health care system. Many physicians also agree that we should have a multi-disciplinary patient oriented approach to healthcare (Barrett 421). The distinction of western biomedicine is that there is a separation of mind and body, whereas most other healing systems see an integration of mind, body, and soul for well-being. Many of these other healing systems, however, have been evolving for several generations compared to western biomedicine. Western biomedicine still has room for growth and improvement. We should utilize the strengths of other healing systems and integrate them into our own system. Our healthcare environment is comprised of individuals from many different cultural backgrounds. Diseases can be universalized and treated in any modality, however, to truly treat a person we need to treat more than the symptoms and the disease. To treat a person we need to know about their cultural lifestyle, what is important to them in healthcare, and what healing will make them feel better. For a treatment to be effective one must believe in the power of their healer and in the power of their health care system.

All too often people from different cultural backgrounds have a negative outlook on western biomedicine; second guessing their doctors, distrusting the western healthcare system, which sometimes causes

them improperly follow their treatment plan. When their treatment plan is not properly adhered to, the individual may not be healed/cured effectively causing further distrust in the system. Medical anthropology and medical humanities would want to invest in a healthcare system where there is “cultural humility.” We should be aspiring towards a health care system which focuses on treating an individual through methods and treatments best suited for that individual. If someone is ailing of congestive heart failure, surgery may clear the arteries, however, the stress causing the blockage has not been addressed. Integrative medicine would combine conventional biomedicine along with yoga, acupuncture, or meditation. This dichotomy between mind and body needs to be eliminated in our society so we can treat and support healthier and happier patients.

Medical anthropologist Hans Baer also brings up an important argument that this interest in holistic health began as a “consumer-driven movement” (Baer 62). These complementary and alternative therapies are generally out of pocket expenses for individuals are not covered by insurance. I think once this field is further researched and treatment modalities are put into place, physicians should start prescribing these treatments in the same way one would prescribe physical therapy.



Complementary/alternative medicine should not be viewed as a separate healing system, but for it to be integrated into our own we would need to feel comfortable prescribing these healing methods. To fully integrate these practices we would need to regulate and create guidelines for these therapies. We would need to consider possibly licensing practitioners of these different medical practices. Would we create centers to regulate the training of these practitioners? This may be necessary if we were to truly integrate them into our medical system. Once the practitioners and the practices have been regulated we can then begin prescribing these therapies.

Just like with physical therapy, we would need to diagnose the patient and prescribe a form of complementary therapy. There would need to be a regulated treatment plan and then a reevaluation. These therapies need to be seen as “therapies” and not “cosmetic” spa related relaxation techniques for the wealthy, as they have the potential to help promote wellness and health in patients as well some preventative measures.

Complementary medicine has been understudied and undervalued. We must understand the limitations of our models, construct new models, and need to assess how to effectively integrate these methods into biomedicine to improve patient health. Complementary and alternative medicine has historical and

cultural roots which can benefit our present and future societies. Society is beginning to see integrative medicine centers and therapies starting to be utilized. This can be partly due the diversification and awareness of different cultures and customs in western society.

There is a false notion that integrative medicine is a new phenomenon, however it has been long established and there has just been an increased awareness surrounding it. Through research, anthropologist Marc Micozzi concluded that “no one form of medicine can provide a formula that will offer effective medical care for the entire human family” (399). The field of integrative medicine resolves this dilemma by combining aspects of different healing systems to compensate for an insufficiency in any one healing system. Integrative medicine focuses on the strengths of various healing systems and combines them into a comprehensive treatment for an individual. This is important in the field of medical humanities, because this type of healthcare focuses on the patient as a person. Integrative medicine would include patient participation to heal the illness, not just the disease, in a strategy individualized for the patient.

One may ask what does integrative medicine have to do with a hard medical science like cardiology. The healthcare system tends to group medical specialties into boxes, and though the boxes do touch at

times - the content in each box remains its own separate entity. Health professionals need to realize that life, medicine, and health cannot be categorized and boxed separately, but should be looked at as a ball of wire; everything ultimately connects to everything. A major life circumstance can affect one's emotional well-being, leading to mental stress, which can cause physical ailments. A physical ailment can also cause mental stress, affecting one's emotional well-being. Often the biggest contributing factors to cardiovascular disease is lifestyle and stress. Complementary and Alternative medicine is used to target stress and improve one's lifestyle, which in turn would improve cardiovascular health. It is about time we start realizing that everything is interconnected, and health is more holistic and encompassing than just a diagnosis code.

Often times treatment plans start with identifying symptoms, and then assigning a diagnosis code; 786.50 - unspecified chest pain, 786.05 - shortness of breath, 414.01 - coronary artery disease, 401.9 - unspecified hypertension. Once the ailment was identified, a treatment plan began; take some medication, diet, exercise, and we will evaluate in four to six weeks. If the treatment options do not work surgery may be considered. However, how many times do we see relapse surgeries and recurrent valve replacements? Something is not working with our current system. Instead of treating causes of ailments, society tends to

treat diagnoses with medicine. People are taking ten pills daily, and taking pills to counter reactions from the pills they are taking!

Health is more than the absence of physical sickness - but rather holistically a whole body, mind, soul, and spiritual well-being. It is important to be aware that everything truly is connected. Healthcare providers should find the originating cause for a condition and start there. Improving stressors can treat and prevent cardiovascular conditions. Moreover, integrative therapies allow for a more total care. Integrative therapy can help reduce stress, anxiety, and lifestyle patterns that can contribute to cardiovascular disease. Januzzi et al concluded in their review study that anxiety is prevalent in patients suffering from acute cardiac illness and this triples the risk for sudden cardiac death six fold (415). Researchers also concluded that there is a 25% incidence of major depression associated acute cardiac illness, and this negatively affects quality of life and quadruples the risk of mortality (Kreitzer and Synder 74). There is growing evidence that healing the heart requires caring for the whole person.

### **Integrative Therapies for Cardiac Disease**

Different forms of complementary and alternative medicine are being used to help treat cardiac related issues. These include Mind-Body interventions, Biological- Based therapies, Manipulative and Body-Based

therapies, and Energy therapies. Mind-Body therapies focuses on interventions that require the body to have an effect on one's mind. Which can involve communication between the body and mind that can directly affect health with mental, emotional, and spiritual factors. Mind-Body interventions include tai chi, yoga, meditation, prayer, music and others.

Tai chi is an ancient Chinese form of martial arts known for its soft, relaxing and slow movements. It is described “as a series of individual movements, linked together in a continuous manner, that flow smoothly from one movement to another” (Kreitzner and Synder 76-77). Tai chi has developed into a graceful form of exercise that's now used as a way to reduce stress and a help with a variety of other health conditions including cardiac problems. Because of its low impact on muscles and joints, it is considered to be suitable for all age groups and fitness levels. According to Rabito et al, a study has shown that "reductions in blood pressure (3–32 mm Hg systolic, 2–18 mm Hg diastolic) with tai chi were reported " (Rabito and Kaye). Also another study concluded that tai chi may help to improve the quality of life and state of mind of those with chronic heart failure. Moreover, it has been found to have benefits on physiological and psychosocial functions and seemed to be safe and helpful in improving flexibility, balance, and cardiovascular health in older populations. Movements in tai chi are mostly round motions that are not stressed. The person's muscles

should be relaxed rather than tensed, the joints are not completely extended or flexed, which results in the connective tissues not being stretched. Tai chi can be easily adapted for almost anyone, from the most active and athletic person to those who are confined to wheelchairs or recovering from surgery, especially those resulting in cardiac complications.

