A Revolution in Healthcare:
How Traditional Chinese Medicine Can Help Redefine Primary Care as
Personalized Integrative Care

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Abstract

The purpose of this Capstone was to describe the context of health care delivery in the United States, how chronic disease is influencing need and how primary health care (PHC) is and/or must adapt to meet the modern needs. Seeking to address these needs, a better understanding of Integrative Health Care (IHC) and Traditional Chinese Medicine (TCM) was pursued. Research used published sources to explore what factors or aspects of care may provide key opportunities for a sustainable PHC model via an IHC clinic model. The research sought to explore opportunities TCM may offer as a resource from which to anchor an IHC model that more strategically meets the needs for the next generation of PHC. Synthesis suggested links between PHC and IHC as well as links between IHC and TCM. After centuries of practical use, a growing body of evidence, and social acceptance, TCM offers organic principles and protocols that can help revolutionize primary health care as holistic personalized integrative health care.
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Chapter 1. Introduction

The need for change in healthcare in the United States (U.S.), and especially primary care, is well qualified. Chronic disease is the number one categorical cause of death worldwide (WHO, 2013). By 2023 it is suggested that chronic disease will cost the U.S. $4.2 trillion annually (Ross DeVol, 2007). This is nearly double the Office of the Actuary report, in the Centers for Medicare & Medicaid Services, that says the U.S. total health care spending in 2011 was $2.7 trillion (CMS, 2012). Current discussions and actions taken to implement new models put forth by health care reform include the medical home (or healthcare home)—a more comprehensive approach to healthcare delivery (HHS, 2010). The Agency for Healthcare Research and Quality (AHRQ) defines a medical home not simply as a place but as a model of the organization of primary care that delivers the core functions of primary health care (AHRQ, 2011).

Resources like the Patient-Centered Primary Care Collaborative (PCPCC) provide reports that show that medical home implementation may be on track to revolutionize primary care (PCPCC, 2007). The U.S. health care system could reduce healthcare expenditures by more than $2 trillion by 2023 and save U.S. households $537 billion during the next 10 years by adopting a series of policies that include greater use of primary care and the patient-centered medical home. (Commission, 2013). The challenges lie in our ability to identify clinical models that enable us to execute the intentions of the medical home for the optimal benefit of the patients. Patient centered care is one of the tenants offered by health care reform, AHRQ and the PCPCC for the medical home template. However, the models available for immediate
implementation are various and seem to be limited in application to the range of unmet needs within our diverse communities (AHRQ, 2011; PCPCC, 2007).

The last century for healthcare has been one that has included great advances in medicine. In 1900, the survivorship rate to the age of 50 was approximately 58% of the U.S. population; in 2007 it had reached approximately 93% (CDC, 2007). In 1960 the worldwide life expectancy was 52.62 years of age; in 2011 it was 70.5 years (WorldBank, 2012). Between 2000 and 2010 the life expectancy in Sub-Saharan Africa has grown from 50 to 55 (WorldBank, 2012). These are just a few statistics of the many metrics demonstrating our success in the area of medicine. In the last few decades a new trend has been emerging and the era of aging and chronic disease has become predominantly established.

The significance of this shift is rather profound. The current system of healthcare in the U.S. developed and evolved during a time of acute disease. Up until the last decade or so the most significant cause of death was from communicable disease and complications related to child birth (WHO, 2008a). Our system was groomed and steadfast focused on fighting death and a system of acute, urgent and emergency care was the result. As our ability for scientific diagnosis improved, alongside our ability to develop biotechnology we became masters of cheating death. The challenge we now face, however, lies in the fact that cheating death is not the same as cultivating life.

In 2008, 63% of the 57 million people who died worldwide died from non-communicable diseases. These statistics are from the World Health Organization’s (WHO) Health Statistics Database (WHO, 2008a). The WHO defines non-communicable disease very generally as chronic disease but this definition does still include some infectious diseases like HIV/AIDS and
complications related to diseases like hepatitis (WHO, 2008a). The crucial element to this shift is that most of the diseases now linked to the mortality of the human race are chronic in nature and even more so, lifestyle related.

Developing a new model for primary care requires new constructs and structures on which to develop a sound modern system of healthcare (AHRQ, 2011; PCPCC, 2007). For any model to be successful it must provide the foundation on which to build a system that has the depth and breadth necessary to meet the unique demands of a broad population. Arguably, the core of any new model of primary health care should be grounded in a mission that seeks the outcomes desired. The following is taken from the preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (WHO, 2006a):

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.

The health of all peoples is fundamental to the attainment of peace and security and is dependent upon the fullest co-operation of individuals and States.

The achievement of any State in the promotion and protection of health is of value to all.

Unequal development in different countries in the promotion of health and control of disease, especially communicable disease, is a common danger.
Healthy development of the child is of basic importance; the ability to live harmoniously in a changing total environment is essential to such development.

The extension to all peoples of the benefits of medical, psychological and related knowledge is essential to the fullest attainment of health. Informed opinion and active co-operation on the part of the public are of the utmost importance in the improvement of the health of the people.

Governments have a responsibility for the health of their peoples which can be fulfilled only by the provision of adequate health and social measures.”

It is important to acknowledge the key elements within the statement above, with the first being a standard to work towards versus a condition to fight against. By working towards a comprehensive state of well-being we can focus efforts more effectively on a more targeted goal. Seeking to prevent all diseases is more demanding than cultivating better health, which inherently suggests that at certain level of disease is being avoided. The second point made is that health and quality of life are a fundamental human right which suggests engagement by the two major parties involved – the individual and the community. The community should seek to promote the value of better health and protect the opportunity for every individual to pursue better health. The individual, properly informed of the value of health, must accept responsibility for pursuing better health and seek support for the facilitation of that objective.

If the intent is to suggest improvements via this Capstone, it is important that the tenets established above be complemented by an appropriately supportive definition of primary health care. Arguably, the basis for such a definition of primary health care was presented in the
Declaration of Alma-Ata which was adopted at the International Conference on Primary Health Care in 1978.

“Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology. It is the first level of contact bringing health care as close as possible to where people live and work… the first element of a continuing health care process” (WHO, 1978).

Bringing health care closer to where people live is key to the process of developing a new model of health care. Lifestyle diseases, or diseases of longevity, have increased in notable frequency as countries have become more industrialized coupled with the fact that people are now living longer (WHO, 2008a). These diseases include Alzheimer's disease, atherosclerosis, asthma, cancer, chronic liver diseases, Chronic Obstructive Pulmonary Disease, Type 2 diabetes, heart disease, metabolic syndrome, chronic renal failure, osteoporosis, stroke, depression and obesity (WHO, 2008a). Of these diseases the WHO notes that heart disease is the leading cause of lifestyle related disease worldwide (WHO, 2008a).

The rate at which such shifts have been happening has not gone unnoticed especially in light of challenges to our system in the U.S. The WHO has brought notice of these trends via their annual reports. The information below includes select titles of World Health Reports and a summary of those reports which demonstrate the observance of such trending needs:

- **2000: Health Systems: Improving Performance** - The World Health Report 2000 introduced “a conceptual framework and measurement approach to examine and compare aspects of health systems around the world, and better understand the
complex factors that explain how health systems perform. The report provided an assessment of the performance of national health systems for all countries on how well health systems treat patients, national health accounts, and estimates of household contribution to financing” (WHO, 2000).

- **2002: Reducing Risks, Promoting Healthy Life** - The World Health Report 2002 described “the amount of disease, disability and death in the world that could be attributed to a selected number of the most important risks to human health. It projected how much this burden could be lowered in the next 20 years if the same risk factors were reduced” (WHO, 2002).


- **2008: Primary Health Care (Now More Than Ever)** - The theme of the World Health Report 2008 was “the renewal of primary health care, and the need for health systems to respond better and faster to the health care challenges of a changing world. Focal points of the report included
  - Good care is about people
  - The distinctive features of primary care
  - Organizing primary-care networks and
  - Monitoring progress” (WHO, 2008b).
The reports above provide us with some perspective of the shifting demands worldwide, and action steps that could be taken to address an aging population, growing influence of chronic disease, loss of primary care support and the changing needs related to health care strategy. The WHO, along with other groups like the Committee on Quality of Health in America (CQHCA), have been documenting, researching and presenting their findings on healthcare needs for over a decade (CQHCA, 2001). The depth and breadth of the issues we face in healthcare today are clear; the value of this Capstone was to examine specific information to help determine what approaches and/or strategies can be helpful in designing and implementing more effective primary health care models.

Research Objectives

The objective of this Capstone study was to assess how Traditional Chinese medicine (TCM) may be used to influence the development of a new integrative primary care model that more effectively addresses the changing needs of healthcare in the United States (U.S.). A synthesis of integrative health care models and principle definitions have been conducted to present an opportunity for a more common point of discussion. Finally my objective was to identify, evaluate and describe principles, protocols and research from TCM as a guide to help further the discussion of how its contribution can help revolutionize a model for primary care in the United States.
Hypotheses

My main hypothesis was that adapting primary care to meet current needs lies in our ability to utilize an integrative care model that effectively addresses the growing demands of healthy aging and that TCM can help us accomplish this goal.

I believed that sufficient evidence exists that can be used to effectively review our current models of integrated primary care, and that the healthcare delivery models that are currently in place, or being promulgated (e.g., medical health home) require additional components — such as those found at the core of TCM — to effectively address those needs. I hypothesized that the principles at the root of TCM can effectively serve as the root of an integrated healing system and that data exists to help us understand what opportunities are available for improving primary care.

Research Questions

Within my capstone I sought to describe context of health care delivery in the United States, how chronic disease is influencing need and how primary care is and/or must adapt to meet the modern needs. The changes in health care needs, especially in the area of chronic disease, demands that we look at healthy aging as a tenant for new clinical models of primary care. My capstone research used published sources to explore what factors or aspects of care may provide key opportunities for a sustainable primary care an integrative care clinic model. My research sought to explore how TCM may be a valuable resource from which to anchor an integrative health care model that more strategically meets the needs for the next generation of primary care. Therefore, this Capstone explored the following research questions:
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- What information can be leveraged to develop and support a primary care model that effectively addresses the needs of an aging population and an ever increasing demand from chronic disease?
- What information can help us define and further support our understanding of integrative care and how we can use these concepts in primary care, with TCM as its root?
- What principles and protocols does TCM offer regarding how we might further our definition of integrative care and successfully develop an effective holistic primary care model?

Research Value

The potential value of this research is to create a better understanding of how integrative health care, and TCM, can meet the needs of our aging society and predominance of chronic disease. Contributions of this research can hopefully be used to continue to revolutionize modern primary care so that better and more sustainable patient outcomes result.

Definition of Terms

For the purposes of this paper the following definitions are provided to provide better context for the reader:

*Acute/Infectious Disease* – Conditions that have a rapid onset and/or tend to have a short duration (WHO, 2010). Most often these disease statistics focus on infectious agents as the cause of disease. However, some statistics may also include injury, childbirth and even some
acute episodes of chronic conditions (e.g. heart attacks). The WHO focuses on communicable
diseases, infectious disease, which will be our focus within this capstone project.

*Chronic/Non-communicable Disease* – Conditions that are persistent or otherwise have a long
(3 months or more) duration or course (WHO, 2010).

*Integrative Health Care* - A healing-oriented approach that incorporates a wide diversity of
healing professions (Kreitzer, Kligler, & Meeker, 2009)

*Integrative Medicine* – Integrative Medicine is the medical practice used within an integrative
care model (Kreitzer et al., 2009) and integrates the best of complementary and alternative
medicine with the best of conventional medicine (Maizes, Schneider, Bell, & Weil, 2002)

*TCM* – Traditional Chinese medicine (TCM) is a system of medicine that uses acupuncture,
herbal medicines along with a variety of mind and body practices rooted in the philosophy of
Taoism dating back more than 2,500 years (NCCAM, 2013).
Chapter 2. Review of Literature

Overview

The purpose of this chapter is to provide the scholarly foundation for the research synthesis conducted in this Capstone. A summary and review of the literature of the topics of Primary Health Care, Integrative Health Care and Traditional Chinese Medicine is provided to support the intent of this Capstone, and provide a synergistic foundation towards fulfilling the objectives of the WHO Preamble, presented in Chapter 1.

Primary Health Care (PHC)

The 2008 World Health Report (*see page 7) focusing on the need for a renewal of primary health care while discussing the reduction in demands from communicable disease and growing demands of an increasing and aging population (WHO, 2008b). The foundational challenge in revolutionizing primary care is being able to address the ever increasing demand of more people, living longer (WHO, 2008b).

