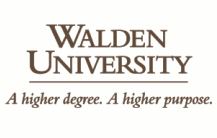

2017

Mandated Continuing Education and the Competency of Illinois Physical Therapists

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This is to certify that the doctoral dissertation by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
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Abstract

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MPA, Walden University, 2012

MA, University of Illinois, 1998

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Continuing education (CE) mandate laws are passed by states because it is in the public interest. The intent behind the passage of Illinois's CE law for physical therapists is to protect public health and safety through ensuring the competency of providers. However, studies into the impact of mandated CE on competency have been mixed. The problem addressed by this study was whether Illinois's CE law was effective in improving the competency of physical therapists and its impact on patient care. The purpose of this study was to understand what role mandated CE played in developing the competency of physical therapists in Illinois and whether mandated CE was the best method for the state to use to address provider competency. The main research question and sub questions focused on examining what role mandated CE played in improving the professional competency of physical therapists and its impact on patient care. Framework analysis was used to analyze the data that was then placed into themes that had been identified in the literature review. Findings from this study were examined using systems theory and human motivation theory. This study's findings indicate physical therapists believe mandated CE can improve competency and patient satisfaction. Participants indicated when patients get better faster they are more satisfied and when practitioners have advanced skills patient care is improved. The social implications of Illinois's CE law, while not perfect, is positive for both patients and providers, according to Illinois physical therapists. Overall, physical therapists believe that CE improves the competency of the provider, which in turn improves patient care.

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Chapter 1: Introduction to the Study

Background

There is little research to date that has examined the effectiveness of mandated continuing education (CE) on the practice of physical therapy (American Physical Therapy Association [APTA] & Federation of State Boards of Physical Therapy [FSBPT], 2010). CE, also known as continuing medical education, is typically a didactic course-based program taken by healthcare providers post-licensure. CE is one way in which physical therapists and other healthcare providers can stay abreast of the rapid changes in their field of practice (APTA & FSBPT, 2010). Most state licensed professionals are required to participate in CE as a condition of relicensure. Proponents of CE mandates agree that CE is an important mechanism for ensuring provider competency and improving patient care (Citizen Advocacy Center [CAC], 2004; Doherty-Restrepo, Hughes, Del Rossi, & Pitney, 2009; APTA & FSBPT, 2010).

Currently mandated CE is the most frequently used method by states for ensuring or assessing healthcare provider competency. A review of state physical therapy acts and rules has shown that all but five states use mandated CE or continuing competency laws as their primary method for ensuring the competency of physical therapists (see Appendix A). Despite this number, many, including physical therapists themselves, question the use of mandated CE hours as a method of improving provider competency and subsequently its effectiveness in improving patient care.

Methods for Measuring Competency

According to the two-national physical therapy professional organizations, the APTA and the FSBPT (2010), the effectiveness of traditional methods of CE have become questionable. This determination was made because of several scholarly studies into the effectiveness of CE over the years and a 2010 Institute of Medicine of the National Academies (IOM) report, which questioned the efficacy of CE as a method of improving healthcare provider competency. As a result, these two prominent physical therapy organizations created a working group to discuss the methods that could be used to assess and improve provider competency (APTA & FSBPT, 2010).

The result was a working paper that examined the various methods for assessing the competency of physical therapists. The working group examined and compared different methods used to improve provider competency, such as formal didactic classroom or lecture-based model of CE, assessment tools such as comprehensive examinations, provider professional portfolios, provider self-assessment, peer or chart reviews, and the use of a model for ensuring competency that combined these methods (APTA & FSBPT, 2010). However just as the effectiveness of CE as a method of improving provider competency has been questioned due to its limitations, the APTA and FSBPT (2010) working group also found the aforementioned alternative methods to have limitations.

Continuing education. CE is traditionally completed through a formal course-based program post licensure. These programs are often provided at professional conferences; they are classroom-based and consist of lectures or seminars (IOM, 2010).

According to the IOM (2010), these courses often are financed through "pharmaceutical and medical device companies" (p. 4) that could present a conflict of interest. Other limitations to their effectiveness also exist, such as a provider selecting a course based on convenience rather than clinical relevance, as well as the inability of a CE course to assess the knowledge of the provider (APTA & FSBPT, 2010).

Comprehensive exam. According to the APTA and FSBPT (2010), a comprehensive examination or test is often used by regulatory bodies to ensure a minimum level of knowledge has been met for entry into a profession, but it can also be used as a method of assessing competency for license renewal. A comprehensive exam can assess a provider's strengths and weaknesses (APTA & FSBPT, 2010). The effectiveness of a comprehensive exam for use in license renewal can be effective in identifying CE courses that are needed in order to remediate the weaknesses found in the provider (APTA & FSBPT, 2010). Problems found by the APTA and FSBPT are comprehensive exams are neither supported by healthcare professionals nor regulatory boards. Healthcare professionals argue that comprehensive exams fail to assess competency in the provider's clinical setting and the subject matter contained in the exam may not be relevant to the provider's area of practice (APTA & FSBPT, 2010). Regulatory boards have also expressed concerns over procedures for test failure and remediation (APTA & FSBPT, 2010).

Self-assessment and portfolios. Self-assessment and portfolios are a means of assessment and documentation that offer healthcare providers a method for reflecting upon their individual learning needs (APTA & FSBPT, 2010). This method requires

physical therapists to be able to accurately assess their strengths and weaknesses (APTA & FSBPT, 2010). The self-assessment done by the provider is then used to determine their educational or training needs (APTA & FSBPT, 2010). Some of the limitations to this method found by Gunn and Goding (2009) are that many physiotherapists are not comfortable with reflective practice that is necessary for self-assessment. There is concern by both providers and regulators over the ability of physical therapists to self-assess their strengths and weaknesses accurately and provide accurate documentation (APTA & FSBPT, 2010). According to Gunn and Goding, there is also a negative perception of personal portfolios among providers because informal CE activities are often not recorded and the belief exists that the organization does not really care about the provider's portfolio.

Peer or chart review. Peer reviews can also be referred to as a chart review. A peer review includes a review of the practitioner's work through the examination of patient charts (APTA & FSBPT, 2010). According to the APTA and FSBPT (2010), there are administrative concerns over this form of assessment such as the administrative cost of conducting one-on-one reviews and issues associated with interrater reliability if there are several administrators conducting this type of review. Additionally, a review of patient charts is limited to assessing the technical aspect of a provider's competency and does not assess other professional competencies of the provider (APTA & FSBPT, 2010).

Multiple methods. Another method of assessing competency is through the use of multiple methods. As indicated above, several methods, such as comprehensive exams, need to use traditional CE methods in order to be effective (APTA & FSBPT, 2010).

However, the use of multiple methods for assessing provider competency creates additional administrative complexities for regulatory boards (APTA & FSBPT). It is these administrative complexities that deter many regulatory boards from pursuing this option (APTA & FSBPT, 2010).

Professional association support for alternative methods. The APTA and FSBPT (2010) have indicated that the above alternative models for measuring the competency of physical therapists have yet to receive widespread support among state regulatory boards. The primary method used by states to ensure the competency of physical therapists does so through CE mandates, which on its own does not have the effectiveness in assessing the competency of providers (APTA & FSBPT, 2010). Despite the inability of CE to assess the competency of healthcare providers, physical therapists have stated that they believe CE has a positive impact on their clinical abilities through new knowledge acquisition, new and improved skills, and new abilities (Landers, McWhorter, Krum, & Glovinsky, 2005).

Importance of Competency

The competency of physical therapists is important to the health, safety, and wellbeing of the public they serve (Landers et al., 2005). According to the CAC (2004) and Doherty-Restrepo, Hughes, Del Rossi, and Pitney (2009), many medical errors and malpractice suits could be prevented if healthcare providers were committed to improving their professional competency. There is a perception throughout the healthcare community that mandating CE helps to ensure the professional competence of healthcare providers by requiring the completion of a specified number of CE hours for license

renewal (Doherty-Restrepo et al., 2009). Yet the scholarly literature has shown mixed evidence of CEs' effectiveness in improving a healthcare provider's professional competence (Davis & Galbraith, 2009).

According to the FSBPT (2010), this lack of evidence is one of several limitations when using CE as the sole determinant of competency. Other limitations include the fact that the CE courses taken may not fit the developmental or clinical needs of the physical therapist, that many CE courses often fail to conduct pre- and posttest assessments to measure provider knowledge, and that ultimately, the use of mandated CE was never meant to measure an individual's competency (APTA & FSBPT, 2010).