A review done by Archer et al, showed in a study of patients with an acute myocardial infarction, that tai chi an impact on decreasing both systolic and diastolic blood pressures, as well as being a good alternate therapy or to be used in conjunction with regular exercise in cardiac rehabilitation programs (Arthur, Patterson, and Stone 5). An additional study was done by Yeh et al, by running a trial comprising of patients suffering from chronic stable heart failure. The study found that if tai chi was incorporated in the treatment of the patients, adjunct with medication, exercise, and diet, it improved their fitness levels and quality of life (Arthur, Patterson, and Stone 6).

Yoga has been practiced for centuries to help balance one's mental, physical, and spiritual state of being. Yoga is an East Indian traditional practice of meditation, and breathing and stretching exercises. It has shown to have various benefits on the cardiovascular system. Unlike the slow, circular low-impact motions in Tai Chi, yoga can incorporate movements or poses which require the stretching of muscles by flexing or

extending the body. This is to help improve flexibility as well the respiratory system. Documentation has been done on yoga, identifying the advantages of practicing yoga, which include improvement in the control of sympathetic function, reducing high blood pressure and heart rate, increasing cardiovascular stamina, reduction in sympathetic tone, and improvement in cardiac stroke output (Kreitzner and Synder 76).

In a study of patients undergoing cardiac procedures, doing yoga was shown to decrease fatigue, aggression and anxiety in patients. It has also been documented to help improve cardiovascular function in patients increasing aerobic function and endurance (Kreitzner and Synder 76). One study that examined the effects of yoga on blood pressure and heart rate in men constituted that the men in the yoga group showed better decreases in heart rate and blood pressure and better aerobic performance after three months compared to men not practicing yoga. Several studies have also shown to find positive conclusions regarding improving weight loss, control of blood glucose, control of blood lipids, reduction in the number of angina episodes in patients with advanced coronary artery disease, and improved general quality of life (Rabito and Kaye).

The use of meditation, specifically transcendental meditation, has been implemented as a method of stress reduction. It is beneficial to patients with cardiac issues, as it helps with the complications of high

blood pressure, stroke, heart attack and other cardiac issues. The Royal Australian College of General Practitioners composed literature which summarized the various behavioral, cognitive, and physical findings of transcendental meditation (Arthur, Patterson, and Stone 7). The physiological findings included the reduction of cholesterol and blood pressure, lower levels of heart and respiration, and a turnaround on the effects of stress (Arthur, Patterson, and Stone 7). Behavioral and psychological reactions that were described included reduction in post-traumatic stress disorder, apprehension, and depression, which deemed important in the recovery of cardiac patients (Arthur, Patterson, and Stone 7).

During the 1960s, Dr. Herbert Benson, a cardiologist from Harvard, studied the benefits of the practice of transcendental meditation. He discovered that meditation arouses a state of the body's autonomic nervous system that corresponds in reducing stress by lowering the levels of stress hormones, blood pressure, respiratory rate, heart rate and pulse rate (Kreitzner and Synder 76). Later, Benson defined this state as "relaxation response" - a state that evokes a bodily calm" (Kreitzner and Synder 76). A later study conducted by Leserman et al, found that the relaxation response produced a decreased occurrence of postoperative supraventricular tachycardia and reduction in anxiety and hostility in those patients experiencing cardiac surgeries (Kreitzner and Synder 76). Lin et al, reviewed a trial conducted with the



use of transcendental meditation for black Americans suffering from hypertension (Lin et al. 2040). The study resulted that the use of transcendental meditation was beneficial in lowering blood pressure. Furthermore, additional follow-up trials found a decrease in cardiovascular disease risks factors, such as, alcohol and substance abuse, smoking and stress, with the help of transcendental meditation (Lin et al. 2040).

Robert Schneider and his colleagues conducted a study the reported an evidently significant decrease in blood pressure in a group of patients that incorporated mediation into their treatment, compared to a control group that did not. (Schneider et al 754) Meditation also offers benefits that help heart function, to those who already suffer from heart disease. Patients with heart disease, who meditate, generally experience a reduced chance of stroke, heart attack and death than compared to those patients who did not meditate. (Schneider et al 755)

Other forms of mind-body therapies include faith and prayer, hypnosis and imagery, and music. Faith and prayer is an essential part of many cultures, which is considered crucial for well-being. Oxman et al, performed a study to assess the effect of prayer and other religious beliefs on the outcomes of patients following cardiac surgery (Kreitzner and Synder 77). The study showed that the absence of practice and comfort of religion, resulted in death within a six month period. The study also showed that patients are three times more likely to die as

result of not getting comfort from religion (Kreitzner and Synder 77). An analysis has also been conducted by Byrd on the effect of intercessory prayer on patients. The study found that patients who were prayed for, required less medication, developed less complications and less patients died compared to those who were not prayed for (Kreitzner and Synder 77). Intercessory prayer showed an increase in mental and physical health in post-surgery patients recovering from heart operations (Aviles et al 1195).

Hypnosis and imagery comprises the use one's imagination to evoke one or more of the five senses. An article reviewing the use of mind-body therapies in the medical care of those undergoing treatment in cardiovascular disease, showed laboratory studies and clinical trials displaying the effectiveness of imagery and hypnosis in reducing stress inhibitors, and heart and blood pressure rate (Kreitzner and Synder 76). Music has been shown in numerous studies to decrease stress in cardiovascular patients (Kreitzner and Synder 76). A trial performed on patients in a cardiac care unit, found that those who received music therapy, presented a reduction in cardiac complications and stress inhibitors (Kreitzner and Synder 77). Incorporating music therapy into standard cardiac rehabilitation was reported to improve better control of blood pressure along with better mental and physical health than rehabilitation alone, along with reduced anxiety and stress, as well as improvements in sleep (Kreitzner and Synder 77).

Biologically-based therapies are a form of complementary and alternative medicine that consists of substances that are found in nature. These substances can include herbal or dietary supplements comprising of botanicals, fatty acids, minerals, proteins, vitamins, and probiotics. Biologically-based therapies can be used as means of complementary medicine by being used along with medication. Also as means of alternative medicine by being used in place of more conventionally prescriptions and treatment regimens.

Herbal and other dietary supplements are a popular form of remedy used by at least of third of the population of the United States (Lin et al. 2039). Popular remedies include St. John's wort, ginkgo ba, ginseng, echinacea, and garlic (Lin et al. 2039). Garlic is recognized as one of the most studied herbs, and popularly used as a dietary supplement for treating high cholesterol, heart disease, and hypertension (Rabito and Kaye). Early trials have exhibited the ability of supplements containing garlic to help lower the amount of cholesterol and atherosclerotic plaque formed in arteries, in turn reducing the risk of atherosclerosis (Lin et al. 2039). Clinical trials, conducted by Ackerman and Mulrow, have shown the effects of garlic to help lower lipid formation and results of anti-platelets (Lin et al. 2040). There is documentation on evidence showing that garlic has been correlated with blood pressure in patients suffering from hypertension (Rabito and Kaye).