When we began to address the demands of acute care, we began to address the need for controlling infectious disease; here, the application was in line with the demands. Addressing acute disease rarely focuses on long term care, relying more on short-term engagements (e.g., minimal office visits, mobile care clinics) that would dispense services like trauma care, vaccinations, etc. and then move on to the next point of need.
While the medical community has established its strengths in dealing with more acute care needs, new needs (e.g., chronic diseases) have also been developing. These needs can no longer be addressed via short-term clinical engagements. These needs require a new way of thinking and a new approach for primary care delivery (e.g., focus on prevention, integration between mind and body, attention to whole person assessment). If we seek ideas of how we might be able to execute a PHC strategy that serves extensive populations we can look to other countries that are already dealing with healthcare demands due to large populations like China and India.

Kuhmerker and Teisl (2010) have promoted the medical home concept as a path towards the modernization of primary care where the primary care provider is paid to coordinate care for patients. The advocacy for these models has been on paying providers to administer evidence-based disease management for people with chronic conditions including pay-for-performance programs rewarding those practitioners who show positive health outcomes. Potential savings for all payers over 10 years range from $1.3 to $33.7 billion in New York state alone, with actionable savings ranging from $0.5 billion to $11 billion. (Kuhmerker & Teisl, 2010) Geographic areas with more subspecialty care as compared with primary care spend more for care that is fragmented, without better outcomes (Baicker & Chandra, 2004).

Regardless of the new models emerging, such as the medical home, the 2006 World Health Report explains the dire need for first line healthcare practitioners (WHO, 2006b). We have a growing population yet a shrinking contingent of practitioners at the primary care level which is compounding our challenges as we seek to revive primary care. The shortage of primary care physicians contributes to the challenge of managing the healthcare needs of
Americans (Physicians, 2006). Between 1997 and 2005, the number of US graduates entering family medicine residency programs decreased by 50%, and over 80% of internal medicine residents chose to subspecialize or become hospitalists rather than providing general internal medicine (Bodenheimer, 2006).

One strategy has been to have more advanced practice nurses and physician assistants provide primary care (Roblin, 2004). Research has been suggesting that nurse practitioners can effectively manage 80% of patients’ primary care needs for some time (Horrocks, Anderson, & Salisbury, 2002). Meta-analyses have found that outcomes of care provided by nurse practitioners are equivalent to physicians on most variables in controlled studies and were sufficiently comparable with regards to risk (Brown, 1995).

**Integrative Health Care (IHC)**

In 2002 Kodner and Spreeuwenberg (2002) asked if we have defined “integrated care” well enough to help the community of academicians, scientists, policy analysts and practitioners to understand this concept, and guide the search for solid evidence and lessons. A decade later it seems that we could benefit from further review of the literature to reassess the Kodner and Spreeuwenberg (2002) evaluation and determine if we can offer more clear and concrete guidelines, and under what circumstances. Phrases like “integrated health care” can only be understood if we examine their context and logic (Kodner & Spreeuwenberg, 2002). As such, one focus of the synthesis portion of this Capstone was to explore conceptual clarification of IHC and recommend possible next steps for furthering its development, as well as suggesting how TMC may play a role in that development.
One of the primary challenges for the advancement of IHC lies in the fact that there are no definitions, practices or protocols that are commonly accepted. As Kodner and Spreeuwenberg (2002) suggest, the term “integrated” can be effectively rooted based on its definition as “organic part of a whole” or “reunited parts of a whole”. This definition is arguably reflected in much of the literature as the type of health care being sought but debate remains around how to achieve that objective. The University of Arizona’s Center for Integrative Medicine program suggests that integrative medicine is a healing-oriented medicine that re-emphasizes the relationship between patient and physician, and integrates the best of complementary and alternative medicine with the best of conventional medicine (Maizes et al., 2002).

Besides terminology, application of IHC outcomes should justify further clarification of its concept. The research demonstrating results from IHC efforts used in application have been growing in recent years. For example, in 2009 Abbott Northwestern Hospital in Minneapolis reported an immediate reduction of approximately 55 percent on self-reported pain scores for inpatient hospital visits by using integrated protocols (Dusek, Finch, Plotnikoff, & Knutson, 2010). When pain was reduced, total charges averaged $2,000 less per stay saving a total of about $2 million annually. It is proposed that this cost-reduction factor is due to patients receiving integrative medicine as their pain management protocol did so without medications, thus requiring fewer medications (Dusek et al., 2010).

Further research demonstrates the importance of focusing on the patient’s quality of life -- meeting them where they live -- by showing that for every point increase in well-being on a 100-point scale, respondents were 2.2% less likely to have an admission, 1.7% less
likely to have an emergency room visit, and 1.0% less likely to incur any health care costs (Harrison, Pope, Coberley, & Rula, 2012). Research using modern methods of analysis of cellular changes at the epigenetic level has shown that integrated diet and lifestyle interventions greatly improve the state of patients’ health (Roy, 2010). Estimates have been given that up to 75% of all US health costs can be saved by these methods, particularly if applied preventatively (Roy, 2010). This Capstone investigator therefore advises then, that is thus vital that active steps are taken to implement such programs, to reduce costs to citizens and society alike, as well as to government (Roy, 2010).

We also see evidence towards furthering the clarification of IHC in the increased number of integrative programs, such as the program offered at University of Arizona Center for Integrative Medicine where the prime directive is teaching healing-oriented medicine (Maizes et al., 2002). The motivation and timing for us to pursue convergence in IHC, to make sure that clarification is achieved, has never been more opportune than it is right now.

**TCM as a Resource for IHC and PHC Development**

Traditional Chinese medicine is a well-developed, coherent system of medicine that has been practiced for thousands of years (Jonas, Levin, & Berman, 1999) and an integral part of modern medicine in China (Xu et al., 2013). Expert analysis of TCM demonstrates the structure of TCM as a paradigm of integrative health care (J. A. Johnson, 2002b). The intent of this section of the literature review was to present the practical, scientifically sound and social acceptability of TCM with an emphasis on the practical. For a resource like TCM to contribute to the organic whole of IHC, a healing-oriented resource that re-emphasizes the relationship
between patient and physician, then practical application was determined to be important for TCM’s contribution to the further development of IHC.

Throughout this review an effort has been made to demonstrate the soundness of TCM via the available research. According to Xu et al. (2013) TCM research can be characterized into three phases: Phase I (1950s-1970s) was fundamental for developing TCM higher education, research and hospital networks in China; Phase II (1980s-2000s) was critical for developing legal, economic and scientific foundations and international networks for TCM; and Phase III (2011 onwards) concentrating on consolidating the scientific basis and clinical practice of TCM through collaboration. Phase III of TCM research was important to this literature review in that demonstrated the newness of high level collaborative research. Xu et al. (2013) explain that the modernization of TCM is more than westernization, that real innovations should include both TCM-inspired changes in thinking and practice of Western medicine as well as refinements in TCM via modern science.

The social acceptability of TCM is well-established and growing, as of 1999, TCM was practiced in one form or another in over 140 countries (Scheid, 1999). In more recent years there is an increasing international interest regarding TCM’s potential for impacting health care and research is expected to continue to play a key role (Xu et al., 2013). As Dr. Chan (2008) discusses at the 2008 WHO Address on Traditional Medicine, traditional medicine is generally available, affordable, and commonly used in a large part of the world. Strong historical and cultural roots along with practitioners that have good relationships with patients contribute to a health care resource that is well accepted by the public (Chan, 2008).
When we talk about practicality we also talk about accessibility. Medical care has become depersonalized (Chan, 2008) and the number of primary care doctors continues to decline (WHO, 2008b). Chan (2008) explains that the trend towards specialized care works against the doctor-patient relationship, the patient has become a managed assembly of body parts. Primary health care must be a patient-centered, holistic approach to health that makes prevention as important as cure (Chan, 2008; WHO, 2006a). For many millions of people herbal medicines, traditional treatments, and traditional practitioners are the main source of health care (Chan, 2008) even if these resources do not qualify as “primary health care”. It seems practical for us to work to bridge the gap between scientifically sound and socially accepted care.

**TCM’s Practical Foundation**

TCM’s practical foundation is rooted in principles observed in nature that are repeated within every instance of creation – every animal, every rock, every human being. The prime directive that is observed and studied in TCM is the fundamental transformation of energy, which is said to be influenced and governed by Qi (J. A. Johnson, 2002b). J. A. Johnson (2002b) explains that Qi can be considered as the bridge between the source and the manifestation. This principle is observed in all things, including the human body. TCM observes this principle as it creates disease and influences health in the human sphere of existence (J. A. Johnson, 2002b). TCM views the human body as a whole and as part of nature (Jonas et al., 1999). By seeking to understand the principles of nature, the organic parts of the whole, we can then seek to identify their influences within an individual’s life. Understanding the root principles of nature can help demonstrate practicality from which to manipulate influences for our own
benefit in both clinical application and in clinical model development (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

**Principles of Nature**

The following are the basic forces or influences observed in nature (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). They all have an object or source and they all initiate a force or influence on the universe and all that exists within the universe. These fundamental concepts are the core of TCM because they are the core of nature:

- **Wu Ji** (Feng & Bodde, 1983a, 1983b; J. A. Johnson, 2002a, 2002b; Maciocia, 2005) – The Wu Ji represents the primordial universe, often translated into “limitless”, “boundless” or “infinite”. The concept of Wu Ji stems from the most fundamental concept of nature that at either end of our existence lies a singularity. The universe, the container in which all things exist, is a singular entity. On the opposite end of this continuum is what modern scientists might refer to as a string (Moskowitz, 2012) for the smallest subatomic particle that is the building block of which all things are made. This singular point at either end of this continuum, represented by the Wu Ji, has the singular property of balance. This property of balance, as in any equation, is the crucial objective in the pursuit of better health and elimination of disease.

- **Yin/Yang** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005) – Yin and Yang represent the most fundamental observations of nature. All things that exist are observed, described and recorded based on two fundamental measures, what the object is and what the object isn’t. Yin and Yang are variables that allow for essentially limitless dichotomous descriptors such as light vs. heavy, hot vs. cold, up vs. down, old vs. new, moving vs.
stationary, etc. Yin and Yang are variables that allow for these fundamental measurements to be repeated as many times as is needed to fully identify the object or instance (e.g. disease) being discussed.

- **Qi/Essence** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005) – When discussing the concepts of nature it is important to discuss the objects being observed beyond just their static state, it is also important to discuss how they originated as well as their influence on the world. Qi and Essence in their most basic form are variable markers for function (Qi) and form (Essence) within the natural sphere of existence. The most basic acknowledgement of these concepts are that if something is to exist it must first become (Qi) the object (Essence) of which we are discussing. Once in existence the object then exerts an influence (Qi) on the surrounding environment/objects (Essence) and thus the cycle of function/form, action/response continues.

- **Wu Xing** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005) – The Wu Xing are another class of variables used to describe the forces observed in nature. This class of variables becomes rather complex as it is used in application. The fundamental concept of this class is the sequence of the natural cycle. Each natural cycle has five notable phases or points – initiation/birth, accumulation/growth, peak/maturity, reduction/decline, disintegration/death. These five points are represented by the five elements (water, wood, fire, earth, metal) and the qualifications of the experience around each of those points gives each element it basic properties.

  Where the concept of the Wu Xing compounds is when the standard sequence of the 5 elements becomes a total of three interacting sequences. There is the creative influence which is the standard natural cycle (birth-death) sequence where one phase
leads to or influences the next phase. There is the controlling influence where one phase will limit the influence of a phase two steps prior (i.e. maturity controls birth, decline controls growth, etc). The final influence is the consumptive influence where one phase will consume another and has the potential to destroy another phase. This influence is observed when a phase influences another phase two steps ahead (i.e. birth influencing maturity, growth influencing decline).

- **Shen, Qi, Jing** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005) – Shen, Qi, Jing is the bridge between nature and humans. In nature there are 3 spheres of influence the source (Wu Ji), the process of creation (Qi), and the manifestation of creation (Essence). When these influences are translated into the human sphere of existence they are often referred to as Shen, Qi and Jing. These can be further translated, yet not limited to a simple explanation, of spirit (Shen), mind (Qi) and body (Jing).

**Key Physiological Concepts**

The transition from nature into the human sphere of existence involves a review of some concepts as well as an introduction of new concepts. TCM remains consistent through the breakdown of influential factors and understanding the factors that influence the human body. More specifically all of the influences mentioned above manifest within the human sphere of existence and create the following substances and functions within the body.

