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University of Nevada, Reno

**How do cultural values affect the overall quality of a health system?
A comparison of the health outcomes of two nations**

A thesis submitted in partial fulfillment
of the requirements of the degree of

Bachelor of Science in Health Ecology and the Honors Program

By

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Abstract

Cultural foundations contribute to how individuals perceive and relate to the world around them. A comparative analysis of how the cultural values of the United States and India influence the management and delivery of health care is preceded by a detailed examination of the epistemology of each unique health care system. It establishes the central argument for the need to redefine measures of health and well-being and encourages a more profound discussion of the effects of culture on the health outcomes of a nation. An analysis of the quality of the United States' and India's health care systems from a human ecology standpoint follows to the conclusion that the application of the highest medical technology and corresponding expense does not guarantee the best outcomes when compared to the effects of culture.

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Introduction

The world of the 21st century is much smaller than it once was and is continuously shrinking. Technology has allowed nations to communicate in ways they could have never imagined before the 20th century when fast, safe travel to another nation was just becoming fathomable and international communication was patchy and slow at best. In the world of today, nations are able to communicate easily and are working together to create global policies to improve the quality of the environment as well as the quality of the conditions of human existence. One aspect that is central to the quality of human living conditions and has become a larger topic of debate in recent decades is the quality of the different world health systems (WHO, 2000). Much research has been conducted on the usefulness and effectiveness of the different health systems around the world and has led to advances in medical knowledge and technology within the late half of the 20th century into the 21st century (Bodeker, 2001; MacKenzie-Cook, 2006; Miringoff & Opdycke, 1999). Health systems have contributed significantly to the increase in life expectancy and life quality over the past 75 years.

A health system is defined in the World Health Organization's (WHO) 2000 Health Report as any person or action whose primary purpose is to improve, promote and maintain health (WHO, 2000). A health system incorporates a variety of functional groups, such as health care systems and health care professionals within the care system or a traditional Vedic herbalist providing a village family with a tincture remedy, which carry out the primary purpose of the health system. Different health systems are utilized across the many nations of the globe and each system adopts different models of health and illness that are used to explain, predict, and treat illness and disease in their

communities. The United States, since its formation, has adopted scientific biomedicine as its culturally accepted model of health and disease (Balint et al, 2006; Miringoff & Opdycke, 1999). In contrast, India for thousands of years has followed the ancient wisdom of Ayurveda as its culturally accepted model of health and disease. Although Western biomedicine started developing medical institutions for public use in India in the late 1900s, the majority of India's citizens, especially those living in rural villages, continue to utilize the traditional Ayurvedic medicine (Chopra & Doiphode, 2002; Sharma et al, Part 1, 2007).

Biomedicine and Ayurveda are each considered to be different models of health and disease. As such, the two unique health systems have different fundamental philosophies underlying the terminology used to describe illness and health as well as prescribe treatment of disease. The cultural foundations that drive the delivery of health care for the United States' biomedical system and India's Ayurvedic system are detailed in subsequent chapters. Both models of health are utilized widely in their respective nations as forms of primary health care and are considered by researchers across the world to be credible systems of health (Patwardhan et al, 2005; Sharma et al, Part 1, 2007; University of Maine, 2001; WHO, 2000).

The quality of the world's health systems is traditionally measured through a number of indicators. One of the world's leading organizations studying human development and quality of life across nations is the United Nations Development Programme (UNDP) (UNDP, 2010). The UNDP uses the following indicators to assess the level of human development a nation has achieved: life expectancy at birth, prevalence of undernourishment in the population, under-five mortality rate and percent

of the nation's annual expenditure on public health as a percentage of the Gross Domestic Product (GDP) (2010). American statisticians and government officials use economic indicators when referring to health status of the nation, stating percent expenditure on GDP as a more significant indicator of national health and well-being than suicide rates for instance (Miringoff & Opdycke, 1999). The majority of traditional indicators to measure the status of the nation are economic future related indicators rather than social future related indicators. The incorporation of social indicators such as suicide rate or literacy rate, in addition to traditional indicators such as financial position and percent of GDP spent on public health, provides a more effective correlation to a good quality health care system when performing a cross-culture analysis (Schmidt et al, 2005). Traditional measures of health status such as these limit the scope of discussion for cultural influences on health outcomes because the indicators do not paint a picture of the effects based on cultural outcomes but rather the effects based on financial resources. Assessment of culturally unique health care systems should be analyzed from a human ecology standpoint to provide more profound discussion.

According to the research of Huynh and Alderson in their article *Concept Analysis of Human Ecology* (2009), human ecology was introduced as a means to study the interaction and relationship between human beings in their environments in the 1920s in the United States through the work of researchers Park, Burgess and McKenzie in the field of social psychology. Human ecology breaks human life down into several unique interrelated dimensions. Popular models of study in human ecology include spiritual, physical, emotional, occupational, intellectual, and social dimensions of human life and focus on developing an understanding of how the interaction of the multiple dimensions

can cause different outcomes in the individual's life (Huynh & Alderson, 2009). The concept of human ecology was applied in subsequent decades to fields such as public health to study the interaction and relationship between an individual's beliefs and behaviors as it relates specifically to her health outcomes (Huynh & Alderson, 2009; Rapport, 2002). Application of a human ecology viewpoint in the health field in the United States was revolutionary because it indicated the possibility of non-biologic factors involved in health rather than the traditionally accepted concepts of health and disease formed from the biomedical model. The beliefs, behaviors and overall lifestyle people engage in have the potential to impact health outcomes as much as their biology and genetics. Thus, from a human ecology perspective, health outcomes are the result of the total environment of the individual.

Environment is defined by human ecology researchers as the cumulative conditions and circumstances that affect human development and behavior (Huynh & Alderson, 2009). The cumulative conditions and circumstances that make up an environment are highly influenced by the cultural values of the location of the environment; thus human development of acceptable health attitudes and beliefs are highly influenced by culture. For example, imagine a child that grows up in the United States to single mother of low socioeconomic status. The mother works two jobs to pay for her son's education but is forced to work nights and cannot provide home cooked meals to her son. As such, the boy eats fast food often and considers it to be an acceptable daily meal. The environment the child grew up will have a profound influence not only on his perception of acceptable meals but also his perception of the world. The effects of environment cannot be separated from the study of health and well-

being. Health outcomes are multidimensional and multicultural constructs based on total environment. The health status of a nation cannot be measured using tools that only paint a partial picture of the physical health status. Rather, additional tools are needed that can clearly depict a more complete portrait of total health from an ecological standpoint.

Additional tools to define a good quality health system include indicators of social health, perceptions of overall well-being in addition to the traditional physical health measures.

The use of these tools to measure quality is discussed in subsequent chapters.

The primary goal of this thesis is to explore and compare the cultural values of the biomedical system of health care in the United States with those of the traditional system of health care in India and explore factors of each that contribute positively or negatively to the overall quality of the health care system. A central argument of this paper is that the culturally accepted view of health and disease within a nation affects the treatment of patients in the health care system and thus directly affects the health outcomes.

The values of the health system adopted by each nation, as well as the methods of delivering care and providing treatment to patients, reflect the culturally learned values of the nation. Culture refers to a learned set of attitudes, behaviors, values and beliefs that are accepted by members of a society. An individual in the United States, for example, is brought up to value personal economic gain as a positive correlation to well-being (Wade & Halligan, 2004). An individual from India, on the other hand, is brought up to recognize the importance of self-awareness. Development of higher consciousness is considered an essential value to the Indian culture (Chopra & Doiphode, 2002). Cultural foundations shape the expectations and perceptions of people in society, such as the

health related expectations and interpretations of disease. Researcher Rapport (2002) remarks, “As people are part of their ecosystems, their health vulnerability is dependent on ecological conditions” (p. 209). The ecological conditions of the environment (ecosystem) are determined by the culture of the environment.