Another popular supplement is omega-3 which is usually derived from fish oil, often taken as a preventative for cardiovascular complication outcomes by helping to prohibit arrhythmias, reducing platelet accumulation and decreasing blood pressure (Rabito and Kaye). Evidence has been found on ginseng has a numerous amount of cardiovascular benefits, including helping with high blood pressure, protecting the cardiovascular system and weakening of myocardial hypertrophy and reducing the occurrence heart failure (Rabito and Kaye). The herb ginkgo biloba has been found to have cardioprotective benefits by numerous studies because of its antithrombotic, antihypertensive, antioxidant, vasodilatory, and antiplatelet qualities. A trial also noted that the herb may reduce the risk of developing peripheral arterial disease (Rabito and Kaye). Hawthorn leaf and other flower extracts are recommended as an oral treatment method for patients suffering from chronic heart failure. It is in fact been approved by the German Commission, to use hawthorn extracts in patients with heart failure graded stage II (Rabito and Kaye). A review suggested that there is an important benefit in the control of symptoms and physical results from using hawthorn extract as a method of treatment for chronic heart failure (Rabito and Kaye). Vitamin E is useful for the treatment and prevention of heart conditions, including heart and circulatory diseases. A study suggested that patients who consumed more Vitamin

E had reduced their risk of chronic disease, such coronary heart disease (Rabito and Kaye).

Laboratory and observational studies have been conducted on antioxidants, which include, lutein, catechins, flavonoids, lycopene, vitamins C and E, lipoic acid, coenzyme Q10, beta-carotene, selenium, and anthocyanins, have been found to show positive results (Rabito and Kaye). Research on flaxseed being used as supplement, has shown a significant decrease in cholesterol levels. Flaxseed is a good source of fiber and lignans, which have shown to help lower cholesterol levels (Rabito and Kaye). Soy protein have gained popularity for their probable role in decreasing risk factors for cardiovascular disease. An American Heart Association study resulted that isolated soy protein decreased cholesterol concentrations (Rabito and Kaye).

Red rice yeast is made from a certain yeast that grows on rice. The extract produced from it has been reported to lower total and LDL cholesterol and triglyceride levels and help prevent heart attack, and improve blood flow (Rabito and Kaye). B-complex vitamins, including B-6, B-12, and folic acid, help keep red blood cells healthy and nerves healthy (Rabito and Kaye). These vitamins have shown to also reduce levels of homocysteine in the blood, an amino acid that is linked to stroke, heart attack, blood clots and heart disease (Rabito and Kaye). Many herbalists believe that cayenne pepper also benefits heart

health because of its ability to get blood flow going so rapidly. Blood plays a key role as a delivery system in the body, especially when some part of the body is sick. The blood supplies the affected location with the nutrition and healing elements it needs. Cayenne pepper has been noted for its ability to get blood circulation going. Cayenne is able to pass through any mucus that might be blocking veins, which in turn helps to decrease blood pressure.

Chelation therapy is another type of biologically-based therapy. It is used to help the body get rid of excess metals. Ethylenediamine tetraacetic acid chelation therapy has been recommended by complementary and alternative medicine practitioners as well as some doctors as a treatment for coronary heart disease (Rabito and Kaye). It is normally used in conjunction with vitamins, iron supplements, and other trace elements. Because of its ability to stick to metallic ions in the body and removing them through urinary excretion, in the course of action it readjusts many metals within the body. Practitioners of chelation therapy believe that it may change plaque formation or improve endothelial function (Arthur, Patterson, and Stone 7).

Manipulative and body-based therapies comprise of a system of therapies that use either manual manipulation or movement of one or more parts of the body to approach structural or systematic imbalances of the bones and joints, the tissues, and the circulatory systems. Mind-

body medicine focuses on the relationship between the body's spiritual, mental, emotional, behavioral, and social aspect and their effect on health. Examples include acupuncture, manipulation and exercise.

Acupuncture is a form of holistic traditional Chinese medicine. Traditional Chinese medicine dictates that there are acupuncture points on the human body connected to meridians, which carry out energy all through the body and correlate with specific organs. The acupuncture points are where the meridians come closest to the skin surface (Arthur, Patterson, and Stone 6). Acupuncture is one of the TCM practices that has gained recognition in the eyes of Western medical practitioners. Studies have found that acupuncture can cause biological responses, resulting in changes in brain chemistry and blood flow regulation (Arthur, Patterson, and Stone 6).

In 1997, a National Institutes of Health Consensus Development Conference was held, where conference members identified the positive benefits of acupuncture research concluding it effective in treating myocardial infarction and stroke (Lin et al. 2040). Recent studies show evidence that proposes that high blood pressure and other cardiovascular diseases can be improved by treatment with acupuncture. In a laboratory study using a feline model, John Longhurst exhibited that triggering an acupuncture point above a

median nerve on the ankle reduces the degree of myocardial ischemia (Lin et al. 2040).

Manipulative therapies include acupressure, massage therapy, and spinal and osteopathic manipulation. Massage therapy consists of various styles including, sports massage, Swedish massage, trigger point massage, and deep tissue massage. In a study performed by Rabito et al, it was shown that deep tissue massage reducing both systolic and diastolic blood pressures lowering the average arterial pressure and decreasing heart rate after massage was done (Rabito and Kaye). Spinal manipulation, which is performed during chiropractic or osteopathic manipulation, has been addressed to effectively treat high pressure (Rabito and Kaye). Exercise has long been recognized a crucial part of preserving one's general wellness and quality of life. It is also considered the essence of the cardiovascular rehabilitation program (Kreitzner and Synder 77). A Cochrane systematic review that recently held, studied the results of outcomes of patients performing exercises in a cardiac rehabilitation program. It concluded that when exercise is incorporated in a cardiac rehabilitation program, it reduced the number in deaths from cardiac complications (Kreitzner and Synder 77).

Energy therapies include electromagnetic therapy and biofield therapy. Bioelectromagnetic therapy requires the use of pulsed fields and magnets. While biofield therapy is aimed to affect energy fields which



are thought encompass and go through the body (Kreitzner and Synder 75). The biofield therapies of healing touch, therapeutic touch, and Reiki are recognized as 'hand-mediated' treatments and are performed to decrease stress and pain. It is also used to help improve health with the aid of healing energy (Rabito and Kaye). One study conducted in 2007, came to a conclusion that studies of biofield therapies help in decreasing anxiety, improving muscle relaxation, helping in reducing stress inhibitors, relaxation, and overall state of well-being, and relieving pain (Rabito and Kaye).

These therapies, used in conjunction with biomedicine can provide a more holistic healing experience for cardiac patients. This enhanced treatment can improve patient satisfaction and can improve rehabilitation and prevention of cardiovascular diseases. The important thing to realize is that each person is different, therefore treatment plans should also be individualized to maximize what is best for a patient. Integrative cardiac therapy could include multiple biomedical and complementary therapies. An individualized plan promotes better whole self healing and benefits the patient's lifestyle.

