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This study was a comprehensive literature review of the characteristics of collaborative practices that could best utilize the strengths and knowledge of the physician with the skills and experience of the nurse practitioner. The literature review was conducted using multiple databases for peer-reviewed articles, reports and non-scholarly reports between the years 1980-2011. Out of 91 articles reviewed, 30 were relevant. The study found that there were three main elements of collaborative practices - communication, teamwork, and professionalism. Implementing collaborative practices is difficult but can improve patient care and increase access. Implementation of collaborative practices, along with interprofessional education, creates synergy between nurse practitioners and physicians and provides a model for increasing patient quality and access.

THE WHITE-COAT DILEMMA: ARE COLLABORATIVE PRACTICES THE ANSWER TO THE PRIMARY CARE SHORTAGE?

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THE WHITE-COAT DILEMMA: ARE COLLABORATIVE PRACTICES THE ANSWER TO THE PRIMARY CARE SHORTAGE?

THESIS

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CHAPTER 1

INTRODUCTION

One of the main concerns in health policy is a lack of primary care providers (PCP) defined as physicians who work in the areas of family medicine, geriatrics, general internal medicine, or pediatrics (Goodson, 2010). The Kaiser Commission on Medicaid and the Uninsured, estimates that currently nearly 65 million people live in federally designated health shortage areas in the United States (US) (Paradise, Dark, & Bitler, 2011). In addition, there are over 40.3 million Americans currently over the age of 65 (Howden & Meyer, 2010). By the year 2030, that number is expected to nearly double to 72 million people (Howden & Meyer, 2010). In addition to the growing number of older Americans, the prevalence of chronic disease is increasing as well (IOM, 2010). In 2005, it was estimated that one out of every two Americans had a chronic disease, such as hypertension, or diabetes (IOM, 2010). As the incidence of obesity increases as well, so too will the incidence of disease (Lobstein & Jackson-Leach, 2006). In light of this, PCPs will be needed to manage and control these diseases. Chronic diseases can be well controlled through proper diet, exercise and medication; however if left uncontrolled can have damaging impacts to the body which can become expensive to manage (S. Laditka, Mastanduno, & Laditka, 2001). PCPs, therefore, can help manage and maintain proper control of the nation's health. In fact, a study in the Journal of the American Medical Association found that Medicare patients who reside in areas of high PCP/population ratios had lower mortality and hospitalization rates (Chang, Stukel, Flood, & Goodman,

2011). However, by 2020, it is estimated that there will be a shortage of nearly 91,000 physicians, half of them in primary care; and that shortage is only thought to get higher as the demand for primary care physician services grows greater (Paradise, Dark, & Bitler, 2011). Currently in the US, only about 30% of all US physicians work in primary care, in contrast with other developed countries in which 50% to 60% of physicians work in primary care (Goodson, 2010). In 1998, it was estimated that even if half of all medical school graduates enter primary care, it would take 50 years to reach the number of primary care physicians needed to fulfill the demand (Baldwin et al., 1998).

In response to the demand for primary care providers, mid-level practitioners, specifically Nurse Practitioners (NPs) and Physician Assistants (PAs), have began to take hold as the primary care provider for patients, and as a result of this supply, Medicare and Medicaid have began to provide payment for the services rendered (C. Hoffman, 1994; Paradise, Dark, & Bitler, 2011). Currently, 83,000 NPs work in primary care, in contrast to 287,000 physicians and 23,000 PAs (IOM, 2010). The increase supply of NPs began with The Rural Health Clinic Services Act of 1977, which paid for services by NPs and PAs who staffed Rural Health Clinics. Thus, marked the first time a non-physician clinician was reimbursed directly for services rendered (C. Hoffman, 1994; Paradise, Dark, & Bitler, 2011). Since then, various other laws and budget amendments have been passed easing the restrictions on the types of services rendered by mid-levelers, as well as the payment for those services (C. Hoffman, 1994; Paradise, Dark, & Bitler, 2011). In addition, Medicare is trying to address the need for PCPs by allowing mid-level practitioners the ability to provide care without the need for physician supervision (Ahmed & Fincham, 2010). However, previous studies have been mixed on whether

nurse practitioners provide the same level of care as physicians (Knight, 2008; Sibbald, 2008; Wiysonge & Chopra, 2008). While nurse practitioners feel they are competent enough to take care of the majority of acute care problems, many physicians believe that mid-level practitioners are not adequately trained to deal with chronic diseases and multiple co-morbidities in patients (Knight, 2008). In addition, others have claimed that mid-level providers may not be as cost-effective as primary care physicians because they may refer more to specialists due to the fact that they are not as thoroughly trained as physicians to deal with multiple co-morbidities (Ahmed & Fincham, 2010; Sciamanna, Alvarez, Miller, Gary, & Bowen, 2006).

Primary care is important and has proven to be cost-effective when good primary care is combined with preventive medicine as well as coordinated care between patient, specialist and primary care provider (Neale, 1999). Studies have also shown that increased access to primary care alone does not result in better health outcomes, but rather it is coordinated care (Chapman, Wides, & Spetz, 2010; Martin-Misener, Downe-Wamboldt, Cain, & Girouard, 2009). With the passage of the Patient Protection and Affordable Care Act (PPACA), more emphasis has been placed on increasing the number of primary care providers (both physicians and nurse practitioners), as well as increasing collaboration between the two professions (Fairman, Rowe, Hassmiller, & Shalala, 2011; Lowes, 2010). Thus, the question remains, how can collaborative practice models best utilize the strengths and experiences of the nurse practitioner with the experiences and knowledge of the physician to allow for increased quality and access to care? This question will be explored through a comprehensive literature review.

CHAPTER 2

LITERATURE REVIEW

Patient Centered Medical Home

The Patient Centered Medical Home (PCMH), first described by the American Academy of Pediatrics, is a decades old model for healthcare, but one that is currently in the spot light due to advances in technology and its promise of lowered healthcare costs (Barr, 2006; Palfrey, 2006; Spann & Task Force 6 and the Executive Editorial Team, 2004). The NCQA defines the PCMH as

> A model of care that strengthens the clinician-patient relationship by replacing episodic care with coordinated care and a long-term healing relationship. Each patient has a relationship with a primary care clinician who leads a team that takes collective responsibility for patient care, providing for the patient's health care needs and arranging for appropriate care with other qualified clinicians. The medical home is intended to result in more personalized, coordinated, effective and efficient care. A medical home achieves these goals through a high level of accessibility, providing excellent communication among patients, clinicians and staff and taking full advantage of the latest information technology to prescribe, communicate, track test results, obtain clinical support information and monitor performance (NCQA, 2011).

Currently, in the United States (US) there is a mix of both public and private health insurance. The public health insurance consists of Medicare for the elderly,

Medicaid for the poor and indigent and Children's Health Insurance Program (CHIP) for children (Chandra, Gruber, & McKnight, 2007). Medicare and Medicaid were enacted in 1965 to introduce the idea of a national public coverage and currently covers about 40% of the US population (Chandra, Gruber, & McKnight, 2007). However, the idea of national coverage never went beyond these two programs and has stalled the introduction of a national health program (Enthoven & Fuchs, 2006). The total US healthcare spending in 2004 was estimated to be 15.3% of GDP, the most in any Organization for Economic Co-operation and Development (OECD) country (Peterson & Burton, 2007). During 2004, the median healthcare spending average in OECD countries was 8.8% (Peterson & Burton, 2007). Per capita, the US spent $6,102 in 2004, which was more than two times the average in OECD countries (Peterson & Burton, 2007). A major limitation of this spending is that it is costing Americans too much money with no added value to their health as measured by below average life expectancy and higher mortality rates (Hussey et al., 2004). Thus, the PCMH promises to increase healthcare quality while reducing healthcare costs, in part by increasing the collaboration between the different healthcare providers (Barr, 2006; Spann & Task Force 6 and the Executive Editorial Team, 2004).

In terms of quality and costs, several studies and pilot programs have begun to demonstrate how PCMH increase quality of care while reducing costs. A meta-analysis study in the *Journal of the American Board of Family Medicine*, found that patients had "improved quality, reduced errors, and increased satisfaction when patients identify with a primary care medical home" (Rosenthal, 2008). Various other studies and pilot programs support the conclusion that a PCMH promotes higher quality standards. Results

from a 2006 Health Care Quality Survey by The Commonwealth Fund, showed a reduction in racial and ethnic differences in healthcare (Beal, Doty, Hernandez, Shea, & Davis, 2007). In pediatric care, children were significantly more likely to be vaccinated, and had less delayed care than children who were not under the care of a PCMH (Allred, Wooten, & Kong, 2007; Homer et al., 2008). Pilot programs have also begun to show results that support the literature of higher quality and lower costs. The Geisinger Health System in Pennsylvania uses collaboration between all healthcare providers to promote the PCMH. This has resulted in a higher cost savings as well as higher quality of care to patients (D. McCarthy, Mueller, & Wrenn, 2009; Paulus, Davis, & Steele, 2008).

Many parts of the PCMH model were incorporated and used as guidelines in The Patient Protection and Affordable Care Act that was passed by the US Congress and signed by the President in March of 2010 (Manchikanti, Caraway, Parr, Fellows, & Hirsch, 2011).

Patient Protection and Affordable Care Act

The Patient Protection and Affordable Care Act (PPACA) was a significant law that sought to expand healthcare spending in some areas, while promising to lower overall healthcare expenditures. Specifically, the law will do the following:

- Have an individual mandate that requires all US citizens to purchase health insurance by 2014 (Goodson, 2010; Kaiser, 2011).
- Establish health insurance exchanges that will allow employers and employees to choose a health care plan for them (Goodson, 2010; Kaiser, 2011).

- Eliminate health insurance companies from denying coverage based on any pre-existing disease or illness (Goodson, 2010; Kaiser, 2011).
- Expand Medicaid to 133% of poverty level (Goodson, 2010; Kaiser, 2011).
- Allow dependent children up to the age of 26 to stay on their parents' health insurance plan (Goodson, 2010; Kaiser, 2011).
- Cover preventive services with no out-of-pocket cost to the insured (Goodson, 2010; Kaiser, 2011).
- Change Medicare/Medicaid services from a "fee-for-service" payment structure to a "bundled-payment" structure (Goodson, 2010; Kaiser, 2011).

The current healthcare "fee-for-service" payment structure skewed graduates of US allopathic and osteopathic medical schools towards the training of more specialists (Goodson, 2010). The PPACA sought to rectify that by altering the payment structure for PCPs, in part to help promote more medical school graduates to enter primary care (Goodson, 2010).

Also the PPACA sought to promote the PCMH model by enacting various reforms to promote collaboration among healthcare practitioners. Chief among them are:

- Promote an interdisciplinary team that includes physicians, nurses, pharmacists, chiropractors, etc (Andrews, 2010).
- Provide coordinated and integrated care to patients within a medical home (Andrews, 2010).
- Patient has access to both primary and specialist care (Andrews, 2010).
- Promotion of Electronic Medical Records (Andrews, 2010).

- Allow patient records to be made available to any team member (Andrews, 2010).
- Patient care follows evidence-based medicine and/or appropriate use of complementary and alternative medicine (Andrews, 2010).

Collaborative Care Model

The Collaborative Care Model (CCM), also known as Integrated Care Model, Team Care Model, Integrated Primary Care Model, Collaborative Practice, and the Interdisciplinary Collaboration Model, is defined by The Enhancing Interdisciplinary Collaboration in Primary Health Care Initiative (EICP) as "…the positive interaction of two or more health professionals, who bring their unique skills and knowledge, to assist patients/clients and families with their health decisions" (Nolte, 2005). Way, Jones, and Busing (2000) define collaborative practices as "…an inter-professional process for communication and decision making that enables the separate and shared knowledge and skills of care providers to synergistically influence the client/patient [care] provided" (Way, Jones, & Busing, 2000). Collaboration itself is defined as, "joint communicating and decision-making process with the expressed goal of satisfying the wellness and illness needs while respecting the unique qualities and abilities of each professional" (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996). The concept of collaboration is the keystone of the PCMH model (Grumbach & Bodenheimer, 2004). The CCM promotes collaboration within a PCP's practice and uses the skills and knowledge of everyone in the practice to provide higher quality patient care (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996). Successful collaborative practices are those in which patients can easily move between the various healthcare providers as the situation dictates (Roodbol, 2010).