Different cultures use different culturally accepted definitions to describe cause of disease and resolution to health. According to the culture an individual is brought up in, she will have a different perception on her illness as well as a unique perspective on her relationship or role in the process of disease and wellness. In order to demonstrate this argument, the paper analyzes the cultural and philosophical foundations and values that form the basis of the biomedical system of health care in the United States and India’s traditional system of primary health care, Ayurveda. First it is necessary to describe brief histories of each country’s medical system and the cultural foundations that lead to the adoption of the specific systems. The paper then performs a literature review of the research used to develop characteristics that contribute to a good quality health care system, followed by a selection of the qualities used by the author in the comparative analysis between the care systems of the United States and India. The current health and social status of the individuals living in each nation is described through a portrayal of the characteristics and indicators of social health, physical health and quality of life of each nation chosen by the author. With that background, it is possible to analyze the effects of the cultural philosophical foundations that underlie the unique health care systems on the overall well-being of the people in each nation. The portrait of the overall well-being of the people in each nation is used to discuss the quality of each health care system. It is not in the scope of this paper to discuss specific medical procedures or

treatments employed by the United States' biomedical system of health care or India's Ayurvedic system. This paper will instead discuss the medical epistemology of each unique system as well as the current statistics and description of each nation's population in order to show the effects of cultural constraints on the quality of the nation's health care system.

The explosion of technology and the forces that make the world a smaller place led to vast improvements in international collaboration and have influenced the direction of research. For example, the influence culture has on different fields of study have become topics that have grown more dominant in the literature, especially in the field of social psychology and social health (Larson, 1978; Miringoff & Opdycke, 1999; Rahman et al, 2011). Researchers have long noted the complications involved in measuring and comparing quality of life across cultures because cultural perceptions influence the importance of different life domains required to promote happiness or satisfaction with life. A life domain is a useful functional group used for analytical comparison or academic study. It is created through combining interconnected components of human life into related descriptive units. For example, the components that may make up the domain 'intimacy' may include personal relationships with spouse or with children. As such, the domain could include empirical data such as divorce rates to help with the description (Rahman et al, 2011). Life domains and their importance in the measurement of quality of life are detailed in subsequent chapters.

According to the research of Esmer and Pettersson in their article in the journal of *Comparative Sociology* (2006), the early 1980s, particularly through the efforts of Ruud de Moor and Ronald Inglehart, was a period when the study of culture and cultural values

expanded greatly. In the United States health researchers began to study the effects that culture and cultural values have on the perceptions of individuals utilizing different health care systems (Bjorklund et al, 2006; Esmer & Pettersson, 2006; Gillick, 1985; Wade & Halligan, 2004), as well as how culture has an effect on perceived quality of life (Andrews & Withey, 1976; George, 1981; Jenaro, 2005; Rahman et al, 2011).

Researchers Wade and Halligan (2004) state quite accurately “Cultural and professional models of illness influence decisions on individual patients and delivery of health care” (p. 1398). Gillick (1985), studying the effects of individual’s perceptions of health and wellness based on culture, noted that Hispanic-Americans had a hard time complying with certain recommendations from their American physicians due to innate differences in the patient’s and physician’s perceptions of causes and models of illness (Gillick, 1985). Culture and the effects culture has on a number of human life domains have been studied widely; however, there is little research documented in the literature about how the culture and philosophical foundations of a nation actually drive the health care system and affect the health outcomes within the nation. It is the belief of this author that culture is inextricably linked to the foundations of a nation’s health care system and thus, to the overall quality of health care within that nation.

Chapter 1

United States: Allopathic Biomedical System

The primary health care system utilized in the United States is based on a scientific, evidence-based biomedical system of health. The primary concern of the biomedical system of health care is curing symptoms of illness by combating disease-causing agents (Wade & Halligan, 2004). The biomedical system of health care adopted by the United States was shaped by beliefs, values and traditions passed down through history from the same ancient civilization that influenced the development of the core values and foundations of Western civilization: Ancient Greece. Ancient Greece, being one of the first societies to make important developments in mathematics, astronomy and medicine, is characterized as a time of questioning not just the “how” but also the “why” of the physical world. Many other civilizations sought to answer this question as well, but the Ancient Greeks were the first to develop basic scientific methods as a means to study natural phenomena (Pomeroy, 1999).

Hippocrates founded his school of Coan as well as the school of Chrysippias at Cnidos in the fourth century B.C. These schools were some of the first to utilize early scientific methods of practicing medicine. Hippocrates is often referred to as the father of Western medicine and was one of the first individuals to begin classifying disease according to signs, symptoms and anatomical location. Hippocrates act of studying the human body by separating it out into individual and distinct anatomic parts was one of the first attempts to understand the body through direct, physical observation and serves as the beginning of the scientific, evidence based form of health care (Balint et al, 2006). These foundations for the biomedical model of health and illness that have become the

backbone of scientific model of medicine used in the United States today were first developed in Ancient Greece.

The biomedical model was further perpetuated in early Europe through continued study of the human body, the organ systems and the physiology that drove them. In the late seventeenth century, Thomas Sydenham led the drive to classify diseases by an accurate clinical description rather than theoretical speculation. His charge was accomplished in part by Francois Boissier de Sauvages de la Croix in the mid eighteenth century when de la Croix completed and published a classification of over 2400 diseases. One of the most significant and renowned contributions to the perpetuation of the biomedical model of health came from Giovanni Battista Morgagni's publication on disease pathology. Morgagni was one of the first researchers to study post death anatomy in order to attempt to discern causes of disease. Morgagni's revolutionary method of studying the human body led to vast advances in the understanding of disease pathology. Evidence, physical and measurable, could now be attributed to be the causes of different diseases and maladies (Balint et al, 2006). The practice of biomedical science as a model of health care was initialized through the efforts of the philosophers of Ancient Greece and finalized through modernization and technological advances. By the twentieth century, biomedicine had become cemented into Western society with Virchow's assertion that disease is the result of cellular abnormalities (Wade & Halligan, 2004).

The biomedical model of health and illness used by United States' physicians today is based on the following set of assumptions: all illnesses, signs and symptoms arise from an underlying functional or structural abnormality in the body (Balint et al, 2006; Gillick, 1985; Wade & Halligan, 2004). All functional or structural abnormalities

can be individually classified into different diseases. Each unique disease is thought to eventually give rise to a pattern of signs and symptoms that indicate to the physician the specific cause of the problem in the individual. Removal of the disease or abnormality results in a return to health. These assumptions form the basis for treatment and diagnosis of disease in the United States. The word “diagnosis” is derived from the Greek word meaning “to distinguish or discern distinctive characteristics in precise terms” (Balint et al, 2006, p. 133). Physicians who practice the biomedical model must look for physical evidence of abnormality in structure or function of their patient through detailed assessment of the signs and symptoms the individual exhibits. Distinct evidence must be defined in precise terms in order for physicians in the United States to make a decision about a patient’s condition.

The process of defining precise physical evidence to ascertain a diagnosis has become a highly technical in the United States. The use of technology has expanded greatly in the past three decades accounting for higher costs of diagnosis and treatment (University of Maine, 2001). Physicians now employ the use of technological devices such as magnetic resonance imaging (MRI) and x-ray to find distinct biological abnormalities that indicate disease rather than spending time performing lower tech physical exams or discussing patient history. The actual patient to physician face time is no longer a significant factor in the determination of the disease and corresponding treatment in the United States. Rather, technology serves as the interface between health and disease (Wade & Halligan, 2004). The physician is the technical worker that translates the scientific information found from the devices into a language the patient can understand.