- **Vital Substances** (Essence) – Four influential factors have substance within the body. They are referred to as the vital substances -- Jing, Xue, Jin Ye, Qi (J. A. Johnson, 2002a, 2002b; Maciocia, 2005)
- **Jing** (Essence) - Jing is considered to be the most precious substance in the body. Jing is the prime governor of our constitution which can be understood better as our genetic makeup and how our genetics unfold within key factors (e.g. hormones, etc) that influence our development (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

- **Xue** (Blood) – Xue is the cell based constituents (WBC, RBC, platelets, etc) within the human blood and tissues and more generally described as the denser or more substantial portion of the fluids within the human body. (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

- **Jin Ye** (Body Fluids) – Jing Ye are the body fluids or factors within the human body that would be equivalent to the blood plasma along with extra/intracellular fluids (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

- **Qi** (Vital Force) – Qi is vital to the equation of the functioning body, even though considered to be less substantive than its counterparts. Qi is the term used to identify and classify the various functions within the body. Without the functions or movements within the body the vital substances won’t have the impetus to fulfill their roles (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

**Vital Functions** (Qi) – The vital functions of the body are broken down into six isolated functions -- Yuan Qi, Gu Qi, Zong Qi, Zhen Qi, Zhong Qi and Zheng Qi -- to help identify and diagnose when necessary (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

- **Yuan Qi** - The impetus of life and then the sustaining influence of the constitution (genetics) (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).
• **Gu Qi** - The digestive qi, the ability for the body to breakdown external resources to make them useful by the body (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

• **Zong Qi** - The force that utilizes the useful (nutritive) components extracted from the Gu Qi within the body. The components acquired by the Zong Qi are further refined to create Zhen Qi (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

• **Zhen Qi** - Broken into two subcategories of Ying and Wei Qi. **Ying Qi** makes sure that the internal organs are well nourished and the **Wei Qi** makes sure the body is well protected (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

• **Zhong Qi** - An aggregated category identifying the interdependence of the internal organs and their synergistic functions (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

• **Zheng Qi** - Another aggregated category of functions that keep the body safe and protected (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

**Principles of the Medicine (TCM)**

**Diagnostics**

TCM diagnostics seek to understand the depth and breadth of a condition to make sure the protocols for treatment are holistic and complete. The diagnostic system of TCM uses five primary diagnostic methods (observation, interrogation, palpation, listening, smelling) that are intended to overlap and integrate to make sure the diagnosis is thorough and that the whole person is considered throughout the treatment process (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).
To further the diagnostic accuracy and to make sure the full scope of each condition is recognized, there are seven differential diagnostic pathways within the TCM that are leveraged to make sure that the most appropriate diagnosis is achieved (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). Depending on the condition being observed, via the diagnostic methods mentioned above, one differential diagnostic might be used as the primary diagnostic and in other instances multiple diagnostics may be used to make sure the diagnosis is complete. To get into detail of each of these diagnostic pathways is outside the scope of this literature review. The key points to recognize is that all of these diagnostics are hands on, require no technology and can be integrated with other diagnostics.

**Eight Principles** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). - The Eight Principles diagnostic is the foundation of all other diagnostics. The focus is to describe the location and nature of the condition. The eight principles are an extension of, and include, yin and yang as described above and are as follows – excess/deficient, interior/exterior and hot/cold.

The yin and yang are open variables to make sure each diagnostic is customized to the needs at hand. Excess/Deficient just help recognize if there is something to be reduced/removed from the body or introduced into the body. Interior/Exterior is a location marker acknowledging where the disease is located in the body or where it originated (i.e. a cold virus would be exterior). Finally hot and cold are related to symptoms like fever and chills and similar elements like those of inflammation. Each of these principles are used in succession to identify the condition until there is sufficient information on which to act.
**Qi, Blood, Body Fluids** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). – Diagnosis via Qi, Blood and Body Fluids uses the eight principles to identify disease in body function (Qi), body nourishment (Blood) and supportive fluids (Body Fluids). This diagnostic concept is used to determine if there is dysfunction in Qi, Blood or Body Fluids. The eight principles from above help differentiate dysfunction and help determine treatment protocols.

**Five Element Patterns** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). - The Five Element diagnostic is linked to the Five Elements mentioned earlier where the cycle of disease is observed from which to develop an appropriate strategy. By determining where in the cycle of development a disease may be helps develop the appropriate treatment protocols. An example would be a cold treated in the early stages would be treated differently in a later stage.

**Zang Fu** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). - The Zang Fu diagnostic focuses on the organ function and identifying what imbalances may exist or influences the organs might be having on the rest of the body (Zhang, Zhang, Wang, Yu, & Zhang, 2011).

**Six Stages** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). – The Six Stages, also referred to as the six channel, diagnostic is one of three major diagnostic systems used to identify febrile disease so that an appropriate treatment strategy can be formulated.

**Four Levels** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). - The Four Levels diagnostic is second of three also used for identifying febrile diseases.
**Triple Burner** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). - The Triple Burner, also referred to as San Jiao, diagnostic is used for febrile diseases, especially those of the digestive and genital-urinary tracts, lymph system and more.

**Therapies**

Once a clear diagnosis has been made TCM practitioners may use a wide range of therapeutic resources to make sure the treatment plan is dynamic to holistically meet the individual’s needs at any given point of treatment plan. The TCM therapy portfolio is designed and expected to be integrated into a holistic treatment plan so that any or all therapies might be used to create the optimal outcome (J. A. Johnson, 2002a, 2002b; Maciocia, 2005).

**Instrument Assisted Therapies** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). – Instrument assisted therapies are used to elicit responses from the body to further a specific therapeutic objective. Of these therapies the most well-known is acupuncture which has used a wide varieties of needles within its history, though the most common today is the disposable filiform needle used to stimulate specific points on the body. The therapy of bloodletting (aka therapeutic phlebotomy) is also a needle based therapy that is still used but less so than acupuncture.

The other therapies (Cupping, Moxabustion, Magnet Therapy) use tools that generally do not break the skin but may cause a variety of reactions either locally at the point of the therapy or may elicit a response throughout the body. One therapy that is not listed in this section that may also use tools to stimulate the skin is Gua Sha which is listed in the manual therapy section.
**Nutritional Therapies** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). – Nutritional Therapies include Nutritional Education, Compresses, Powders/Pills, Teas/Soups, Tinctures/Wines, Oils, Balms and Liniments. These types of therapies are used for both internal (dietary, medicinals) and external (washes, compresses, etc) application use via multiple application methods/techniques as well as multiple methods of formulation and processing.

**Manual Therapies** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). – Manual Therapies include Jie Gu (Structural Alignment), Tui Na (Muscle/Tendon Massage), Gua Sha (Skin Stimulation Massage), An Mo (Pressure/Deep Tissue), Jing Point (Channel Focused Massage). These therapies generally focus on the structure of the body looking to correct, reduce or eliminate physical obstructions that may impede quality of life or the recovery of one’s health.

**Cultivation Therapies** (J. A. Johnson, 2002a, 2002b; Maciocia, 2005). – Cultivation therapies (Qi Gong) are best understood to be meditative or mind-body techniques that are done by the individual for themselves or may be facilitated by a therapist. Therapies conducted by the individual often include sitting meditations and/or physical movement exercises combined with meditation.

**TCM Acceptance and Validity**

The evidence surrounding TCM as an effective health care model and approach is rather substantial especially in the area of practicality and social acceptance (Xu et al., 2013). There is
some debate, like most research, about the quality and design of the research being conducted on the therapies themselves but in recent years more and more substantive evidence has become available as researchers better understand the subjects being researched (Keith, 2013).

One of the areas where therapeutic research is substantive is in the area of acupuncture. Acupuncture is one of the most widely used instrument assisted therapies around the world (Mao & Kapur, 2010). Acupuncture care yields clinically relevant short- and long-term benefits for low back pain, knee osteoarthritis, chronic neck pain, and headache. The integration of acupuncture into a primary care setting also appears to be cost-effective (Mao & Kapur, 2010).

Acupuncture can be an effective first line medical intervention replacing costly surgeries, medications, and reducing hospital days (Jabbour, T., W., M., & Matthew, 2009; Wonderling, Vickers, Grieve, & McCarney, 2004). Research suggests that acupuncture is an effective treatment for back pain, neck pain, migraine headache and osteoarthritis of the knee (Corbett et al., 2013; Haake et al., 2007; Vickers et al., 2012). Acupuncture is effective for the treatment of chronic pain and is therefore a reasonable referral option (Vickers et al., 2012). Multiple studies, including meta-analysis, suggest that acupuncture can help control postoperative and chemotherapy-induced nausea and vomiting (Cassileth et al., 2007; Ezzo et al., 2006; Lee & Done, 2004; Lee & Fan, 2009). One study evaluated 304,674 patients under the care of over 10,000 physicians concluded that acupuncture is extremely safe when performed by a well-trained practitioner (C. M. Witt et al., 2009).
Evidence supporting TCM nutritional therapies continues to grow. One study that used Tianqi in capsule form for 12 months which significantly decreased the incidence of type 2 diabetes mellitus in subjects with impaired glucose tolerance; this herbal drug determined to be safe to use (Lian et al., 2014). Another example is a recent study that demonstrated Minnelide, a phase 1 clinical trial drug, and a triptolide compound found in the Lei Gong Teng (Thunder God vine) a TCM herbal resource (Paquette, 2013). Furthermore, Yang et al. (2014) stated that the clinical effect of tashinone IIA, an isolated compound from the TCM herb Dan Shen, improved prostate-specific antigen while improving multiple additional metrics versus those in control group after treatment.

The scientific evidence supporting manual and cultivation therapies are arguably the therapeutic categories with the most limited research. This may be due to the rare use of these therapies on their own as well as the difficulty of identifying appropriate controls. However, research does suggest that Chinese massage combined with herbal ointment may be a beneficial therapy for athletes with non-specific low back pain (Kong et al., 2012). Another study suggests that gua sha, an TCM instrument assisted soft tissue mobilization technique, has beneficial short-term effects on pain and function in patients with chronic neck pain (Braun et al., 2011).

For cultivation therapies, research suggests that Qi Gong improves depression in fibromyalgia patients (Maddali Bongi, Del Rosso, Di Felice, Cala, & Giambalvo Dal Ben, 2012). Meditative movement therapies (qi gong, tai chi, yoga) are also strongly recommended for fibromyalgia (Langhorst et al., 2012). Qi Gong exercises commonly lead to increased personal awareness accompanied by enhanced quality, fluency and smoothness of movement.
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(Posadzki, Stockl, & Mucha, 2010) for a variety of users. One study suggested that Qi Gong had positive effects on quality of life, fatigue, immune function and cortisol level of cancer patients (Zeng, Luo, Xie, Huang, & Cheng, 2014). Finally, research findings suggested that Tai Chi exercise could improve the balance and decrease the fall risks in patients with Parkinson's disease (Gao et al., 2014).

Literature Review Integration

In summary, the information provided in this literature revealed three main points:

• Primary health care continues to struggle to meet the modern need, arguably for 36 years or more (HHS, 2010; WHO, 1978).
• Integrated health care seeks to connect the organic parts of the whole person with the organic parts of the whole system for practical treatment application. (Kodner & Spreeuwenberg, 2002)
• TCM provides a time tested, accessible and integrated system of diagnostics and therapies that are consistent with IHC approaches.

This Capstone explored how to bridge the gaps between these trends.
Chapter 3. Methodology

Research Design

This qualitative research synthesis sought to answer three primary research questions:

- What information can be leveraged to develop and support a primary care model that effectively addresses the needs of an aging population and an ever increasing demand from chronic disease?
- What information can help us define and further support our understanding of integrative care and how we can use these concepts in primary care, with TCM as its root?
- What principles and protocols does TCM offer regarding how we might further our definition and structure of integrative health care and develop an effective holistic primary care model?

Resources

The literature reviewed for this synthesis has focused on peer reviewed articles available in PubMed, EBSCO and Science Direct search databases. Searches were conducted via the Principal Investigator’s computers and articles accessed via University of Minnesota Medical Library online journals.

Keywords used in searches included (PubMed/EBSCO: # Citation Results): “integrative health” (PubMed: 6909; EBSCO: 250), “integrative health care” (PubMed: 2894; EBSCO: 62), “integrat* and medicine” (PubMed: 62314; EBSCO: 5004); "integrat* and health*” (PubMed:
Inclusion criteria focused on IHC definitions and associated terms and models of care. The primary exclusion criteria were discussions of Integrated Health Care (IHC) that may only have used IHC as a descriptor for content within the articles versus discussion of IHC itself. Secondary exclusion included articles published in countries outside the U.S. Studies and articles published before 2000 were also determined to not qualify for this synthesis.

Within the searches above 523 abstracts were selected for further review. Of these 523 abstracts, 203 abstracts were selected for more detailed review and 124 articles were acquired and further assessed. The 124 articles were filtered to 46 for the purposes of the synthesis and then that selection was narrowed further to 28 by selecting only articles focusing on U.S. health care.