Additionally, Doherty-Restrepo et al. (2009) reiterated the point that examining the effectiveness of a CE program requires the assessment of a provider's competency. Measures of a CE program's effectiveness are often conducted by the CE provider themselves and are usually limited to nothing more than participant satisfaction surveys and occasionally pre- and posttest exams. However peer and audit review, examinations, portfolio reviews, or a combination of models for assessing provider competency are needed to identify whether the knowledge gained through a CE program is being put to use and what impact it has on patient care. According to Doherty-Restrepo et al. the studies that have examined the effectiveness of CE by using multiple methods of assessment have failed to produce compelling evidence as to the effectiveness of CE on provider competence.

Physical Therapists in Illinois

Despite the concerns over the effectiveness of CE, states are still passing CE mandates for the professions they regulate. In 2001, the state of Illinois passed a law that mandated physical therapists in Illinois to "complete 40 hours of continuing education (CE) hours . . . [for license] renewal" (Illinois Physical Therapy Continuing Education Rule, 2004). The CE law was effective for the 2004 license renewal period. This law was an initiative of the Illinois Physical Therapy Association (IPTA) and was based upon the APTA recommendation for standards of practice and code of ethics (APTA, 2009).

Principle number six of the APTA Code of Ethics stated, "Physical therapists shall enhance their expertise through the lifelong acquisition and refinement of knowledge, skills, abilities, and professional behaviors" (APTA, 2012, p. 2). To ensure that licensed physical therapists adhere to this principle, the APTA encouraged their state counterparts to pursue CE laws. According to Schwarz (2010), CE is the primary method that is used by states in order to "promote professional growth and competence" (p. 1) of licensed professionals. The APTA and FSBPT (2010) maintain CE to be the preferred method for ensuring a physical therapist's professional competency due to its widespread usage by state legislatures for licensed professions and its ease of administration by state regulatory boards.

In this study, physical therapists throughout Illinois were interviewed to examine whether mandated CE laws influenced the professional competency of physical therapists and patient care. This study examined how Illinois physical therapists perceive of the effectiveness of Illinois's mandatory CE law. This study also examined how human

motivation impacts a physical therapist's choice of CE and whether the knowledge gained is used in the workplace. Finally, this study examined how CE training and other systems influence a physical therapists competence and patient satisfaction.

According to the literature, a physical therapist's competency is not developed in a vacuum but is influenced by a variety of complex factors within a system (Harrison, 2004; Price, Miller, Rahm, Brace, & Larson, 2010). I used a phenomenological approach for this study because it allowed for the examination of a variety life experiences from the perspective of the study participants (Moustakas, 1994; Price, 2003; Creswell, 2007). Only by studying the complexities associated with the experiences of the study participants can a full picture develop and the impact of CE be understood (Moustakas, 1994; Price, 2003). The findings of this study will not only add to the scholarly literature on CE laws, but they can also be used as a guide by Illinois public officials when reauthorizing the Physical Therapy Practice Act (2001) or making changes to the act's rules and regulations that govern CE.

Problem Statement

The problem this study addressed was the need to examine the effectiveness of the Illinois CE mandate on its effectiveness in improving the competency of physical therapists and its impact on the health and wellbeing of the public they serve. According to the CAC (2004), Doherty-Restrepo et al. (2009), APTA and FSBPT (2010), and IOM (2010), the inadequacy of a healthcare provider's professional skills can result in medical errors, malpractice, and can ultimately jeopardize the health and safety of patients. According to Doherty-Restrepo et al. and the APTA and FSBPT (2010), studies

regarding the ability of CE laws to improve the competency of healthcare professionals are questionable. To date, a majority of the research on the effectiveness of CE has been done in the physician and the nursing professions (Davis & Loofbourrow, 2007; Doherty-Restrepo et al., 2009). There have been fewer studies on the impact of CE as a method of improving the professional competence on the allied professions, such as physical therapy (IOM, 2010).

The purpose of state mandated CE laws are to increase the competency of healthcare professionals and protect the public, according to the APTA and FSBPT (2010). Professional associations such as the APTA seek to encourage the professional development of their members through their *Code of Ethics and Standards of Practice* (APTA, 2012). Yet despite the passage of these laws and the encouragement of statewide professional associations, beliefs about the ability of CE as a method for improving a provider's competence are mixed (Doherty-Restrepo et al., 2009; Schwarz, 2010). The claims of physical therapists that mandatory CE improves provider competency, and subsequently the quality of patient care, is the social need that was addressed by this research (Landers et al., 2005).

Purpose of the Study

The purpose of this phenomenological study was to understand what role mandated CE plays in improving the competency of licensed physical therapists in Illinois and whether mandated CE is the best method for addressing provider competency. Proponents of mandating CE for healthcare providers believe that it improves practitioner competency, improves patient care, and reduces medical errors and

malpractice suits (CAC, 2004; Austin & Graber, 2007; Doherty-Restrepo et al., 2009; Armstrong & Weidner, 2010). Opponents believe that CE does not have the capacity to measure the competency of the practitioner, does not result in the application of knowledge to practice, and is only useful for forcing those practitioners to engage in educational activities that they would not otherwise participate in (Brennan, Fritz, & Hunter, 2006; Vaughn, Rogers, & Freeman, 2006; Cleland, Fritz, Brennan, & Magel, 2009; APTA & FSBPT, 2010). As noted above, studies into the effectiveness of CE as an intervention strategy to improve the competency of practitioners are mixed.

Doherty-Restrepo et al. (2009) purported that effective CE programs should be evaluated based on their effectiveness in offering participants hands on learning opportunities; knowledge assessments before, during, and after the CE program; follow-up assessment of knowledge to practice; and follow-up on its impact on patient care. Nalle, Wyatt, & Myers (2010) also stressed the importance of a needs assessment in order to ensure the relevance of the CE activity on the practitioner. In addition, Davis and Galbraith (2009) identified that utilizing multiple media and instructional techniques was the most effective method of improving practitioner performance through CE.

However, CE defined in Illinois law goes beyond participation in a formal classroom-based CE program. The CE mandate allows CE credit to be given for a variety of activities such as attending a formal CE course, university coursework pertinent to the practice of physical therapy, self-study, teaching a CE course, American Board of Physical Therapy Specialists (ABPTS) clinical specialists certification, APTA approved residency or fellowship, professional research or writing papers or journal articles,

participation in journal clubs, attending IPTA educational meetings, in-service meetings, holding a leadership position with the IPTA, APTA, FSBPT, or physical therapy disciplinary and licensing committee, and working as a clinical instructor (Illinois Physical Therapy Continuing Education Rule, 2004). Currently the State of Illinois requires a physical therapist to certify that they have completed the requisite number of CE hours for license renewal (Illinois Physical Therapy Continuing Education Rule, 2004). Illinois physical therapists must be able to produce documentation of their CE activities upon the request of the department and retain documentation for five years (Illinois Physical Therapy Continuing Education Rule, 2004). As currently designed the Illinois law and rules do not require the assessment of a physical therapist's competency.

This research explored the influence of Illinois's CE law on its effectiveness in improving physical therapist competency and improving patient care. This research also provided insight into a physical therapist's perception of the effectiveness of the Illinois's mandatory CE law. Additionally, it provided an understanding into the motivational impact of a physical therapists selection of CE activities and use of its knowledge in the workplace. Finally, this research examined CE training and other systems at work that have a direct bearing on a physical therapists' competence and patient satisfaction. This qualitative study utilized a phenomenological research design to examine the development of physical therapists' professional competency in detail from the experiences and perspectives of the physical therapists themselves. The goal of this study was to identify whether Illinois's CE law was fulfilling its intended purpose of improving

physical therapist competency and improving patient care from the perspective of physical therapists.

Nature of the Study

This study employed a phenomenological research study design. Qualitative methods are often used in public policy research in order to understand complex social phenomena (Yin, 2009). According to Creswell (2007) "a phenomenological study describes the meaning for several individuals of their lived experiences of a concept or phenomenon (p. 57)." This study examined the common experiences of Illinois physical therapists regarding their perceptions of Illinois's CE law, their CE activities, and their competency as healthcare providers.

Participants for this study were recruited through e-mail, direct mail, and publication in the IPTA's electronic newsletter. A mailing list of licensed physical therapists was purchased from the Illinois Department of Financial and Professional Regulation (IDFPR) and contained the names of over 11,000 licensed physical therapists in Illinois. IDFPR is the state regulatory agency that licenses physical therapists in Illinois. The IPTA was another point of contact because many physical therapists are members of their national or state professional organization for the purpose of keeping up with industry information, networking, and searching for jobs (IPTA, 2012). However out of the 11,502 licensed physical therapists in Illinois (IDFPR, 2013), only 2,655 are members of the APTA and IPTA (APTA, 2013).