Once distinct evidence is found, the physician attempts to determine the unambiguous patterns of signs and symptoms that correspond to the disease causing the observed abnormalities within the patient. The diagnosis is highly scientific and technological. Technology removes the individuality of human beings because it organizes people into grouping based on the biologic abnormalities that are found. Treatment of the patient is based on the specific disease diagnosis made from the technical devices and does not take into account individuality or uniqueness of patient. Instead, the same disease is treated the same way in every individual. Post-diagnosis treatment of the patient is assumed to be a brief, non-invasive process carried out by quick-fix recommendations based on the technical knowledge of physicians (Wade & Halligan, 2004). Ascertaining the diagnosis involves highly technical knowledge acquired by doctors from years of higher education. Patients lack the education required to understand the technical information and are consequently absolved of any responsibility in their health outcomes (Gillick, 1985). As such, patients rely on pharmaceutical based or technological based interventions that are more costly than lifestyle modifications yet require less active participation by the individual in the disease process.

Treatment of a specific malady in the biomedical system of health care is not unique to each person because disease is viewed as a result of structural or functional abnormalities in anatomy and physiology common to all patients suffering from the same affliction. Human beings across the world are composed of the same basic anatomy and physiology, thus treatment and diagnosis of disease are considered universal to all humans (Gillick, 1985; Wade & Halligan, 2004). The human body is seen as a

combination of multiple organ systems, each with specific, unique and distinct functions. The digestive system is separate from the respiratory system, which is separate from the muscles and tissues, all with their own unique purpose and function. If one part of the body is malfunctioning, that specific part can be repaired with independent consideration as to the rest of the body. Health is returned when there is an absence of disease. There is no discussion in the field of biomedical science of the role of emotional and social aspects in pathogenesis or cause of disease because of the overarching belief that disease is caused by cellular abnormalities. This system of care relies on fixing the symptoms of illness rather than discerning the root cause of the illness and correcting it at its true source (Wade & Halligan, 2004).

In the biomedical model of health, there is a strong separation between physical aspects and mental aspects of health. The mind does not play a major role in the disease process according to this model. As such, emotions or mental phenomena are considered to be separate processes in the body unrelated to the process of disease manifestation or returning to health. The distinct separation between mind and body in health contributes to physician difficulties assessing the cause of disease when precise distinctive physical characteristics cannot be found. A large problem with the biomedical model of health is the difficulty to explain signs and symptoms of an illness when there is no measurable or attributable underlying abnormality in function or structure (Gillick, 1985; Wade & Halligan, 2004). The biomedical model of health lacks the necessary medical philosophy and terminology required to explain the cause of a disease in an individual when no distinct physical evidence underlying the cause can be found. It has been noted by researchers that many doctors' solution to this vexing conundrum is to give the socially

accepted and expected diagnosis to the individual, based on expectations of the biomedical model's patterning of signs and symptoms, even if the scientific evidence required for the diagnosis is not present. This solution is derived from the assumption that people in the United States have been brought up to assume that if they feel sick there should be a corresponding diagnosis of disease (Wade & Halligan, 2004). Having a diagnosis of a specific disease is a means through which people in the United States are taught to understand and successfully manage their illness. Through understanding of the illness, people are more likely to comply with health care providers and have a successful recovery.

Since the 1980s, the U.S. biomedical health care system has become increasingly more efficient in moving people through the system due to the drive to make health care more business-like. This shift in the management of health care led to a shift in the philosophy of the health care system. The purpose of medical care in the United States became redefined as an "economic product rather than a social good" (Inglehart, 1985). According to Shore and Levinson (1985) "the push is clearly on to make delivery of health services more business like" (p 319). The United States' values of economic security and desire for growth have influenced the social health system, placing demands on the health care system to restrain costs, cut spending and maximize profit.

Government policies in the 1980s were highly reflective of the growing economic values of the United States. The Omnibus Budget Reconciliation Act in 1981 mandated a three year reduction in government public health care spending through multiple means such as lowering the earned income deduction for working households and limiting eligibility for benefits. The Deficit Reduction Act in 1984 mandated further reduction in

government aid to health services by reducing benefits from income averaging as well as limiting eligibility for benefits. One mandate by the Deficit Reduction Act deemed low income pregnant women ineligible for Medicaid benefits (Inglehart, 1985). Because of new government policies, health services began to shift from non-profit social services towards for-profit industrial businesses to compensate for the reduction in government funding. The shift towards a more business driven service rather than a social service resulted in shorter physician-patient time due to the urge to get patients in and out of the office to reduce costs. Patients in the United States, especially those without insurance or others with rising insurance deductibles began to decrease the use of preventative services and postpone previously diagnosed treatment. As such, the prevalence of chronic conditions has risen since the 1980s while patient satisfaction with the U.S health care system has declined dramatically (Inglehart, 1985; Shore & Levinson, 1985).

In the United States, the biomedical system of health care is a business, a service provided for the people who choose to be 'fixed'. It can be compared to an auto body shop: the physicians act like car mechanic and the patient is the car. The patient enters the health care system with a specific problem. The physician/auto mechanic looks at problem, determines the malfunctioning part causing the specific problem as a separate entity to the rest of the patient/car, and fixes the broken part independently without a thought as to the root cause of the malfunctioning part. The root cause of the malfunctioning part may still be present within the patient/car but the specific problem is gone and the biomedical system is considered to have served its purpose. The patient has been returned to the biomedical concept of health: absence of disease.

According to the biomedical model of health, the patient is not considered to be an active participant in the manifestation or cessation of her illness but, rather a victim of the disease. In other words, the patient has no responsibility in her own health and has no control over her health outcomes. The patient must be a “passive recipient of treatment” prescribed by the physicians (Wade & Halligan, 2004). Physicians serve as highly educated individuals who alone hold the information required for patients to achieve health and well-being (Gillick, 1985). Patients in the United States often fail to take responsibility in their health outcomes. It is the lack of responsibility that lies at the heart of the biomedical model of health and contributes to the increase in prevalence of chronic conditions such as cardiovascular disease and diabetes that plague citizens of the United States today. Because patients do not take responsibility, they do not feel accountable for their own health and they do not take active roles in maintaining their health and wellness through lifestyle modifications. This sentiment represents a fundamental cultural value that distinguishes the biomedical philosophy from India’s Ayurvedic philosophy and causes distinct health outcomes for individuals utilizing the system.

Chapter 2

India: Traditional Ayurvedic System

India today, like many nations of the developing world, is influenced by past imperialism of the Western world. The influences of biomedicine and Western culture as early as the 1700s have spread throughout Eastern countries causing changes in the traditional culture of the nations. England first introduced biomedicine in India during the age of colonization beginning in the late 18th century. Western culture attempted to suppress the traditional system of health care utilized by the people because there was a lack of scientific development and quality research within the traditional system. As technology advanced and India became an independent nation in the 20th century, Ayurveda began to gain prevalence as a health system utilized by India's citizens once more (Sharma et al, Part 1, 2007).

The trappings of Western biomedicine health services such as hospitals and clinics can still be found in large cities in India; however, the traditional system using Ayurveda is the only system of medicine that is available to people living in villages and remote locations (Sharma et al, Part 1, 2007). Just under three quarters of India's population live in rural locations, while the remaining one quarter live in urbanized cities where biomedicine can be found (Patwardhan et al, 2005; WHO, 2010). Thus, the primary medicinal health care system utilized by the majority of India's population is the ancient medicinal science, Ayurveda.