Currently, there are various types of collaborative practices used in hospitals, and specialists groups. In addition to the Collaborative Care Model, there are three other types of team care models that are used in primary care:

1. The Parallel Model
2. The Sequential Model
3. The Shared Model

In the Parallel Model of care, the NP sees acute patients who are less medically complex, leaving the MD/DO to see more medically complicated patients (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996). In the Sequential Model, the NP sees and assesses the patient first, followed by the MD/DO (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996). Finally, The Shared Model has both the NP and MD/DO seeing patients on an alternating basis (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996).

Evidence shows support for the CCM as providing higher quality, cost-effective care in both acute and chronic services; however not only is the evidence currently not abundant, but there are difficulties in defining and measuring patient outcomes (Nolte, 2005; Solomon, 2010). The studies that have been performed on CCM and quality show an overall increase in quality of care, as measured in patient outcomes and satisfaction, as well as more cost-effective care (Mundinger, 1994; Nolte, 2005; Solomon, 2010). Some evidence does exist that demonstrate adverse outcomes with use of the CCM; however, further analysis of these studies showed the problem lied not on the CCM *per se,* but on the application of the CCM on the various clinics and hospitals (Nolte, 2005). Yet, another study showed use of the CCM in community health centers in Canada had poorer outcomes as measured in accessibility and responsiveness, and was confirmed by an

additional study; however, further analysis showed some of these community health centers were not fully implementing the collaborative care model (Nolte, 2005).

While collaboration between various healthcare professionals does occur today, the idea of a team-oriented approach to medicine is sometimes not fully followed, but rather health professionals work in loosely held groups, defined as "…diverse clinicians who communicate with each other regularly about the care of a defined group of patients and participate in that care" (Grumbach & Bodenheimer, 2004). In fact, sociology defines groups as "…a collection of humans who share certain characteristics, interact with one another, accept expectations and obligations as group members and share a common identity (Roodbol, 2010). Part of the reason why there was a group approach to patient care was partly due to the financial burden of the CCM (Grumbach & Bodenheimer, 2004). Payment reimbursements were not always offered to other members of the team, or non-physician clinicians; thus the team-approach failed (Grumbach & Bodenheimer, 2004).

Whereas groups are loosely held cohorts of healthcare professionals, a team-approached model to care has five elements that make it unique and fundamental. A team-oriented approach to patient care must have defined goals, procedural systems, roles for team-members, training programs and communication (Grumbach & Bodenheimer, 2004). These elements are also what make up the CCM of care and are now supported in the PPACA (Goodson, 2010). The CCM is important in healthcare because studies have shown that the CCM model has promoted high quality of care to patients, higher safety towards patients, and have reduced healthcare costs (Bush & Watters, 2001; Paulus, Davis, & Steele, 2008; PCC, 2009).

Three main barriers to the CCM were also identified in the literature - reimbursement, territorialism and role confusion (Neale, 1999). The reimbursement rates and laws for NPs vary from state-to-state and depend on whether the NP has individual practice rights or must be under physician supervision (Neale, 1999). For example, NPs that work under the supervision of a physician are allowed to bill directly to Medicare, but at a lower rate than MD/DOs (Chapman, Wides, & Spetz, 2010; Neale, 1999). Also, turf wars and territorialism was noted as a barrier to the CCM (Cawley, 2010; Keepnews, 2010; Neale, 1999). There are several studies by MD/DOs that show how NPs are inadequately trained to provide primary care services (AAFP, 2004; J. Ginsburg, Taylor, & Barr, 2009). In addition, numerous physician professional groups, including the American Medical Association (AMA) and the American Osteopathic Association (AOA) do not agree with NPs gaining independent practice rights (Keepnews, 2010).

Finally, role confusion between nursing, nurse practitioners, and physicians was identified as a barrier to the CCM (Neale, 1999). The roles of nurses and physicians started as a symbiotic relationship to one of a supervisorial relationship with physicians supervising nurses (Neale, 1999). As nurses began asserting themselves within the hospital and healthcare environment, this began creating role confusion between the two professions (Neale, 1999; Stein, Watts, & Howell, 1990). The lack of a clear understanding of each professions' roles leads to barriers for the collaborative practice model as each profession is confused on what role they should play in the new healthcare model (Neale, 1999).

A Short History of the Nurse Practitioner

The nursing profession has a very old and respectable history and can be traced to the early centuries of man (Dock, 1920). Nursing developed because there was a need to take care of the sick and unhealthy, and since women were natural caregivers who took care of families, women historically became the first nurses (Dock, 1920). According to Lavinia L. Dock in the book, *A Short History of Nursing from the Earliest Times to the Present Day*, a nurse involves covering, "...not only care of the sick, the aged, the helpless, and the handicapped, but the promotion of health and vigour *(sic)* in those who are well, especially the young, growing creatures on whom the future of the race depends" (Dock, 1920). New York State later defined the practice of nursing as, "…diagnosing and treating human responses to actual or potential health problems through such services as case finding, health teaching, health counseling and provision of care supportive to and restorative of life and well being" (Greenfield, 1999). However, nurses never strayed too far from their original role and definition, and according to Dock, medicine and nursing were often one and the same in the pre-historic era (Dock, 1920). However, at some point in history, the practice of medicine and nursing diverged (Dock, 1920). At first, the roles of physician and nurse were simple – nurses would attend to their patients while physicians were called in to treat their patients. However, over time the professions began to diverge from a symbiotic role between the two professions to a more hierarchical role between physician and nurse (Dock, 1920). One article tries to give a partial explanation for the hierarchical role. Greenfield (1999) states that Florence Nightingale, the mother of modern nursing, was the first to suggest that nurses follow the

orders of physicians and to punish other nurses, ward maids or scrubbers if physician orders were not followed (Greenfield, 1999).

The Nurse Practitioner (NP) takes its roots from the nursing profession. Loretta Ford, a nurse, and Henry Silver, a physician, started the first NP program in 1965 (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996; O'Brien, 2003). The need for nursing clinicians stemmed from the increased demand for primary care providers due in part to an increased specialized physician workforce, as well as passage of Title XVIII of the Social Security Act in 1965 (O'Brien, 2003). At that time, many physicians were already working with nurses who had significant clinical experience for consultations or for help assessing patients (O'Brien, 2003). When Dr. Silver and Nurse Ford had begun the program, they wanted to increase the number of clinician nurses who would use their expertise in the field of nursing towards treating their patients (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996). However, the nurse practitioner program was never envisioned as substitutes for physicians, but rather as members of a collaborative and collegial team (Phillips, Harper, Wakefield, Green, & Fryer, 2002). Specifically, they wanted NPs to use their expertise in health promotion and disease prevention to treat children and families (O'Brien, 2003). While at first, both the nursing and physician professions denounced the idea of nursing clinicians, eventually NPs began to take hold and their skills and experience flourished (O'Brien, 2003).

Training for the NP flourished as well, and began to become more organized (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996; Dock, 1920; O'Brien, 2003). While credentialing and certification did not exist when Dr. Silver and Nurse Ford first started the program, now credentialing and certification for NPs is mandatory before graduation

(AMA, 2009). To become a NP, a person must first be a Registered Nurse (RN) and have passed the NCLEX-RN, the licensing examination for all nurses (Phillips, Harper, Wakefield, Green, & Fryer, 2002). However, because of the fractured training of nurses, the "nursing degree" can be various degrees or certificate program, but the title of Registered Nurse can only be bestowed after successful passage of the NCLEX-RN examination (Phillips, Harper, Wakefield, Green, & Fryer, 2002). Figure 1 below illustrates visually the requirements necessary to become a NP.

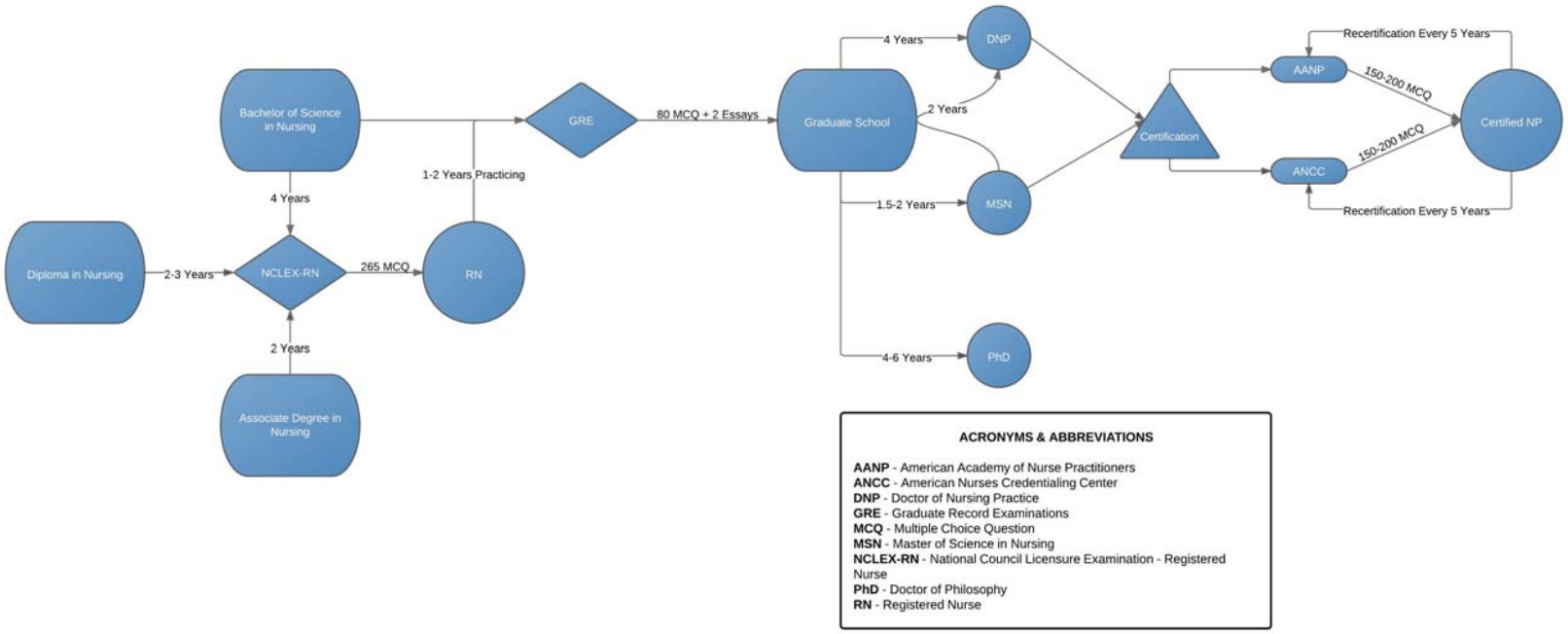
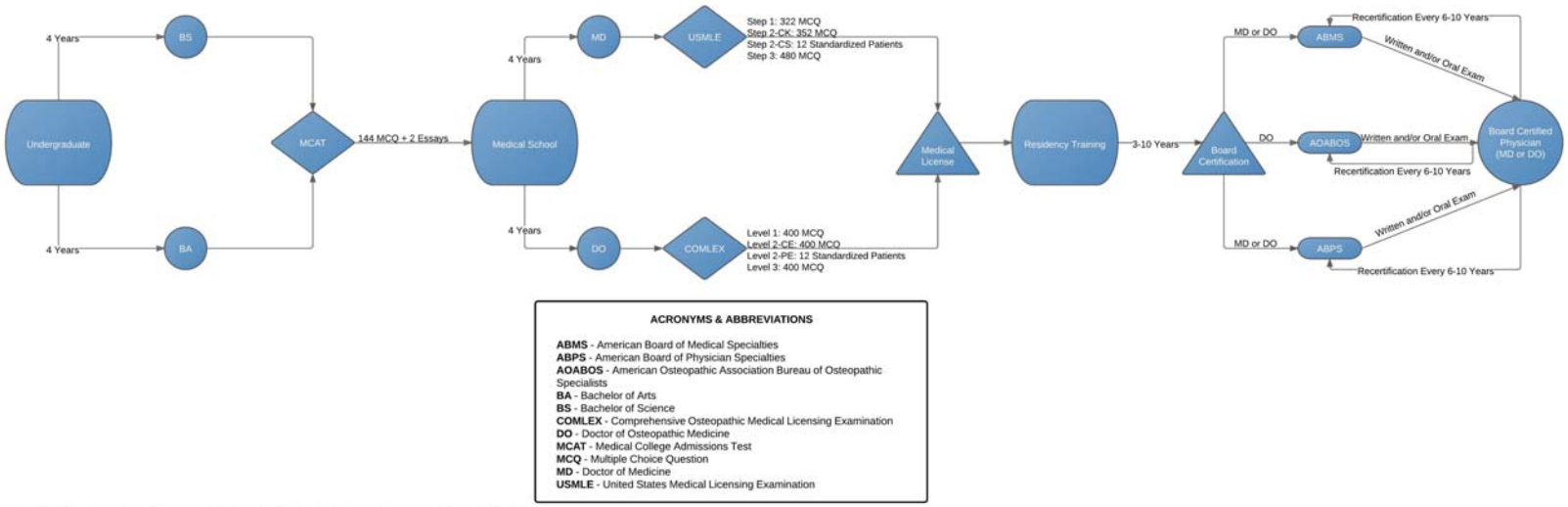


FIGURE 1. Flowchart Diagram of NP Licensing Requirements and Certification

This contrasts greatly with both Doctor of Medicine (MD) and Doctor of Osteopathic Medicine (DO) certifications for medical licensure. Figure 2 below visually illustrates the requirements necessary to become a MD or DO.