**Instruments**

The information sought in this synthesis included a focused effort on IHC definitions, terms, models and other pertinent information related to the delivery of IHC. The following information was abstracted from each article using an abstraction form:
General Information

- Author(s)
- Institution(s)
- Year of Study
- Peer Reviewed
- Type of Study (RCT, Survey, Qualitative case study, Commentary, editorial, opinion)
- Does the article meet primary search guidelines (primary care, integrative care, TCM)? Yes/No
- Does the article potentially support the development of a new primary care model? Clinic application? Yes/No

Integrative Care

- Does the article offer or suggest links to Primary Care (Direct, Suggested, No Link)
- Does the article offer or suggest links to TCM (Direct, Suggested, No Link)
- What terms are associated with integrative care (descriptive terms used to clarify IHC, especially any providing direct reference to the definition of IHC or those terms repeated throughout the literature to described IHC)?
- What therapies are associated with integrative care (therapies mentioned as examples of IHC, therapies used in models of IHC)?
- What are people talking about when talking about IHC? Practitioners practicing? Yes/No Models of Care? Yes/No Clients using? Yes/No Practices or therapies? Yes/No Education? Yes/No
• At what level is IHC being discussed (i.e. who's publishing the literature)? Research groups? Yes/No Academic institutions? Yes/No Government? Yes/No Clinics? Yes/No Hospitals? Yes/No

• Does the article offer a definition of IHC? Yes/No Does it contain support regarding the definition of IHC or suggest trends of IHC development? Yes/No Offers definition of integrative care? Yes/No Supports the definition of IHC via argument/example? Yes/No Presents discussion about integrative care models? Yes/No Argues need for further development of IHC? Yes/No Contains, supports or explains IHC Protocols, Principles, Practice elements? Yes/No

• Who is using/practicing IHC? (Hospitals, clinics, individual practitioners)

• Who is teaching IHC? If it is being taught did they discuss teaching integrative care models? Yes/No Developing education programs? Yes/No Education oriented research? Yes/No Research outcomes linked to educational programs? Yes/No

• Are institutions teaching/researching IHC? Yes/No Teaching it? Yes/No Researching it? Yes/No Outcomes? Yes/No

• Is there evidence of flaws within the research, how it was presented or conclusions drawn from the research? Yes/No Are there signs of arguments against its validity? Yes/No Are there signs of incomplete information for application suggesting the need for further research? Yes/No

Study/Article Conclusions

• What are the articles conclusions?
Validity and Reliability

Careful thought was taken in the review of each article. The intent of this thoughtful review was to make sure the IHC model and system elements were observed systematically. Threats to the intention of this work included the possibility of reviewing articles not on target with providing enough information to help support answering the research questions posed. However, each article’s content validity was assessed with careful thought as described.

Data Analysis

Univariate data analysis techniques and thematic content analysis were used to analyze the data abstracted. The data was analyzed for patterns in yes/no responses and by breaking down text data in thematic categories. The data was captured via a custom Google Form which allow for the data captured to be exported into a Microsoft Access database. It was there that data for each category was broken into to smaller specific tables and compiled. Content analysis was the primary technique used to compile data and synthesize definitions of IHC, terminology and models around IHC and to better understand who is using, researching and promoting IHC.
Chapter 4. Results

Data Overview

As stated earlier, the intent of this research synthesis was to gain insight into the depth and breadth of acceptance and use of integrative healthcare (IHC) principles and models within the U.S. health care system. The intent of this synthesis was to explore consistencies, if any, regarding how IHC is defined, how well established the practice of IHC is (e.g. is there a generally accepted model or concept of IHC) and how well accepted the concept of IHC is in practice and in academia. Data analysis synthesized trends to better understand what next steps might be taken to leverage TCM as a resource for helping to define IHC and furthering its development, specific to answering research questions three noted on page 25. Refer to Appendix A for synthesis article key.

Article Date Range (Chart 4-1, Table 4-1)

This article synthesis included 28 articles with dates ranging from 2002 to 2013. Eighteen (62%) of the articles are within the last five years and 25 (~90%) are from the last 10 years. The largest segment of articles (36%) came from 2009 and 2010.
Table 4-1

<table>
<thead>
<tr>
<th>Article Year</th>
<th>Number of Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1</td>
</tr>
<tr>
<td>2012</td>
<td>3</td>
</tr>
<tr>
<td>2011</td>
<td>2</td>
</tr>
<tr>
<td>2010</td>
<td>5</td>
</tr>
<tr>
<td>2009</td>
<td>5</td>
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<tr>
<td>2008</td>
<td>2</td>
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<tr>
<td>2007</td>
<td>1</td>
</tr>
<tr>
<td>2006</td>
<td>2</td>
</tr>
<tr>
<td>2005</td>
<td>1</td>
</tr>
<tr>
<td>2004</td>
<td>3</td>
</tr>
<tr>
<td>2002</td>
<td>3</td>
</tr>
</tbody>
</table>

Article Sources (Table 4-2, Chart 4-2)

This synthesis review included 28 articles from 12 sources. The most significant source of information was the journal Explore: The Journal of Science and Healing which contributed 9 (32%) of the total articles followed by the Academic Medicine and Journal of Alternative & Complementary Medicine, both of which contributed 4 (14%).
<table>
<thead>
<tr>
<th>Article Sources by Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Medicine</td>
</tr>
<tr>
<td>Alternative Therapies In Health And Medicine</td>
</tr>
<tr>
<td>California Journal of Oriental Medicine (CJOM)</td>
</tr>
<tr>
<td>Cien Saude Colet</td>
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<tr>
<td>Evidence-based Complementary &amp; Alternative Medicine (eCAM)</td>
</tr>
<tr>
<td>EXPLORE: The Journal of Science and Healing</td>
</tr>
<tr>
<td>Integrative Medicine Insights</td>
</tr>
<tr>
<td>JAMA: Archives of Internal Medicine</td>
</tr>
<tr>
<td>Journal of Alternative &amp; Complementary Medicine</td>
</tr>
<tr>
<td>Journal of Manipulative and Physiological Therapeutics</td>
</tr>
<tr>
<td>Patient Education and Counseling</td>
</tr>
<tr>
<td>Primary Care</td>
</tr>
</tbody>
</table>

*Chart 4-2*
Types of Articles (Table 4-3)

This synthesis review included 6 different types of articles. The majority 89% of them fall into three categories – Editorial, Literature Review and Commentary.

<table>
<thead>
<tr>
<th>Types of Articles</th>
<th>Number of Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editorial</td>
<td>10</td>
</tr>
<tr>
<td>Literature Review</td>
<td>8</td>
</tr>
<tr>
<td>Commentary</td>
<td>7</td>
</tr>
<tr>
<td>Expert Opinion</td>
<td>1</td>
</tr>
<tr>
<td>Qualitative Case Study</td>
<td>1</td>
</tr>
<tr>
<td>Survey</td>
<td>1</td>
</tr>
</tbody>
</table>

Links between Integrative Health Care, Primary Health Care and Traditional Chinese Medicine (Chart 4-3 & 4-4)

One of the top level objectives of this synthesis was to assess of the connections between IHC and PHC as well as IHC and TCM. For this abstraction 3 levels of measurement were observed – no link, suggested link and direct link. Suggested link was considered to be valid when an article presented information regarding both topics without a stated direct link. Direct link was considered to be valid when a direct link was mentioned. Chart 4.3 shows that 50% of articles (14/28) were found to not have a link between IHC and PHC, 21% (6/28) offered suggested links and 29% (8/28) offered direct links between IHC and PHC. Likewise, Chart 4.4...
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shows that 43% of the articles (12/28) offer no link between IHC and TCM, 43% (12/28) offered suggested links and 14% (4/28) offered direct links.

Of the 50% that offered links between IHC and TCM, only TCM was described. Comparing mentions of TCM to acupuncture (Table), acupuncture was mentioned in 75% (21/28) of the articles 7 more than those with a stated link to TCM. Seven total articles suggested or directly linked IHC and PHC as well as IHC and TCM though no correlated links between all three IHC, PHC and TCM were observed in any of the articles.

![Chart 4-3](image)

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Suggested</th>
<th>Direct</th>
</tr>
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<tbody>
<tr>
<td>IHC &amp; PHC</td>
<td>29%</td>
<td>21%</td>
<td>50%</td>
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</tbody>
</table>

![Chart 4-4](image)

<table>
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<tr>
<th></th>
<th>None</th>
<th>Suggested</th>
<th>Direct</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC &amp; TCM</td>
<td>14%</td>
<td>43%</td>
<td>43%</td>
</tr>
</tbody>
</table>
Terms associated with IHC (Chart 4-5)

The terms associated with IHC were noted for each article, specifically when used in direct reference to definition or description of IHC. In this review 12 terms were used with repeated reference to IHC, the most notable being Complementary and Alternative Medicine (CAM). CAM was referred to in 26 of 28 articles (93%) and in some cases the references to IHC and CAM were one in same. Also noted with great frequency were Interdisciplinary (13/28), Multidisciplinary (11/28) and Collaborative (10/28).
Acceptance of Integrative Health Care (Chart 4-6)

The following section explored the synthesis of where IHC is being used within the U.S. health care system. The intent of this section was to observe the level of discussion with regards to who was using IHC and/or advocating or contributing to its development, to gain an understanding of the depth and breadth of IHC, and assess how well established and/or accepted IHC is within the healthcare sector. Here, four main areas were explored: practitioners practicing, clients/public using IHC, models of care suggesting detailed or lengthy planning and academic institutions developing, researching or teaching IHC protocols or practices.

Of the 28 articles reviewed 16 (57%) included discussion about practitioners practicing IHC and/or advocating for further development based on proposed models or practices of care. Sixteen (57%) of the 28 articles presented information on models of IHC either in practice or considered for further development to be put into practice. Eleven (39%) articles included discussion of patients seeking integrative support or driving the practice integrative care via demand. Ten (35%) of the 28 articles discussed therapies or practice concepts used in IHC or considered to be a part of IHC models present or future. Fourteen (50%) of the 28 articles had discussions related to academic development and teaching practitioners about IHC, most notably those of medical schools.
The intent of seeking this data was to look at the depth and/or breadth of use of IHC, namely areas that might suggest where IHC is established within our health care system. Ways of observing this foundation included exploring if practitioners claim to be practicing IHC (Practitioners), if there are proposals or demonstrations of models of IHC (Models), if there are specific therapies or practices that are being identified as IHC (Practices), if the public is using or in a sense driving IHC (Clients) and lastly are academic institutions researching, developing or teaching IHC (Education). The results of Chart 4-6 are described in greater detail below.

**Practitioners Practicing**

Of the articles reviewed 16 (57%) specifically discussed practitioners practicing IHC in some capacity or practitioners seeking a better option in which to practice, suggesting that IHC might be a better option. With regards to practitioners practicing IHC, 10 (36%) of the articles cited references to clinics, and 5 (18%) articles cited hospitals engaging in either the practice or research of IHC.

**Clients Using Integrative Health Care**

Of the articles reviewed 11 (39%) specifically discussed client or public use of IHC. The most prevalent discussion around the public using IHC is actually more directly a statement of the public using CAM resources alongside their conventional resources. Details were limited with regards to suggesting direct use of IHC. However, 64% articles stated that CAM is being used.
The discussion of patients demanding more holistic service was almost as prevalent as the discussion of CAM. Seven of the 11 (63%) articles discussed patient engagement in pursuit of improved personal health as one driver for increased IHC and 4 of these 7 (57%) discussed patients demanding for integration. One articles of the 11 (9%) advocated that to support the development of IHC four transformational components need to be addressed “(1) having access to a range of appropriate therapies to support individual journeys, (2) care that focuses on one’s overall well-being, (3) control over disease management, and (4) developing healing relationships with care providers” (Khorsan, Coulter, Crawford, & Hsiao, 2011). Finally, one of the 11 articles offered the observation that many individuals use CAM, as many as 70%, do so without discussing the use with their primary doctor (Ananth, 2009). Appendix B provides the article text gathered regarding Client Use of IHC.

Practices/Therapies (Table 4-4, Chart 4-7)

The intent of this sub-topic was to synthesize therapies associated with IHC. Therapies were qualified by those used in reference to the practice of IHC or used in the discussion regarding IHC, Integrated Health and Integrated Medicine. Of the articles reviewed 10 (35%) specifically discussed or mentioned therapies or systems of therapeutic practice linked directly with IHC. Of the 10 articles that discussed practices or therapies, 6 articles offered specific therapies in use within IHC clinics or hospitals. The table below presents the 22 specific practices and therapies presented in the articles reviewed. Table 4-4 lists all therapies and practices mentioned in the literature broken down into common categories of care.
The most common therapies mentioned were qualified medical therapies like acupuncture (24), chiropractic (14), naturopathy (11) and massage therapy (10). The chart below presents the terms that were mentioned at least twice throughout the literature.