The ancient wisdom of Ayurveda originated as a spiritual practice that was passed down through oral tradition from generation to generation. Ayurveda incorporates medical practices that cumulatively promote health and longevity and prevent disease

(Chopra & Doiphobe, 2002; Sharma et al, Part 2, 2007). As a spiritual practice, Ayurveda served as the guide to the cultural foundations that underlie Indian society today. Ayurveda considers meditation and the daily practice of yoga an essential aspect an individual must incorporate into her daily life to promote complete well-being and health. The influences of Ayurveda and the knowledge of the ancient Vedic saints serve as fundamental roots of wisdom used to guide Hinduism, the predominant religion practiced in India today. Hinduism, like Ayurveda, also incorporates practices such as daily regimen of yoga and meditation to promote spiritual growth (Sharma et al, Part 2, 2007). The practice of Ayurveda today has grown into a medical science that incorporates eight specialized branches of medicine: internal medicine, surgery, ophthalmology, pediatrics, toxicology, psychiatry, rejuvenation and sexology (Singh et al, 2008). The literal translation of the word ‘Ayurveda’ is derived from the union of two Sanskrit words: ‘Ayus’, meaning the lifespan of anything in creation, and ‘Veda’, meaning pure knowledge. Thus, ‘Ayurveda’ can be interpreted quite literally as the devotion to pure knowledge of the lifespan of all things in creation (Hankey, 2001). In the Western world, it would be interpreted as the “Science of the Lifespan” (Sharma et al, Part 1, 2007). Along with traditional Chinese medicine, Ayurveda is considered to be one of Eastern civilizations’ most prominent medical systems and is especially utilized in rural villages and remote localities where Western biomedicine has yet to penetrate and spread its influence (Patwardhan et al, 2005; Sharma et al, Part 1, 2007).

Ayurveda originated during the Vedic period in what is now the nation of India more than 5000 years ago and is considered by many to be the world’s first medicinal system (Chopra & Doiphobe, 2002). Ayurveda was developed by Vedic saints and

healers from thousands of years of meditative observations of the natural world. The Vedic saints observed that there was a pure, fundamental energy flowing through all things in creation in the universe. This energy, now known in India as *Prakriti*, is believed to give rise to all the material objects on the planet, such as human beings, plants and animals, as well as the non-material forces on the planet, such as *Sattva*, *Rajas* and *Tamas*. *Sattva* is the force of consciousness and intelligence and is believed to be the force that inspires ideas and consciousness in living beings. *Rajas* is the force of motion and action, giving the force *Sattva* power to do work. *Tamas* is force of inertia that resists the actions or inspiration of consciousness (Chopra & Doiphobe, 2002; Patwardhan et al, 2005).

The Vedic saints observed that the non-material forces manifested the same energy as all other things and can enter into material objects. Movement of energy into and out of living organisms causes changes in the energy system of the organism. Certain concentrations and manifestations of energies could elicit positive responses within an individual, while other manifestations of energies could elicit harmful effects. Actions and reactions were observed to correspond with accumulations or releases of energy. The types of foods consumed could affect changes in the energetic system of a living being as well. By observing the shifts in energy forces moving through their own human bodies as well as the outcomes caused by the energy shifts, the Vedic saints developed an understanding of how different living organisms could be affected by other material objects as well as nonliving energetic forces. The saints eventually collected and recorded their observations and knowledge into three primary texts that are utilized by

Ayurvedic practitioners today as the basis for prevention and control of disease (Chopra & Doiphobe, 2002; Patwardhan et al, 2005; Sharma et al, Part 1, 2007).

Ayurvedic practitioners in India today use the philosophy of the universal energy to serve as the basis for treatment and control of disease for their patients. It is believed that the movement of energy into and out of the internal energetic system of a human being causes changes to the internal system. Each individual human being has his or her own unique constitution of energetic ratio, known as their *Prakriti Nidana*. When the individual's internal energetic system is in balance, it performs as a self-correcting, homeostatic mechanism and the individual will remain in good health. When the internal energy system of the individual is in balance, the individual is capable of managing the changes in concentration of different energy forces around him and fending off the ill effects without significant harm. When the energy system of the individual is out of balance, however, the individual is not able to compensate for minimal shifts in the energetic systems around her and malfunction and disease are likely to occur (Chopra & Doiphobe, 2002; Patwardhan et al, 2005; Sharma et al, Part 1, 2007).

Ayurvedic practitioners use methods to prevent disease from occurring by restoring or maintaining the energetic balance in each individual patient. Return to health in Ayurveda is the result of lifestyle modifications recommended by the practitioner to bring back the balance in energy within an individual. The Ayurvedic practitioner must assess her patient in a multidimensional fashion in order to determine how the external energy systems involved in each unique domain of the patient's life are causing an imbalance in energy of the individual and causing the manifestation of a disease. Because each individual has a unique energetic constitution, different energetic forces

will have different effects on different individuals. As a result, the treatment of a disease for one person will likely be very different for the treatment of the same disease in another person (Hankey, 2001; Joshi, 2004; Sharma et al, Part 2, 2007). In this way, the Ayurvedic philosophy treats and heals the whole patient as an individual.

Holistic, philosophical approaches to health such as Ayurveda incorporate an individual's emotional, social, physical, environmental, and in particular, spiritual well-being into the management of an individual's health. According to Ayurvedic principles a common source of energy imbalance and manifestation of disease results from improper mind state. It is impossible to be healthy in body but not in mind, just as it is impossible to be healthy in mind but not in body. The word 'health' in Sanskrit, the language of Ayurveda, is '*Swastha*'. 'Swa' means Self and 'astha' means established (Chopra & Doiphobe, 2002). A truly health person is one who lives in peace with his or her present reality. Self is a concept in Ayurveda that represents the origin of all thoughts, actions and emotions. Through the Self, the individual perceives and relates to her world. If an individual is established in the Self, she trains her mind to be accepting of present conditions. This leads to a mind state that is blissful. By looking inward to the Self and through acceptance of the Self, one can find true happiness and thus, spiritual health. Spiritual health increases the ability of the individual's internal energetic system to maintain balance and effectively prevent disease (Chopra & Doiphobe, 2002; Patwardhan et al, 2005; Sharma et al, Part 2, 2007). In fact, the development of consciousness is considered to be the most essential component determining the return to or maintenance of health in an individual.

In India, Ayurveda is more than just a medical system, it is a lifestyle. Ayurveda is a path people can choose to follow to be guided through a life free or at least largely absent of disease. Because the main goal of Ayurveda is to promote total mind-body-spirit health, the medical practice of Ayurveda incorporates spiritual practices such as meditation and yoga into the system of care for patients. Lifestyle modifications and strict adherence to dietary recommendations and abstaining from harmful substances are also key practices used by Ayurvedic practitioners to promote health and treat disease. However, the spiritual practices of meditation and yoga are considered to be the most important preventative practices patients can use to ensure a life free from chronic suffering and disease (Chopra & Doiphobe, 2002; Patwardhan et al, 2005; Sharma et al, Part 2, 2007).

The Ayurvedic practitioner views her patient as a whole, complete functional energetic unit and focuses on health promotion and prevention through a holistic approach to health care. The individual's body, brain, mind and spirit are not separated into distinct parts to be treated separately but are all considered interdependent and are evaluated together to achieve total well-being. For complete health and well-being to be realized, the whole person must be healed. Through Ayurveda, healing occurs naturally when the individual's energetic system is in balance; as such, the main role of the Ayurvedic practitioner is educational. Thus, Ayurvedic practitioners serve as guides that pass knowledge to their patients and followers as opposed to physicians who strive to fix their patients symptoms. Responsibility for complete health is placed in the hands of the individuals: the patients must live in accordance with an Ayurvedic lifestyle and health and longevity will follow. This philosophy represents a fundamental cultural value that

distinguishes the Ayurvedic from the U.S biomedical philosophy and causes distinct health outcomes for individuals utilizing each system.