Physicians should be aware of alternative and complementary methods so they are able to integrate them into patient treatment plans. Physician-patient relationship is imperative for ultimate healing and medical care. Often patients will hide their complementary therapy

practices from their physician in fear that the physician will not approve of these methods. It is integral for physicians to be open and understanding about different cultural methods of healing. Moreover, if a physician is unaware of the alternative therapy it is important for the physician to do his or her research. Ultimately, it is the physician's responsibility to make sure the patient is informed of their medical condition and possible consequences of alternative therapies. Integrating complementary therapy to cardiac therapy would produce healthier and happier patients. Patients would feel more involved in their treatment options, giving them more autonomy. Moreover, the integrative approaches utilized to treat cardiovascular disease all promote relaxation and distressing mechanisms. Stress, anxiety, and lifestyle if managed contribute to cardiovascular rehabilitation and prevention of cardiovascular disease.

### **Real World Implementation**

The first open heart surgery program in South Dakota was pioneered by board certified cardiac surgeon Dr. Robert Willix. Dr. Willix has been a practicing physician since 1969 and also served as associate professor of surgery at South Dakota Medical School as Director of the Cardiac Rehabilitation and Human Performance program for the North Broward Hospital District in Florida. As a board certified thoracic and cardiovascular surgeon Dr. Willix realized something was

wrong when he was re-doing multiple valve replacements on patients. Dr. Willix believes that some cardiovascular procedures are just band aids for health problems, but never really solve the underlying cause of illness. He says, “stents just go around the disease and will never alter longevity because you never hit the source of the disease.”

As CEO of Cenegenics Medical Institute in Boca Raton, Dr. Willix specializes in Age Management and Preventive Medicine. He is one of 300 physicians in the US who is trained in Pulse Diagnosis and Ayurvedic Medicine. Dr. Willix is dedicated to changing the paradigm of medicine from a disease oriented system, to a proactive, preventive health approach.

Dr. Willix believes by practicing preventative medicine we are creating a healthier population. His practice focuses on rehabilitation, exercise, and nutrition. Dr. Willix said that some of the best healers he knows “do not have MD after their name” and referred to a shaman healer in the mountains of Peru. He also says that, “the system is exclusive, doctors show off and know it all. Insurance systems replaced medical doctors.”

When asked what the ideal medical system would be, Dr. Willix replied, “the ideal situation would be free medical care, with no insurance system.” He believes that for healing to occur and for a healthier population, the system needs to change. Dr. Willix said “you

cannot change a system by treating another system (complementary therapies) like a weak sister.” He believes that thoughts create your reality and that healing is energetic phenomenon.

It is not every day we see a cardiothoracic surgeon leave his specialty for another field in medicine; one which he believes creates happier and healthier patients. However, Dr. Willix does raise some interesting perspectives. Our current healthcare system does often start at the end point of a disease and tries to treat retrospectively. We must realize the importance of preventative medicine and holistic healing.

The Atlantic Health System in New Jersey has been very progressive in its integrative medicine initiatives, from its outpatient facilities to its inpatient care and complementary healing methods. The Integrative Medicine department began in Atlantic health 20 years ago as the “Mind and Body Center” which originally had one medical doctor, two nurses, and three massage therapists. Now the department has over one hundred contractual team members. They have a new Atlantic Integrative Medicine Center and Heart Success Program in its new Gagnon Cardiovascular Institute building. The Integrative Medicine Center offers a wide array of services for the public to attend including nutrition class, massages, acupuncture, reflexology, yoga, holistic health assessments, hypnosis, meditation, and t'ai chi. Most classes are \$10, and most services are \$55 an hour. The center prices in this manner in

an effort that more people have the opportunity to start living a healthy lifestyle. Prices are lower than community rates so it can be better accessed by the public. However, the sessions are billed through cash and the patient can give the bill to their insurance company for reimbursement.

The flyer for the integrative center clearly explains the importance of integrative therapy to health:

“Imagine a place of healing, where physicians and healthcare providers are trained to prevent and treat disease using evidenced based medicine from over 200 global healing traditions. We offer our patients the best of western medicine combined with innovative lifestyle changes and treatments, designed to balance body, mind, and spirit. The healing power of food, mind-body medicine and connection to community leads us to the conclusion that prevention is the best intervention.

We utilize acupuncture, gentle movement and relaxation techniques to reduce pain; dietary and nutrient approaches to improve challenges such as diabetes and fibromyalgia; and group classes such as meditation, help support lifetime changes. Research has shown that Integrative Medicine can relieve anxiety, stress, pain, nausea, insomnia and chronic fatigue. Our care is personalized and pro-active at healing the underlying causes while promoting an overall sense of wellbeing and optimal health.”

The physicians at this program are board-certified integrative medicine physicians who consult with the patient’s primary care physician. This collaborative effort ensures that a patient receives the best care possible. According to Carolyn Merckts, a staff member of the Atlantic Integrative Center, “we truly care about wellbeing and health. It

is an all-inclusive experience, and we want to offer all the services we can to people so they can take that step to being well.”

For inpatients and their families, the Integrative Medicine center offers free services. If a wife is pregnant and the husband needs a massage, therapists will go up to the inpatient floor to offer their services at no cost. Cardiovascular disease patients typically utilize the acupuncture massages to alleviate stress and anxiety. This aids in the healing and relaxation process.

Laura Czigler, the atrial fibrillation coordinator for Gagnon Cardiovascular Institute, further discussed other integrative methods Morristown Medical Center has utilized for patient care. She described harp therapy, where staff would have harps played in cardiac floors post-surgery to create a soothing healing atmosphere. They found the music to calm and relax patients.

When asked about integrative medicine and cardiology Laura replied, “it is all about a state of mind. It is effective it reaches the patient. If the cardiac patient is in a relaxed and comfortable state of mind, they are in a better place.” Laura went on to describe how post-surgery, often times cardiac patients are afraid to rest and are extremely tense. She feels that integrative therapy methods are a nice approach to pain medication.

Physician Assistant for Electrophysiology Associates, Kerri Speigel, discussed her work with integrative medicine in the cardiac post-anesthesia care unit, the open heart care recovery unit. This area monitors and stabilizes patients after cardiovascular surgery. Kerri explained that post surgery patients often have pain and anxiety. Patients typically describe their pain level as a 7 or 8 post surgery. The staff calls the integrative medicine department to administer either massage, acupuncture, or jin sin jitsu to these patients. Post-integrative therapy patients typically describe their pain level as going down to a level 2 or 3.

The manager of the Integrative Medicine Center, Carole Reifsnyder, explained that Atlantic Health supports holistic healing experiences which is why they are able to be offered at such a low (or free for inpatients) cost. She explained that for inpatients, therapists must obtain consent of patient or family for treatment. Services provided at the bedside may include a light massage, foot reflexology, healing touch, reiki, or jin shin jyutsu. The unit nurse refers which patients may benefit from treatments – or which patients are most appropriate to receive treatment, as a therapist can only see about two patients per hour. The integrative medicine department does educational presentations to educate nurses. They give indications for a patient who would benefit therapy which would include stress, pain, nausea, anxiety. Nurses are

also educated on contraindications for therapy which would include deep vein thrombosis.

These services are purely optional and some patients decline the offer. After consent and treatment, the therapist will ask for feedback and document the therapy session. The integrative medicine center provided services to about 15,340 bedside visits in 2013 alone with 65 practitioners (Reifsnyder). In terms of funding, the practitioners are paid at an hourly rate, whereas other hospitals typically only have volunteers. For inpatient services, the cost is free of charge through grants.