<table>
<thead>
<tr>
<th>Primary Health Care</th>
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<tbody>
<tr>
<td>Medical</td>
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<tr>
<td>Holistic Nurse Practitioners</td>
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<tr>
<td>Osteopathic</td>
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<tr>
<th>Nursing</th>
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<tr>
<td>Nursing</td>
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<tr>
<td>Midwifery</td>
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<tr>
<th>Allied Health Care</th>
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</thead>
<tbody>
<tr>
<td>Pharmacy</td>
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<tr>
<td>Dietitian/Nutrition</td>
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<tr>
<td>Chiropractic</td>
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<table>
<thead>
<tr>
<th>CAM</th>
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<tbody>
<tr>
<td>Acupuncture * TCM</td>
</tr>
<tr>
<td>Oriental medicine * TCM</td>
</tr>
<tr>
<td>Massage/Manipulation</td>
</tr>
<tr>
<td>Reflexology</td>
</tr>
<tr>
<td>Naturopathic</td>
</tr>
<tr>
<td>Mindfulness Based Stress Reduction</td>
</tr>
<tr>
<td>Transcendental Meditation</td>
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<tr>
<td>Hypnotherapy</td>
</tr>
<tr>
<td>Homeopathic</td>
</tr>
<tr>
<td>Spiritual Healer</td>
</tr>
<tr>
<td>Energy medicine</td>
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<tr>
<td>Touch therapists</td>
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</tbody>
</table>
Of the 28 articles reviewed for this study 14 (50%) of the articles included some discussion about IHC with regards to education and academic institutions. Of these 14 articles, 10 (36%) of the articles had a primary presentation focus on IHC within the academic environment.

The articles were reviewed to see what was being discussed in relation to IHC and the academic setting. Twelve (42%) articles discussed teaching IHC as a part of a program or curriculum in a medical school environment. Eleven (39%) articles discussed the need or
ambition of developing IHC programs or curriculum while 5 (18%) articles discussed research necessary for the development of curriculums or the evaluation of curriculums already in place. No articles discussed outcomes or trends that would suggest the success of IHC.

Models of Care

The subsequent sections have been broken down into following categories developed by this Capstone researcher:

- **Basis of Care: Practice Design** – Content is focusing on how to develop, design or execute models of integrative health care practice.
- **Basis of Care: Validation of Care Strategies** – Content is focusing on upholding standards and/or ways to demonstrate safe, effective care.
- **Basis of care: Ambition of care** – Purpose of care and/or the reasons for improving care
- **Criticism of IHC/Areas for improvement** – Opportunities for improving and/or criticisms of IHC
- **System Regulation/Economics** – System regulations or discussing economic issues surrounding IHC

Of the articles reviewed 16 of 28 (57%) specifically discussed models of IHC from conceptual and academic level discussion to clinic level application. Within the 16 articles, 20 different models of care were referenced by name. To more effectively review this content the definitions were divided into five tables based on the categories above. Table 4-5 presents the
largest segment, 15 of the 20 (75%), of models, which discuss the influence or importance of health care practice and/or model design.

Table 4-5

<table>
<thead>
<tr>
<th>Basis of Care: Practice Design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Models of Care</strong></td>
</tr>
<tr>
<td><strong>Teamlet Model of primary care</strong></td>
</tr>
<tr>
<td><strong>Medical/Healthcare home</strong></td>
</tr>
<tr>
<td><strong>Communication and Behavior Change Model</strong></td>
</tr>
<tr>
<td><strong>Continuity of Care Model</strong></td>
</tr>
<tr>
<td><strong>Patient-Centered Care Model</strong></td>
</tr>
<tr>
<td><strong>Integrative Medicine in an Academic Medical Center Model</strong></td>
</tr>
<tr>
<td><strong>Informed Clinician Model</strong></td>
</tr>
<tr>
<td><strong>Informed Networking Clinician Model</strong></td>
</tr>
<tr>
<td><strong>Multidisciplinary Integrative Group</strong></td>
</tr>
</tbody>
</table>
Interdisciplinary Integrative Group Practice Model

“Similar to Multidisciplinary Integrative Group Practice Model; however, the patient is seen by a team of providers, each providing his/her area of expertise” (C. Johnson, 2009).

Hospital-Based Integration Model

“Integrates conventional and CAM services within a hospital setting” (C. Johnson, 2009).

“Pluralism” Model

“Focused on relationships between CAM and allopathic medicine. This model allows for tolerance of epistemological differences and recognizes that both allopathic medicine and CAM have the potential to offer valuable treatment options for patients” (C. Johnson, 2009).

Expanded Care Model

“Expanded care model expands the chronic care model beyond its original focus on specific diseases to the overall process of healthcare” (Fritts, Calvo, Jonas, & Bezold, 2009).

Provider-Centric Integration Model

“Incorporating CAM directly into hospital-based medical programs or by primary care practices or by allowing a limited number of CAM providers, particularly chiropractors, naturopaths, acupuncturists, and massage therapists; or holistic nurse practitioners including spiritual healers and touch therapists into conventional health centers” (I. Coulter, Khorsan, Crawford, & Hsiao, 2010).

Patient-Centered Model

“Key feature is patient at the center, shifting power from professionals to patients, consistency of application of regulation in the interest of the patients, emphasis on team work and integrative care protocols” (Leckridge, 2004).

Table 4-6 below presents 3 of the 20 (15%) identified models of care that discuss the validation of care strategies or suggest that the therapies/protocols being delivered should be measurably safe and effective.

<table>
<thead>
<tr>
<th>Practice Model</th>
<th>and cross refer; but patients see separate providers” (C. Johnson, 2009).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interdisciplinary Integrative Group Practice Model</td>
<td>“Similar to Multidisciplinary Integrative Group Practice Model; however, the patient is seen by a team of providers, each providing his/her area of expertise” (C. Johnson, 2009).</td>
</tr>
<tr>
<td>Hospital-Based Integration Model</td>
<td>“Integrates conventional and CAM services within a hospital setting” (C. Johnson, 2009).</td>
</tr>
<tr>
<td>“Pluralism” Model</td>
<td>“Focused on relationships between CAM and allopathic medicine. This model allows for tolerance of epistemological differences and recognizes that both allopathic medicine and CAM have the potential to offer valuable treatment options for patients” (C. Johnson, 2009).</td>
</tr>
<tr>
<td>Expanded Care Model</td>
<td>“Expanded care model expands the chronic care model beyond its original focus on specific diseases to the overall process of healthcare” (Fritts, Calvo, Jonas, &amp; Bezold, 2009).</td>
</tr>
<tr>
<td>Provider-Centric Integration Model</td>
<td>“Incorporating CAM directly into hospital-based medical programs or by primary care practices or by allowing a limited number of CAM providers, particularly chiropractors, naturopaths, acupuncturists, and massage therapists; or holistic nurse practitioners including spiritual healers and touch therapists into conventional health centers” (I. Coulter, Khorsan, Crawford, &amp; Hsiao, 2010).</td>
</tr>
<tr>
<td>Patient-Centered Model</td>
<td>“Key feature is patient at the center, shifting power from professionals to patients, consistency of application of regulation in the interest of the patients, emphasis on team work and integrative care protocols” (Leckridge, 2004).</td>
</tr>
</tbody>
</table>
**Models of Care** | **Definition**
---|---
Continuity of Care Model | “Continuity of care refers to continuity across multiple levels practitioners, records, place/location, engagement/continuum of care and attitudinal contract (patient's understanding of who is in charge)” (Maizes et al., 2009).
Provider Model: Patient-Centered Medical home | “The physician directs the care, providing whole person, coordinated care wherein quality and safety are hallmarks of the care, providing enhanced access to care, and employing payment structures that recognize the value of this form of care” (Maizes et al., 2009).
Patient-Centered Model | “Key feature is patient at the center, shifting power from professionals to patients, consistency of application of regulation in the interest of the patients, emphasis on team work and integrative care protocols” (Leckridge, 2004).

Table 4-7 below presents 9 of the 20 (45%) identified models of care that discuss reasons why to improve care and/or the reasons for improving health care.

**Table 4-7**

<table>
<thead>
<tr>
<th>Basis of care: Ambition of care</th>
<th>Model Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Models of Care</td>
<td>Definition</td>
</tr>
<tr>
<td>Medical/Healthcare home</td>
<td>“American Academy of Pediatrics expanded the definition of medical home to include the following operational characteristics: accessible, continuous, comprehensive, family-centered, coordinated, compassionate, and culturally effective care” (Kreitzer et al., 2009).</td>
</tr>
<tr>
<td>Communication and Behavior Change Model</td>
<td>“Often described as the art of medicine, this [model focuses on] sitting with another human being, the desire to understand [their needs] and the intention to be of service. This relationship is the centerpiece of healing-oriented care and needs to be protected and honored” (Maizes et al., 2009).</td>
</tr>
<tr>
<td>Continuity of Care Model</td>
<td>“Continuity of care refers to continuity across multiple levels practitioners, records, place/location, engagement/continuum of care and attitudinal contract (patient's understanding of who is in charge)”</td>
</tr>
</tbody>
</table>
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(Maizes et al., 2009).

Provider Model: Patient-Centered Medical home

“The physician directs the care, providing whole person, coordinated care wherein quality and safety are hallmarks of the care, providing enhanced access to care, and employing payment structures that recognize the value of this form of care” (Maizes et al., 2009).

Patient-Centered Care Model

“Customize treatment recommendations and decision making in response to patients’ preferences and beliefs” (Maizes et al., 2009).

Informed Networking Clinician Model

“Grounded in the Informed Clinician Model, but the practitioner has a functioning network of providers available and is able to offer more treatment options” (C. Johnson, 2009).

Interdisciplinary Integrative Group Practice Model

“Similar to Multidisciplinary Integrative Group Practice Model; however, the patient is seen by a team of providers, each providing his/her area of expertise” (C. Johnson, 2009).

Expanded Care Model

“Expanded care model expands the chronic care model beyond its original focus on specific diseases to the overall process of healthcare” (Fritts et al., 2009).

Patient-Centered Model

“Key feature is patient at the center, shifting power from professionals to patients, consistency of application of regulation in the interest of the patients, emphasis on team work and integrative care protocols” (Leckridge, 2004).

Table 4-8 below presents 4 of the 20 (20%) identified models of care that critique integrative health care or offer alternative solutions for integrative health care.

<table>
<thead>
<tr>
<th>Models of Care</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Informed CAM-Trained Clinician Model</td>
<td>“Medical practitioner does not necessarily have a network of other providers, but instead chooses to train himself in selected CAM modalities” (C. Johnson, 2009).</td>
</tr>
<tr>
<td>“Opposition” Model</td>
<td>“Focused on relationships between CAM and allopathic medicine. In this model, both camps denigrate the other, suggesting that the</td>
</tr>
</tbody>
</table>

Table 4-8

Criticism of IHC/Areas for improvement

<table>
<thead>
<tr>
<th>Model Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Models of Care</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>The Informed CAM-Trained Clinician Model</td>
</tr>
<tr>
<td>“Opposition” Model</td>
</tr>
</tbody>
</table>

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other is harmful, unfounded, or lacking in some manner” (C. Johnson, 2009).

“Integration” Model

“Focused on relationships between CAM and allopathic medicine. Incorporates CAM modalities into conventional medicine but it is suggested that integration risks undermining the ethos of CAM and biomedicine” (C. Johnson, 2009).

“Pluralism” Model

“Focused on relationships between CAM and allopathic medicine. This model allows for tolerance of epistemological differences and recognizes that both allopathic medicine and CAM have the potential to offer valuable treatment options for patients” (C. Johnson, 2009).

Table 4-9 below presents 4 of the 20 (20%) identified models of care that discuss models that involve the influence of regulation and economics.

<table>
<thead>
<tr>
<th>Models of Care</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Model</td>
<td>“Minimal state involvement, absence of regulation, market (customer/supplier) driven” (Leckridge, 2004).</td>
</tr>
<tr>
<td>Regulated Model</td>
<td>“Regulated to protect the patient, most common in the world, still highly driven by market (customer/supplier)” (Leckridge, 2004).</td>
</tr>
<tr>
<td>Assimilated Model</td>
<td>“Same as regulated model but stronger positions delineating biomed practice and alternative - CAM that is not assimilated is not ‘medicine’” (Leckridge, 2004).</td>
</tr>
<tr>
<td>Patient-Centered Model</td>
<td>“Key feature is patient at the center, shifting power from professionals to patients, consistency of application of regulation in the interest of the patients, emphasis on team work and integrative care protocols” (Leckridge, 2004).</td>
</tr>
</tbody>
</table>
Discussion of Definition of IHC (Table 4-10)

In this synthesis specific IHC definitions were sought for comparison. Of all of the IHC definitions or descriptions observed, only 3 articles offered a common definition by referencing Boon et al (Boon 2004). Since Boon was a part of this synthesis 4 of 28 articles referenced the same source for their definition or description of IHC. Beyond these 4 articles the most common pattern was that no common definition emerged, yet a need for one was commonly expressed. Even so, I analyzed common terms/elements and grouped them accordingly.