Chapter 3

Defining “Good Quality” in a Health Care System

Health systems are one of the most dominant factors that can be attributed to the improvement of life quality and overall well-being for individuals and nations. The quality of any health system is based on its ability to achieve and promote the highest overall well-being for the individuals under its care. Because of its significant role to improved life quality and health, access to health systems is considered to be a universal human right (WHO, 2000). As such, health researchers and government officials from across the globe have developed universal indicators and measures that allow quantitative and qualitative assessment of different health systems. Standardized assessment of health systems is necessary in order to determine the quality of a particular system of care and provide a benchmark system to allow a means by which health systems can improve themselves (UNDP, 2010; WHO, 2000). Development of universal indicators to allow policymakers and academics to assess quality health systems is complicated in an increasingly international world because of the difficulty of achieving agreement between the importance and usefulness of specific indicators across cultures (Jenaro et al, 2005; Jordhoy et al, 2007; Lorenz, 2008). Nevertheless, it is important to have a standardized method to quantify positive or negative aspects of a health system because it allows the means to debate achievement of the highest quality of life for people using a health system.

In an attempt to bring clarity to universal indicators of quality for health care systems, the World Health Organization (WHO) developed a ground breaking report in 2000 that outlines the importance of health care systems to the individuals and the nation

which utilize the system. According to the WHO report (2000), a health system must be assessed based on the following measurements: “the overall level of health, the distribution of health in the population, the overall level of responsiveness, the distribution of responsiveness and the distribution of financial contribution” (p. 27).

Each of these measures can be broken down further into a description of its ‘goodness and fairness.’ ‘Goodness’ refers to the ability of a system to respond to the expectations of the average person in the nation. The quality of the health system to produce a good overall level of health for a nation, for example, can be determined if the actual average health status of people in the nation align with the cultural expectations of what the health status of the individuals in the nation should be. ‘Fairness’ indicates that the health system responds equally to the needs and expectations of an equal distribution of people in the nation. In other words, health care should be equally accessible to all people regardless of socioeconomic status, ethnicity or location of residence (rural or urban) for the system to be considered fair. Quality of a health system at producing overall level of responsiveness can be determined if the health system responds in the same way to an equal distribution of the population (University of Maine, 2001; WHO, 2000).

The United States health system and India’s system will be assessed according to the WHO’s measures: overall level of health and well-being and equal access to care. These measures can be highly reflective of cultural values because cultural values affect the delivery of health care. The United States, for example, values delivery of high quality products with expedience and efficiency. As such, a physician in the United States attempts to reduce the amount of time spent with the patient while still delivering high quality care. A detailed description of the methods and indicators of qualities that

are used for discussion of the aforementioned domains are described in the following section.

Section 1: Overall Level of Health and Well-Being

The measurement of the overall health and well-being of individuals from a human ecology viewpoint is based on multiple dimensions of human life, all of which have a cumulative effect on the outcomes of an individual's life. Different domains involved in human health and well-being are physical health (biology, genetics, nutrition, exercise), mental health (emotions, life satisfaction, safety, intimacy), and social-environmental-cultural health (safety, job satisfaction, social stressors) (Cummins, 1996; Cummins, 2000; Miringoff & Opdycke, 1999). However, the measurement of these domains creates difficulties for a health ecologist.

Traditionally, measures and indicators of physical health have been the universally accepted means of assessing quality of life and thus, quality of health care systems. However, this narrow approach gives a partial view. Physical health indicators alone do not take into account the complex interaction between health, emotional status and environmental factors. Thus these indicators provide an inadequate view of the true, total health of people living within the system of care (Alfonso et al, 1996; Jenaro et al, 2005; Schmidt et al, 2005). As such, it is necessary to develop different means to measure the unique domains of human health and life quality such as mental health and perceived well-being in order to have a more complete understanding of the effects of cultural foundations on the delivery of health care.

Overall health and well-being is a multidimensional construct that cannot be fully understood without describing how the different domains interact in various ways to

achieve the definition of complete well-being. In this paper, health and well-being is analyzed using measurement tools health researchers have developed to determine the mental health and physical health of the nation. Both, physical and mental health indicators based on available statistics are used to assess the overall health and well-being of the United States and India's national population. The characteristics and aspects of mental and physical health used in the analysis are described in the following sections.

1.1: Mental Health and Quality of Life

Mental health from a human ecology standpoint contributes significantly to the assessment of overall well-being of a society. The measurement of mental health can be determined through analysis of the quality of life (QOL) of an individual or nation. The construct of QOL has also been used to describe the level of human development attained by a country (Rahman et al, 2011; Schmidt et al, 2005). In this paper, QOL is used to measure the overall mental well-being of an individual. A discussion of the research addressing QOL measurements is needed for an accurate comparison between the United States' and India's system of health care. As Verdugo et al (2005) noted in their research, "measuring quality of life is required to understand the degree to which people experience a life of quality and personal well-being" (p. 708). Before QOL can be used as a tool of measurement to describe overall well-being and thus effectiveness of a health care system, it is necessary to illustrate what the term signifies and how this complex concept can be measured. A brief history of the term addressing its use as a measurement will be discussed to demonstrate the complexity of determining the QOL for a population on a national level. The discussion addresses contributing characteristics as they apply to the topics of the mental well-being.

Quality of life is a psychological construct that has gained complexity through extensive research over the past 20 years. The term has been defined as the “subjective summation of the quality of an individual’s life by that person.” (Alfonso et al 1996; Diener, 1984; Andrew & Robinson, 1991; George, 1981) Research has diverged on the answer to whether or not QOL can be explained through objective measures or subjective measures, or a combination of the two. Early research on QOL began with the premise that it can be described and measured as a single, global entity and can be summed up by interpretation of a subjective individual perception: “is the individual or group in question satisfied with life as a whole?” For instance, Andrews and Withey (1976) argued in their book *Social Indicators of Well-Being: Americans’ Perceptions of Life Quality* that QOL is a psychological construct that can be described and measured in a broad overarching fashion. Following this view, these researchers developed a tool to measure satisfaction with life as a whole as a means of assessing QOL using a single question survey: “How do you feel about your life as a whole?” Diener et al (1985) developed the Satisfaction with Life Scale (SWLS) as an additional means to facilitate global QOL research among different populations.

The global method of measuring QOL was very popular in early research because it is a simple and quick means to measure life quality within a nation. The method is limited for comparing different levels of satisfaction or dissatisfaction with life between different domains of human existence because it provides only a general assessment of life as a whole and gives limited consideration to the importance of interrelated domains of life that cause different life outcomes (Cummins, 1996; Cummins, 2000; Verdugo et al, 2005). This method is also limited when contrasting cross-cultural perceptions of

QOL because of the unique perceptions different cultures have on the world (Schmidt et al, 2005).

When research on QOL involves a cross-national and thus, cross-cultural comparison, it becomes apparent that properties of life quality are not universally understood or accepted. Individuals of different cultures have different perceptions of self. In certain cultures like the United States, individuals value individual freedom of self expression and autonomy; while in another society self perception favors clan or community interests of conformity. Since individuals adopt a sense of belonging to the community and culture, their attitudes and actions will represent a culturally driven response rather than an autonomous response. Another key difference between cultures is the manner in which individuals perceive and relate to their peers. Cultural assumptions and manifestations vary across the globe and as such, what constitutes a valid domain effecting life quality in one nation may not hold the same importance in the outcome of life quality in another nation (Schmidt et al, 2005; Verdugo et al, 2005).

Different cultures experience and perceive life according to specific cultural beliefs and assumptions. For example, indicators of well-being that are used to measure satisfaction in the domain of relationship with family and friends are highly influenced by cultural values (Rahman et al, 2011). A woman in India has a unique view of her role in a familial relationship compared to a woman in the United States. A woman from the United States places more weight on equality with the husband in a marital relationship while a woman in India feels that overall familial harmony is more significant. Because of the uniqueness in cultural perception, the importance of certain variables within a familial relationship will be more representative of cultural satisfaction than others. The

significance of each particular indicator within a domain is weighted different in different cultures (Jenaro et al, 2005; Verdugo et al, 2005; Schmidt et al, 2005). Thus, QOL studies must take into account the different values individuals from different cultures place on each domain of life in order to have a more accurate and complete comparison.