This study employed a purposive sampling to recruit participants that were both members and nonmembers of the APTA and IPTA. A phenomenological research design

was selected in order to examine the common experiences of Illinois physical therapists regarding their perception of Illinois's CE law, their CE activities, and their competency as healthcare providers. Chapter 3 will discuss this methodology and participant recruitment in more detail.

Research Questions

RQ: How has mandatory CE influenced the professional competency of physical therapists and patient care in Illinois?

Sub questions

SQ1: How do Illinois physical therapists perceive the effectiveness of the states' CE law?

SQ2: How does human motivation impact the choice of CE coursework and use of CE knowledge in the workplace?

SQ3: How does CE training and other systems influence a physical therapist's competence and patient satisfaction?

Conceptual Framework

The conceptual framework of human motivation and systems theory was the theoretical guide used in this study. Physical therapists experience barriers and motivators from a variety of factors (Joyce & Cowman, 2007; Gunn & Goding, 2009). These barriers and motivating factors can impact both the type of CE activity that a physical therapist engages in and whether or not the skills learned in the CE course are transferred into the workplace (Joyce & Cowman, 2007; Gunn & Goding, 2009). According to Hegney, Tuckett, Parker, and Robert (2010) in their study on nurses' motivation for

participating in CE, a nurse's perception of the importance of the CE activity and the nurse's internal motivation affected participation in the activity. Barriers such as cost, time, geography, and organizational staffing and support were also factors that impacted a nurse's motivation (Hegney, Tuckett, Parker, & Robert, 2010).

I used human motivation theory to examine the motivation behind a physical therapist's selection of a specific CE course and whether or not the knowledge gained would be used in the workplace. Systems theory allowed the examination of the complex relationships between the various systems at work. All of these theoretical frameworks helped to identify the factors or barriers that lead to provider competency and ultimately improved patient care. These frameworks were used to examine the effectiveness of Illinois's CE law for physical therapists.

Systems theory was used in order to help understand the interrelationships between people and organizations (Senge, 2006). This framework helped to identify the problem by allowing me to take a holistic view of a social phenomenon and the dynamic interactions that take place between systems (Senge, 2006; Bordage, 2009). Harrison (2004) discussed the importance of systems theory as a foundation for examining the relationship between individuals and the organizations they work in. This includes the relationships between the physical therapist, healthcare organization, CE provider, the regulatory organizations, state lawmakers, professional associations, and patients.

According to Lang, Wyer, and Haynes (2007) the effectiveness in implementing knowledge into practice is influenced by a variety of systems. As adult learners, physical therapists are self-directed and motivated internally, focused on their professional needs,

and use their experiences as a frame of reference in their learning (Doherty-Restrepo et al., 2009). The healthcare organization works to provide cost effective quality services to their patients while recruiting and retaining qualified healthcare practitioners. CE providers have to identify pertinent educational topics, instructional methods that will be used, and the cost of providing the service (Harrison, 2004). The intent of professional licensing boards is to protect patients by ensuring licensees meet and maintain a specific level of competency (Illinois Physical Therapy Act, 2001). As such, licensing boards face a variety of challenges, such as what activities constitute CE, defining hours for CE activities, and defining criteria for the approval of CE sponsors and programs (Illinois Physical Therapy Act Continuing Education Rule, 2004). Overall, patients expect to receive quality care by competent healthcare professionals. These systems are all interrelated and have similar and competing needs, which creates "dynamic complexity" (Kim & Senge, 1994, p. 277).

Operational Definitions

Chart audit or chart review: A method used by healthcare practitioners to assess professional competence (APTA & FSBPT, 2010). It is also known as a chart review and is similar to a peer review, except that patient charts are reviewed in order to assess a healthcare practitioner's competency.

Competence: "The application of knowledge, skills, and behaviors required to function effectively, safely, ethically, and legally within the context of the individual's role and environment" (APTA & FSBPT, 2010, p. 5).

Continuing competence: "A lifelong process of maintaining and documenting competence through ongoing self-assessment, development, and implementation of a personal learning plan, and subsequent reassessment" (APTA & FSBPT, 2010, p. 5). According to the APTA (2009), continuing competence is a minimal standard for practice.

CE or continuing medical education: One method used by healthcare professionals and state licensing boards to ensure continual lifelong learning and professional development (IOM, 2010). As an example, CE can be course-based self-study via the Internet, classroom lecture, or reading professional journals to name a few (APTA & FSBPT, 2010). Many state licensing boards use the terms CE and continuing competency interchangeably (see Appendix A).

CE hours: The amount of time awarded for participating in CE activities. For example, one CE hour is equal to 50 minutes (Illinois Physical Therapy Act Continuing Education Rule, 2004). The number of CE hours varies from state to state (see Appendix A).

Continuing professional development and continuing professional education: Terms often used interchangeably and associated with knowledge and skills (Hegney et al., 2010); see professional development.

Effectiveness: The ability of the CE law to improve the competency of physical therapists through its effectiveness in advancing knowledge transfer or knowledge to practice, subsequently reducing medical errors and improving patient care.

Evidence-based decision-making: "Patients should receive care based on the best available scientific knowledge. Care should not vary illogically from clinician to clinician or from place to place" (U.S. Department of Health and Human Services, 2002, p. 169).

Examination: A common method used by state healthcare licensing boards to ensure professional competence of entry-level practitioners (IOM, 2010; APTA & FSBPT, 2010). It is also a method that can be used as a measure of competency for license renewal (APTA & FSBPT, 2010).

Illinois Compiled Statutes (*ILCS)*: 225 ILCS 90 contains the mandate that requires Illinois physical therapists complete 40 hours of CE hours in order to renew their license.

Lifelong learning: "Systematic maintenance and improvement of knowledge, skills, and abilities through one's professional career or working life. Lifelong learning is the ongoing process by which the quality and relevance of professional services are maintained" (APTA, 2009, p. 2).

Need assessment: A method used to determine the type of CE activities that a physical therapist should engage in. A need assessment can be a self-assessment conducted by the physical therapist or could be identified by the physical therapist's employer during an annual review (APTA & FSBPT, 2010).

Physiotherapist: A physiotherapist is the same as a physical therapist (APTA, 2009).

Peer review: A method that can be used for assessing the professional competency of healthcare practitioners (APTA & FSBPT, 2010). Peer review consists of

a review of practitioners' work by a committee of their peers. This can include chart reviews (APTA & FSBPT, 2010).

Portfolio or electronic portfolio: A method used to determine professional competency (Jordan, Thomas, Evans, & Green, 2008; APTA & FSBPT, 2010). Portfolios include a variety of information that attests to a practitioner's knowledge, skills, and abilities. They can also include a practitioner's self-assessment of their strengths and weaknesses, as well as plans that address their individual learning needs (APTA & FSBPT, 2010). Portfolios can be paper based or electronic (APTA & FSBPT, 2010).

Professional development: "Ongoing self-assessment, acquisition, and application of knowledge, skills, and abilities that meet or exceed contemporary performance standards described by continuing competence . . . commensurate with an individual's role . . . and responsibilities" (APTA, 2009, p. 2).

Simulation: A method that can be used to evaluate a healthcare practitioner's competency (APTA & FSBPT, 2010). It is "an artificially created situation designed to resemble an actual event that requires the practitioner to make critical decisions while demonstrating discipline-specific competencies" (Decker, Utterback, Thomas, Mitchell, & Sportsman, 2011).

Self-assessment: Is a reflective process completed by a physical therapist in order to identify professional strengths and weaknesses (APTA & FSBPT, 2010). This reflective practice helps the physical therapist determine personal learning needs (APTA & FSBPT, 2010).

Systems theory: An overarching framework that is used to describe the complex relationships between systems (Harrison, 2004).

Testing or comprehensive exam: A method that can be used to evaluate a healthcare practitioner's competency (APTA & FSBPT, 2010). It is often used by regulatory entities to assess minimum qualifications for entry into a profession (APTA & FSBPT, 2010). CE courses are often used in conjunction with exams (APTA & FSBPT, 2010).

Assumptions

It is assumed that the participants in this study were open and honest in their responses regarding their experiences with Illinois's CE law and other factors related to CE and competency development. The assumption was made that being a participant in the study did not influence the responses of the participant in any way. The final assumption was that the topic of this study would generate enough interest in the physical therapy population and would therefore draw the interest of enough participants. The participants in this study were physical therapists, licensed and practicing in Illinois, who had gone through at least one relicensure cycle.