Table 4-10

<table>
<thead>
<tr>
<th>Integrative Health Care Definitions Terms</th>
<th># of Mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basis of Care: Practice Design</strong></td>
<td></td>
</tr>
<tr>
<td>conventional and CAM/ therapies and services</td>
<td>16</td>
</tr>
<tr>
<td>collaboration/interdisciplinary/synergistic</td>
<td>13</td>
</tr>
<tr>
<td>patient-practitioner relationship/therapeutic relationship</td>
<td>12</td>
</tr>
<tr>
<td>patient-centered/personalized care</td>
<td>8</td>
</tr>
<tr>
<td>team/team approach</td>
<td>6</td>
</tr>
<tr>
<td>primary care</td>
<td>2</td>
</tr>
<tr>
<td>unconventional modalities</td>
<td>2</td>
</tr>
<tr>
<td>healing art</td>
<td>1</td>
</tr>
<tr>
<td>all appropriate therapeutic approaches</td>
<td>1</td>
</tr>
<tr>
<td>shared vision of healthcare</td>
<td>1</td>
</tr>
<tr>
<td>more than absence of disease</td>
<td>1</td>
</tr>
<tr>
<td>broader paradigm</td>
<td>1</td>
</tr>
<tr>
<td>practitioner education</td>
<td>1</td>
</tr>
<tr>
<td>clinic design</td>
<td>1</td>
</tr>
<tr>
<td><strong>Basis of Care: Validation of Care Strategies</strong></td>
<td></td>
</tr>
<tr>
<td>scientific/best evidence/evidence based</td>
<td>8</td>
</tr>
</tbody>
</table>
**Basis of care: Ambition of care**

<table>
<thead>
<tr>
<th>Basis of care</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>holistic/whole person/comprehensive</td>
<td>13</td>
</tr>
<tr>
<td>wellness/wellbeing/healing</td>
<td>9</td>
</tr>
<tr>
<td>prevention/rehabilitative/lifestyle</td>
<td>9</td>
</tr>
<tr>
<td>body/mind/spirit</td>
<td>7</td>
</tr>
<tr>
<td>healing-oriented</td>
<td>1</td>
</tr>
</tbody>
</table>

**Criticism of IHC/Areas for improvement**

<table>
<thead>
<tr>
<th>Criticism of IHC/Areas for improvement</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>fight against professions</td>
<td>1</td>
</tr>
<tr>
<td>informed skepticism</td>
<td>1</td>
</tr>
<tr>
<td>unbridgeable practices</td>
<td>1</td>
</tr>
</tbody>
</table>

**Article Conclusions**

The final objective of this review was to synthesize trends in the data to understand what next steps might be taken to leverage TCM as a resource for defining IHC and/or furthering its development. Table 4-11 presents 25 conclusions which discuss this in some respect with regards to health practice and/or model design.

*Table 4-11*

<table>
<thead>
<tr>
<th>Basis of Care: Practice Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusions</td>
</tr>
</tbody>
</table>

“Trailblazing integrative medicine requires novel ways of thinking for accumulating evidence of effectiveness and safety, designing new practice/payment models and devising ways of encouraging collaboration” (Sharf, Geist Martin, Cosgriff-Hernandez, & Moore, 2012).

“Innovations in IHC education is a challenge due to diversity of definitions of terms and

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practices. Knowledge and information resources need a more principled foundation from which to maintain a constructive dialog” (Sierpina & Kreitzer, 2012).

“Changing academic medicine includes economic and societal engagement so that IM can become a prime element of patient-centered, personalized academic medicine” (C. M. H. C. Witt, 2012).

“Success of IM must include a patient-centered, whole person approach taught beginning in medical schools” (Gaudet & Snyderman, 2002).

“Applying IHC includes understanding the medicine is medicine and is subject to scientific rigor for safety and effectiveness. The term CAM has done little to support patient-centered care and has served to divide practitioners” (Ananth, 2009).

“IHC education is part of the solution to rejuvenate relationships amongst practitioners, renew commitments by doctors and ultimately allow patients to have access to better care” (Maizes et al., 2002).

“By changing perspective towards whole person, research-based medicine that includes psycho-spiritual aspects of disease a translational effort may lead to better communication and new territory for IHC” (Templeman, 2008).

“University of Michigan - Data suggest that customizing integrative medicine treatment plans based on individual needs resulted in high patient satisfaction. Research results are promising enough to suggest IHC leads to improvements in physical, mental, and emotional well-being across the spectrum of illness” (Myklebust & Gorenflo, 2008).

“University of Wisconsin/Mayo Medical Center - content on integrative healthcare and complementary and alternative medicine (CAM) is being taught in hundreds of educational programs across the country. Nursing, medical, osteopathic, chiropractic, acupuncture, naturopathic, and other programs are finding creative and innovative ways to include these approaches in new models of education and practice” (Kreitzer, Sierpina, Rakel, & Bauer, 2006).

“A pluralistic model vs an IHC model fosters integrity in mainstream and alternative medicine because it both accepts irreconcilable differences and acknowledges the shared goal of optimal patient care via legitimate medical options” (Kaptchuk & Miller, 2005).

“Despite the claims, there are in fact academic programs of rigor preparing future healthcare providers to practice evidence-based medicine, which includes complementary forms of healing that have been shown to be effective via scientific research” (Klatt, Sierpina, & Kreitzer, 2010).

“In conclusion, we propose that combination medicine (conventional plus CAM) is not integrative medicine. Integrative medicine is a complex, dynamic, higher-order system of system of care
that considers health (or disease) as an emergent property of the person in an environmental context, conceptualized as an intact, indivisible dynamic system” (Bell et al., 2002).

“Deficiencies in the US healthcare workforce demand a new approach to care. By virtue of IHC’s humanistic philosophy aligned with evidence-informed clinical decision making, integrative healthcare could have the power to transform the training of all healthcare professionals to deliver safe, effective, coordinated care” (Kreitzer et al., 2009).

“To build a new model, more research is needed for unconventional practices and terms used for IHC must be better defined allowing for a more effective pursuit of scientific evidence” (Otani & Barros, 2011).

“For integrative medicine to provide solutions to our current healthcare crises it will require a commitment to focus on prevention and health promotion, to embrace new providers, new technology and new provider models” (Maizes et al., 2009).

“Challenging conventional concepts can be challenging but there no wrong way to solve a complex problem, no simple solutions. Critical debate on nature of medicine is important and it should stand up to intellectual rigor balanced by professional honesty” (Mackenzie-Cook, 2006).

“Integrative medicine is as important as medical anthropology and medical ethics in providing conceptual frameworks for a cultural competence curriculum that promotes cultural tolerance, respect, and humility” (Kligler et al., 2004).

“One model of IHC is unlikely to be superior to another and we must consider that in some circumstances multiple models may be able to coexist. Somewhere among the multitude of definitions and models, there must be a truth that we will eventually realize” (C. Johnson, 2009).

“One of the lessons learned in integrative medicine clinics over the past decade is that a single intervention rarely works as well as a multifaceted approach. Care has to treat the whole person and address all the factors that influence health and disease” (Guarneri, Horrigan, & Pechura, 2010).

“Many community health centers provide CAM services, but little is known about how these practices are integrated into these centers or the impact these practices may have on health disparities or costs. The key recommendations include the creation of a vanguard group to take the lead in developing the next steps for CAM use in underserved populations” (Fritts et al., 2009).

“It is essential that health care shift its focus in the direction of prevention, patient-centered care, health-oriented medical teams, and education that includes IM” (Fortney, Rakel, Rindfleisch, & Mallory, 2010).

“The ultimate goal of integrative health research is to guide clinical practice and public policy to
maximize health. Implicit in this model is the notion that the clinician and patient both understand and agree on the problem, the goal of therapy, the evidence regarding safety and effectiveness” (Deng, Weber, Sood, & Kemper, 2010).

“Our systematic literature review on the state of Integrative Health Care has revealed that most articles focused on describing practice models and conceptual/philosophical models, whereas there are fewer RCTs and observation studies. The lack of consensus on a clear definition and taxonomy for integrative health care represents a major methodological barrier” (I. Coulter et al., 2010).

“A collaborative partnership that promotes and encourages mutual respect among conventional medicine and CAM professionals is necessary to lay a firm foundation for the development of IM medical school curricula” (Benjamin, 2007).

“The current CAM versus biomedical debate is profession and manufacturer centered and is not in the best interest of patients. A shift to a truly patient-centered debate would focus our thinking on the broader issues of health and disease rather than on the debate between CAM and biomedical approaches” (Leckridge, 2004).

Table 4-12 presents 15 conclusions that discuss the validation of care strategies or suggest that the therapies/protocols being delivered should be measurably safe and effective.

Table 4-12

<table>
<thead>
<tr>
<th>Basis of Care: Validation of Care Strategies</th>
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</thead>
<tbody>
<tr>
<td><strong>Conclusions</strong></td>
</tr>
<tr>
<td>“Trailblazing integrative medicine requires novel ways of thinking for accumulating evidence of effectiveness and safety, designing new practice/payment models and devising ways of encouraging collaboration” (Sharf et al., 2012).</td>
</tr>
<tr>
<td>“While IHC appears to be generally safe there is insufficient evidence from trials to strongly support the higher efficacy of integrative medicine regimen compared with usual care” (Khorsan et al., 2011).</td>
</tr>
<tr>
<td>“Applying IHC includes understanding the medicine is medicine and is subject to scientific rigor for safety and effectiveness. The term CAM has done little to support patient-centered care and</td>
</tr>
</tbody>
</table>

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has served to divide practitioners” (Ananth, 2009).

“By changing perspective towards whole person, research-based medicine that includes psycho-spiritual aspects of disease a translational effort may lead to better communication and new territory for IHC” (Templeman, 2008).

“University of Michigan - Data suggest that customizing integrative medicine treatment plans based on individual needs resulted in high patient satisfaction. Research results are promising enough to suggest IHC leads to improvements in physical, mental, and emotional well-being across the spectrum of illness” (Myklebust & Gorenflo, 2008).

“Despite the claims, there are in fact academic programs of rigor preparing future healthcare providers to practice evidence-based medicine, which includes complementary forms of healing that have been shown to be effective via scientific research” (Klatt et al., 2010).

“Deficiencies in the US healthcare workforce demand a new approach to care. By virtue of IHC's humanistic philosophy aligned with evidence-informed clinical decision making, integrative healthcare could have the power to transform the training of all healthcare professionals to deliver safe, effective, coordinated care” (Kreitzer et al., 2009).

“To build a new model, more research is needed for unconventional practices and terms used for IHC must be better defined allowing for a more effective pursuit of scientific evidence” (Otani & Barros, 2011).

“For integrative medicine to provide solutions to our current healthcare crises it will require a commitment to focus on prevention and health promotion, to embrace new providers, new technology and new provider models” (Maizes et al., 2009).

“Challenging conventional concepts can be challenging but there no wrong way to solve a complex problem, no simple solutions. Critical debate on nature of medicine is important and it should stand up to intellectual rigor balanced by professional honesty” (Mackenzie-Cook, 2006).

“The definition of IHC found in the literature appears to be less a definition of a system of care delivery and more a mission statement or a goal of how healthcare should be delivered. We must improve our definition and determine if or how it can be effectively delivered” (Boon, Verhoef, O’Hara, Findlay, & Majid, 2004).

“It is essential that health care shift its focus in the direction of prevention, patient-centered care, health-oriented medical teams, and education that includes IM” (Fortney et al., 2010).

“The ultimate goal of integrative health research is to guide clinical practice and public policy to maximize health. Implicit in this model is the notion that the clinician and patient both understand and agree on the problem, the goal of therapy, the evidence regarding safety and effectiveness” (Deng et al., 2010).
“Our systematic literature review on the state of Integrative Health Care has revealed that most articles focused on describing practice models and conceptual/philosophical models, whereas there are fewer RCTs and observation studies. The lack of consensus on a clear definition and taxonomy for integrative health care represents a major methodological barrier” (I. Coulter et al., 2010).

“The current CAM versus biomedical debate is profession and manufacturer centered and is not in the best interest of patients. A shift to a truly patient-centered debate would focus our thinking on the broader issues of health and disease rather than on the debate between CAM and biomedical approaches” (Leckridge, 2004).