Researchers Cummins, McCabe, Romeo and Gullone (1994) postulated that QOL is a more complex construct comprised of many unique life domains. They argue that there are seven domains of human existence that should be included in the discussion of QOL. The seven domains are: material well-being, health, productivity, intimacy, safety, community and emotional well-being (Cummins, 1996; Cummins et al, 1994). Measurement of these unique domains using qualitative indicators and quantitative benchmarks becomes complex, especially in cross-cultural comparisons of QOL. Quality of life of a nation in the opinion of this author is a multidimensional construct that cannot be explained solely through either an objective or a subjective means but rather to have an accurate view, it must incorporate both. As such, the domains of human existence to be included, the measurement scale, and a means to measure end outcomes with applicable values all must be defined (Rahman et al, 2011; Verdugo, 2005; Cummins, 1996).

According to T. Rahman et al (2011), quality of life indices should meet three basic requirements. They should reflect various dimensions of human well-being such as emotional and physical well-being. They should be capable of representing interactive effects among different domains, causes and indicators as they relate to quality of life. When quality of life is viewed from a human ecology standpoint, the interaction between different domains of life must be included in the measurement of mental well-being. A

comprehensive QOL index must take into account cause and effect of interrelating domains of life and culture in the overall measurement (Diener et al, 1985; Frisch et al, 1992; Pavot et al, 1991).

The problem of deciding which domains to include occurs when attempting to measure and quantify QOL. As L. George (1981) remarked “any social-psychological concept is viewed as fair game as a measure of subjective well-being” (p. 358). It is essential to have a basic understanding of the population to determine the most appropriate life domains and social-psychological constructs that are most applicable to quantify life quality of the population in question. For example, the United States values indicators related to economic well-being and socioeconomic status as measures of well-being (Miringoff & Opdycke, 1999). The Indian society values indicators related to spiritual growth and well-being, such as development of higher consciousness and living in union with universal energies (Sharma et al, 2007). As such, life domains should be analyzed in concordance with specific cultural diversities. In order to get a more complete understanding of the cultural complexity involved in the measurement of quality of life, this author views quality of life in concordance to the view researchers Cummins et al (1994), Verdugo et al (2005) and Rahman et al (2011). That being said, quality of life is a complex construct involving the interaction of multiple life domains.

Because this paper focuses on a health care system’s effectiveness for a national population, the health related QOL indicators and domains specific to a national population are defined as: health, productivity, safety, community and emotional well-being. These domains are used to analyze the overall quality of life of India and the United States and thus determine the overall mental well-being of the individuals in the

nation. To measure these specific mental health domains, empirical measures are used to describe a clear picture of the status of the nation. Indicators have been chosen from the UNDP's Human Development Index (2010) as well as the WHO's Global Health Observatory Database (2010).

The indicator for the health domain is health adjusted life expectancy to account for the life expectancy measured in healthy years that an individual will live. Health adjusted life expectancy is an appropriate measure of perceived quality of life for health in general because it indicates the degree to which a society is living a healthy life. To measure the perceived quality of life for the domain of productivity, the indicator of unemployment rate and adult literacy rate are used. Productivity is highly linked to education and income. An individual is more capable of being productive with a higher education level and literacy rate. Education also contributes to productivity as a worker. Perceived QOL in the productivity domain is highly related to income and job status; therefore, rate of national unemployment and literacy are suitable to assess productivity. The domain of safety and community are measured by the gender inequality index and the homicide rate. Gender inequality index (GII) is a measure of the disproportional disadvantages facing women in terms of health, education and the labor market (UNDP, 2010). As such, GII is an excellent measure of safety and community because it indicates the level a nation provides equal distribution of social services to all members of the nation. Homicide rate measures the level of violence experienced by a community. This is a good measure of community and safety because higher homicide rates correspond to higher levels of perceived social stress. Finally, emotional well-being is measured using

the suicide rate because of its relation to the degree to which members of a society are happy with the lives they lead.

1.2: Physical Health

The average physical health of all individuals is the traditional means by which academics and researchers measure the overall health of a nation (University of Maine, 2001; UNDP, 2010; WHO, 2000). In this paper, physical health indicators serve as supplemental indicators to describe the overall well-being of nation in conjunction with indicators of mental health and quality of life. The health literature describes multiple physical indicators to accurately measure the health status of a nation. According to the WHO (2000), major physical health topics include management and prevalence of chronic diseases, immunization, nutrition, maternal, neonatal and child health, and environmental factors on physical health such as access to potable water and hygienic sanitation systems. The prevalence of chronic conditions across the globe over the past few decades has grown enormously. The leading cause of death in the world today, cardiovascular disease, is a preventable chronic condition (WHO, 2010). Management of chronic conditions and the risk factors associated with development of chronic conditions is essential to maintain high quality physical health of a nation. Based on research, chronic conditions have lowered perceived life quality while increasing economic burden on the individual (University of Maine, 2001; WHO, 2000). As such, indicators that gauge responsiveness of the health system with respect to managing chronic conditions are used to analyze the quality of health care systems in the U.S and India.

The United Nations Development Programme (2010) identified the following physical health indicators to assess human development: life expectancy at birth,

prevalence of undernourishment in the population, and under-five mortality rates. In this paper, physical health is analyzed using the aforementioned indicators which measure the level of human development of a nation, in addition to the following physical health indicators: immunization rates, percentage of population using improved water and sanitation, percentage of population smoking, total adult per capita consumption of alcohol and obesity rates, these health indicators indicate the burden of disease on the national population. These indicators, coupled with those presented in the section addressing mental health and quality of life indicators are used to assess the overall level of health of the national populations of India and the United States.

Section 2: Equal Access to Care

Equal access to care is an essential characteristic of a quality health system. Over the past decades, the concept of equal access to health care has grown to a stature of becoming a universal human right (WHO, 2000). Almost every developed country in the world provides universal access to health care for all their citizens (University of Maine, 2001; WHO, 2000). The health literature describes multiple indicators and factors that can be used to assess and quantify the degree to which equal access to health care is achieved (UNDP, 2010; WHO, 2000; WHO, 2010). This paper uses the following indicators of equal access to health care: births attended by skilled health personnel, percent insured, density of health workers to the population, median availability of selected generic medicines as well as percentage of the GDP spent on health care. These indicators provide a useful glimpse as to the number of people in each nation who receive care, treatment or wellness resources from their health care system. The indicators for mental health, physical health and equal access to health that are described herein provide

a useful means to assess the quality of a health care systems and its success at providing positive health outcomes for the citizens being served. These indicators provide the means to compare the health status and quality of life for the people living in the United States with those people living in India.

Chapter 4

A Contrasting Picture of India and the United States

In the United States today, there are about 300 million people living under the biomedical model of health that is the culturally accepted and socially dominant system of care as described in Chapter 1 (UNDP, 2010). The United States has long since secured a position at the top of the list among the most developed and successful countries in the world and is currently ranked in position 4 of the UNDP's Human Development Index. The Gross Domestic Product (GDP) per capita in 2008 in the United States was \$46,653 measured by purchasing power parity international dollars (PPP). PPP is calculated by dividing the GDP of a nation in its own specific currency by the PPP international exchange rate as developed by the International Comparison Project. PPP standardizes international currencies into a universal currency that can be used for comparative research. Gross National Income (GNI) per capita in the same year was \$10.8 PPP.

The United States spent 7.1% of the 2008 GDP on public health. Average life expectancy at birth was 79.6 years and the prevalence of undernourishment in the total population was under 5% (UNDP, 2010). From all traditional measures of well-being, such as wealth and overall development, the United States is still considered extremely successful (UNDP, 2010; WHO, 2000). However, researchers and politicians question if the United States can still be considered a successful nation when 46.2 million people, representing 15.3% of the U.S population, are uninsured and have limited access to health care (Miringoff & Opdycke, 1999; University of Maine, 2001). The current United

States' health care data used for comparative analysis in the next chapter are summarized in Tables 4.1, 4.2 and 4.3.