Limitations

As mentioned above, it was assumed that the topic of the mandatory CE law and its impact on provider competency would be of sufficient interest to attract participants to this study. That was not the case and it took a significant number of time and changes in recruitment strategy to draw enough participants to this study. This study required participants to draw information based on their CE experiences since their initial

licensure, which might have resulted in inaccuracies. Other limitations in this study were due to the inability to measure the outcomes of CE. Not only was there an inability to measure the impact of CE on the participant, but there was also no way to measure the outcome of CEs impact on patients according to study participants.

Scope and Delimitations

The focus of this study is on a phenomenon: how licensed physical therapists perceive the development of competency. This study is based on the perception and experiences of physical therapists in Illinois and how the CE law influences their competency and patient satisfaction. This study did not take into consideration CE laws in other states, or CE laws for other healthcare professionals. According to Trochim and Donnelly (2008), qualitative research allows a phenomenon to be studied "well enough to be able to form some initial theories, hypothesis, or hunches about how it works . . . [and] enables us to get at the rich complexity of the phenomenon" (p. 143). Price (2003) proposed the use of a phenomenological research design when examining how a complex social phenomenon is understood by a group of individuals. According to Moustakas (1994) phenomenological research is important when the research being conducted focuses on the rich description of the human experience, unlike quantitative research that fails in its effectiveness in examining an individual's experiences and the meanings they ascribe to those experiences.

While this study is specific to Illinois physical therapists, the literature reviewed the effectiveness of mandatory and voluntary CE in other healthcare disciplines, such as physicians, nursing, and athletic training, as well as physical therapy. Although Illinois

passed mandatory CE in 2001, the law was not effective until the professions 2004 license renewal. Prior to passage of this law CE was voluntary for physical therapists in Illinois. Since this law is still relatively new, as compared to some of the other healthcare professions that have had mandatory CE for longer periods of time, it was important to identify scholarly studies on CE as it related to improving the competency of healthcare providers in general. Identifying methods used in other studies that examined practitioner competency through CE and other means of assessing competency laid the groundwork for this study, and subsequently advances social change through the study's findings.

Significance of Study

The CAC (2004), APTA (2009), FSBPT (2010), IOM (2010), and scholarly research have pointed to a need for assessing the competence of healthcare professionals, such as physical therapists. According to the APTA and the FSBPT, CE alone is not enough to determine the competency of a physical therapist (APTA & FSBPT, 2010). Yet despite this determination, states continue to pass legislation mandating CE for physical therapists, as well as other healthcare practitioners (APTA & FSBPT, 2010). The rational for this is that CE is easy for states to administer (APTA & FSBPT, 2010).

Ensuring the competence of physical therapists is important to the citizens of Illinois. According to the CAC (2004), APTA and FSBPT (2010), and IOM (2010), improving the competency of healthcare providers results in a reduction of medical errors and consequently improves patient care. Evaluating the effectiveness of Illinois's 2001 state law on mandatory CE for physical therapists and how it relates to physical therapist competence and improving patient care was the important social issue this study was

designed to address. Additionally, the findings of this study will be shared with the IPTA and other stakeholders in order to aid in the discussion and understanding of the development of competency. The study's findings can also be used in order to direct changes that may need to be made to the CE law or administrative rules to improve the law's effectiveness and protect the citizens of Illinois who utilize physical therapy services.

Implications for Social Change

The intent surrounding the passage of CE mandates by state governments are that it improves the competency of the healthcare provider and consequently improves patient care (IOM, 2010). Studies have pointed out that healthcare providers believe that their knowledge increases as a result of CE activities (Landers et al., 2005). However studies into CE's effectiveness in increasing provider competency and improving patient care is mixed (Vaughn et al., 2006). According to Mazmanian, Davis, and Galbraith (2009) and Skees (2010) organizational support is an important factor in a healthcare providers decision to use new knowledge derived from CE activities.

A review of the literature has indicated healthcare provider competency is developed from complex systems, each with its own agenda (Harrison, 2004; Price et al., 2010). Time, organization, patient, and provider barriers in these systems impact the competency of the healthcare provider and also impact patient care. Understanding the complex interworking's of these systems from the perspective of physical therapists can help key decision makers understand how physical therapist competency is developed and determine if changes need to be made to existing laws and regulations in order to

improve patient care in the state of Illinois. Additionally, this study can add to the continuing discussion on healthcare provider competency among various stakeholder groups.

Summary

The purpose of this phenomenological study was to understand what role mandated CE plays in improving the competency of licensed physical therapists in Illinois and whether mandated CE is the best method for addressing provider competency. Examining this law from the experiences of the individuals impacted provided a means for assessing the laws effectiveness and addresses the need for competent and knowledgeable healthcare professionals. This study is viewed from the perspective of human motivation theory and systems theory. Human motivation was used to examine what motivates physical therapists to select a specific CE course and whether the knowledge from the course gets used in their practice. Systems theory was used in order to examine the relationships between the various healthcare systems and the relationship of these systems on CEs effectiveness in improving a provider's competency and subsequently patient care. Additionally, the findings of this study can be used to improve this law and can add to the discussion on CE as a method for improving healthcare provider competency and patient care.

Chapter 2 of this study examines the healthcare literature related to CE and competency. Specifically, Chapter 2 discusses the history of physical therapy CE in Illinois, mechanisms for the delivery of CE, methods for examining provider competency, barriers to the effectiveness of CE, and the impact of human motivation and

systems theory on the effectiveness of CE. This chapter concludes with a discussion of the research methods that have been used to examine and evaluate CEs impact on provider competency.

Chapter 3 discusses the methodology used in this study in more detail. This chapter outlines the research questions under investigation, discusses the rational for the study design, the selection criteria used for recruiting the study participants, and how the data was collected and analyzed. Chapter 3 concludes with a discussion regarding the methods used to enhance the validity of the study, the feasibility and appropriateness of the study, and the ethical considerations involved in conducting this study.

Chapter 4 discusses how the data was analyzed and summarizes the results of the study. This chapter discusses how framework analysis was used for analyzing the data collected from the participant interviews. The data was then placed into the themes, which were previously identified in the literature review, in Chapter 2.

The final chapter, Chapter 5, discussed the finding that resulted from this study. This chapter also presented the study's conclusions, discussed the study's social change implications, the limitations found in the study, and made recommendation for future studies.

Chapter 2: Literature Review

Introduction

When a healthcare provider is licensed by the state, a patient assumes that the provider is competent to practice (CAC, 2004, p. i). In order to make sure that healthcare providers stay abreast of the changes in their field of practice, many states have moved towards mandating CE. This is exactly what happened in Illinois in 2001 with the passage of a CE law for physical therapists.

The purpose of this phenomenological study was to understand what role mandated CE plays in improving the competency of licensed physical therapists in Illinois and whether mandated CE is the best method for addressing provider competency. In order to examine this issue in further detail, I conducted a literature review. The literature review examined scholarly articles and industry group reports conducted over the past five years related to CE and improving the competency of healthcare providers. The articles covered a number of different healthcare disciplines such as physicians, nurses, athletic trainers, and physical therapists. The studies also used a variety of different methodologies.

Many common themes emerged throughout the literature review process. These themes identified mechanisms for the delivery of CE, methods for examining provider competency, and the barriers impacting the use of CE knowledge in the clinical setting. CE has a long history, beginning with the nursing profession back to Florence Nightingale and in later years with medical education (IOM, 2010).

Prior to legislative mandates, CE was encouraged in the medical community in order for healthcare professionals to be able to keep up with advances in knowledge and new technologies (IOM, 2010). The regulation of CE was due to the desire to ensure the quality of CE programs and their providers (IOM, 2010). According to the IOM (2010), the number of hours and types of CE required of providers vary from state to state. This is evident not only in the medical profession, but in the field of physical therapy as well (see Appendix A).

A review of state physical therapy acts and rules shows that all but five states in the United States have enacted some type of CE law (see Appendix A). The renewal period for these CE laws is based upon each individual state's license renewal requirements. Relicensure is often completed every two-years and requires that 20 to 40 CE hours be completed (see Appendix A). As identified in the literature review, states allow licensees to complete a number of different types of CE activities to meet the requirements of relicensure (see Appendix A). The type of CE activity and number of hours allowed in each CE category varies from state to state. While the literature identified different types of CE delivery options, the literature does not identify how many CE hours are needed to show an improvement in healthcare provider competency. Nor does the literature identify the type or mix of CE activities that lead to improvements in provider competency.