ACRONYMS & ABBREVIATIONS

ABMS - American Board of Medical Specialties
ABPS - American Board of Physician Specialties
AOABOS - American Osteopathic Association Bureau of Osteopathic Specialists
BA - Bachelor of Arts
BS - Bachelor of Science
COMLEX - Comprehensive Osteopathic Medical Licensing Examination
DO - Doctor of Osteopathic Medicine
MCAT - Medical College Admissions Test
MCQ - Multiple Choice Question
MD - Doctor of Medicine
USMLE - United States Medical Licensing Examination

FIGURE 2. Flowchart Diagram of MD and DO Licensing Requirements and Board Certification

NP graduates are also increasing. In 1992, there were only 4,000 NP students; however by 1999 that number rose to 21,558 (Phillips, Harper, Wakefield, Green, & Fryer, 2002).

Just as the training and certification of NPs differ from state-to-state, so too does the scope of practice (IOM, 2010). Scope of practice laws for each state are listed in Table 1 (IOM, 2010).

TABLE 1. Physician and Nurse Practitioner Requirements by State

No Requirements (Independent Practice)	**State & Districts**
	Alaska
	Arizona
	Colorado
	District of Columbia (Washington)
	Hawaii
	Idaho
	Iowa
	Maine
	Montana
	New Hampshire
	New Mexico
	Oregon
	Washington
	Wyoming
Physician Collaboration Required	Alabama

	Arkansas
	Connecticut
	Delaware
	Indiana
	Kansas
	Louisiana
	Maryland
	Mississippi
	Nebraska
	Nevada
	New Jersey
	New York
	North Dakota
	Ohio
	Pennsylvania
	Rhode Island
	South Dakota
	Utah
	Vermont
	West Virginia
	Wisconsin
Physician Delegation Required	Georgia
	Illinois

	Michigan
	Minnesota
	Missouri
	South Carolina
	Texas
Physician Supervision Required	California
	Florida
	Massachusetts
	North Carolina
	Oklahoma
	Tennessee
	Virginia

While all states offer full prescriptive authority to NPs, some states require some physician oversight, whereas others need none (AMA, 2009). Therein lies the controversy between NPs, MD/DOs; while physician acknowledge the need for NPs, physicians are torn between granting full practice rights to NPs or having all NPs work under the supervision of the MD/DO.

A Short History of Medical Licensing, Education, and Practice

To truly appreciate and understand the scope of physician licensing in the 21st century, one must understand and appreciate the history of medicine. Around the turn of the 19th century, the practice of medicine was far different than the practice of medicine today. In fact, by today's standards, medicine was seen as barbaric and ruthless in its diagnosis and treatments (Gevitz, 2004). One of the major forms of medicine in the early 19th century was a form of medicine called Heroic medicine (Gevitz, 2004). During the Age of Heroic Medicine, a practitioner of this form believed that disease was due to an overstimulation of the blood and nerves; thus to cure the disease, the practitioner must remove toxins to relieve the body of the disease (Gevitz, 2004). The types of heroic treatment involved bloodletting, induction of vomiting, profuse sweating, blistering, and the injection of heavy metals (Gevitz, 2004). As such, the treatments sometimes caused the deaths of their patients more than the actual disease itself (Gevitz, 2004).

During the 19th century, medical educational was just as uncivilized as the practitioners of the time (Gevitz, 2004). Since there were no standards of medical education, many physicians would often times group together and form medical schools with no formal certifying process (Gevitz, 2004). These schools of medicine were designed to graduate as many "physicians" as possible as the money earned from tuition made the founding members wealthy (Gevitz, 2004). These schools were often only 2-years in length, required no exams for entry, no exams for successful completion and were often based on apprenticeship learning (Gevitz, 2004). As such, the number of physicians graduating with the degree of MD increased even though their medical education was poor (Gevitz, 2004). In addition to poor medical school education, there

was no formal post-graduate medical education (Gevitz, 2004). Sometimes, medical school graduates would try to apprentice with another physician in hopes of increasing their training. However, often times, the medical school graduate would simply hang a sign on their door indicating they were a physician who was ready to begin seeing patients (Gevitz, 2004).

Due to the huge differences between medical education and medical practice, laws and regulations were beginning to develop to help standardize the practice of medicine (Starr, 1982). According Starr (1982), as early as the 17th century, laws in the United States during its colonial years began to distribute licenses to "…doctors worthy of the license" (Starr, 1982). In general, these were granted to physicians who practiced in their region for years (Starr, 1982). In 1760, New York City was the first city to pass an ordinance that required the examination and licensing of prospective physicians and would monetarily fine those who did not have the license to practice medicine (Starr, 1982). However, it was not until after the Civil War, when the Age of Heroic medicine was at its zenith, that there was a greater push for states to regulate the entry of newly trained physicians (Gevitz, 2004; Starr, 1982). In 1877, the Illinois state legislature passed regulation that required the state medical board to reject the diplomas of physicians who graduated from untrustworthy schools (Starr, 1982). If the physician was from a reputable school, he or she was licensed; if not, the physician was not granted a license but could be given an examination to have a license granted (Starr, 1982). Over time, thousands of physicians were put out of business because they could not meet the standards to gain a license to practice medicine, or they could not pass the examinations (Starr, 1982).

In 1904, the American Medical Association (AMA) in an effort to standardize medical practice and to issue recommendations to states for physician licensing, commissioned the Flexner Report (Gevitz, 2004). Written by Abraham Flexner, the report called for rigorous standards for medical school admissions and curriculum (Gevitz, 2004). The report further detailed that medical school admissions require the candidates to have at least a high school diploma and have at least 2-years of college level courses in the appropriate biomedical sciences (Gevitz, 2004). The report also changed medical school from the average 2-year curriculum to the current 4-year curriculum, and used Johns Hopkins University School of Medicine as a model for the standard (Gevitz, 2004; Starr, 1982). As a result of this report, states began implementing these recommendations, and a large number of medical schools were shut down or merged with larger institutions (Gevitz, 2004). The report also criticized osteopathic medical education for its lack of standards (Gevitz, 2004). As a result of the report, a majority of osteopathic medical schools were closed down as well; however the few that did remain changed their curriculum to be more in line with the Flexner Report's recommendation (Gevitz, 2004; Starr, 1982). The Flexner Report completely changed medical school entrance standards and the education of its students that is still seen today (Gevitz, 2004). However, as an unforeseen result of the Flexner Report, by having such high rigorous standards for medical school entrance, many medical schools that catered to the socio-economic poor, racial or gender minority closed down (Gevitz, 2004; Starr, 1982). Thus, over the time mainly rich, white men would train to become physicians and leave a large part of the population out of medicine (Gevitz, 2004; Starr, 1982).

In 1915, in an endeavor to standardize medical education, the National Board of

Medical Examiners (NBME) was created (Melnick, Dillon, & Swanson, 2002). The NBME developed a series of examinations in which one could test future physicians (Melnick, Dillon, & Swanson, 2002). The passage of these exams then could be used in conjunction with other information to allow the granting of a medical license by the physician's state medical board (Melnick, Dillon, & Swanson, 2002). Tests were developed that ranged from 1-week to the now modern three-step examination called the United States Medical Licensing Examination (USMLE) (Melnick, Dillon, & Swanson, 2002). The standards of these exams require a physician candidate to pass two of these steps while in medical school and a third step upon graduation of medical school (Melnick, Dillon, & Swanson, 2002). Currently, licensing by MD graduates in all 50 states requires successful completion and passage of the three USMLE exams (Melnick, Dillon, & Swanson, 2002). Osteopathic physicians requesting a medical license must pass the three levels of the Comprehensive Osteopathic Medical Licensing Examination (COMLEX) to gain licensure in all 50 states (Melnick, Dillon, & Swanson, 2002). In addition to passing the USMLE or COMLEX, to obtain a full and unrestricted medical license, the physician must also complete at least 1-year of post-graduate medical training on a site approved by either the Accreditation Council for Graduate Medical Education (ACGME) or the American Osteopathic Association (AOA) (Gevitz, 2004; Melnick, Dillon, & Swanson, 2002).

Osteopathic Medicine and Its Impact on Licensing

In the late 1800s, as a result of the Age of Heroic Medicine, Andrew Taylor (A.T.) Still, MD created osteopathic medicine (Gevitz, 2004). Unfortunately, three of his children contracted meningitis and died partly as a result of the disease, as well as in the treatments used to save their lives (Gevitz, 2004). The doctors that worked on his children were all practitioners of Heroic medicine and thus he witnessed first hand the effects that the treatment of Heroic medicine had on sick patients (Gevitz, 2004). After their deaths, he strived to understand the principles of the human body and to find a better way to treat his patients (Gevitz, 2004). It was at this time that Dr. Still noticed there was a reciprocal relationship between form and function and thus osteopathy was born (Gevitz, 2004).

The road to get full and unlimited practicing rights for osteopathic physicians was very difficult (Gevitz, 2004). Numerous barriers were presented when DOs tried to get licenses from their MD counterparts (Gevitz, 2004). However, eventually the osteopathic profession did prevail and the first law licensing osteopathic physicians was passed in Vermont in 1896 (Gevitz, 2004). Also, in 1897, a group of osteopathic doctors in Missouri organized the American Association for the Advancement of Osteopathic Medicine, which later became the modern American Osteopathic Association (AOA) (Gevitz, 2004). In 1956, Congress passed federal legislation that made DOs eligible for military commissions (Gevitz, 2004). And finally, full practice rights for DOs in all 50 states were attained in 1973 (Gevitz, 2004). The process of achieving full practice rights was an uphill battle with the pinnacle of that battle occurring in California (Gevitz, 2004).

In the 1950s, the state of California had one of the highest numbers of osteopathic

physicians (Gevitz, 2004). The College of Osteopathic Physicians and Surgeons (COP&S) was a premier medical school at that time and had both MDs and DOs working side-by-side (Gevitz, 2004). However, in the late 1950s, there were secret meetings among high-ranking members of the California Medical Association (CMA) and the California Osteopathic Association (COA) to discuss a merger (Gevitz, 2004). The merger was approved in the early 1960s, and with that all former DOs were granted MDs by the newly formed California College of Medicine, which was previously known as the COP&S (Gevitz, 2004). Also in 1962, California's Proposition 22 (The Osteopathic Act) passed preventing the Osteopathic Medical Board from issuing new licenses to DOs and also allowed California DOs to trade in their degree for a MD (Gevitz, 2004). However, Proposition 22 would be short lived as the California Supreme Court overturned the legislation in 1975 (Gevitz, 2004). This, and similar cases were important in setting precedent in granting osteopathic physicians full licensing rights in all 50 states (Gevitz, 2004).