India is currently ranked in position 119 of the UNDP's Human Development Index which is a contributing reason for its selection for comparison with the United States in this thesis. The population in India today is 1.15 billion people (UNDP, 2010). Three quarters of the people living in India today utilize the traditional medical system, Ayurveda, as the primary care system of health care, while the remaining population, largely urbanized, utilizes both the biomedical system as well as the traditional system (Sharma et al, 2007). The GDP per capita in 2008 in India was \$3,354 PPP international dollars. GNI in the same year is \$8.1 PPP. Average life expectancy at birth was 64.4 years and the prevalence of undernourishment in the total population was 22% (UNDP, 2010). From all traditional measures of well-being, India is not as successful in terms of health and human development as the United States. However, by assessing the United States' and India's health systems using the culturally sensitive measures described in Chapter 3, the status of both nation's primary care systems begins to look quite differently than that described traditionally. Table 4.1, 4.2 and 4.3 display current data from India that is used in the analysis provided in the next chapter.

The data in the following tables were compiled through a data search of the UNDP's Human Development Index (2010), the WHO's Global Health Observatory Database (2010) and the World Resources Institute's Health and Human Well-being Database (2007). Table 4.1 displays specific indicators that are used to describe and analyze the overall mental health status of the citizens of the United States and India.

TABLE 4.1
Mental Health and Quality of Life Indicators

Indicators	India	USA
Health Adjusted Life Expectancy	53	69
Unemployment Rate (% total population)	4.3	5.8
Literacy Rate (% total population)	68.3	99
Gender Inequality Rate	0.721	0.457
Homicide Rate (per 100,000)	2.0	5.2
Suicide Rate (per 100,000)	10.6	11.1

The specific indicators that are used to analyze the overall physical health status of the citizens in India and the United States are summarized in Table 4.2.

TABLE 4.2
Physical Health Indicators

Indicators	India	USA
Life Expectancy at Birth (years)	64.4	79.6
Undernourishment (% total population)	22	>5
Under 5 Mortality (per 1,000 live births)	69	8
Access to Potable Water (% total population)	88	99
Access to Hygienic Sanitation Facilities (% total population)	31	100
Smoking (% men/%women)	57 / 10.8	22.3 / 17.4
Alcohol consumption (liters per year)	0.3	8.6
Obesity (% total population)	5	30.6
Immunization Rate (% pop. 1 year olds)		
Measles	71	92
Hepatitis B	21	92
Polio	67	93

The specific indicators that are used to analyze the quality of the United States' and India's ability to provide access to care for its citizens are contained in Table 4.3.

TABLE 4.3
Access to Care Indicators

Indicators	India	USA
% GDP Spent on Public Health	1.1	7.1
Births by Skilled Health Professional (% total live births)	47	99
Insured (% total population)	1.71	84

Number of Physicians (per 100,000 people)	60	256
Access to Selected Medicines (% total population public / % tot. pop. private)	30.5 / 75.4	99 / 99

In each category, there are large differences between the indicators. Based on the differences between the indicators of each nation, one might expect a large difference in the health outcomes of the two nations. The analysis of the specific indicators' contributions to the description of the health status of the United States and India follows.

Chapter 5

Comparative Analysis

The health status of a nation is reflective of the performance of the health care system. A direct comparative analysis of the United States' and India's health care systems becomes problematic because the two nations are so economically distinct. The United States is ranked fourth of 177 in the UNDP's Human Development Index, where India is ranked one hundred nineteenth (UNDP, 2010). However, the ranking system used by the UNDP and by most other global organizations that study health and well-being uses traditional measures to assess health systems. Traditional measures, especially those created in the West, are often focused on economic measures and outcomes rather than social outcomes. For example, the GDP per capita is widely considered a better measure of national well-being in the United States than suicide rates (Miringoff & Opdycke, 1999).

Traditional measures of health and well-being would indicate that the United States is a healthy nation with a quality health care system that provides better health outcomes to its citizens than India. The United States consistently has better traditional measures of health than India: the average person living in the United States can expect to live almost 15 years longer than the average person in India and when healthy years are taken into account, the difference increases to nearly 16 years. India has a much larger percentage of malnourishment, and the under-five mortality rate in India is nearly four times the rate in the United States. Using these traditional measures places India in the bottom third of the UNDP's Human Development Index. From a human ecology

viewpoint, however, social outcomes and indicators provide a more accurate reflection as to the true health status of a nation.

From a human ecology standpoint using modified measures as previously enumerated in Chapter 3, the United States is not providing appreciably better quality overall care than India, especially considering that the USA is 115 positions above India in the Human Development Index. The United States year after year consistently outspends India on health care based on the percent of GDP at a margin of 7% compared to only 1.1% (UNDP, 2010). According to the UNDP's indicators for human development, high levels of economic security should correspond to appreciably similar high levels of health status. However, it may not be the total dollars spent or the level of human development attained that reflect the quality of the health care system (Iglehart, 1985; Wade & Halligan, 2004). Rather, the quality of the service received for the dollars is the more descriptive of quality health outcomes.

National data from the United States and India used to analyze the overall mental health status is summarized in Table 4.1. The two nations have remarkably similar mental health profiles for nations so far apart in the level of human development they have attained based on measures by Western agencies. Economic status is often assumed to be a good indicator of well-being for highly developed countries, especially those from the Western world; however, economic status appears not to be a sufficient means to provide a positive national mental health status. India's system of health care provides its citizens with the required needs that allow a similar satisfaction with life but at a much reduced economic burden than the United States.

Although the United States outspends India by 6% of the GDP on public health, there are still significantly notable differences between the two nations' indicator domains of: health adjusted life expectancy, the homicide rate and the literacy rate. The literacy level attained by a nation is highly dependent on economic indicators such as GDP because wealthier nations have more resources available to provide social services such as education to the people. Although the literacy rate in India is over 30% lower than that in the United States (68.3% of the total population compared with 99% in the U.S), less than 5% of the 2008 population was unemployed. While the United States had a significantly high literacy rate than India, the unemployment rate was over 5% in 2008 and is much higher today (UNDP, 2010). Income and participation in the workforce are strong indicators of satisfaction with life as a whole because they are good indicators of productivity, which is highly linked to satisfaction with life. Although the United States is more developed and industrialized than India, its economy fails to provide employment opportunities for a larger percentage of the work seeking population. Lack of employment opportunities in the United States also contributes to the amount of citizens with no insurance coverage and thus limited access to health care because the majority of citizens obtain insurance through their employment.

Although health adjusted life expectancy is almost 16 years lower in India than it is in the United States, this indicator is also highly correlated with economic position. Although health adjusted life expectancy is significantly lower in India, the suicide rate does not reflect significantly lower levels of dissatisfaction with life. In fact, the United States displayed a slightly higher rate of dissatisfaction with life using suicide rate as an empirical measure (11.1 suicides per 100,000 compared with 10.6 in India). Based on the

large disparity in economic position and human development, the mental health status of India should be much lower than that in the United States. However, the United States does not produce appreciably healthier mental health profiles than India, even though the gap between the economic positions of the two nations is so large.

Data from the United States and India used to analyze the overall physical health status of the nations are compiled in Table 4.2. Traditional measures of well-being such as life expectancy at birth, under-five mortality rate and undernourishment that is present in the total population indicate poorer health outcomes in India than the United States. However, indicators chosen to enumerate proficiency at managing chronic conditions appear to be remarkably similar in both nations considering the economic disparity between them. Notable risk factors for common chronic conditions include tobacco smoking, consumption of alcohol, lack of physical exercise and obesity (WHO, 2010). Although more than half of the Indian men smoke some form of tobacco, only 10% of Indian women smoke and about one cup of alcohol is consumed per adult annually. In the United States nearly a quarter of all men and one out of six women smoke some form of tobacco. 8.6 liters of alcohol are consumed per capita. Almost one third of the United States' population is obese compared to less than 5% of India's population (WHO, 2010). Cardiovascular disease is the leading cause of death in the world today and tobacco smoking, consumption of alcohol and large amounts of excess body fat are predominate risk factors for this disease. By controlling these risk factors, a health system limits the risks of chronic conditions for citizens under its care and provides better health outcomes for the nation.