Ms. Reifsnyder explained that integrative medicine benefits patients with cardiovascular disease both in a post-surgical, preventative, and therapeutic capacity. Post open heart surgery patients are often stiff and tight. Massage and relaxation has proven to alleviate the stiffness and tightness post-surgery. Relaxation and deep breathing helps reduce stress. Results are a 50% reduction in stress, and a 40% reduction (Reifsnyder).

For preventative medicine, there is an integrative medical practice which has medical specialists to offer integrative therapies. Dr. Giovanni Campanile has his cardiology practice in Caldwell, NJ and his integrative practice in Madison, NJ. The integrative medical practice believes in treating root causes by using a blend of traditional western and complementary medicine. For example, if a patient cannot tolerate statin



the physician may prescribe a supplemental herb, vitamin, or mineral to aid in the usage of the prescribed medication.

Therapeutically, healing is a mind and body phenomenon. Carole described a heart transplant patient who needed help coping with emotional recovery and stress relief post-surgery. The patient involved herself in group therapies provided by the outpatient Mind and Body Center.

These integrative therapies are truly better alternatives than pain medication. They help ease stress and anxiety post cardiac surgery, which alleviates the patient's state of mind allowing for better healing and rehabilitation. Also if used properly, they have no or very minimal side effects which is more appealing to patients.

### **Integrative Medicine in the International Arena**

Integrative medicine is not just a cultural phenomenon for the United States; many other countries have been experiencing similar occurrences in their health care systems. There was a similar study conducted in the United Kingdom estimating the prevalence of complementary and alternative medicine use among Australia, Canada, Finland, Israel, United Kingdom, and the United States. The study concludes that substantial proportions of the countries listed above use complementary and alternative therapies and that there is a steady increase in these numbers (Harris 90). The methodology of this study

does make it difficult to compare the differences in prevalence, both between and within the countries. Moreover, the study and surveys were published in English and studies could have been misinterpreted in the areas where English is not the first language.

### **Challenges of Integration**

Though integrative medicine offers many positives to healthcare, there are some challenges associated with complementary and alternative medicine. Physician –medical anthropologist Richard Anderson is an alternative medical specialist and states that one can cause harm by failing to integrate traditional healing with biomedicine (Anderson 168). I agree with this because if we are to treat a patient of their illness (not only of a particular symptom or disease), we need to take into account all possible healing methods. Moreover, our western biomedicine does lack the integration of mind and spiritual health. This can cause harm to the patient by not treating all aspects of the disease. Another proponent of integrative medicine is Hans Baer, who recognizes that biomedicine is not effective in treating an “array of chronic ailments” (Baer 332). As mentioned before, western biomedicine does lack in several areas and chronic ailments are one area.

Biomedicine is not effective alone, and should be accompanied by other complementary health therapies to provide a holistic healing

experience for the patient. Bryan Bales, a medical anthropologist at the Center for Integrative Health in the University of Texas believes that the field of integrative medicine is key in providing the best healthcare we can offer (Bayles 8). Bayles would agree that the separation of mind and body in biomedicine is a weak area which can be strengthened through the use of complementary therapies.

While there are several positives to integrative medicine, there are several challenges that should not be overlooked. The field of integrative medicine has been fast developing, however not much theory has been applied to examining the epistemology of this health phenomenon (Hollenberg 42). Moreover, there has not been much research into seeing if integration between different health paradigms is even possible (Jain 695). Most integrative medical therapy is based on qualitative rather than quantitative research. This makes comparison difficult and makes research of the field difficult. How can one ascertain if a therapy is truly effective or not based on a 1-5 scale of “do you feel better”?

Another challenge would be regulation. Most over the counter supplements are not regulated by the Food and Drug Administration. To supply the consumer demand for integrative therapies, some companies may take advantage and supply unsafe materials to the public. Products over the counter are not regulated, not tested, and may not have all the necessary information for proper health care to patients. For integrative

medicine to truly be successful, we would need to regulate all integrative therapies and products. We would need to make sure that physicians prescribe the correct supplement/therapy and also explain the possible side effects or interactions with other drugs the patient may already be taking.

There is a standardized route one takes to attain their medical doctorate and to be certified to practice medicine. However, how does one certify that they are able to practice integrative medicine therapy? Many of these ancient therapies are passed down from ancestors or are taught through apprenticeships. There is no standard regulatory system to ensure methods are uniform for these alternative and complementary therapies.

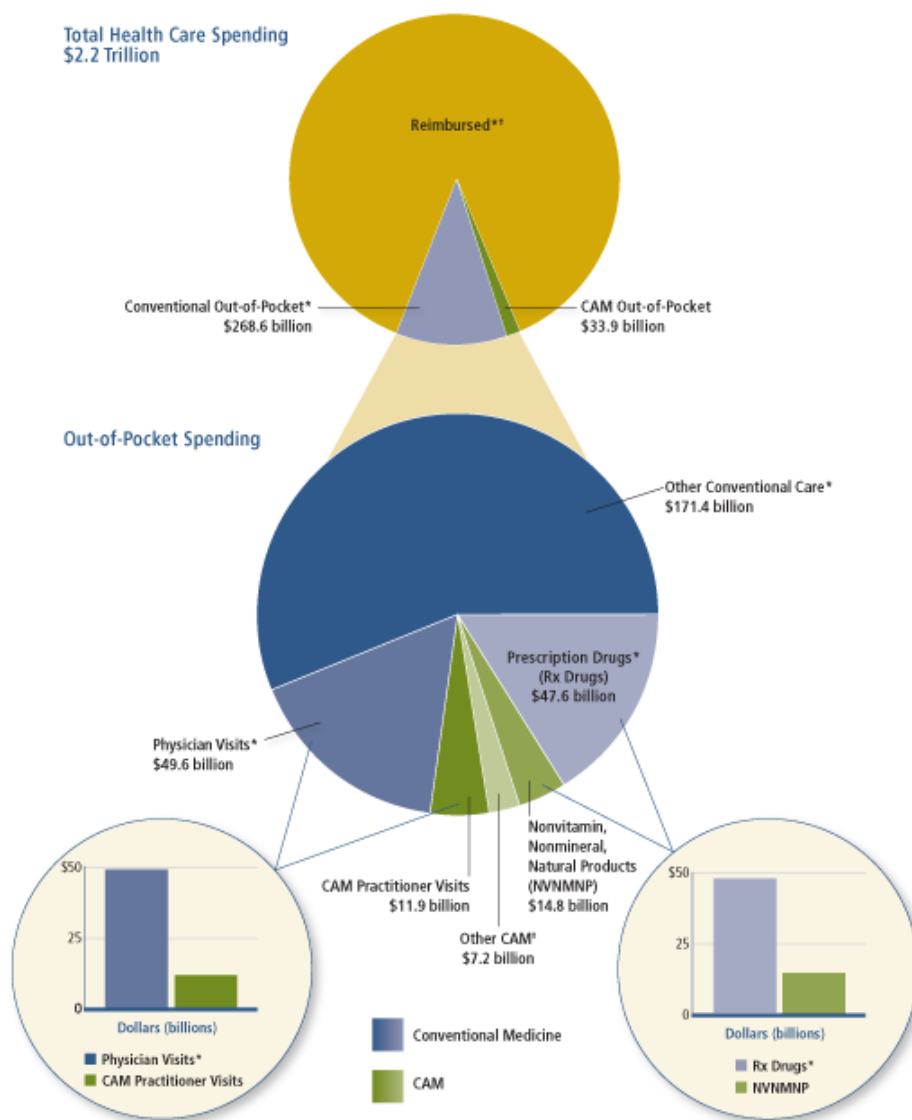
### **Financial Considerations**

As we see integrative medicine entering the world of biomedicine, the question arises as to who will pay for these treatments and how? Most consumers in the United States who have health insurance coverage, either through public or private institutions, bear the entire cost of complementary and alternative therapies out-of-pocket.