The history of obtaining full and unrestricted licenses for osteopathic physicians showcases the problems when groups of professionals become more involved in the politics of the profession, rather than the quality of medical assurance for patients (P. B. Ginsburg & Moy, 1992). In the early days of medicine, licensing standards were necessary to safe guard the public from "quacks" (P. B. Ginsburg & Moy, 1992). However, once standards for medical education and admissions were in place, the need to protect the public decreased and the need to restrict entry into medicine increased (P. B. Ginsburg & Moy, 1992). Since state medical boards are overwhelming staffed by other medical doctors, it became very easy for them in the early days of licensure granting to

try and dictate the standards for obtaining a medical license (P. B. Ginsburg & Moy, 1992).

In the 21st century however, the standards of care for medical practices have changed. As standards of care change, the role of the medical license in protecting patients and assuring quality of medical doctors has decreased (P. B. Ginsburg & Moy, 1992; Melnick, Dillon, & Swanson, 2002; Starr, 1982). Despite medicine becoming more specialized, the medical license requirements have not changed (P. B. Ginsburg & Moy, 1992; Melnick, Dillon, & Swanson, 2002; Starr, 1982). This is due in part because specialization requires more years of training, as well as passing standardized specialists exams, issues that would be difficult to regulate and test for a general medical license (P. B. Ginsburg & Moy, 1992). Also, as health insurance companies became the standardized issue of payment to physicians, they too have dictated and required physicians to have certain credentials before payment of services (P. B. Ginsburg & Moy, 1992; Starr, 1982). Thus, while the role of the medical license in assuring quality medical doctors have diminished, the state medical boards, nonetheless, will still have a large role to play in enforcing and adjusting medical standards (P. B. Ginsburg & Moy, 1992; Starr, 1982). Therefore, the medical license can be seen as a way for future physicians to meet some minimal standard of excellence before the granting of other credentials and privileges are allowed (P. B. Ginsburg & Moy, 1992; Starr, 1982).

Even today, the role of medical licensing is still evolving. Advanced Practice Registered Nurses (APRN) have been lobbying states to allow them to have full and independent practice rights because they feel their education as advanced nurses qualifies them to have some independent practice rights in the primary care setting (S. Jones,

2011). APRNs are lobbying for all 50 states to offer independent practice rights in primary care as well as some subspecialties, such as anesthesiology (S. Jones, 2011). However, US physician groups are opposed to this idea (S. Jones, 2011). These groups feel that NPs do not have the extensive training and education that medical school graduates (in both MD and DO) have in medicine (S. Jones, 2011). The groups also claim that since APRNs' education varies greatly, that granting them unrestricted medical licenses would be unsafe for their patients and may put their lives in jeopardy (S. Jones, 2011).

While granting the medical license was needed to protect patients' safety in the early days of medicine, currently with the specialization of medicine and the growth of third-party payer systems, the medical license has a diminished role in quality insurance (P. B. Ginsburg & Moy, 1992; Starr, 1982). Instead, state medical boards, specialty exams, continuing medical education, and improvements in Graduate Medical Education (Residency) have been key in maintaining practitioner involved patient safety (P. B. Ginsburg & Moy, 1992; Melnick, Dillon, & Swanson, 2002; Starr, 1982).

Nurse Practitioners and the Three Tenants of Healthcare: Quality, Access, and Cost

A review of the literature shows a division between physicians and nurses on whether NPs should have independent practice rights. Historically, nurses and physicians have had a tremulous relationship, marred by turf wars and mistrust that has had a negative impact on patient care (B. Martin & Coniglio, 1996). Physicians, particularly primary care physicians, believe that NPs are not adequately trained to make a proper diagnosis and treatment plan for patients, and that extending scope of practice laws for

NPs is a mistake (B. Martin & Coniglio, 1996). Former President of the American Academy of Family Physicians Dr. Ted Epperly, believes that granting more NPs independent practice rights are akin to replacing the family physician (Rough, 2009). Dr. Epperly, along with others like him, believe that NPs do not have the proper education and training as do physicians to grant full scope of practice to NPs without some physician oversight (Rough, 2009). An article written in 1994, suggests that primary care providers do not need as much training as they once did because of the advent and boon of specialists, suggesting that there is less cause for concern for misdiagnosed or undertreated patients by NPs (Mundinger, 1994). Another article states that because primary care is becoming simpler, that primary care physicians should be considered as specialists that wait for referrals from the NP (Sibbald, 2008). However, current evidence indicates the contrary, where patients who see a PCP for treatment are more complex, with numerous co-morbidities and diseases then ever before (Reger & Kennedy, 2009).

Numerous studies have been performed on the quality of care, cost and patient satisfaction that NPs provide versus MD/DOs (Ahmed & Fincham, 2010; Chapman, Wides, & Spetz, 2010; Fairman, Rowe, Hassmiller, & Shalala, 2011; Jansen, 2008; Paradise, Dark, & Bitler, 2011). Studies have shown that the quality of care by NPs, as measured by various disease outcomes and treatments, are just as adequate as the quality of care delivered by physicians (Mundinger, 1994). However, systematic reviews of the literature also show the data used for those results as being too limited to provide a proper analysis (J. Ginsburg, Taylor, & Barr, 2009). In fact, even with more studies, the reviews continue to show that the data is too limited in scope for proper analysis and conclusions (AMA, 2009; J. Ginsburg, Taylor, & Barr, 2009; Wiysonge & Chopra, 2008). On the

other hand, looking at data for medical malpractice claims show that medical malpractice suits against NPs are usually never against the NP for exceeding their scope of practice, but rather they stem from MD/DO professional organizations challenging NP scope of practice laws (Hansen-Turton, Ware, & McClellan, 2010). Another study looked at medical malpractice rates for NPs in states that grant independent practice versus those of MDs between 1990-2003 in the National Practitioner Data Bank (Knudtson, 2004). The study found that there were 1.3 medical malpractice cases for every 100 medical malpractice cases against MDs, and that the overall rate of medical malpractice cases against NPs was 0.0027 between 1990-2003 (Knudtson, 2004). The study also found that there was no statistically significant correlation between the types of scope of practice laws for NPs and the rate of medical malpractice lawsuits against NPs (Knudtson, 2004).

In terms of cost, the studies are also mixed and show that the current research on cost savings is unclear (Neale, 1999). On the one hand, while primary care NPs make considerably less in terms of salary versus primary care physicians, studies show that does not necessarily translate to a lower cost savings (Laurant et al., 2005). It is theorized that because NPs do not have as extensive training as physicians, that perhaps they may order more tests, take longer consultations, or utilize more specialists than the primary care physician; however because of a lack of data to quantify these measures, no strict conclusions can be drawn (Laurant et al., 2005). However, it is important to note that studies show that cost savings do occur when NPs are used in a collaborative practice setting rather than a substitutive role (Neale, 1999). Collaborative roles leads to more comprehensive cost and effective care as discussed in the Collaborative Care Model

section (Buchanan, 1996; Neale, 1999; Phillips, Harper, Wakefield, Green, & Fryer, 2002).

Just as the nursing profession has its roots in health promotion and prevention, so too does the NP. Studies have shown that in terms of satisfaction, patients are often quite happy with their NPs (Knight, 2008). Among the qualities that patients state are NPs expertise are in the role of educator, communicator, counselor and general health promoter (Burgess & Purkis, 2010; Knight, 2008; Mundinger, 1994). Some nurses and NPs also feel that one of the core tenants of nursing care is to be the patient's advocate and that they are better trained than physicians at this role (Burzotta & Noble, 2011; Solomon, 2010). In addition, evidence suggests that wait-times for NPs are less than MD/DOs, especially for less complex medical illnesses (Rough, 2009). Also, because physicians cannot spend equal time with all their patients, often times having a NP in their practice frees up the physician to spend more time with the patients that need them (Flanagan, 1998). Also, a Canadian study illustrated that NPs are trained to provide more holistic and community-centered care versus the primary care physician (Burgess & Purkis, 2010).

Staunch positions have been taken, where physicians, on one side, are trying to protect their interests and livelihood, and nurse practitioners, on the other, want to expand their interests. One editorial describes this as a "turf war" among the health professions (Keepnews, 2010). The passage of the PPACA, suggests that government authorities are beginning to listen to the growing data that suggests that NPs do have a lot to offer patients. Programs have become funded to further study the effectiveness of NP run clinics, as well as pilot programs for graduate nursing education; however the main

barrier to most of these studies is the various state restrictions in NP scope of practice laws (Keepnews, 2010).

CHAPTER 3

METHODOLOGY

The research design involved using a comprehensive search of peer-reviewed literature, dissertations, reports from professional, non-profit and public health organizations' websites, and newspaper articles to identify the essential characteristics in collaborative patient care.

Literature search was conducted using Google Scholar, the Medical Literature Analysis and Retrieval System Online (MEDLINE), PubMed Central, Medscape, and the Cumulative Index to Nursing and Allied Health Literature (CINAHL). Reports and newspaper articles were conducted using the Google search engine. Professional organization's websites were utilized for non-scholarly articles, and were chosen based on their discussion in research articles, reports or non-scholarly articles.

The professional organization's websites searched were the following: American Medical Association (AMA), American Osteopathic Association (AOA), American Academy of Family Physicians (AAFP), American College of Physicians (ACP), Texas Academy of Family Physicians (TAFP), Canadian Medical Protective Association (CMPA), American Nurses Association (ANA), American Academy of Nurse Practitioners (AANP), American College of Nurse Practitioners (ACNP), and American Nurses Credentialing Center (ANCC).

The non-profit and public health organization's websites searched were the following: World Health Organization (WHO), Institute of Medicine (IOM), American

Association of Retired Persons (AARP), Berkeley Center on Health, Economic & Family Security (Berkeley CHEFS), The Dartmouth Institute for Health Policy and Clinical Practice (TDI), Kaiser Family Foundation (KFF), The Commonwealth Fund, Robert Wood Johnson Foundation (RWJF), and National Committee for Quality Assurance (NCQA).

The literature review began with the comprehensive 2010 IOM report, The Future of Nursing: Leading Change, Advancing Health. From the report's Key Messages and Recommendations Summary Chapter, search terms for scholarly journals, reports and newspaper articles were developed and included the following: "collaboration," "collaborative," "nurse practitioner," "physician," "communication," "teamwork" and "respect." Inclusion criteria for peer-reviewed articles included: key terms anywhere in the article, and any literature written between the years 1980-2011. Exclusion criteria for peer-reviewed articles included: search terms found only in the introduction or background of the articles, literature not written in the English language, and literature that was not electronically available. Using the above databases, 91 articles were identified using the search criteria indicated above. A through review of those articles found that 30 of them were relevant and met the above inclusion and exclusion criteria.

The analysis of the comprehensive literature review used qualitative data analysis to develop a typology that identified key concepts in collaborative practices and how they pertained to physician and nurse practitioner roles (Corbin & Strauss, 2008). The elements were first identified using articles by Bush and Watters (2001), Hamric (1996), and Martin and Coniglio (1996). These articles were chosen because they were some of the first articles that thoroughly identified and categorized the elements found in

successful collaborative practices and were also corroborated by the 2010 IOM Report, The Future of Nursing: Leading Change, Advancing Health. These elements were then organized and segmented into three major categories based on their relationship with each other to develop a simplified table of collaborative practices. The purpose of this thesis was to identify the characteristics of collaborative patient care that could best utilize the strengths of MD/DOs and NPs. Then, using this information, try to develop a model that could be used as a tool for cooperation and collaboration between the two professions.

Methodological Limitations

This thesis may have several limitations. The thesis itself contains no primary data; all data obtained were from secondary sources. While primary data may be more limited in scope and generalizability and in some cases may be less preferential to secondary sources, finding secondary data that clarify the research question may be difficult.