The United States is significantly less successful in controlling risk factors for chronic conditions than India. In fact, the Indian medicinal system provides more positive health indicators for risk factors of chronic conditions in almost every domain. The Ayurvedic system of health care stresses maintenance of health and prevention of disease (Chopra & Doiphode, 2002; Sharma et al, Part 1, 2007). Prevention of disease is managed in Ayurveda through engagement in strict lifestyle modifications such as diet restriction and daily physical activity. Personal responsibility for health outcomes is highly stressed (Chopra & Doiphode, 2002; Sharma et al, Part 2, 2007). In contrast, the United States' system discourages personal responsibility and focuses on removal of the specific dysfunction symptom of the disease. The patient is not pressured to engage in lifestyle modifications because the patient is not seen as an active responsible participant in her health outcomes (Gillick, 1985; Wade & Halligan, 2004). This parallels the cultural contrast between individualism and cultural conformity.

The difference in the two system's philosophy of health and disease may account for the significantly higher levels of control of risk factors for chronic conditions that India's system achieves. India's citizens are more likely to engage in personally responsible behaviors that protect them from disease, such as limited consumption of alcohol or engagement in diet restriction to avoid excess body fat. Traditional means would place India at a health disadvantage to the U.S. yet India has a much better control of risk factors for chronic conditions. This especially impressive when only 31% of India's population has access to hygienic sanitation facilities and only 88% has access to potable water (UNDP, 2010; World Resources Institute, 2007).

National data from the United States and India used to analyze the overall level of quality a nation has attained at providing equal access to health care as shown in Table 4.2. The biomedical system of health care in the United States and the traditional Ayurvedic system in India each have unique systems of financing care complicating the analysis of access to health care. Care in the United States system is financed through government funding to health services, private funding through insurance companies as well as direct payment from the individual. Care under the traditional Ayurvedic system in India, on the other hand, is largely paid directly out-of-pocket by the individual because no government or private agency funds private Ayurvedic clinics. Direct comparison of percent of the GDP spent on public health is difficult because Ayurvedic health services are not funded by India's national government and therefore, are not reflected in the measure. Direct comparison of the percent of individuals insured is also limited because people in India using Ayurvedic clinics are not offered any form of insurance through private agencies.

Providing treatment and health care to all citizens, regardless of ability to pay, reflects the cultural values of a nation. In the United States, for example, financial security and national wealth are culturally predominant values (Iglehart, 1985). The United States uses a complex multi-payer system to fund care which provides insurance to a good portion of the population. Through Medicare, Medicaid, other government programs and private insurance, 84% of individuals in the United States have some form of insurance with the largest portion coming through their employment (Wade & Halligan, 2004; University of Maine, 2001). Because of this, more people in the United States utilize publicly available health services. As displayed in Table 4.2, access to

generic medicines in the United States public health system of biomedicine is 99% for the national population, 99% of live births are attended to by a skilled health professional, and there are over 250 physicians per 100,000 patients (WHO, 2010). The economic wealth of the United States contributes to its ability to fund the large physician density. These are strong indicators of health access. Although these measures indicate that the United States appears to provide more access to health care than India, it is difficult to definitely compare this measure because medical data collected in India about insurance is found from public health facilities which are not widely used by the majority of Indians.

In India, only 1.7% of individuals are reimbursed for any type of out-of-pocket payments they make for public health services. However, only about one quarter of the Indian population regularly uses public health services due to high costs and mistrust (WHO, 2010). Three quarters of the individuals in India utilize private health services including Ayurvedic clinics, rather than public health institutions where biomedicine is practiced. In the private health system in India, Indian patients receive treatment of high quality with limited economic burden. The methods of treatment and diagnosis in Ayurvedic clinics are not technologically based but rather psychologically based. The Ayurvedic practitioner discusses specific lifestyle modifications and nutritional recommendations that can be incorporated into the individual's daily life as means to promote or improve health (Chopra & Doiphode, 2002; Sharma et al, Part 2, 2007).

Even though treatment in Ayurveda is largely based on lifestyle and behavior modifications, access to generic medicines is 75.4% in private clinics. There is only 20.5% access to generic medicines in public health systems in India (WHO, 2010). The

private Ayurvedic health clinics in India produce the quality health outcomes such as low prevalence of risk factors to chronic ailments as previously discussed. Patients have a higher perception of individual responsibility in health in India and thus are more active participants in treatment and maintenance of health. Even though public access to health care in India is limited, patients are highly motivated to utilize the private Ayurvedic health clinics in order to educate themselves on ways to lead a life largely free of disease (Chopra & Doiphode, 2002; Sharma et al, Part 1 & 2, 2007).

The cultural values of the West and industrialized United States reflect strong interest in future economic security. The cultural value that drives the United States creates a system that moves people through the health system faster and reduces the face time spent with the physician. This type of health care delivery is reflected through the modified indicators to measurement. The United States society engages in more risk factors for chronic conditions such as consumption of alcohol and obesity rates. The productivity of the United States measured through the unemployment rate is less than in India. While India's health status according to traditional measures does not reflect a nation of high human development, the level of human development a country has reached may not reflect the level of quality that their health care system has attained.

Conclusions and Implications

Using modified measures to assess the quality of the health care system of a nation, the United States does not provide appreciably better quality outcomes to the citizens of its nation than does India. Although the United States maintained higher levels of traditional health and well-being indicators and has a massive economic advantage, it does not produce appreciably better health outcomes to its people than India. In certain domains of measurement, India's traditional health system produces health outcomes that are comparable to the United States. In other areas, India's system of care surpassed the United States' biomedical system and had more positive health outcomes. This is a remarkable feat considering the economic disparity India must overcome to provide the level of care offered by a highly developed nation such as the United States. The unique cultural philosophy of the importance of high personal responsibility for health outcomes maintained in the Ayurvedic traditional system of health care may be the significant determinant of the proficiency of the system in producing quality health outcomes to its people that can be compared with an economically advantaged nation such as the United States.

The implications of this research are profound if they lead to improvements in to health care delivery. This paper suggests a means for health researchers to begin to assess the health status of a nation from a human ecology standpoint rather than a traditional view of health and well-being. Traditional measures of health and well-being are primarily empirical indicators of economic stability and standing. As such, it is difficult to directly compare the specific primary health care systems utilized by the United States and India because of the large difference in the economic portrait of each

nation. However, as the world continues to shrink and populations continue to expand, the need to study cultural effects on different human domains becomes more important. Cultural foundations of a nation can create positive or negative health outcomes for the individuals of a nation. In fact, cultural foundations were strong enough influences on health outcomes that an economically underdeveloped nation such as India was capable of producing similar and even superior levels of health outcomes as the economically developed United States in many areas. However, adequate measures to accurately assess the true scope of the effects of cultural values as the driving force of a health care system are lacking. This author in attempting to develop new measures to comparatively assess the quality of a health care system by grouping traditionally accepted empirical indicators of human well-being identified the need for new measures of health and well-being based on social indicators of health. Future research needs to refine more appropriate means to measure health systems across cultures.

Another problem that arose in the comparison is the limited data provided by private Ayurvedic health clinics in India. In order for a more in depth comparison of Ayurveda with biomedicine, more empirical research needs to be conducted on specific health outcomes in private Ayurvedic clinics as well as in public health institutions in India. This would allow the public biomedical model of health in India to be compared with the private philosophy of health in India that embraces the traditional model of health prescribed by ancient Ayurveda.

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