The figure below from the National Health Statistics Report of 2007 illustrates the out of pocket expenditure for complementary and alternative therapy along with total health care expenses. Though overall

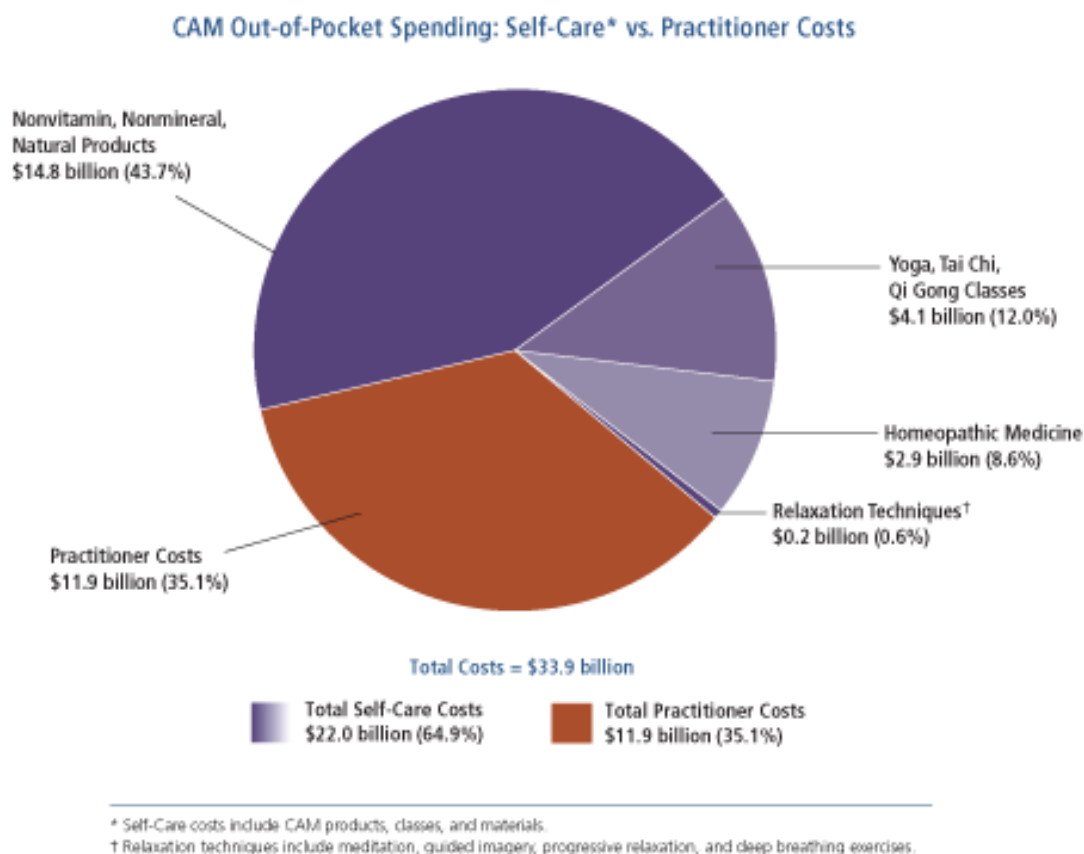
complementary and alternative spending is less than out of pocket conventional care, including prescriptions and doctor visits.

**Figure 2 - Combined Total Health Care Spending and Out-of-Pocket Spending Graphic**



\* National Health Expenditure Data for 2007. U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services Web site. Accessed at: [http://www.cms.hhs.gov/NationalHealthExpendData/02\\_NationalHealthAccountsHistorical.asp#TopOfPage](http://www.cms.hhs.gov/NationalHealthExpendData/02_NationalHealthAccountsHistorical.asp#TopOfPage) on June 25, 2009.  
 † Reimbursed spending includes employer and individual private insurance, Medicare, Medicaid, State Children's Health Insurance Program, other private and public spending, and some CAM.  
 ‡ Other CAM includes yoga, tai chi, qi gong classes; homeopathic medicine; and relaxation techniques.

**Figure 3 CAM Out-of-Pocket Spending: Self-Care\* vs. Practitioner Costs**



For a consumer to make an educated financial decision about complementary and alternative therapy use they would need to compare costs to that of conventional biomedicine. Integrative therapies and their outcomes must be known and compared to conventional approaches for a useful cost comparison analysis to be made.

According to researchers in Arizona, “the number and quality of these studies has increased in recent years and more complementary and alternative therapies have been shown to be good value, there are still not enough studies to measure the cost effectiveness of the majority of complementary and alternative medicine.” If complementary and alternative medical providers wish to increase the provision of therapies to improve population health, they must report the potential outcomes of these therapies widely and well (Herman, Craig, Capsi).

They raise a valid point that “as health care costs continue to rise, decision makers must allocate their increasingly scarce resources toward therapies which offer the most benefit per unit of cost” (Herman, Craig, Capsi). Perhaps complementary and alternative medicine gained popularity as a result of the declining economy.

Once research is conducted to conclude if integrative therapies are effective in healing patients, insurance companies should cover some costs of these complementary and alternative therapies.

There are also companies who want to meet the rising demand for complementary and alternative care services. *Group Health* provides patients to access complementary and alternative care services. Coverage varies based on your health plan and benefits (Group Health). Moreover, if a plan does not cover services that a client is looking for, there is an additional Complementary Choices discount program (Group Health).

According to the website, most plans cover some acupuncture, naturopathy, and chiropractic visits without requiring a referral from a primary care physician (Group Health). Massage therapy services however, do require a referral from a primary care physician if he or she determines the services are medically necessary (Group Health).

If a patient needs care that is not under Group Health's coverage or referral criteria or if they have used all covered visits, Group Health provides a Complementary Choices program (Group Health). This program offers a 20 percent discount on services from complementary and alternative medicine providers in their contracted network.

The Complementary Choices program also offers discounts for certain wellness and prevention services that are not covered by their health plans. These include personal fitness and exercise trainers and yoga, tai chi, and pilates instructors (Group Health). Interestingly the website states “Some areas may not yet have local availability for all services. We expect the Complementary Choices network to grow and are recruiting personal fitness trainers and yoga, tai chi, and Pilates instructors” (Group Health). This company is expecting a demand for insurance services for complementary and alternative therapies. There are 25 hospital systems working with the Group Health services, all located in the Washington State area.