In addition to data sources, key search terms, inclusion and exclusion criteria may have been too restrictive and thus some scholarly articles may have been missed by the search. To help counter the possible restrictive nature of the search, multiple databases were used, as well as searching on organization's websites for referenced reports. Also, work cited pages from scholarly articles were used to identify other reports or articles that may have been missed using Google Scholar, MEDLINE, and Medscape. Moreover, reports from professional, non-profit, and public health organizations' website were used to find reports that may not have been discovered in the above databases. Finally, to

categorize the elements of collaborative patient care into its three major characteristics may have introduced a subjective limitation of the thesis that may be unavoidable in this type of research.

CHAPTER 4

RESULTS

Identifying the characteristics of a collaborative practice can be a difficult task to accomplish, as there are many characteristics that make up a good collaborative practice. However, the literature illustrates many common themes among collaborative practices. From the Literature Review in Chapter 2, collaborative care has been shown to improve quality of care. Two major studies looked into the attributes of collaborative practices and came up with many characteristics that make them up, and of these elements, I have grouped them into three major characteristics which are defined below (Bush & Watters, 2001; Hamric, Spross, & Hanson, 1996; B. Martin & Coniglio, 1996). Table 2, at the end of this chapter, lists the three major characteristics along with the elements that make up the major characteristics.

1. Communication: Communication is important to collaborative practice models, and involves four main parts: joint communication, a willingness to negotiate, effective communication skills and an equal exchange of knowledge between all health practitioners, staff and patients.
2. Teamwork: Teamwork is also an important major characteristic of collaborative practices, and involves eight main parts: shared authority, familiarity, deference to expertise, flattened hierarchy, shared problem solving and leadership, organizational structures that promote productive partnerships, task

interdependence, and goal sharing between all health practitioners, staff and patients.

3. Professionalism: Professionalism and respect are the cornerstone of good collaborative practice models, and involves five main parts: mutual trust, understanding of each professional's unique identity and contributions to care, collegiality, collaboration as being valued, and professional maturity between all health practitioners, staff and patients.

While the thesis will discuss these major characteristics of collaborative practices individually, these three characteristics often interplay with one another, and overlap to form good collaborative patient care. Figure 3 below illustrates how these three characteristics overlap to produce collaborative patient care. Also the goal of all collaborative patient care is to form synergistic relationships between the various healthcare workers.

FIGURE 3. Venn Diagram Displaying Communication, Teamwork, and Professionalism in Relation to Collaborative Patient Care

Communication

Good communication was identified in the literature as being important to collaborative care models (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996; Bolton, 1998; Burzotta & Noble, 2011; Bush & Watters, 2001; Dawson, 2011; Greenfield, 1999; Hamric, Spross, & Hanson, 1996; Legare, Stacey, Gagnon et al., 2011; Legare, Stacey, Pouliot et al., 2011; B. Martin & Coniglio, 1996; Newson, 2011; Nolte, 2005; Platt, 2011; Price et al., 2009; Roodbol, 2010; Walker & Thomson, 2012; Way, Jones, & Busing, 2000). Legare, Stacey, Pouliot, et al. (2011) defines the goal of communication as allowing "…team members to transcend their inclination towards their own field and find

common interprofessional territory (Legare, Stacey, Pouliot et al., 2011). The literature illustrated many benefits to good communication within the collaborative care model. Free communication is seen as essential in a number of studies because it leads to not only team development, but a sharing of responsibility of patient care, which ultimately can lead to effective care (Burzotta & Noble, 2011; Bush & Watters, 2001; Platt, 2011; Roodbol, 2010; Walker & Thomson, 2012).

Communication problems were identified as one of the main causes for medical errors (Roodbol, 2010). For example, in one study, a patient who had breast cancer with metastases had a delay in her hospital discharge because of a lack of communication between the social care team and the rest of the staff (Burzotta & Noble, 2011). Failure to establish effective lines of communication between the interprofessional teams was often cited as a reason for delayed hospital discharge (Burzotta & Noble, 2011). Effective team communication was shown to enhance patient outcomes, provide seamless and cost-effective care, and allow the various team members to learn about each others' skills and strengths, while decreasing any possible mistrust between the team members (Nolte, 2005; Walker & Thomson, 2012). Also, it was shown that effective communication within a team decreased health disparities and promoted equality for patient care, which in turn, could lead to lower mortality and hospital stays (Dawson, 2011; Roodbol, 2010). For example, a 75-year old woman who lived in a rural area with COPD had not had a hospital visit in years since she joined a collaborative care team that consisted of a social worker and primary care providers (Dawson, 2011). Previously to joining a collaborative care team, she would have up to four hospital admissions a year (Dawson, 2011).

Studies show that the elements of communication are joint communication, displaying a willingness to negotiate, having effective communication skills, and having an equal exchange of knowledge; to achieve good communication, it takes a combination of the above elements (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996; Bolton, 1998; Burzotta & Noble, 2011; Bush & Watters, 2001; Dawson, 2011; Greenfield, 1999; Hamric, Spross, & Hanson, 1996; Legare, Stacey, Gagnon et al., 2011; Legare, Stacey, Pouliot et al., 2011; B. Martin & Coniglio, 1996; Newson, 2011; Nolte, 2005; Platt, 2011; Price et al., 2009; Roodbol, 2010; Walker & Thomson, 2012; Way, Jones, & Busing, 2000). Joint communication requires sharing of information between various health professionals, staff or patients within the context of a relationship (Burzotta & Noble, 2011; Way, Jones, & Busing, 2000). Because patient care can often change day-by-day or minute-by-minute, equal dissemination of the data to the healthcare teams is vital for good quality care, and helps decrease misunderstandings among team members (Burzotta & Noble, 2011). Also, in addition to the content of the communication, the relationships of healthcare workers to each other are important for effective communication (Way, Jones, & Busing, 2000). Healthcare personnel who have a negative viewpoint of each other, or who feel are inferior to them are less likely to listen or try to understand the ideas being shared. (Burzotta & Noble, 2011; Dawson, 2011; Way, Jones, & Busing, 2000).

These elements are achieved through authentic and open communication, which produces trust and respect among all team members, which could lead to more of a willingness to negotiate about treatment of care among the team members (Bush & Watters, 2001; Grumbach & Bodenheimer, 2004; Hamric, Spross, & Hanson, 1996; B.

Martin & Coniglio, 1996). Verbal and non-verbal communication also helps disseminate ideas to the other healthcare teams, and allows an exchange of ideas, which can lead to better patient outcomes (Burzotta & Noble, 2011; Newson, 2011). Communication skills were also identified as being an important characteristic of communication. Non-verbal communication, such as hand gestures, facial expressions, using emotional intelligence, and being culturally aware allows for deeper understandings and effective communication (Burzotta & Noble, 2011; Newson, 2011). Non-verbal communication also included listening skills, such as respectful listening, which ensured that all healthcare professionals felt heard (Newson, 2011; Way, Jones, & Busing, 2000). However, communication revolves around both content and relationship, as well as allowing all team members to feel supported and affirmed that they are contributing to the team in a positive way (Way, Jones, & Busing, 2000).

How communication is translated to other members of the team was also identified in the literature. Good communication can be disseminated between various healthcare providers in the form of face-to-face dialogue, patient documentation, notes or even with electronic forms of communication, such as email (Burzotta & Noble, 2011). Studies show that clear documentation with succinct writing, no abbreviations, and no ambiguity in the notes lead to better communication between the various members (Burzotta & Noble, 2011; Newson, 2011; Way, Jones, & Busing, 2000). Also, verifying that team members read all notes, and are familiar with the patient's treatment prior to seeing the patient was shown important as well (Burzotta & Noble, 2011).

Use of technology (such as Electronic Medical Records) and systems (such as protocols) is important in facilitating good team communication. Email and telephone

systems were identified in providing up-to-the-minute data for patient care and were seen needed in promoting communication (Grumbach & Bodenheimer, 2004; Legare, Stacey, Gagnon et al., 2011; Nolte, 2005; Price et al., 2009; Walker & Thomson, 2012). In addition to telephone and email systems, protocols were seen as an effective way to communicate standard treatment for patients (Legare, Stacey, Gagnon et al., 2011; Walker & Thomson, 2012). While team meetings with agendas allow opportunities for face-to-face contact and the distribution of information, endless, unfocused team meetings were seen as a barrier to communication (Grumbach & Bodenheimer, 2004). In addition to unfocused meetings, the use of the traditional model in medicine (where the physician is the leader of the patient care) and turf wars between the health professionals were identified as another barrier to communication (Greenfield, 1999; Roodbol, 2010).

Teamwork

Teamwork was also identified as being important to collaborative care (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996; Bolton, 1998; Burzotta & Noble, 2011; Bush & Watters, 2001; Currie, Flintoft, Bellerose, Doidge, & Fillatre, 2011; Dawson, 2011; Flesher, Kinloch, Grenon, & Coleman, 2011; Fothergill, Northway, Allen, & Sinfield, 2011; Goldman, Meuser, Rogers, Lawrie, & Reeves, 2010; Greenfield, 1999; Grumbach & Bodenheimer, 2004; Hamric, Spross, & Hanson, 1996; Karim, 2011; Legare, Stacey, Pouliot et al., 2011; B. Martin & Coniglio, 1996; Merrett, Thomas, Stephens, Moghabghab, & Gruneir, 2011; Mundinger, 1994; Neale, 1999; Nelson, Houston, Hoffman, & Bradham, 2011; Newson, 2011; Nolte, 2005; Platt, 2011; Price et al., 2009; Riva et al., 2010; Wang, 1970; Way, Jones, & Busing, 2000). Burzotta defines

the goal of teamwork as "…working together in a way which involves cooperation and understanding" (Burzotta & Noble, 2011). Studies show the benefits of good teamwork within the collaborative care model, but cautioned that teamwork only works if all members take a collaborative approach to patient care, as this has the greatest effect on success (Burzotta & Noble, 2011). One study uses anecdotal evidence of a team approach to patient care of a woman who was diagnosed with breast cancer with multiple bone metastases. The study stated that the consequence of good collaborative teamwork resulted in a higher quality of care for the patient by allowing the patient to maintain some independence and allowed for safer discharges from the hospital (Burzotta & Noble, 2011). This was supported by other studies that demonstrated team-oriented care, which resulted in higher quality of care, increased satisfaction, shorter hospital stays and improved relationships with patient's family members (Grumbach & Bodenheimer, 2004; Neale, 1999). Furthermore, the study stated that having a climate of teamwork in the hospital resulted in better processes of care for diabetes patients, better continuity of care, increased access to care, and higher patient satisfaction for those patients (Grumbach & Bodenheimer, 2004).

Studies show that the elements of teamwork are shared authority, familiarity with the other team members, deference to experience, flattened hierarchy within the team, shared problem solving and leadership, organizational structures that promote productive partnerships, task interdependence, and goal sharing. (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996; Bolton, 1998; Burzotta & Noble, 2011; Bush & Watters, 2001; Currie, Flintoft, Bellerose, Doidge, & Fillatre, 2011; Dawson, 2011; Flesher, Kinloch, Grenon, & Coleman, 2011; Fothergill, Northway, Allen, & Sinfield, 2011; Goldman, Meuser,

Rogers, Lawrie, & Reeves, 2010; Greenfield, 1999; Grumbach & Bodenheimer, 2004; Hamric, Spross, & Hanson, 1996; Karim, 2011; Legare, Stacey, Pouliot et al., 2011; B. Martin & Coniglio, 1996; Merrett, Thomas, Stephens, Moghabghab, & Gruneir, 2011; Mundinger, 1994; Neale, 1999; Nelson, Houston, Hoffman, & Bradham, 2011; Newson, 2011; Nolte, 2005; Platt, 2011; Price et al., 2009; Riva et al., 2010; Wang, 1970; Way, Jones, & Busing, 2000). The literature identified the characteristic of shared authority as an important element of teamwork. For the team to work efficiently and effectively, the team must be able to directly involve all members in the decision-making process of the patient (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996; Burzotta & Noble, 2011; Nelson, Houston, Hoffman, & Bradham, 2011; Platt, 2011). One study, for example, identified allowing nurses to partake in patient assessments to make full use of their training and skills (Greenfield, 1999). Including all members of the team in decision-making and authority allows for greater input, and an ability for the team to deal with more complex patients and diseases which results in an overall better decision-making process (Burzotta & Noble, 2011; Newson, 2011; Platt, 2011). Having shared authority and shared problem solving would lead to joint decision making and a flattened heirarchy, which in turn, would lead to a decrease in duplication of services and more efficiency in patient treatment (Grumbach & Bodenheimer, 2004; Way, Jones, & Busing, 2000).