Strategy Used for Searching Databases

In order to identify the relevant literature to review for this study, the following research databases in the Walden University library were used: CINAHL & MEDLINE

simultaneous search, Academic Search Complete, Cochrane database of Systematic Reviews, and the Dissertation and Theses Database, to name a few. In addition to the Walden University library database, key word searches were conducted in Google Scholar. The relevant articles found in Google Scholar were pulled from the Walden University library. The key words used in the searches were: *continuing education, physical therapists, competency, simulation, chart audits, peer review, practice act violations, professional development,* and *continuing education motivation*. These searches resulted in relevant studies throughout multiple disciplines.

In addition to searching the above databases, I also conducted a review of state physical therapy laws and rules. This review identified the number of states that had adopted CE laws, the number of years for relicensure, the number of CE hours required for relicensure, and the types of CE activities allowed (see Appendix A). This review was conducted in order to identify state use of mandated CE in the field of physical therapy, as well as the hours and type of activities used.

Additionally, a review of disciplinary actions against physical therapists in Illinois was also conducted. The IDFPR (2013) publishes monthly reports that identify disciplinary action taken against individuals who violate their profession's practice act. In order to determine the types and number of violations that typically occur among physical therapists, I reviewed IDFPR disciplinary reports dated January 1, 2001 to June, 2013 (see Appendix B). These reports show that on average 3.5 practice act violations occurred per year (see Appendix B) out of approximately 10,912 licensed physical therapists in Illinois (IDFPR, 2013). A review of these websites and the archival

documents were important to help identify the laws and rules associated with the physical therapy profession and potential issues associated with competency.

Structure of Review

Chapter 2 covers the following topics in relation to the CE of healthcare professionals: laws and regulations, types of learning activities, effectiveness of learning activities, the organizational culture that affects CE's effectiveness, and the motivating forces behind engaging in CE courses. I also discuss the importance of healthcare provider competency and the history of Illinois's passage of mandated CE for physical therapists. Both formal and informal CE activities are covered such as classroom and web-based courses, professional conferences, research and publication activities, employer training programs, and mentoring opportunities. Furthermore, I discuss the outcome of these activities such as knowledge to practice or knowledge transfer, improved practitioner competency, and improved patient care. Finally, I discuss CE from the theoretic perspective of human motivation theory and systems theory.

Importance of Healthcare Provider Competency

States license a variety of professional occupations from realtors to doctors. States choose to license specific professions because the licensure of the profession "is in the public interest" (Swankin, LeBuhn, & Morrison, 2006, p. 35). As such, states' license healthcare workers in order to protect the public's health, safety, and welfare (Illinois Physical Therapy Act, 2001). State licensure "demonstrate[s] that the public's trust is well guarded by competent providers" (APTA & FSBPT, 2010). In order to ensure that healthcare providers are keeping up with the knowledge and skills related to their

profession, many states require that healthcare providers complete a specific number of CE hours for license renewal (APTA & FSBPT, 2010). State licensing laws set forth the minimum level of competence in order to practice. For example, in order to be licensed as a physical therapist in Illinois, an individual must be 18 years old, have graduated from an approved physical therapy program, and have passed a comprehensive examination (Illinois Physical Therapy Act, 2001). Physical therapy licenses in Illinois are renewed every two years (Illinois Physical Therapy Continuing Education Rule, 2004).

In 2001 the Illinois state legislature passed a law initiated by the IPTA that mandated CE for a physical therapist in order to renew their professional license (Austin & Graber, 2007). House Bill 572 was negotiated with other interested parties prior to its introduction and therefore there was very little floor debate as it went through the legislative process. According to the floor debate in the Illinois Senate, House Bill 572 was designed to require CE for licensed physical therapists; it established the legislative intent behind the proposed law and gave the Illinois Department of Professional Regulation the authority to create rules. The legislative intent behind the passage of CE was to provide that only those "individuals who meet and maintain prescribed standards of competency and conduct may engage in the practice of physical therapy" (Ill. Sen., 2001, p. 30). This law was effective for the 2004 license renewal period and currently requires Illinois physical therapists to complete 40 hours of CE in order to renew their licenses (Illinois Physical Therapy Continuing Education Rule, 2004). CE hours indicate the amount of time an individual engages in an educational activity that helps to increase their professional competency (APTA & FSBPT, 2010).

History of Physical Therapist Continuing Education in Illinois

Over thirty states have implemented CE or continuing competency mandates for physical therapists (Landers, McWhorter, Young, Hickman & Schuerman, 2010). According to Schwarz (2010), CE laws for licensed professionals have been passed by states since the 1970s in order to "promote professional growth and competence" (p. 2). Following the lead of other states, in 2001 Illinois too passed mandatory CE for physical therapists. The passage of this law was intended to ensure that physical therapists were keeping up with the changes in their profession and working towards improving their competency. Illinois's physical therapist CE activities included teaching a CE course, attending a CE course, clinical residency or fellowship, professional research or writing, self-study, journal clubs, district meeting educational programs, and in-service programs (Illinois Physical Therapy Continuing Education Rule, 2004). The purpose of CE activities is to assist in the lifelong learning of the individual (Vaughn et al., 2006; APTA, 2009).

Currently proponents of CE have claimed that CE is necessary in order to increase the knowledge, skills, and abilities of healthcare providers, improve patient outcomes, and reduce issues of malpractice (Landers et al., 2005; Vaughn et al., 2006; Austin & Graber, 2007; Doherty-Restrepo et al., 2009; Nalle, Wyatt, & Myers, 2010). However, opponents argue that there is no evidence that CE improves patient outcomes (Vaughn et al., 2006). Opponents have stated that CE fails to address the issue of provider competency and is solely used to capture those healthcare providers who would otherwise fail to participate in CE activities unless they were forced to do so (Landers et al., 2005;

Vaughn et al., 2006; Neimeyer, Taylor, & Wear, 2009; APTA & FSBPT, 2010; Landers et al., 2010). Neimeyer, Taylor and Wear (2009) have also argued that mandated CE fails to account for other forms of learning that improve a healthcare provider's competency, such as mentoring. Landers, McWhorter, Krum, and Glovinsky (2005) pointed out that there are problems associated with physical therapists whose sole motivation to take CE is because of a state mandate. Motivation of CE because of a mandate resulted in fewer CE hours than physical therapists that were motivated by other factors (Landers et al., 2005).

According to the findings of Landers et al. (2005) and Austin and Graber (2007), physical therapists as a group tend to engage in CE for the benefits of increasing their knowledge, not because they are required to do so. In a survey of physical therapists in states with and without a CE mandate, Landers et al. (2005) found that overall, physical therapists as a group engage in more CE activities than required by law, including those physical therapists in states without mandatory CE.

Austin and Graber's (2007) study found physical therapists perceived that employers' who provided time off and funding for attending CE courses were supportive of their employees participating in CE. According to Landers, McWhorter, Young, Hickman, and Schuerman (2010), regardless of state mandate, a majority of employers do provide physical therapists with some funding for CE activities. Consequently, the more money provided for CE courses by employers resulted in a greater number of CE hours taken by physical therapists (Landers et al., 2010).

As mentioned previously, Illinois's 2001 CE mandate was proposed and passed in response to the belief that CE would improve the competency of physical therapists. Additionally, many physical therapists and their employers tended to support CE activities. Yet despite this support and the perception that CE improves the knowledge of physical therapists and improves patient care, studies into CE's effectiveness in doing this remain mixed (Landers et al., 2005; Vaughn et al., 2006). This uncertainty has led to calls for the repeal of mandatory CE laws in favor of other assessment models for determining competency (Swankin et al., 2006; APTA & FSBPT, 2010).

Mechanisms for Continuing Education

CE is defined in Illinois administrative rules. State CE requirements "include formal or traditional CE courses, post professional academic course work, clinical specialist certification, professional research or writing, journal clubs, district meeting programs, and departmental in-service events" (Austin & Graber, 2007, p. 1025). Despite all of these options for CE, Austin and Graber (2007) identified that the preferred method of CE activities among physical therapists are "seminars and workshops" (p. 1024).

Course-Based Continuing Education

The scholarly literature on CE in healthcare professions is primarily focused on traditional didactic, formal, course-based programs often found in professional conferences, district meeting educational programs, and courses provided by professional CE organizations (Liu, Edwards, & Courtney, 2009). According to a systematic review of literature conducted by Dorherty-Restrepo, Hughes, Del Rossi, and Pitney (2009) the evaluation on the impact of CE programs is often based on participant satisfaction

surveys, exams conducted pre-and post-test to identify the participants knowledge retention, surveys and interviews with program participants to determine their views on how the CE program has changed the way they practice, and patient outcomes. However flaws exist with many of these methods of evaluation (Dorherty-Restrepo et al., 2009).