### **The future of integrative medicine in cardiology and healthcare:**

Integration of western and alternative/complementary therapies is already upon us. We do not need to question if this change will one day occur or not, because it is already occurring. We must conduct further research and investigate the field of integrative medicine further. Moreover, we need to identify potential barriers for integration of alternative and complementary therapies. These barriers would include regulating complementary and alternative medicines, and educating the public. The public would need to be made aware of potential side effects of complementary therapies, and possible interactions with biomedical regimes they may already be on.

As mentioned previously, we would need to ensure that the healthcare practitioners of these complementary therapies are adequately trained to ensure efficient healthcare is practiced. We would also want to make sure we are not “westernizing” traditional eastern medical systems and keeping it as close to its original form as possible. We sometimes commodify and westernize traditional medicines so much that it loses its original roots and efficacy.

We want to ensure there is education about integrative medicine in medical school and training for health practitioners. One study describes the importance of librarians in complementary and alternative

medicine. Integrative medicine is becoming increasingly more common and it is difficult to find high-quality research and information about its practices and therapies (Crumley 85). We can also learn from other eastern countries by observing how societies select, combine, and integrate different cultures in healthcare.

Will integrative medicine be a “health fad” or will it bring about a change in biomedicine? Traditional eastern healing systems have evolved over hundreds of years, and western biomedicine is still shaping itself. If we can have the best of both worlds, why stick to one? We should have global healthcare for a global population, for our population.

Western biomedicine is comprised of individuals who are rooted from North, South, East, and West. To effectively heal our population we must integrate other cultures into our treatments and healing modalities. If not mandate, we should at least give people an option of a more holistic form of healing.

Moreover, with the new Affordable Care Act I think there is going to be shift in healthcare and with integrative medicine. The goal is to keep people well and out of the hospital. Therefore, the future will embrace integrative therapies as preventative medicine. Perhaps one day this will be considered a true specialty.

The federal government needs to play a greater role in the future of integrative medicine. Standards for certification, compliance, and effectiveness need to be outlined by the federal government and made public. Federal research could help distinguish between what is effective or even harmful to the public. The high costs of good clinical trials however can be quite cost extensive. I do think that it is necessary however to make sure that these experiments are conducted because natural does not always mean safe.

Regardless of people's personal beliefs about complementary and alternative medicine, we must face the reality that its popularity will most likely continue to grow. However, how that popularity manifests itself in the future may be affected by the state of the economy, insurance, and availability of services. People who find themselves economically struggling may turn to complementary and alternative methods to avoid high-cost visits to doctors or hospitals. At the same time, others may cut down on complementary and alternative services that are not covered by insurance for the same reason.

Our medical system is also infused with different cultural backgrounds. With immigration trends and the resulting cultural influences also may be contributing to the growth of complementary and alternative medicine nationwide. Many patients in our current system are using a form of folk medicine, acupuncture, or use of herbal remedies. Therefore, there is a need for greater familiarity with

complementary and alternative medicine by practitioners, if for no other reason than to integrate what their patients are already doing outside the health care system into their current traditional care.

### **Summary and Concluding Thoughts**

Our society needs to stop treating per diagnosis code, and needs to look at the whole self. We must start looking into overall mind, body, soul healing with a more holistic approach. If we treat more than just symptoms we will be attacking the core of the problem. By doing so we can prevent repeat surgeries, and multitudes of treatments which are not solving the problem. Through implementing integrative medicine in cardiovascular treatments we will see overall healthier and happier people.

There is much we can learn from healing systems originating several hundred years from our own. It is about time we realize that collaboration and communication is key. It is better to identify several possible therapies and to select the best possible treatment option individualized specifically for a patient.

The core causes for cardiovascular disease include lifestyle, stress, and anxiety. If integrative therapies can treat these core indicators we can help prevent cardiovascular diseases from progressing, and even rehabilitate therapies. Moreover, these therapies can help post-surgery

patients with pain control without the use of pain medication. These all natural approaches offer a more wholesome experience to cardiovascular health.

It is time to adapt a sense of “whole self” from western societies. We have been treating per condition and diagnosis code for far too long. It is time to be progressive and realize that healing is more than physical. We need to embrace the definition of health from the World Health Organization and provide more holistic healing options.

The key is to reduce stress. The fight and flight response uses energy. When we have stress it takes energy away from healing. Less stress means less pain, which means less medication which provides better healing. The emphasis of the integrative medicine is partnering with a patient on a journey of lifestyle change. This is a very medical humanitarian approach which is comprehensive, caring, and compassionate.

It is important to not only treat the physical manifestations of a disease but also the emotional, mental, and spiritual side effects as well. Such treatment would not only enhance the cardiac patient experience, but this holistic healing would create a healthier and happier society in general.

## REFERENCES

- Adler, S.R. "Integrative Medicine and Culture: Toward an Anthropology of CAM". *Medical Anthropology Quarterly* 16.4 (2002): 412-414. Print.
- Anderson, R. "A case study in integrative medicine: alternative theories and the language of biomedicine". *The Journal of Alternative and Complementary Medicine* 5.2 (1999): 165-173. Print.
- Anderson, R. "An urban medicine woman and integrated medicine". *The Journal of Alternative and Complementary Medicine* 6 (2000): 191-194. Print.
- Arthur, Heather M., Patterson, Christine, and Stone, James A. "The Role of Complementary and Alternative Therapies in Cardiac Rehabilitation: A Systematic Evaluation". *The European Society of Cardiology* 13.1 (2006): 3-9. Print.
- Aviles, J.M., et al. "Intercessory prayer and cardiovascular disease progression in a coronary care unit population: a randomized controlled trial". *Mayo Clinic Proceedings* 76.12 (2001): 1192-1198. Print.
- Baer, H.A. "The growing interest of biomedicine in complementary and alternative medicine: a critical perspective". *Medical Anthropology Quarterly* 6.4 (2002): 403-405. Print.
- Baer, H.A., and Coulter, I. "Taking stock of integrative medicine: Broadening biomedicine or co-option of complementary and alternative medicine?". *Health Sociology Review* 7.4 (2008): 331-341. Print.
- Baer, H.A. "The emergence of integrative medicine in Australia: the growing interest of biomedicine and nursing in complementary medicine in a southern developed society". *Medical Anthropology Quarterly* 2.1 (2008): 52-66. Pub Med. Web. 5 Mar. 2014.
- Barnes, P.M., Powell-Griner E., McFann, K., and Nahin, R.L. "Complementary and alternative medicine use among adults: United States". *Seminars in Integrative Medicine* 2.2 (2004): 54-71. Print.