To achieve joint authority and problem solving is a difficult task to achieve and requires the team to also have a familiarity towards each other. The literature shows that having a familiarity with other members leads to a group identity, which in turn leads to more efficient and effective care (Burzotta & Noble, 2011). Being familiar with the other healthcare professionals also allows for the opportunity for individual members on the

team to show assertiveness, which could lead to a consensus on patient care (Burzotta & Noble, 2011). Studies indicate that assertiveness and cooperation fosters synergy; however, for members to feel comfortable asserting themselves, they must first be accustomed with each other's expertise, trust each other, and know that their views will be respected (Karim, 2011; Legare, Stacey, Pouliot et al., 2011; Merrett, Thomas, Stephens, Moghabghab, & Gruneir, 2011; Price et al., 2009; Way, Jones, & Busing, 2000). Yet, another study indicates that familiarity among team members removes the need for supervision of individuals on the team because of the knowledge and trust gained within the group (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996). The literature also demonstrates examples of how increased familiarity leads to greater collaboration. One study illustrated the examples of newly minted medical residents who did not collaborate with nurse practitioners and social workers for patients whom needed those professionals' expertise (Price et al., 2009). However, over time, as the residents became more and more familiar with the other professionals' knowledge and skills, the residents came to rely on them more and more (Price et al., 2009). Other articles indicated that MD/DOs who have never worked with NPs before have negative viewpoints on NPs at first, but that over time, as MD/DOs become more accustomed to NPs skills, they become ardent supporters of them, and came to appreciate their unique contributions (Bolton, 1998; Wang, 1970).

With familiarity, team members will begin to respect not only each other but their own profession as well (Way, Jones, & Busing, 2000). Once members start respecting themselves and becoming more assertive, they can then be comfortable to yielding authority to any member of the group who has the most experience at that particular skill.

Thus, despite a group consisting of various professionals of different levels of expertise, as long as each member contributes to the collaborative spirit then all points of view are entertained until a consensus plan is developed (Burzotta & Noble, 2011). Thus, as other studies indicate, authority then lies not on a single profession, but rather on the collectives' experience and expertise (Mundinger, 1994). For example, in the article by Mundinger (1994), she states that one would defer to the physician if the patient were critically ill, or had a complex disease; however, if the patient's need were prevention of disease, help on community resources, counseling or education, then the nurse practitioner would best be suited for the task as their field of expertise lies within those areas (Mundinger, 1994).

In addition to familiarity, goal sharing and task interdependence were identified as important elements to teamwork as well. It is important to differentiate task interdependence from duplication. While NPs and MD/DOs have a lot of commonalities between the two professions, having collaborative teams prevents efforts from being duplicated and repeated and instead helps provide synergistic results (Bush & Watters, 2001; Way, Jones, & Busing, 2000). The literature described methods to prevent duplication and promote interdependence. One such way is to have clear goals and clear division of labor, training and communication (Dawson, 2011; Grumbach & Bodenheimer, 2004). Another way to increase coordination within the team was to increase bidirectional communication among healthcare professionals (Way, Jones, & Busing, 2000).

Just as systems were needed to facilitate good communication, teamwork requires organizational structures as well to promote productive partnerships. Nolte (2005) studied

international systems of collaborative practice and found that organizational structures were a common element in successful collaborative practices (Nolte, 2005). One crucial form of structure required to promote teamwork was space and time for health professionals to interact (Nolte, 2005; Price et al., 2009; Riva et al., 2010). Also, electronic medical records, and messaging systems were shown to increase collaboration and communication, and decrease duplication (Flesher, Kinloch, Grenon, & Coleman, 2011; Goldman, Meuser, Rogers, Lawrie, & Reeves, 2010; Merrett, Thomas, Stephens, Moghabghab, & Gruneir, 2011; Price et al., 2009). A study by Karim (2011), showed that it was not enough to have a team of healthcare providers working on patient care without organizational and operational systems in place; team members may not be aware of each person's interventions and thus this could lead to disjointed and harmful care (Karim, 2011). A system in Ontario, Canada had their healthcare team add all their team members' notes on one page of the patient chart, rather than a new note for every member to facilitate faster and more effective communication for the staff, as well as to ensure that all members of the team had the latest patient information (Price et al., 2009). One study looked at technology systems in teamwork for STEMI patients and found that with technology systems in place, 95.2% of patients received an EKG within 10 minutes of arrival or first contact, up from 34%. Also, the percentage of patients receiving thrombolytic within 30 minutes of arrival to the Emergency Department improved from 61.5% to 95.2% (Currie, Flintoft, Bellerose, Doidge, & Fillatre, 2011).

The literature also identifies ways to implement good teamwork within organizational systems. Some teams implement focused team meetings to facilitate good teamwork. Whereas some studies indicate that many, shorter team meetings were more

preferable to fewer, longer team meetings, other studies stated that having frequent meetings between the team increased teamwork (Currie, Flintoft, Bellerose, Doidge, & Fillatre, 2011; Grumbach & Bodenheimer, 2004; Merrett, Thomas, Stephens, Moghabghab, & Gruneir, 2011; Neale, 1999). In addition, the literature stated to accomplish effective teamwork was to have increased, shared access to patient charts, have shared plans, as well as have shared team rooms to help facilitate good communication and teamwork (Flesher, Kinloch, Grenon, & Coleman, 2011; Riva et al., 2010).

Barriers to teamwork were also identified in the literature as well. Some barriers to teamwork included, lack of clinical or interpersonal competence, ambiguity regarding the roles of all team members, conflicting values among the team members, and lack of space or geographic distance between team members; however the major obstacle discovered was MD/DOs initial unfamiliarity with NPs which lead to negative views of them (Bush & Watters, 2001; Goldman, Meuser, Rogers, Lawrie, & Reeves, 2010; B. Martin & Coniglio, 1996). These physicians were more likely to have negative views of nurse practitioners because of the lack of education on NPs and their effectiveness in patient care (Bush & Watters, 2001).

Finally, while teamwork has been shown to improve patient care, access and effectiveness, there is literature that shows interprofessional collaborative teams have their drawbacks. For one, they add organizational complexity and in large team sizes, tend to create more communication problems (Grumbach & Bodenheimer, 2004). These negative effects may eventually override the team's synergy (Grumbach & Bodenheimer, 2004). Also, collaboration may have drawbacks to physicians themselves. A reason some

people become physicians is to become a patient's point of contact care, and to personally deliver their treatments (Grumbach & Bodenheimer, 2004). However, delegating tasks within the team may decrease a physician's job satisfaction and thereby remove the very reason they entered medicine in the first place (Grumbach & Bodenheimer, 2004).

Professionalism

Professionalism was identified in the literature as important to collaborative care (Bolton, 1998; Burgess & Purkis, 2010; Burzotta & Noble, 2011; Bush & Watters, 2001; Currie, Flintoft, Bellerose, Doidge, & Fillatre, 2011; Goldman, Meuser, Rogers, Lawrie, & Reeves, 2010; Hamric, Spross, & Hanson, 1996; Karim, 2011; Legare, Stacey, Gagnon et al., 2011; B. Martin & Coniglio, 1996; Neale, 1999; Newson, 2011; Nolte, 2005; Phillips, Harper, Wakefield, Green, & Fryer, 2002; Price et al., 2009; Riva et al., 2010; Roodbol, 2010; Solomon, 2010; Way, Jones, & Busing, 2000; Weierbach, Glick, Fletcher, Rowlands, & Lyder, 2010). While the phrase respect was identified as an element in the literature and used as a key-term, the term professionalism best embodies the idea that respect is a bidirectional process. Professionalism is the element that cements all the other collaborative characteristics (Way, Jones, & Busing, 2000). Way and Jones et al. (2000) states, "Without trust and respect, co-operation cannot exist. Assertiveness becomes threatening, responsibility is avoided, communication is hampered, autonomy is suppressed and co-operation is haphazard" (Way, Jones, & Busing, 2000). Also, without respect and knowledge of each team members' roles, conflict within the team can erupt which would lead to ineffective collaborative patient

care (Burzotta & Noble, 2011; Riva et al., 2010). One study in New Zealand showed that respect and trust come from collaboration, which can also result in a diverse healthcare team (Karim, 2011).

Studies show that the elements of professionalism are: mutual trust, understanding of each professional's unique identity and contributions to care, collegiality, members that value collaboration, and professional maturity (Bolton, 1998; Burgess & Purkis, 2010; Burzotta & Noble, 2011; Bush & Watters, 2001; Currie, Flintoft, Bellerose, Doidge, & Fillatre, 2011; Goldman, Meuser, Rogers, Lawrie, & Reeves, 2010; Hamric, Spross, & Hanson, 1996; Karim, 2011; Legare, Stacey, Gagnon et al., 2011; B. Martin & Coniglio, 1996; Neale, 1999; Newson, 2011; Nolte, 2005; Phillips, Harper, Wakefield, Green, & Fryer, 2002; Price et al., 2009; Riva et al., 2010; Roodbol, 2010; Solomon, 2010; Way, Jones, & Busing, 2000; Weierbach, Glick, Fletcher, Rowlands, & Lyder, 2010). Mutual respect and collegiality for each team member was discussed in numerous articles of being important to collaborative patient care. While the method of team collaboration develops over time, every team member must make a commitment to developing a climate of trust and respect in order for the team to be successful (Bush & Watters, 2001; Neale, 1999). A few studies have illustrated that mutual respect, described as viewing everyone's input as important as clinicians' input, was important to team dynamics, success and function; mutual respect resulted in an absence of turf wars among the health professionals (Bolton, 1998; Legare, Stacey, Gagnon et al., 2011; B. Martin & Coniglio, 1996; Nolte, 2005; Price et al., 2009). A study on hospice services found that a lack of the knowledge, skills and expertise on each other's professions lead to competition and resistance toward collaborative teams as well as having a negative

impact on patient care (Nolte, 2005). Yet another study stated that having team integrity was important for the foundation of the professional relationship (Way, Jones, & Busing, 2000). One example of mutual trust was identified in the literature. A case study was described in which one employer believed her co-worker was getting preferential treatment in scheduling and vacation times, and thus was unhappy about the unequal treatment (Newson, 2011). Because there was no mutual respect in the team, this fostered job dissatisfaction among team members (Newson, 2011). To foster good team relationships, the study states that mutual trust and respect must be included where actions are in the best interest of the team (Newson, 2011). Also, as professionalism and trust increased in a team, role acceptance and recognition of each healthcare profession increased as well (Burgess & Purkis, 2010).

In addition to mutual trust and respect, having collegiality and professional maturity between team members was also viewed as important to team success. As one study described, professional maturity comes from having self-awareness of each other and one's self, and to have the emotional capacity to respond (Solomon, 2010). This study called it a relationship-centered patient care with each team member and the patient themselves (Solomon, 2010).

The understanding of each professional's unique role and contributions to care, as well as each professional valuing collaboration are viewed as important elements of respect. Whereas lack of role clarity and understanding is a barrier to professionalism, literature shows that it is essential for each team member to have an understanding of each professional's role and be comfortable among all members to promote integrity and better patient care (Burzotta & Noble, 2011; B. Martin & Coniglio, 1996). Also, having

each team member value collaborative care for the greater good is also important to team success (Currie, Flintoft, Bellerose, Doidge, & Fillatre, 2011; B. Martin & Coniglio, 1996). As some of the literature illustrates, all team members must be supportive of each other with each believing that collaborative teams promote high quality patient care (Currie, Flintoft, Bellerose, Doidge, & Fillatre, 2011; B. Martin & Coniglio, 1996).