Table 4-13 below presents 16 conclusions that identified reasons why to improve care and/or the reasons for improving health care.

Table 4-13

<table>
<thead>
<tr>
<th>Basis of Care: Ambition of care</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Trailblazing integrative medicine requires novel ways of thinking for accumulating evidence of effectiveness and safety, designing new practice/payment models and devising ways of encouraging collaboration” (Sharf et al., 2012).</td>
<td></td>
</tr>
<tr>
<td>“IHC education is part of the solution to rejuvenate relationships amongst practitioners, renew commitments by doctors and ultimately allow patients to have access to better care” (Maizes et al., 2002).</td>
<td></td>
</tr>
<tr>
<td>“By changing perspective towards whole person, research-based medicine that includes psycho-spiritual aspects of disease a translational effort may lead to better communication and new territory for IHC” (Templeman, 2008).</td>
<td></td>
</tr>
<tr>
<td>“University of Michigan - Data suggest that customizing integrative medicine treatment plans based on individual needs resulted in high patient satisfaction. Research results are promising enough to suggest IHC leads to improvements in physical, mental, and emotional well-being across the spectrum of illness” (Myklebust &amp; Gorenflo, 2008).</td>
<td></td>
</tr>
<tr>
<td>“A pluralistic model vs an IHC model fosters integrity in mainstream and alternative medicine...”</td>
<td></td>
</tr>
</tbody>
</table>

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because it both accepts irreconcilable differences and acknowledges the shared goal of optimal patient care via legitimate medical options” (Kaptchuk & Miller, 2005).

“Despite the claims, there are in fact academic programs of rigor preparing future healthcare providers to practice evidence-based medicine, which includes complementary forms of healing that have been shown to be effective via scientific research” (Klatt et al., 2010).

“In conclusion, we propose that combination medicine (conventional plus CAM) is not integrative medicine. Integrative medicine is a complex, dynamic, higher-order system of system of care that considers health (or disease) as an emergent property of the person in an environmental context, conceptualized as an intact, indivisible dynamic system” (Bell et al., 2002).

“Deficiencies in the US healthcare workforce demand a new approach to care. By virtue of IHC's humanistic philosophy aligned with evidence-informed clinical decision making, integrative healthcare could have the power to transform the training of all healthcare professionals to deliver safe, effective, coordinated care” (Kreitzer et al., 2009).

“For integrative medicine to provide solutions to our current healthcare crises it will require a commitment to focus on prevention and health promotion, to embrace new providers, new technology and new provider models” (Maizes et al., 2009).

“Integrative medicine is as important as medical anthropology and medical ethics in providing conceptual frameworks for a cultural competence curriculum that promotes cultural tolerance, respect, and humility” (Kligler et al., 2004).

“One of the lessons learned in integrative medicine clinics over the past decade is that a single intervention rarely works as well as a multifaceted approach. Care has to treat the whole person and address all the factors that influence health and disease” (Guarneri et al., 2010).

“It is essential that health care shift its focus in the direction of prevention, patient-centered care, health-oriented medical teams, and education that includes IM” (Fortney et al., 2010).

“The ultimate goal of integrative health research is to guide clinical practice and public policy to maximize health. Implicit in this model is the notion that the clinician and patient both understand and agree on the problem, the goal of therapy, the evidence regarding safety and effectiveness” (Deng et al., 2010).

“Our systematic literature review on the state of Integrative Health Care has revealed that most articles focused on describing practice models and conceptual/philosophical models, whereas there are fewer RCTs and observation studies. The lack of consensus on a clear definition and taxonomy for integrative health care represents a major methodological barrier” (I. Coulter et al., 2010).

“A collaborative partnership that promotes and encourages mutual respect among conventional
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medicine and CAM professionals is necessary to lay a firm foundation for the development of IM medical school curricula” (Benjamin, 2007).

“The current CAM versus biomedical debate is profession and manufacturer centered and is not in the best interest of patients. A shift to a truly patient-centered debate would focus our thinking on the broader issues of health and disease rather than on the debate between CAM and biomedical approaches” (Leckridge, 2004).

Table 4-14 below presents 13 conclusions that identified challenges, offered critiques of IHC or offered alternative solutions for IHC.

Table 4-14

<table>
<thead>
<tr>
<th>Criticism of IHC/Areas for improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conclusions</strong></td>
</tr>
<tr>
<td>“Challenges of IHC - studies lack reliable definitions of IM/IHC thus lack of reliable titles and abstracts, presenting issues for appropriate synthesis” (I. D. Coulter, Khorsan, Crawford, &amp; Hsiao, 2013).</td>
</tr>
<tr>
<td>“While IHC appears to be generally safe there is insufficient evidence from trials to strongly support the higher efficacy of integrative medicine regimen compared with usual care” (Khorsan et al., 2011).</td>
</tr>
<tr>
<td>“Applying IHC includes understanding the medicine is medicine and is subject to scientific rigor for safety and effectiveness. The term CAM has done little to support patient-centered care and has served to divide practitioners” (Ananth, 2009).</td>
</tr>
<tr>
<td>“A pluralistic model vs an IHC model fosters integrity in mainstream and alternative medicine because it both accepts irreconcilable differences and acknowledges the shared goal of optimal patient care via legitimate medical options” (Kaptchuk &amp; Miller, 2005).</td>
</tr>
<tr>
<td>“To build a new model, more research is needed for unconventional practices and terms used for IHC must be better defined allowing for a more effective pursuit of scientific evidence” (Otani &amp; Barros, 2011).</td>
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</table>
| “Challenging conventional concepts can be challenging but there no wrong way to solve a
complex problem, no simple solutions. Critical debate on nature of medicine is important and it should stand up to intellectual rigor balanced by professional honesty” (Mackenzie-Cook, 2006).

“One model of IHC is unlikely to be superior to another and we must consider that in some circumstances multiple models may be able to coexist. Somewhere among the multitude of definitions and models, there must be a truth that we will eventually realize” (C. Johnson, 2009).

“The definition of IHC found in the literature appears to be less a definition of a system of care delivery and more a mission statement or a goal of how healthcare should be delivered. We must improve our definition and determine if or how it can be effectively delivered” (Boon et al., 2004).

“Many community health centers provide CAM services, but little is known about how these practices are integrated into these centers or the impact these practices may have on health disparities or costs. The key recommendations include the creation of a vanguard group to take the lead in developing the next steps for CAM use in underserved populations” (Fritts et al., 2009).

“It is essential that health care shift its focus in the direction of prevention, patient-centered care, health-oriented medical teams, and education that includes IM” (Fortney et al., 2010).

“Our systematic literature review on the state of Integrative Health Care has revealed that most articles focused on describing practice models and conceptual/philosophical models, whereas there are fewer RCTs and observation studies. The lack of consensus on a clear definition and taxonomy for integrative health care represents a major methodological barrier” (I. Coulter et al., 2010).

“A collaborative partnership that promotes and encourages mutual respect among conventional medicine and CAM professionals is necessary to lay a firm foundation for the development of IM medical school curricula” (Benjamin, 2007).

“The current CAM versus biomedical debate is profession and manufacturer centered and is not in the best interest of patients. A shift to a truly patient-centered debate would focus our thinking on the broader issues of health and disease rather than on the debate between CAM and biomedical approaches” (Leckridge, 2004).

Table 4-15 below presents 11 identified models of care that involve the influence of regulation and economics related to IHC.

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<table>
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<tr>
<th><strong>System Regulation/Economics</strong></th>
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<td><strong>Conclusions</strong></td>
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“Trailblazing integrative medicine requires novel ways of thinking for accumulating evidence of effectiveness and safety, designing new practice/payment models and devising ways of encouraging collaboration” (Sharf et al., 2012).

“Innovations in IHC education is a challenge due to diversity of definitions of terms and practices. Knowledge and information resources need a more principled foundation from which to maintain a constructive dialog” (Sierpina & Kreitzer, 2012).

“Changing academic medicine includes economic and societal engagement so that IM can become a prime element of patient-centered, personalized academic medicine” (C. M. H. C. Witt, 2012).

“Success of IM must include a patient-centered, whole person approach taught beginning in medical schools” (Gaudet & Snyderman, 2002).

“IHC education is part of the solution to rejuvenate relationships amongst practitioners, renew commitments by doctors and ultimately allow patients to have access to better care” (Maizes et al., 2002).

“University of Wisconsin/Mayo Medical Center - content on integrative healthcare and complementary and alternative medicine (CAM) is being taught in hundreds of educational programs across the country. Nursing, medical, osteopathic, chiropractic, acupuncture, naturopathic, and other programs are finding creative and innovative ways to include these approaches in new models of education and practice” (Kreitzer et al., 2006).

“Despite the claims, there are in fact academic programs of rigor preparing future healthcare providers to practice evidence-based medicine, which includes complementary forms of healing that have been shown to be effective via scientific research” (Klatt et al., 2010).

“Deficiencies in the US healthcare workforce demand a new approach to care. By virtue of IHC's humanistic philosophy aligned with evidence-informed clinical decision making, integrative healthcare could have the power to transform the training of all healthcare professionals to deliver safe, effective, coordinated care” (Kreitzer et al., 2009).

“Many community health centers provide CAM services, but little is known about how these practices are integrated into these centers or the impact these practices may have on health disparities or costs. The key recommendations include the creation of a vanguard group to take
the lead in developing the next steps for CAM use in underserved populations” (Fritts et al., 2009).

“It is essential that health care shift its focus in the direction of prevention, patient-centered care, health-oriented medical teams, and education that includes IM” (Fortney et al., 2010).

“The ultimate goal of integrative health research is to guide clinical practice and public policy to maximize health. Implicit in this model is the notion that the clinician and patient both understand and agree on the problem, the goal of therapy, the evidence regarding safety and effectiveness” (Deng et al., 2010).
Chapter 5. Discussion

Summary of Findings

This study used research synthesis techniques to begin to analyze the depth and breadth of acceptance and use of integrative healthcare (IHC) principles and models within the U.S. health care system. Twenty-eight articles were selected to explore potential consistencies, if any, regarding how IHC is defined, how well established the practice of IHC is and how well accepted the concept of IHC is in practice and in academia.

The following are result highlights from this synthesis:

- **Acceptance of IHC:** Fifty-seven percent of the articles discussed practitioners using IHC, 50% of the articles noted IHC at the Academic level and 39% noted that the public was using IHC for personal benefit.

- **IHC Models:** Twenty individual models were noted in the literature 75% of which suggested content on how to develop, design or execute models of IHC. While 45% of the models presented advocated for the ambition of care or suggested reasons for improving care.

- **IHC definitions:** Fifty-seven percent of the articles suggested that IHC is defined as being inclusive of conventional and CAM modalities as well as inclusive of both therapies and medical services. Forty-six percent of the articles suggested that IHC includes holistic/whole person/comprehensive care delivered in a collaborative/interdisciplinary/synergistic manner. Finally, 28% of more of the articles
suggested that IHC is patient centered, evidence based and delivered in a setting where the patient-practitioner relationship is well supported.

- **Links between PHC, IHC and TCM:** Fifty percent of articles suggested a link between IHC and PHC and 57% suggested a link between IHC and TCM.

- **Criticisms:** Of the 20 models presented 4 of the model definitions suggest conflicts within IHC that need to be addressed and 13 of 28 (46%) articles offered criticisms of IHC or the state of IHC within their conclusions.

- **Conclusions:** Eighty-nine percent (25/28) of the conclusions suggested that Practice Design was important to IHC development and/or offered context for how to improve practice design. Fifty-three percent (15/28) of the conclusions suggested that Validation of Care Strategies via the pursuit of research evidence and safe practices was important to IHC development. Fifty-seven percent (16/28) of the conclusions suggested the importance of the Ambition of Care in the development of IHC. As mentioned above, 46% (13/28) offered Criticisms of IHC. Finally, 39% (11/28) of conclusions suggested system or economic regulation was important to IHC development.

**Implications for Theory**

With a clear need for change in primary health care it is important to establish a clear objective of what is to be accomplished. The definition of primary health care offered by the Declaration of Alma-Ata (WHO, 1978) and the advocacy of health presented in the Constitution of the WHO (WHO, 2006a) provide a clear consensus on the pursuit of primary health care.
“Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology. It is the first level of contact bringing health care as close as possible to where people live and work… the first element of a continuing health care process.” (WHO, 1978)

This quote promotes the development of a new model for primary health care that must be practical, scientifically sound and subject to testable principles. Furthermore, as stated by the WHO Constitution, health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 2006a). Complete physical, mental and social well-being, arguably suggests that a holistic approach to health is necessary.