Participant satisfaction surveys are based on whether or not the CE course met the learning needs of the individual and therefore fail to address issues of competency (Dorherty-Restrepo et al., 2009). Studies that are based on the self-reporting of CE participants tend to show that healthcare providers believe their competency, and subsequently patient care, has improved as a result of their involvement in CE activities. In a study by Landers et al. (2005) physical therapists believed that their abilities as a physical therapist had increased as a result of CE. In a similar study of athletic trainers, Armstrong and Weidner (2010) stated athletic trainers believed that patient care improved as a result of CE activities. Despite the opinion of providers that their knowledge has increased as a result of CE, other studies have shown that participation in CE has no impact on provider practice or patient outcomes (Dorherty-Restrepo, Hughes, Del Rossi, and Pitney, 2009; Mazmanian, Davis, & Galbraith, 2009; Price et al., 2010; Chipchase, Johnston, & Long, 2012).

Dorherty-Restrepo et al. (2009) identified that utilizing pre-and post-tests assists in identifying knowledge retention from attending a CE course. However longer-term retention of knowledge from CE programs are harder to measure (Dorherty-Restrepo et al., 2009). Knowledge to practice is another method for evaluating CE programs. Often surveys requiring the self-reporting of the provider are used, but may be unreliable

because the results are based on the provider's experience and therefore subjective (Trochim & Donnelly, 2008). Additionally, organizational policies that hinder the use of new practices may also influence a provider's effectiveness in utilizing the knowledge obtained from participation in a CE course (Dorherty-Restrepo et al., 2009).

Assessing CE based on patient outcomes is also flawed according to Mazmanian et al. (2009) since there is no uniform model for evaluating the effectiveness of CE on patient outcomes at this time. In the studies that have shown improved patient outcomes multiple learning methods were used, such as hands on practice of the technique being taught combined with continued observation and feedback (Chipchase et al., 2012). Brennan, Fritz, and Hunter (2006) found in their study that patient outcomes were no different among physical therapists who participated in a two-day CE course and those who did not.

However, Brennan et al. (2006) did find that there was an improvement in patient outcomes among those physical therapists that participated in the two-day CE course when it was combined with post-course small group meetings meant to reinforce the treatment (Brennan et al., 2006). In a systematic review of continuing medical education (CME) on physicians, Davis and Galbraith (2009) found continuing medical education could be used to improve physician performance, provided multiple instructional techniques, different types of media, and repeated exposure to the continuing medical education activity was used. A systematic review of the nursing literature on case management by Liu, Edwards, and Courtney (2009) also indicated successful outcomes to CE occurred when multiple instructional strategies were used. These studies suggest

that utilization of multiple learning methods and organizational support aides the provider in knowledge retention.

Web-Based Continuing Education

Web-based CE has been used in order to reach healthcare providers at a geographic disadvantage and in conjunction with classroom-based CE in order to reinforce learning. Maloney et al. (2011) found similar outcomes in their study of web-based CE versus traditional classroom-based CE in the knowledge acquisition of healthcare providers. Palmer, Samson, Triantis, and Mullan (2011) had similar findings in their study on web-based CEs effectiveness in educating healthcare providers. Palmer et al. (2011) utilized a pretest post-test design and incorporated multiple teaching strategies, such as video, graphics, and text, in their web-based CE program to reinforce knowledge retention based on the different learning styles of the participants. The authors found a significant increase in knowledge acquisition among healthcare providers as a result of the CE course (Palmer, Samson, Triatis, and Mullan, 2011).

In another study on web-based CE Shaw, Long, Chopra, and Kerfoot (2011) utilized web-based CE in order to enhance traditional classroom-based CE. They found that using web-based education, spaced out over a several weeks following a classroom based CE course, increased knowledge and changed the clinical behavior of the physician (Shaw, Long, Chopra, & Kerfoot, 2011). However the clinical changes in practice that were identified in this study, were a result of self-reporting by the study participants and were based solely on their perceptions (Shaw et al., 2011).

Participant satisfaction surveys have indicated that those healthcare providers that have participated in web-based CE enjoyed this method of CE delivery due to its ease in access and flexibility (Palmer et al., 2011; Shaw et al., 2011). However, the primary limitation of studies into web-based CE have found that while there are gains in knowledge among healthcare providers, it is not known if there was a change in practice among the providers as a result of the web-based CE course (Maloney et al., 2011, Palmer et al., 2011, Shaw et al., 2011).

Continuing Professional Development

Continued professional development consists of both formal and informal learning opportunities undertaken by healthcare providers over the course of their professional careers in order to keep up to date on changes in their field of practice (Chipchase et al., 2012). Professional development can be formal, as found in course-based CE, or informal such as mentoring. It encompasses many of the different activities related to the continuing competence of healthcare providers (Graham et al., 2006). According to the IOM (2010) continuing professional development offers a broader view that encompasses components of CE, but offers the health professional greater learning opportunities. Swankin, LeBuhn, and Morrison (2006) recommended professional development programs contain periodic employee assessment, and the development and implementation of an employee learning plan in order to ensure employee competency in lieu of CE, in order for them to be successful.

Organizations have long understood the importance of training and development for both the individual and organization (Aguinis & Kraiger, 2009). Training and

development activities have been found to result in improved employee job performance and consequently improved organizational effectiveness (Aguinis & Kraiger, 2009). So that employees make the most out of these training and development activities, Aguinis and Kraiger (2009) recommended organizations perform a needs assessment prior to training to make "sure trainees are ready and motivated for training" (p. 461). Studies into improving the competency of healthcare providers have also indicated the need for periodic assessment in order to determine employee training needs (Swankin et al., 2006).

Methods of Examining Provider Competency

Comprehensive studies conducted by stakeholder groups such as the American Association for Retired Persons (AARP) have also concluded that CE is not enough to guarantee healthcare provider competency (Swankin et al., 2006). These organizations have proposed assessment models to the state regulatory boards in charge of licensing healthcare professionals, which go beyond mandatory CE (Swankin et al., 2006). As found in the previously discussed scholarly literature, many stakeholder group reports call for multiple assessment models to be used to evaluate a provider's competency such as, periodic assessment and the development and implementation of an improvement plan in order to demonstrate competence (Swankin et al., 2006). In 2009 the APTA and the FSBPT began to discuss ways to ensure the competency of physical therapists by examining the various assessment models such as CE, examination, self-assessment, peer or chart review, professional portfolios, and a combination of models (APTA & FSBPT,

2010). Ultimately this report found that each method of assessment, even the combined model, had both benefits and limitations (APTA & FSBPT, 2010).

Ultimately Swankin et al. pointed out that the main problem with assessing the competency of healthcare providers is that there is no single reliable or valid measure for the demonstration of competency. The IOM (2010) argued that CE is flawed because its main focus is on meeting state mandates and is not geared to identify the knowledge gaps of the individual. Due to flaws with traditional CE the IOM has recommended utilizing continuing professional development because it can be tailored to the individual learning needs of the healthcare professional. Ultimately studies conducted by organizations have begun calling for a move away from traditional methods of CE in favor of multiple methods for determining competency (CAC, 2004; Swankin et al., 2006; IOM, 2010; APTA & FSBPT, 2010).

Chart Audits/Peer Review

According to Rase and Tognetti-Stuff (1984) a patient's "medical record is the only document that can be used as a lasting interpretation of the therapist and patient interaction" (p. 1088). Auditing a patient's medical record gives insight into the quality of care being provided and therefore having a reliable auditing tool is important (Rase & Tognetti, 1984). Miller, Nayer, and Eva (2010) conducted a psychometric study of an onsite assessment tool to determine its accuracy in evaluating the competency of physical therapists. The onsite assessment consisted of a peer review (Miller, Nayer, & Eva, 2010). The peer reviewer examined the physical therapists' portfolio, which contained documents related to the physical therapists learning activities and an examination of six

to eight patient charts (Miller et al., 2010). The authors found the peer assessment tool to be reliable in assessing a physical therapist's competency and indicated that a majority of physical therapists were providing competent care (Miller et al., 2010). This finding validates the findings of earlier studies in this area (Mays, 1984; Rase & Tognetti-Stuff, 1984).

Stakeholder studies, by the APTA and FSBPT (2010) have argued that while there are benefits to using peer or chart review for assessing provider competency, there are limitations to this method of assessment. Limitations for using this as the sole regulatory model for determining provider competency include the cost of administration, interrater reliability, and limitations to examining the technical competency of a provider (APTA & FSBPT, 2010).