Barriers to professionalism were also identified in the literature. One of the barriers identified is implementing professionalism on a daily basis (Way, Jones, & Busing, 2000). One way to make implementation easier is to begin establishing and demonstrating trustworthiness and respect by being cordial to nurses, staff and other healthcare workers (Weierbach, Glick, Fletcher, Rowlands, & Lyder, 2010). Other barriers identified were a lack of interpersonal skills among the healthcare team, resistance of accepting the roles of NPs among MDs, resistance to change from the traditional model to a collaborative model among team members, and the conflicting values between the professions (Nolte, 2005; Roodbol, 2010). One study tried to understand the reasons for these barriers to implementation. The study states that despite more formal education in nursing, some nurses still have a low self professional image; whereas, physicians have a higher self professional image (Roodbol, 2010). In addition, Social Identity Theory (SIT) states that people form groups with one another that share certain characteristics, and have a common identity (Roodbol, 2010). Thus, according to SIT, professionals with a lower self-image are more likely to form groups than professionals with a higher self-image because they are less likely to believe there will be any benefit for themselves (Roodbol, 2010). Thus, this article states, incentives must be

provided to promote more inter-collaborative teams, such as the idea that collaboration will provide higher quality patient care (Roodbol, 2010).

TABLE 2. Key Components to Collaborative Practice

Characteristics	**Sub-Characteristics**	**Studies**
Communication	Joint Communication	(Arcangelo, Fitzgerald, Carroll, & Plumb, 1996)
		(Bolton, 1998)
		(Burzotta & Noble, 2011)
		(Greenfield, 1999)
		(Grumbach & Bodenheimer, 2004)
		(Legare, Stacey, Pouliot et al., 2011)
		(Newson, 2011)
		(Nolte, 2005)
		(Platt, 2011)
		(Price et al., 2009)
		(Way, Jones, & Busing, 2000)
	Willingness to Negotiate	(Bush & Watters, 2001)
		(Grumbach & Bodenheimer, 2004)
		(Hamric, Spross, & Hanson, 1996)
		(B. Martin & Coniglio, 1996)
	Effective Communication Skills	(Bush & Watters, 2001)

		(Burzotta & Noble, 2011)
		(Grumbach & Bodenheimer, 2004)
		(Hamric, Spross, & Hanson, 1996)
		(B. Martin & Coniglio, 1996)
		(Newson, 2011)
		(Nolte, 2005)
		(Roodbol, 2010)
		(Walker & Thomson, 2012)
	Equal Exchange of Knowledge	(Bush & Watters, 2001)
		(Burzotta & Noble, 2011)
		(Dawson, 2011)
		(Grumbach & Bodenheimer, 2004)
		(Legare, Stacey, Gagnon et al., 2011)
		(Newson, 2011)
Teamwork	Shared Authority	(Burzotta & Noble, 2011)
		(Neale, 1999)
		(Nelson, Houston, Hoffman, & Bradham, 2011)
		(Newson, 2011)
		(Nolte, 2005)
		(Platt, 2011)
		(Way, Jones, & Busing, 2000)

	Familiarity	(Bolton, 1998)
		(Flesher, Kinloch, Grenon, & Coleman, 2011)
		(Fothergill, Northway, Allen, & Sinfield, 2011)
		(Goldman, Meuser, Rogers, Lawrie, & Reeves, 2010)
		(Karim, 2011)
		(Legare, Stacey, Pouliot et al., 2011)
		(Price et al., 2009)
	Deference to Expertise	(Mundinger, 1994)
		(Neale, 1999)
		(Nolte, 2005)
		(Price et al., 2009)
	Flattened Hierarchy	(Arcangelo, Fitzgerald, Carroll, & Plumb, 1996)
		(Burzotta & Noble, 2011)
		(Way, Jones, & Busing, 2000)
		(Price et al., 2009)
	Shared Problem Solving and Leadership	(Arcangelo, Fitzgerald, Carroll, & Plumb, 1996)
		(Bush & Watters, 2001)
		(Burzotta & Noble, 2011)

		(Greenfield, 1999)
		(Grumbach & Bodenheimer, 2004)
		(Hamric, Spross, & Hanson, 1996)
		(B. Martin & Coniglio, 1996)
		(Merrett, Thomas, Stephens, Moghabghab, & Gruneir, 2011)
		(Nolte, 2005)
		(Way, Jones, & Busing, 2000)
	Organizational Structures that Promote Productive Partnerships	(Burzotta & Noble, 2011)
		(Bush & Watters, 2001)
		(Currie, Flintoft, Bellerose, Doidge, & Fillatre, 2011)
		(Flesher, Kinloch, Grenon, & Coleman, 2011)
		(Goldman, Meuser, Rogers, Lawrie, & Reeves, 2010)
		(Grumbach & Bodenheimer, 2004)
		(Hamric, Spross, & Hanson, 1996)
		(Karim, 2011)
		(B. Martin & Coniglio, 1996)
		(Merrett, Thomas, Stephens,

		Moghabghab, & Gruneir, 2011)
		(Nelson, Houston, Hoffman, & Bradham, 2011)
		(Price et al., 2009)
		(Riva et al., 2010)
		(Wang, 1970)
	Task Interdependence	(Arcangelo, Fitzgerald, Carroll, & Plumb, 1996)
		(Burzotta & Noble, 2011)
		(Bush & Watters, 2001)
		(Hamric, Spross, & Hanson, 1996)
		(B. Martin & Coniglio, 1996)
		(Nolte, 2005)
	Goal Sharing	(Burzotta & Noble, 2011)
		(Bush & Watters, 2001)
		(Dawson, 2011)
		(Grumbach & Bodenheimer, 2004)
		(Hamric, Spross, & Hanson, 1996)
		(B. Martin & Coniglio, 1996)
		(Neale, 1999)
		(Newson, 2011)
		(Nolte, 2005)
		(Platt, 2011)

Professionalism	Mutual Trust	(Bolton, 1998)
		(Bush & Watters, 2001)
		(Burzotta & Noble, 2011)
		(Hamric, Spross, & Hanson, 1996)
		(Legare, Stacey, Gagnon et al., 2011)
		(B. Martin & Coniglio, 1996)
		(Neale, 1999)
		(Newson, 2011)
		(Nolte, 2005)
		(Price et al., 2009)
		(Riva et al., 2010)
		(Solomon, 2010)
		(Way, Jones, & Busing, 2000)
	Understanding of Each Professional's Unique Identity and Contributions to Care	(Burgess & Purkis, 2010)
		(Burzotta & Noble, 2011)
		(Bush & Watters, 2001)
		(Hamric, Spross, & Hanson, 1996)
		(Karim, 2011)
		(B. Martin & Coniglio, 1996)
		(Neale, 1999)

		(Newson, 2011)
		(Nolte, 2005)
		(Price et al., 2009)
		(Solomon, 2010)
		(Way, Jones, & Busing, 2000)
	Collegiality	(Burzotta & Noble, 2011)
		(Bush & Watters, 2001)
		(Greenfield, 1999)
		(Hamric, Spross, & Hanson, 1996)
		(B. Martin & Coniglio, 1996)
		(Neale, 1999)
		(Newson, 2011)
		(Nolte, 2005)
		(Phillips, Harper, Wakefield, Green, & Fryer, 2002)
		(Solomon, 2010)
	Collaboration is Valued	(Burzotta & Noble, 2011)
		(Bush & Watters, 2001)
		(Currie, Flintoft, Bellerose, Doidge, & Fillatre, 2011)
		(Goldman, Meuser, Rogers, Lawrie, & Reeves, 2010)
		(Hamric, Spross, & Hanson, 1996)

		(B. Martin & Coniglio, 1996)
		(Nolte, 2005)
		(Price et al., 2009)
		(Roodbol, 2010)
		(Solomon, 2010)
	Professional Maturity	(Burzotta & Noble, 2011)
		(Bush & Watters, 2001)
		(Hamric, Spross, & Hanson, 1996)
		(B. Martin & Coniglio, 1996)
		(Price et al., 2009)
		(Solomon, 2010)
		(Way, Jones, & Busing, 2000)
		(Weierbach, Glick, Fletcher, Rowlands, & Lyder, 2010)

CHAPTER 5

DISCUSSION, CONCLUSION AND POLICY IMPLICATIONS

Discussion

Collaborative patient care is a complex model, but one that is needed to improve quality and access to healthcare. There are many elements that make up collaborative patient care, but the three main characteristics of communication, teamwork and professionalism seem to be universal throughout the literature for successful collaborative care teams. It is imperative that collaborative care teams understand and use these characteristics to create success within the team, which ultimately leads to higher quality, increased access and lower cost. Also, collaborative care falls directly in-step with the Patient Centered Medical Home (PCMH) model that many hospitals and institutions have already begun implementing. In fact, in order to have a successful PCMH, one must first be able to have successful collaborative care teams, as the Collaborative Care Model (CCM) is one of the cornerstones of the PCMH (IOM, 2010).

Communication, teamwork, and professionalism are not three characteristics that can be singled out individually. Rather, it is the interplay of all three characteristics that result in flourishing collaborative teams. Without communication and professionalism, there can be no team, only a loose collection of people. Without professionalism for other team members, there can be no free communication, as each member will assume the inferior role to the perceived authoritative body. Thus, it is the interplay of all three

categories that is at the heart of collaborative care teams, and ultimately collaborative patient care.

Lack of respect for nurse practitioners (NPs) was highlighted in the results section as a major barrier to having full collaborative care teams. However, NPs themselves have not helped their own situation. While NPs have always claimed they are not there to remove or supplant the primary care physician, nonetheless, the numerous studies produced by NPs and other nursing researchers on the quality of care of NPs compared to physicians (MD/DO) seem to subtly suggest to MD/DOs that NPs want to be used as physician substitutes. However, the question of whether NPs can independently provide quality of care as equal to MD/DOs is the wrong question. The NP program was developed to produce not physician substitutes or physician extenders, but rather produce patient care providers within the context of a collaborative team (Phillips, Harper, Wakefield, Green, & Fryer, 2002). Thus, producing studies comparing independent NPs with MD/DOs is irrelevant and detrimental to NPs stance on independent practice rights.

History has shown this story before and can be a guide for NPs. The goal of NPs to be recognized by the healthcare community for the work that they can perform is eerily similar to the story of the osteopathic profession as well. As was discussed in Chapter 2, traditional MDs were very wary of DOs as they did not understand nor respect the DO philosophy. MDs were also threatened by DOs and viewed them as a menace to their livelihood as they had the possibility of taking away patients and business from the MDs. Thus, MDs produced numerous barriers, in the forms of lawsuits, legislation and restriction of the medical license to prevent DOs from practicing medicine (Gevitz, 2004). Over time, as osteopathic hospitals went out of business and the DO workforce

inside traditional allopathic hospitals increased, MDs became more familiar with their DO counterparts, and came to accept them as part of the healthcare team. This is similarly true of NPs today. As was discussed in the previous chapter, familiarity among healthcare members was important for collaborative patient care. As MD/DOs became more and more familiar with the strengths of NPs, they became more trusting and supportive of NPs (Bolton, 1998; Wang, 1970). With familiarity comes understanding, with understanding comes trust, and with trust comes professionalism. And it is professionalism that helps bind communication and teamwork together (Way, Jones, & Busing, 2000).

If full implementation of the collaborative care model is to be enacted, then numerous other healthcare reforms must also take place. One such reform is the licensing for both physicians and mid-level practitioners. As discussed in the literature review, medical licensing was first used over 100 years ago to prevent "quacks" and other fraudulent physicians who may have gained their medical degree through unscrupulous means. In this case, medical licensing was important; however as medicine moved to the modern era, and third-party payer systems were enacted, the need for medical licensing decreased and instead was seen as a way to enact a minimum set of standards for newly minted physicians. However, granting medical licensure has also been used in the past to restrict or prevent other healthcare professionals from practicing their profession to the fullest extent of their training. One goal of the nurse practitioner is to obtain independent practice rights without the need for physician supervision in all 50 states. However, physician groups and state medical boards view NPs working independently as practicing medicine and not practicing nursing and have thus been denied licensing. However, as

discussed in Chapters 1 and 2, the increased supply of patients due to the passage of the Patient Protection and Affordable Care Act (PPACA) requires that the United States produce more primary care providers. While the current rate of medical students entering primary care is increasing, it is still not enough to meet demand and NPs will be needed. Thus, the granting of licenses to non-physician providers must be addressed in the future. Figure 4 below demonstrates the model of how collaborative practices can best utilize the strengths of NPs and MD/DOs toward patient care.