If IHC is to involve the organic, united parts of a whole, and PHC can provide essential health care based on practical, scientifically sound and socially acceptable methods and technology, then we should consider every opportunity available to achieve these principles. This Capstone's synthesis results show some evidence of patterns and consensus that IHC is considered and/or must become a holistic model of health care to meet modern needs and demands. Furthermore there seemed to be a trend in the synthesis results that suggests a link between IHC and PHC, which can be further explored.

Mackenzie-Cook (2006) proposes three general conclusions concerning the requirements for a universal, or generalized, model of integrated world medicine:

- “First, this model must build on the same key areas that lay at the heart of all the others. The new model must also embrace those general and specific assumptions that are held in common among existing medical models. Only to
the extent that it meets this requirement can the new model truly represent a universal world medicine.

- Second, to justify the name, such a model must possess greater explanatory and predictive power, and a wider range of practical application and efficacy, than any of its predecessors: It must go beyond the commonly held assumptions of other models. Indeed, this is the very heart of the promise of such a model.

- Third, a model for world medicine must also preserve what lies at the heart of conceptual differences among existing models. Only in this way can a universal model achieve the greater range of application and efficacy called for by the second requirement.”

Implications for Practice

If we accept the principles for IHC and PHC presented above, and then consider conclusions suggested by Mackenzie-Cook (2006), it can be suggested that the need for changes in PHC and the intentions of IHC merge well together.

Sharf et al. (2012) suggested that IHC includes challenges that require novel ways of thinking, ranging from accumulating evidence of effectiveness and safety, designing new practice models that encourage collaboration and interfacing with biomedical practitioners. This Capstone tried to further clarify the readiness of IHC in practice by taking a beginning look at the breadth of acceptance. One can argue that with the public driving demand, practitioners offering
more IHC related services, academic institutions teaching it as well as a growing amount of qualified research targeting IHC issues, that IHC is well on its way to becoming a practice.

While pursuing terminology and definitions that improve the discussion of IHC are also important to consider, resources that can help solidify the structural foundation of IHC are just as important. IHC terms and definitions require a strategic structural foundation from which to identify appropriate and commonly accepted communication resources (e.g. terms, etc) for practice. The foundation and structure of TCM has withstood the test of time; even with generations of advancements and subsequent improvements it still remains rooted in sound yet ancient fundamental principles. This long-term resilience via a strong integrated foundation of diagnostics and treatment protocols, along with the growing evidence validating modern application of therapies suggests that there is much to consider as potential elements for IHC practice delivery.

TCM seeks to differentiate the cause and manifestation of disease in relation to the integrated whole of what the body needs, what can be appropriately provided via nature and how best to facilitate the desired experience of health via health care application. As Sharf et al. (2012) note, integrative medicine is not enacted in the form of particular modalities rather it is a philosophy of and attitude toward what constitutes health. TCM is well suited to further the application of this philosophy in IHC practice, no matter how defined.

Limitations of the Current Study

The primary limitation of this Capstone was the limited number of articles used to assess systemic development or development of specific models or explanations of IHC. Furthering
these limitations was the limited number of articles that met criteria and discussed IHC in the U.S. This synthesis was conducted by one researcher; however, with checks and discussion with his advisor were a part of the research process. Lastly, this Capstone could have benefited from deeper analysis of text data. Additional analysis in the future can help enhance the examination of links between TCM and IHC.

Recommendations for Future Research

There are two primary opportunities for further research based on this Capstone’s results. The first opportunity includes a more in depth look at additional articles that may add additional IHC data to expand on this synthesis’ goals. Expanding the article pool and refining synthesis abstraction may help to further suggest and/or demonstrate consensus of terms and definitions.

The second opportunity for further research is in the area of TCM. Mackenzie-Cook (2006) explains that medical models can differ quite widely in the explanations, predictions, and clinical practices they embrace. This is where the greatest epistemological divide occurs, for instance, between TCM and science-based medicine (Mackenzie-Cook, 2006). With this in mind it would be helpful to review the structural components of TCM in greater depth and detail to further its elements for convergence with IHC and development of PHC in the U.S.

The depth and breadth of TCM’s history both culturally and medically suggest that there is enough logic to this system of medicine that has justified its resilience. Dissociation to the terms and descriptors of TCM understandably creates potential challenges of acceptance and influences discussion as well as clinical research. By seeking more familiar terms and
definitions regarding the structural components of TCM may provide more clear insight regarding how we might leverage TCM to further our definition of integrative care and successfully develop an effective holistic primary care model.

Conclusion

The need for further engagement in the renewal of primary health care is clear. Twelve years ago it was suggested that integrative medicine is a comprehensive, primary care system that emphasizes wellness and healing of the whole person (Bell et al., 2002). Subsequent literature continues to link what is desired in PHC and what is pursued via integrative health care with more than a decade of research and discussion. The qualification is that any IHC model serving PHC in the U.S. and around the world must be dynamic enough for a large community to agree on generally accepted principles from which to communicate. The key component that is necessary moving forward is the foundation on which to build and execute a practical, scientifically sound and socially acceptable model of care.

Integration requires a level of thoughtfulness and commitment to a common objective that challenges both the system as well as collaborations between TCM and Western practitioners working within the health care system. One place to improve acceptance of integration can be in the acceptance of the common mission of quality holistic care customized to each individual’s, every individual’s needs. When we decide that health is the measure of one’s quality of life and that proper care is the act of partnering with and advocating for each individual, health care becomes reality we seek. Integration, and collaboration, suggests a connectedness, a focused axis around which the system is organically cultivated. After centuries of practical use, a growing body of evidence and social acceptance well outside its
cultural boundaries, TCM offers organic principles and protocols that can help revolutionize primary health care as holistic personalized integrative health care.
References


Benjamin, P. J. P., Reed; Warren, Don; Salveson, Catherine; Hammerschlag, Richard; Snider, Pamela; Haas, Mitchell; Barrett, Richard; Chapman, Timothy; Kaneko, Robert; Martin, Morgan; Myer, Suzzanne; Nelson Nedrow Anne; Niemiec, Catherine; O'Bryon, David; Ochoa, Sonia; Peterson, David; Weeks, John. (2007). Response to a Proposal for an Integrative Medicine Curriculum. Journal of Alternative & Complementary Medicine, 13(9), 1021-1034. doi: 10.1089/acm.2006.6388


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HHS. (2010). *Patient Protection and Affordable Care Act*.


Kuhmerker, K., & Teisl, J. (2010). Bending the Health Care Cost Curve in New York State: Options for Saving Money and Improving Care: New York State Health Foundation.


## Appendix A

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<th>Article ID</th>
<th>Article Authors</th>
<th>Article Year</th>
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<td>Sierpina, Victor S.; Kreitzer, Mary Jo</td>
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<td>2012</td>
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<td>6</td>
<td>Gaudet, Tracy W.; Snyderman, Ralph</td>
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<td>7</td>
<td>Ananth, Sita</td>
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<td>Maizes, V.; Schneider C.; Bell, I.; Weil, A.</td>
<td>2002</td>
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<td>Templeman, McCormick</td>
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<td>Myklebust, Monica; Pradhan, Elizabeth Kimbrough; Gorenflo, Daniel</td>
<td>2008</td>
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<td>Kreitzer, Mary Jo; Sierpina, Victor; Rakel, David; Bauer, Brent</td>
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<td>Kaptchuk, T. J.; Miller, F. G.</td>
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<td>Kreitzer, Mary Jo; Kligler, Benjamin; Meeker, William C.</td>
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<td>Otani, M. A.; Barros, N. F.</td>
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<td>Maizes, V.; Rakel, D.; Niemiec, C.</td>
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<td>18</td>
<td>Mackenzie-Cook, Peter D.</td>
<td>2006</td>
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<td>Kligler, Benjamin; Maizes, Victoria; Schachter, Steven; Park, Constance M.; Gaudet, Tracy; Benn, Rita; Lee, Roberta; Remen, Rachel Naomi</td>
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<td>20</td>
<td>Johnson, Claire</td>
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<td>Boon, H.; Verhoef, M.; O'Hara, D.; Findlay, B.; Majid, N.</td>
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<td>Guarneri, Erminia; Horrigan, Bonnie J.; Pechura, Constance M.</td>
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<td>Fritts, M.; Calvo, A.; Jonas, W.; Bezold, C.</td>
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<td>Fortney, L.; Rakel, D.; Rindfleisch, J. A.; Mallory, J.</td>
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<td>25</td>
<td>Deng, Gary; Weber, Wendy; Sood, Amit; Kemper, Kathi J.</td>
<td>2010</td>
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<td>26</td>
<td>Coulter, Ian D.; Khorsan, Rahelehe; Crawford, Cindy; Hsiao, An-Fu</td>
<td>2010</td>
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<td>27</td>
<td>Benjamin, Patricia J.; Phillips, Reed; Warren, Don; Salveson, Catherine; Hammerschlag, Richard; Snider, Pamela; Haas, Mitchell; Barrett, Richard; Chapman, Timothy; Kaneko, Robert; Martin, Morgan; Myer, Suzanne; Nelson Nedrow Anne; Niemiec, Catherine; O'B</td>
<td>2007</td>
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<tr>
<td>28</td>
<td>Leckridge, Bob</td>
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**Appendix B**

<table>
<thead>
<tr>
<th>Clients Using Integrative Health Care</th>
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<tr>
<td><strong>Article Text</strong></td>
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<tr>
<td>Mulkins’s and Verhoef’s study to identify factors for those patients who seek Integrative Health Care found 4 dimensions of transformation: (1) having access to a range of appropriate therapies to support individual journeys, (2) care that focuses on one’s overall well being, (3) control over disease management, and (4) developing healing relationships with care providers (Khorsan et al., 2011).</td>
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<td>Some 70% of patients who use complementary therapies do not inform their physicians of their use of these therapies for fear of ridicule (Ananth, 2009)</td>
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<td>The participation of patients in their own healing was engaged through new activities and practices for mind, body, emotion, and spirit, and by the union of conventional and alternative treatments (Myklebust &amp; Gorenflo, 2008).</td>
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<td>Initially driven by consumer demand, the attention integrative medicine places on understanding whole persons and assisting with lifestyle change is now being recognized as a strategy to address the epidemic of chronic diseases bankrupting our economy. The most common form of integrative medicine is the patient-directed model, where the patient seeks out CAM providers to supplement or supplant conventional medical care (Maizes et al., 2009).</td>
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<tr>
<td>When a patient’s needs are considered, this also empowers the patient to become an active participant in health and healing processes instead of relying totally on health care providers for his or her “health” (C. Johnson, 2009).</td>
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<td>Upward pressure for integration that begins with consumers melding together a disparate selection of services into a collective that attends to their healthcare needs and beliefs (Boon et al., 2004).</td>
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<td>National Health Interview Survey data and found that use of 19 different CAM therapies over the prior 12 months was highest for non-Hispanic whites (36%), followed by Hispanics (27%) and non-Hispanic blacks (26%). After controlling for other sociodemographic factors, it was found that Hispanics and non-blacks use CAM less often and are less likely to disclose their use to their primary care provider (Fritts et al., 2009).</td>
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<tr>
<td>Patients are increasingly interested in integrative approaches, and an increasing body of research findings is allowing their use to become increasingly evidence based (Fortney et al., 2010).</td>
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<td>One of the most important issues in healthcare is how to best inspire, motivate, empower, and facilitate self-care (Deng et al., 2010).</td>
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<tr>
<td>Most CAM patients see a biomedical provider before or concurrent with seeking CAM care, with only a small minority seeking a CAM provider first. So at the patient level, integrating CAM with biomedicine occurs on a daily basis by the public. The majority of CAM use is consumer driven, with patients as the possible locus of health care integration (I. Coulter et al., 2010).</td>
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<td>Understanding patient choice, patients choose CAM therapies because they tend to be more holistic (Leckridge, 2004).</td>
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### Appendix C

#### Focus of Discussion

<table>
<thead>
<tr>
<th>Article</th>
<th>Practitioners Practicing IHC</th>
<th>Models of Care</th>
<th>Clients Using IHC</th>
<th>Practices/Therapies</th>
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A Revolution in Healthcare - Blaska Capstone

a. Acupuncture

b. Ayurveda

c. Chiropractic

d. Naturopathy

e. Massage

f. Music/Art Therapy

g. Prayer/Meditation

h. Movement Therapy (Yoga, Tai Chi)

i. Imagery/Hypnosis

j. Energy Therapy

k. Homeopathy

l. Osteopathic (as a therapy not as a practice level equivalent)

m. Touch Therapy
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a. Collaborative, Collaboration

b. Interdisciplinary

c. Adjunctive
d. CAM, Complementary and Alternative Medicine

e. Supplemental

f. Multidisciplinary

g. Team Based, Team Oriented, [Practitioner] Team(s)

h. Coordinated

i. Parallel

j. Whole Systems

k. Pluralistic

l. Inclusive