Simulation

Simulation centers are another method that can be used to assess the competency of healthcare practitioners. Simulations consist of mock medical cases that resemble a real-life scenario and are used to assess the skills of a healthcare provider in specific patient care activities (Decker et al., 2011). The use of simulation centers is found frequently in the nursing literature (Jordan et al., 2008; Decker et al., 2011). A systematic review of the literature by Decker, Utterback, Thomas, Mitchell, & Sportsman (2011) identified both pros and cons to using simulation as a method of determining competency. For example, benefits included the ability to record and critique the simulated event. Problems with this method of assessment also involve cost, time, and predictive validity (Decker et al., 2011).

Testing/Assessment

Testing is used in a variety of ways. Comprehensive exams are a method that can be used by regulatory bodies for relicensure (APTA & FSBPT, 2010). APTA and FSBPT (2010) has pointed out that regulatory bodies use testing as a means of establishing the minimum level of knowledge needed by a professional for licensure. As with other methods of assessment, comprehensive exams also have their limitations. According to the APTA and FSBPT, licensee fear of failure has resulted in strong opposition to this method of assessing competency. Yet despite this opposition there are other questions beyond the fear factor, such as how should licensing boards deal with the failure of a practicing professional (APTA & FSBPT, 2010).

Assessments are another form of testing that can be used to examine an employee's learning needs, and identify specific areas of CE courses that would be beneficial to an individual. Assessments can also be used at the beginning of a CE course to determine how much an individual knows about the subject matter being taught prior to the course. It can also be used at the end of a course to determine how much an individual has learned.

Self-assessments are performed by the physical therapists themselves, and can be used in order to examine an individual's strengths and weaknesses. A self-assessment is commonly used in determining the learning needs of an individual and is a component of continuing professional development and professional portfolios. Self-assessments can also be performed in conjunction with a physical therapist's annual review and can be

used as a way to identify CE courses that would be of benefit to the physical therapist, and or the organization that the physical therapist works for.

Professional Portfolios

Provider portfolios are another means of examining provider competency. Professional portfolios contain a combination of methods starting with a provider's self-assessment of their strengths and weaknesses in order to identify the learning needs of the provider and identify future CE activities (APTA & FSBPT, 2010). Portfolios can use multiple tools to achieve their objective. These professional portfolios contain the providers work history, peer evaluations, CE courses, self-assessment, research and publication, refresher courses, evidence-based CE courses, simulation, and a providers "number of practice hours" (Jordan et al., 2008, p. 88). Like other competency assessment methods limitations also exist to professional portfolios. According to Gunn and Goding (2009) physical therapists are not comfortable with reflective practice. The APTA and FSBPT (2010) cited that this method of assessment requires a significant amount of paperwork and also questions an individual's effectiveness in conducting a self-assessment of their strengths and weaknesses. Additionally, many physical therapists argue that informal continuing development activities are often not recorded and employers do not really care about an individual's professional portfolio (Gunn & Goding, 2009).

Combination

Recommendations made by Swankin et al. (2006) and Jordan, Thomas, Evans, and Green (2008) stated that many state boards of nursing have moved towards

evaluating the competency of nurses using the multiple assessment tools that are usually found in a provider's professional portfolio. These studies have indicated that utilization of multiple assessment models aid in assessing competency. Additionally, the APTA and FSBPT (2010) have also suggested using multiple models for the assessment of healthcare provider competency stating that no one model is the best measure of competency. However, the limitations that apply to each of the individual models above become more complex as multiple models are used (APTA & FSBPT, 2010).

Barriers to Effectiveness

Price et al. (2010) undertook a comprehensive study in order to identify all of the potential barriers that impact the effectiveness of CE programs on provider practice. Price et al. categorized these barriers as: time barriers, organizational barriers, patient barriers, and provider barriers. Straus, Tetroe, Graham (2009) identified similar barriers in knowledge to practice related to the provider, the healthcare organization, and the patients. In a study of physical therapists, Salbach, Jaglal, Korner-Bitensky, Rappolt, and Davis (2007) found that barriers to the evidence-based practice were both provider and organizationally based. Additionally, studies examining reasons that providers do not participate in CE courses have identified many of these same barriers.

Price et al. (2010) pointed out that it is ultimately a change in behavior that results in a change in practice. Therefore, the perception of a barrier can be different depending upon the individual (Price et al., 2010). Teaching healthcare providers methods to overcome these barriers are important in implementing CE knowledge into the practice of healthcare professionals, according to Graham et al. (2006).

Time Barriers

According to Price et al. (2010) time barriers were frequent responses by study participants. Time could refer to the amount of time the provider had with the patient, or time could mean a lack of time the provider had to learn a new skill according to Lang et al. (2007) and Price et al. Studies into the reasons physical therapists do not participate in CE activities were also related to time. Austin and Graber (2007) identified time constraints as a barrier to participation in CE activities due to work and family commitments. Skees (2010) also identified time as a barrier to nurses' participation in CE.

Organizational Barriers

Price et al. (2010) identified seven organizational barriers in implementing new knowledge or skills. Organizational barriers take many forms such as: organizational policies, appropriate equipment, deficient or nonexistent technology resources, cost of treatment if too high or unknown, a lack of information sharing or teamwork in the organization, and access or referrals to specialists are prohibitive (Price et al., 2010). Organizational barriers have been cited in other studies as well.

Barriers identified by Salbach et al. (2007) were a lack of support, in using a specific intervention or technique among peers and their organization. Lang et al. (2007) pointed out that organizational pressures on providers to focus on the "status quo" (p. 359) often occur in an organization due to cost constraints and organizational policies. Austin and Graber (2007) and Skees (2010) also pointed to issues associated with

organizational staffing needs as a barrier to participation in CE courses. Skees indicated organizational policies and resistance to the use of new methods as barriers.

Lang et al. (2007) identified other organizational barriers, such as technology inefficiencies. The authors identified that electronic record keeping is still in the development stages making it difficult to retrieve and incorporate the latest evidence-based treatment information in patient records (Lang et al., 2007).

Patient Barriers

Provider practice changes are not effective if the barrier is due to the patient. According to Price et al. (2010) and Palmer et al. (2011) patient attitudes and cultural beliefs effected the treatment of the patient as well as the patient's adherence to the treatment plan. The complexity of the patient's medical condition also creates barriers (Price et al. 2010).

Provider Barriers

Providers can also create their own barriers to practice (Price et al., 2010). This occurs do to the attitudes and beliefs of the provider, as well as their confidence level (Price et al., 2010). For example, the provider may be uncomfortable using a new skill or the technique if it is not used very often in their area of practice (Lang, Wyer, & Haynes, 2007; Price et al., 2010). Salbach et al. (2007) indicated that providers reported a lack of confidence in their skills when it came to using evidence-based strategies. Munroe, Duffy, and Fisher (2008) and Straus et al. (2009) claimed that the reason for this is the ability to evaluate and appraise the evidence is not being taught to healthcare providers.

However, Lang et al. (2007) pointed to issues of "skepticism and mistrust of clinical research" (p. 359) among providers.

Graham et al. (2006) also found that putting knowledge into practice is dependent upon factors that impact a practitioners learning and knowledge retention. For example Graham et al. stated CE programs should be designed using the best available evidence and should use educational methodologies shown to be effective in transferring knowledge to the participants. Brennan et al. (2006), Lang et al. (2007), Davis and Galbraith (2009), and Chipchase, Johnston, and Long (2012) also found that using multiple instructional techniques lead to increased retention of knowledge.

Providers also find barriers to attending CE courses or participation in professional development activities. Austin and Graber (2007) pointed to barriers such as time, geographic distance, and monetary considerations. As mentioned previously time away from family and work commitments often prohibit physical therapists from participating in CE activities. Additionally, when a physical therapist has to pay out of pocket for their own CE or professional development it creates a financial burden and is disincentive for some providers (Austin & Graber, 2007). Skees (2010) also identified financial considerations and family commitments as barriers to CE.

Knowledge to Practice Barriers

Organizational, individual, patient and time barriers all have an impact to the knowledge to practice continuum according to the scholarly literature. As previously mentioned CE is used in order to increase the knowledge skills and abilities of healthcare providers and subsequently improve the outcome of patients. However not only are

results mixed in CEs effectiveness in improving patient outcomes, but the results are also mixed in the ability of knowledge gained from CE to be put into practice (Straus, Tetroe, & Graham, 2009). This is due to a variety of barriers regarding the participation in CE and professional development activities and barriers in putting knowledge into practice.

Straus et al. (2009) pointed out that changing the behavior of individuals and organizations is a complex process and it is important to examine the whole healthcare organization in order to identify the barriers that inhibit change. Many of these issues are due to the barriers that have been identified above in implementing new knowledge from CE into practice and barriers to participation in CE and professional development activities. It is important to understand these barriers in order to teach providers how to overcome them, to change provider practice, and improve patient care (Graham et al., 2006).