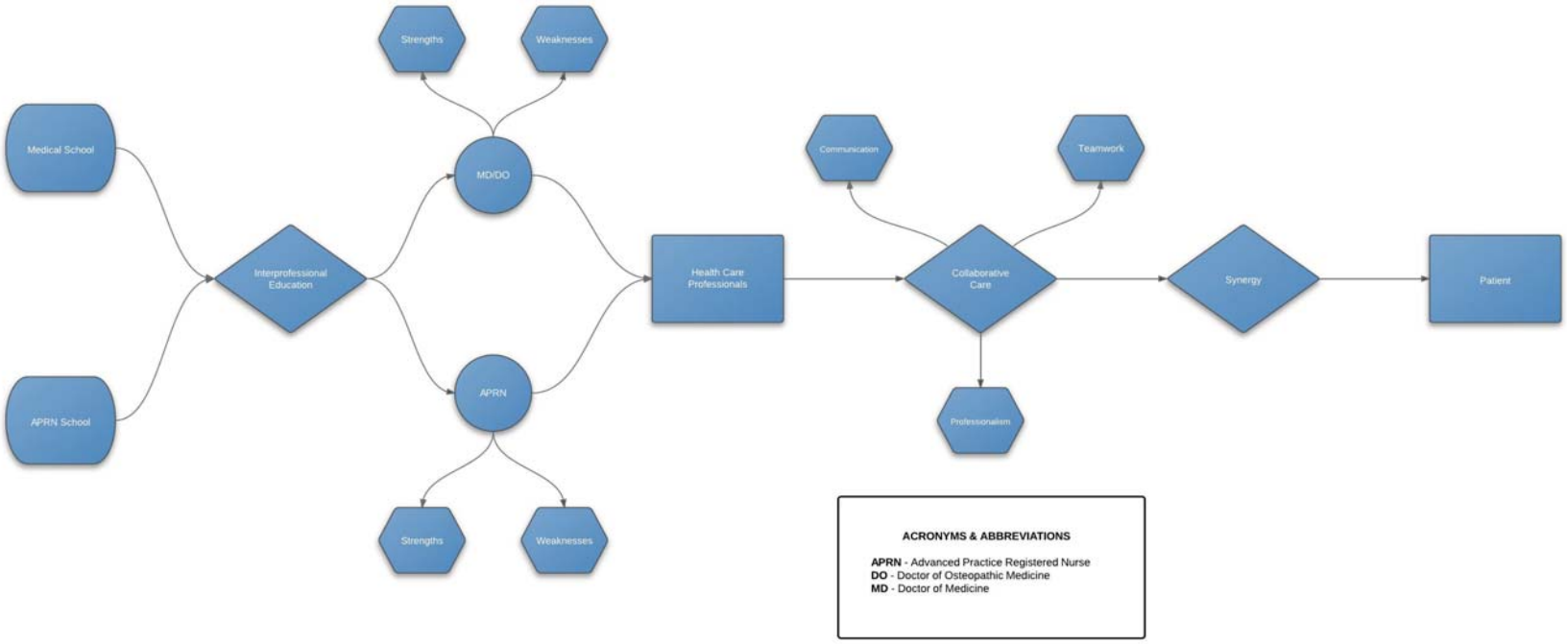


FIGURE 4. Flowchart Diagram of Interprofessional Education and Collaborative Practices Forming Synergistic Outcomes

Study Limitations

There were several limitations to this study. First, the subjective nature of this research adds an element of human error. The table and articles used to create the elements and categorize those elements into major headings is subjective in nature and thus may not have been categorized correctly. To help minimize these errors, one other person looked over the categorized elements to find any discrepancies or errors in judgment. Second, the thesis itself contained no primary data; all data obtained were from secondary sources. While primary data may be more limited in scope and generalizability and in some cases may be less preferential to secondary sources, finding secondary data that clarified the research question may have been difficult.

In addition to data sources, key search terms, inclusion and exclusion criteria may be too restrictive and thus some scholarly articles may have been missed by the search. To help counter the possible restrictive nature of the search, multiple databases were used, as well as searching on organization's websites for referenced reports. Also, work cited pages from scholarly articles were used to identify other reports or articles that may have been missed using Google Scholar, MEDLINE, and Medscape. Moreover, reports from professional, non-profit, and public health organizations' websites were used to find reports that may not have been discovered in the above databases.

Conclusion

The medical profession has deep traditions that have been followed for hundreds of years. The current educational model of medical students for both DO and MD has been followed since the Flexner Report was written over 100 years ago (Gevitz, 2004).

While small changes in the curriculum have been made, the model of two years of coursework and two years of clinical education has essentially remained the same. As stated in the literature review, while medicine has become more organized, nursing education has largely stayed fragmented (Phillips, Harper, Wakefield, Green, & Fryer, 2002). While there have been great strides made in creating and maintaining education standards for nurses, there are still multiple pathways to become a Registered Nurse (Phillips, Harper, Wakefield, Green, & Fryer, 2002). With the advent of the Nurse Practitioner program, more effort was made to organize the nursing profession; yet greater strides must be made. However, perhaps NPs are the disruption that medicine requires (Phillips, Harper, Wakefield, Green, & Fryer, 2002). For far too long, medicine, rooted deep in its traditions, has followed the same pathway. An argument could be made that DOs were once a disrupting force for MDs as osteopathic medicine was one of the first forms of medicine to practice whole body medicine (Gevitz, 2004). As one author states, the time is ripe for a disrupting force in healthcare to make costs less expensive and to increase access to care, and NPs are becoming that disrupting force (Phillips, Harper, Wakefield, Green, & Fryer, 2002). Medical tradition cannot turn into medical stagnation, and thus medicine must also learn to adapt and change. The old traditional hierarchical model must be abandoned for a more collaborative approach to patient care, not for the sake of NPs, but for the sake of the patients. Both the nursing and medical professions hold the care of the patient as a sacred oath. Collaborative practice models help patients by providing higher quality and increased access to care, and thus perhaps the time is right for a new tradition.

Policy Implications

Several policy implications can be inferred from this research. The first policy recommendation would be to begin implementing collaborative care practices in conjunction with the Patient Centered Medical Home (PCMH) model in both hospital and private practices. Community Health Centers (CHC) are an excellent resource to model collaborative practices as they have been using collaborative models for some time now (IOM, 2010). CHCs have employed NPs and other Advanced Practice Registered Nurses, such as midwives, for primary, acute, and preventive patient care (IOM, 2010). Implementing the PCMH and collaborative care models would take some planning and preparation, as organizational systems must already be in place. As discussed in the Literature Review, one technological system that would increase collaboration is the increased usage of Electronic Medical Records (EMR). EMR allows for quick access of patient data, as well as clear and concise communication for patient care. Another system identified for collaboration would be to have time and space available for teams. Time would be needed to have team meetings where patient care and treatment can be discussed with the healthcare team. Also, space for team meetings and/or to allow for more face-to-face contact would help increase effective communication by allowing for both verbal and non-verbal forms of communication to be used.

The second policy recommendation would be to have more educational collaboration between NPs and MD/DOs. Interdisciplinary education has been studied and determined to be important in helping to produce collaborative care teams. An interdisciplinary education model helps students become familiar with working in teams and with diverse healthcare providers (Karim, 2011). The benefits of an interdisciplinary

education has been shown to produce greater professionalism, communication and teamwork among the various healthcare workers and allows those that have worked in an interdisciplinary education to have an earlier and greater appreciation for collaborative care teams (Karim, 2011). However, while the benefits of interdisciplinary education are known, the implementation of such an education has been difficult.

Implementing an integrated education between NPs and MD/DOs require time, space and resources that may not necessarily be available (Karim, 2011). Also, having teachers and faculty who are trained in collaborative training is difficult to achieve (Karim, 2011). However, despite these obstacles a movement towards a collaborative education must be done. One way to implement collaborative education is to begin with the educators themselves and to start by training a small selection of faculty and staff from both the medical and nurse practitioner sides to cross-train other students. This has been supported by the literature, which shows that achieving interprofessional education begins with the faculty and staff (Karim, 2011; Riva et al., 2010).

The third policy recommendation would be to begin standardizing nursing education. While efforts have been made towards streamlining nursing education, nonetheless, there are still multiple pathways to taking the NCLEX-RN for the Registered Nurse (RN) license. As stated in Chapter 1, health is becoming more complex in the United States as obesity rates increase as well as chronic diseases and co-morbid conditions. As a result, nursing education must also change to better instruct nursing students to deal with complicated disease states in patients. Thus, it should become a requirement that all nurses have their Bachelor of Science Degree in Nursing (BSN) or the equivalent before being eligible to complete the NCLEX-RN. While some states have

considered passing legislation making the BSN degree mandatory, this instead should become a professional wide requirement instituted by nursing professional organizations (Nsenduluka, 2011).

The fourth policy recommendation would be to propose that NPs obtain clinical experience as RNs for a certain length of time before being admitted to NP programs. As stated in the literature review, among the qualities that patients state are NPs' expertise are in the role of educator, communicator, counselor, general health promoter and patient advocate (Burgess & Purkis, 2010; Burzotta & Noble, 2011; Knight, 2008; Mundinger, 1994; Solomon, 2010). While many programs currently require that NP applicants have a BSN or equivalent degree and be a RN, not all programs require having a RN license, but rather be eligible for the RN license (AMA, 2009). Also, while many NP applicants have years of clinical nursing experience, not all programs require applicants to have such experience (J. Ginsburg, Taylor, & Barr, 2009). In addition, while NP education may involve training in educator, communicator, counselor, general health promoter and patient advocate, nonetheless, having the clinical experience of a practicing RN is important to hone and refine the nursing skills that make NPs unique. Thus, it is important that NP applicants have clinical nursing experience before being accepted into a NP program.

The fifth policy recommendation is to take advantage of the training of NPs and assess how different MD/DO-NP collaborative models of healthcare delivery work best across different states and are amenable to replication. It is important to acknowledge and recognize that NPs are not physician replacements, nor are they physician equivalents and thus must be utilized within the context of collaborative patient care. In fact, a study

in 1998 demonstrated that patients in Rural Health Clinics preferred NPs to work in collaboration with MD/DOs (Baldwin et al., 1998). Nonetheless, nurse practitioners bring a unique and diverse perspective to patient care and must be fully utilized for better patient care. As stated in the literature review, nurse practitioners in 2008 have already had individual practice rights with no physician supervision in 14 states (IOM, 2010). However, NPs must stay true to the original foundation of the development of the NP program and work with physicians in a collaborative care environment. Thus, even if NPs work in fully independent, private practice settings, it should be required that NPs always have access to a primary care physician for collaboration or referrals if necessary.

Finally, the sixth policy recommendation is to create and fund 1-2 years of NP residency training, within a collaborative care team in primary care, before NPs are allowed to practice independently. In the 2010 IOM report, The Future of Nursing: Leading Change, Advancing Health, they also support the funding of NP residency training (IOM, 2010). While clinical nursing experience is necessary to hone the nursing skills of the NP, residency training is important to hone the medical skills of the NP. In fact, a report in 2007 stated that NPs feel "…only somewhat or minimally prepared to practice" medicine after graduating from a NP program (G. Martin, 2010). Thus, a NP residency in a primary care, collaborative care team would help increase the skills needed to effectively diagnose and treat within the nursing paradigm, and would allow NPs to become more prepared for independent practice. In addition, NPs working alongside MD/DOs would allow physicians to become more familiar and comfortable with the skills of NPs and thus have the added benefit of possibly having increased physician support.

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