- Barrett, B. "Alternative, complementary, and conventional medicine: Is integration upon us?". *The Journal of Alternative and Complementary Medicine*, 9 (2003): 417-427. Pub Med. Web. 5 Mar. 2014.
- Bayles, B. "Engaging the field of integrative medicine". *Anthropology News* 45.1 (2004): 8. Print.
- Bekke-Hansen, Sidsel, et al. "Faith and use of Complementary and Alternative Medicine among Heart Attack Patients in a Secular Society." *Complementary Therapies in Medicine* 20.5 (2012): 306-15. ProQuest. Web. 6 Mar. 2014.
- Buck, Carol J. 2014 ICD-9-CM for Physicians: Volumes 1 & 2, Standard Edition. N.p.: Elsevier Health Sciences, 2013. Print.
- Cassidy, C.M. "Social science theory and methods in the study of alternative and complementary medicine". *The Journal of Alternative and Complementary Medicine* 1 (1995): 19-40. Print.
- Chao, M.T., Wade, C., Kronenberg, F., Kalmuss, D., and Cushman, L.F. "Women's reasons for complementary and alternative medicine Use: Racial/Ethnic Differences". *The Journal of Alternative and Complementary Medicine* 12.8 (2006): 719-720. Print.
- Correa-Velez, I., Clavarino, A., Barnett, A.G., and Eastwood, H. "Use of complementary and alternative medicine and quality of life: Changes at the end of life". *Palliative Medicine* 7.8 (2003): 695-703. Print.
- Coulter, I., and Willis, E. "Explaining the growth of complementary and alternative medicine". *Health Sociology Review* 16.3 (2007): 214-225. Print.
- Crumley, E.T.. "Exploring the roles of librarians and health care professionals involved with complementary and alternative medicine". *Journal of the Medical Library Association* 94.1 (2006): 81-89. Print.
- Curtis, Peter. "Assessing the Effectiveness of Complementary & Alternative Medicine". *The Convergence of Complementary, Alternative & Conventional Health Care* 2004. Print.

- Ernst, E., et al. "Ethical Problems Arising in Evidence Based Complementary and Alternative Medicine". *J Med Ethics* 30 (2004): 156-59. Print.
- Ernst, E. "The Role of Complementary and Alternative Medicine". *BMJ* 321 (2000): 1133-35. Print.
- Frass, M., Strassl, R.P., and Friehs. "Use and acceptance of CAM among general population". *Oschner Journal* 12 (2012): 45-56. Print
- Grant, Suzanne J., et al. "The use of Complementary and Alternative Medicine by People with Cardiovascular Disease: A Systematic Review." *BMC Public Health* 12 (2012): 299. ProQuest. Web. 6 Mar. 2014.
- Greenfield, Sheila. "Use of Complementary and Alternative Medicine and Self-Test by Coronary Heart Disease Patients". *BMC Complementary and Alternative Medicine* 8.47 (2008). BMC Complementary and Alternative Medicine. Web. 5 Mar. 2014.
- Group Health Cooperative. N.p., n.d. Web. 15 Apr. 2014.
- Grzywacz, Joseph C., et al. "Age, Ethnicity, and Use of Complementary and Alternative Medicine in Health Self-Management". *Journal of Health and Social Behavior* 48 (2007): 84-98. Print.
- Harris, P. and Rees, R. "The prevalence of complementary and alternative medicine use among the general population: a systematic review of the literature". *Complementary Therapies in Medicine* 8.2 (2000): 88-96. Print.
- Herman, Patricia M., Benjamin M. Craig, and Opher Capsi. "Is Complementary and Alternative Medicine (CAM) Cost-effective? A Systematic Review." *BMC Complementary and Alternative Medicine*.
- Hollenberg, D., Muzzin, L. "Epistemological challenges to integrative medicine: An anti-colonial perspective on the combination of complementary/alternative medicine with biomedicine". *Health Sociology Review* 19.1 (2010): 34-56. Print.



- Jain, N., and Astin, J.A. "Barriers to acceptance: an exploratory study of complementary/alternative medicine disuse". *Journal of Alternative and Complementary Medicine* 7.2 (2001): 689-696. Print.
- Khare, R.S. "Dava, daktar, and dua: Anthropology of practiced medicine in India". *Social Science and Medicine*, 43.5 (1996): 837-848.
- Kreitzner, Mary Jo and Snyder, Mariah. "Healing the Heart: Integrating Complementary Therapies and Healing Practices into the Care of Cardiovascular Patients". *Progress in Cardiovascular NURSING* Spring 2002: 73-80. Print.
- Lin, Michael C., et al. "State of Complementary and Alternative Medicine in Cardiovascular, Lung, and Blood Research: Executive Summary of a Workshop". *Circulation* 103.16 (2001): 2038-41. Print.
- McGuire, M.B. "Not all alternatives are complementary". *Medical Anthropology Quarterly* 16.4 (2002): 409-411. JSTOR. Web. 5 Mar. 2014.
- Micozzi, M.S. "Culture, Anthropology, and the Return of 'Complementary Medicine'". *Medical Anthropology Quarterly* 16.4 (2002): 398-403. JSTOR. Web. 5 Mar. 2014
- Miller, Kelly L., et al. "Complementary and Alternative Medicine in Cardiovascular Disease: A Review of Biologically Based Approaches". *American Heart Journal* 147.3 (2004): 401-11. Print.
- National Center for Complementary and Alternative Medicine, December 2012, <http://nccam.nih.gov>
- Ning, A.M. "How 'alternative' is CAM? Rethinking conventional dichotomies between biomedicine and complementary/alternative medicine". *Health (London)* 17.2 (2013): 135-158. Print.
- Oumeish, O.Y. "The philosophical, cultural, and historical aspects of complementary, alternative, unconventional, and integrative medicine in the old world". *Archives of Dermatology* 134.11 (1998): 1373-1386. Print.

- Park, C.M. "Diversity, the individual, and proof of efficacy: complementary and alternative medicine in medical education." *American Journal of Public Health* 92 (2002): 1568-1572. Print.
- Rabito, Mathew J. and Kaye, Alan David. "Complementary and Alternative Medicine and Cardiovascular Disease: An Evidence-Based Review". *Evidence-Based Complementary and Alternative Medicine* (2013). Hindawi. Web. 6 Mar. 2014.
- Reifsnyder, Carole. Personal interview. 23 Apr. 2014.
- Schneider, Robert, et al. "Stress Reduction in the Secondary Prevention of Cardiovascular Disease: Randomized, Controlled Trial of Transcendental Meditation and Health Education in Blacks". *Circulation: Cardiovascular Quality and Outcomes* 2012.5 (2012): 750-758, Print.
- Struthers, R., and Nichols, L.A. "Utilization of complementary and alternative medicine among racial and ethnic minority populations: Implications of reducing health disparities". *Annual Review of Nursing Research* 22 (2004): 285-313. Print.
- Thorne, Sally, et al. "Complementary/alternative medicine in chronic illness as informed self-care decision making". *International Journal of Nursing Studies* 39.7 (2002): 671-683. Print.
- Upchurch, D.M., and Chyu, L. "Use of complementary and alternative medicine among American women". *Women's Health Issues* 15 (2004): 5-13. Print.
- Willix, Robert D. Telephone interview. 17 Mar. 2014.
- Wood, Malissa J., et al. "Use of Complementary and Alternative Medical Therapies in Patients with Cardiovascular Disease". *American Heart Journal* 145.5 (2003): 806-12. Print.

## VITA

Full name: Komal Chandra

Place and date of birth: Dover, New Jersey. May 28, 1990.

Parents Name: Govind and Sandra Chandra

### Educational Institutions:

<u>School</u>	<u>Place</u>	<u>Degree</u>	<u>Date</u>
<i>Secondary:</i> Hillsborough	Hillsborough, NJ	Diploma	2008
<i>Collegiate:</i> Drew University	Madison, NJ	Bachelor of Arts	2012
<i>Graduate:</i> Drew University	Madison, NJ	Master of Medical Humanities	2014