Conceptual Framework

McGregor (1966) and Maslow's (1943) theories on human motivation and Senge's (2006) systems theory were the theoretical frameworks used in this study. As identified in Chapter 1, systems theory is a way to examine the relationship between individuals and the organizations they work in (Harrison, 2004). Throughout the literature, findings on the effectiveness of CE can often be viewed from the prospective of the relationship between the healthcare provider and the organization. This relationship can also be impacted through the factors that motivate the individual both in and outside of the organization.

While mandatory CE is one form of motivation, healthcare providers are also guided by other motivating factors. According to Murphy, Cross, and McGuire (2006) there are both motivators and inhibitors or barriers to a healthcare providers participation in CE. Motivating factors can be both intrinsic and extrinsic. Intrinsic factors consist of self-esteem, self-confidence, and job satisfaction; while extrinsic factors consist of career advancement, pay raises, professional recognition, and licensure requirements (Murphy, Cross, & McGuire, 2006). Additionally, inhibitors or barriers to CE consist of factors such as time, money, location, and a lack of organizational support (Murphy et al., 2006). Both systems theory and theories on human motivation provided the theoretical framework for this study and provided a basis for understanding the factors that influence a healthcare providers participation in CE and effectiveness of mandatory CE in Illinois.

Human Motivation Theory

Abraham Maslow's study into human motivation set forth the premise that an individual's actions are motivated by specific needs within a hierarchy (Maslow, 1943). According to Maslow (1943) there are five basic needs human seek to meet: physiological needs, safety needs, love needs, esteem needs, and the need for self-actualization. According to Maslow these needs do not need to be fully met before an individual moves on to satisfy their next need. Additionally, while most individuals satisfy their needs in the above order, an individual may deviate from this order. Maslow's needs hierarchy is briefly outlined below.

Physiological needs consist of a human's basic need for food, clothing and shelter (Maslow, 1943). Once a human's physiological needs are met then they begin to seek to

address their need for safety. Safety needs are associated with job security, having money in the bank, and insurance to cover the unexpected events in one's life (Maslow, 1943). Once an individual's safety needs are met, they then begin to address their need for love. Love needs can be meet through an individual's relationships with friends, significant others, parents, and their children (Maslow, 1943). Once an individual's love needs are met, they then seek to satisfy their need for self-esteem. Esteem needs consist of the need for self-respect among an individual's friends and peers through reward, recognition, and attention (Maslow, 1943). The final need that individuals seek to meet is that of self-actualization; the ability to rise to one's full potential in life (Maslow, 1943).

Douglas McGregor (1966) built on Maslow's (1943) theory of human motivation by applying it to fit within an organization's ability to harness the potential of their employees. McGregor's work identified two management theories: Theory X and Theory Y. Theory X is the conventional form of management, which sets forth the premise that employees' need an environment dictated by command and control (McGregor, 1966). It is the belief that management must control all aspects of an organization's resources, including its people, through the use of rewards, punishment, and coercion (McGregor, 1966). Theory Y's premise is that management's role in an organization is to create an environment that harnesses the potential of their employees by "creating opportunities, releasing potential, removing obstacles, encouraging growth, providing guidance" (McGregor, 1966, p. 12)

McGregor (1966) uses Maslow's theory to explain why the conventional view of management found in Theory X does not work to motivate employees in a way that

increases the competitiveness of an organization. According to McGregor the employment of an individual automatically fulfills their physiological and safety needs through the collection of a steady paycheck and employee benefits. Once an individual is employed they are often seeking to fulfill their higher-level needs such as love, self-esteem, and self-actualization (McGregor, 1966). In order for organizations to be successful and able to harness the energy of their employees McGregor encourages them to use the management approach espoused in Theory Y, an approach that motivates employees by providing them with opportunities to meet their needs.

Human Motivation and Continuing Education

The healthcare provider as an individual is also a system "interacting with and within multiple systems" (Patton, 2007, p. 38). It is the healthcare providers interactions inside and outside of the healthcare system that influences their behaviors in relation to CE (Patton, 2007). For example, Austin and Graber (2007) pointed out that physical therapists perception regarding organizational support for CE was dependent upon their organization providing financial support for CE activities and assisting physical therapists in identifying CE opportunities. Professional association membership was also shown to be a factor in the number of CE hours that a physical therapist took, suggesting that physical therapists are influenced by their professional association (Landers et al., 2005; Vaughn et al., 2006). Additionally, the CE activities of physical therapists were also influenced by their geographic location, technological skills, time constraints due to work and family obligations, and the availability of relevant CE courses (Austin & Graber, 2007; Maloney, 2011).

The above factors are also tied to the factors, which motivate individuals to pursue CE and to apply their new knowledge in the workplace. The nursing literature has found that a nurse's decision to participate in continuing professional development was dependent upon organizational support (Joyce & Cowman, 2007). Similarly, Gunn and Goding (2009) found that organizational support is necessary in order for continuing professional development to be effective.

However organizational support is just one motivating factor leading to a healthcare professional's decision to engage in CE. Studies into the factors that motivate a healthcare providers decision to pursue CE is focused on the motivating factors that are based on an individual's needs as set forth by Maslow (1943) and the motivating factors within control of the organization as identified by MacGregor (1966).

In their study of healthcare practitioners MacKereth (1989), Joyce and Cowman (2007), and Gunn and Goding (2009) examined the motivating factors that drive healthcare practitioners to pursue continuing professional development. These studies identified the following reasons for participation: promotion or higher salary, personal growth through increased knowledge and improved clinical abilities, better employment, self-confidence, change in specialty, professional recognition, feeling of responsibility, and the desire to be a leader. According to Murphy et al. (2006) CE is one of the most important aspects of continuing professional development because it can be focused on the needs of the individual. However, despite the ability of CEs effectiveness in meeting the needs of the individual, the decision whether or not to participate in continuing

professional development activities was also dependent upon organizational support (Joyce & Cowman, 2007).

While CE benefits both organizations and providers, the training needs are often diametrically different, which in turn creates conflict (Hegney et al., 2010). This can lead to barriers or inhibitors, which impact the motivation of a healthcare providers participation in CE. For example, staffing needs of an organization may prevent time-off for the provider to be able to attend a CE course, the CE course content may not fit in the organizations overall objectives, or the organization may not have the financial means for reimbursing the provider for the cost of attending a CE course (Hegney et al., 2010).

There are also individual factors that act as barriers to CE. Hegney et al. (2010) identified that the mandatory nature of CE may lead a healthcare provider to attend a course due to its low cost or convenience rather than the pertinence of its content. Other factors include the distance of the CE course and the cost to the individual in terms of time and money (Hegney et al., 2010). For example, barriers or inhibitors exist when the CE activity results in time away from the healthcare providers family or results in a financial burden to the healthcare provider. While CE activities are often viewed as the responsibility of the individual, many believe that because CE is mutually beneficial it should be a joint responsibility between the individual and the organization (Skok, 2013).

According to Patton and McMahon (2006) the development of an individual is a dynamic process and all of the various influences inside and outside of the healthcare system influences a healthcare providers competency. Studies that focus on CE as the only method of improving provider competency ignores the other factors involved in the

development of a healthcare professional. Therefore, it is important to use systems theory and theories on human motivation to explore how CE works to improve the competency of physical therapists in Illinois.

As noted previously, improving the competency of healthcare professionals is important to the provider, the organization, and the patient (Murphy et al., 2006; Gunn & Goding, 2009). According to Gunn and Goding (2009) patients benefit through improved patient care, improved relations and communication between the provider and the patient, and cost savings. Organizations benefit through an individual's improved performance in the workplace (Murphy et al., 2006). By improving the competency of their workers, organizations are able to gain a competitive advantage (Skok, 2013) and shield themselves from liability (Murphy et al., 2006). Individuals also benefit from improved competency through career advancement, pay raises, professional recognition, and job satisfaction (Murphy et al., 2006).

Systems Theory

Systems theory is a framework that is used throughout a variety of disciplines (Patton & McMahon, 2006). Systems theory is made up of two principles: systems thinking and learning organizations (Senge, 2006). It provides a conceptual framework that "focuses on how a system receives inputs (resources and information) from the environment, processes them, and produces outputs into the environment" (Harrison, 2004, p. S51). According to Senge (2006) "systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change" (p.74).

Systems Thinking

The creation of learning organizations can only be created through systems thinking, according to Senge (2006). However, understanding systems thinking requires individuals and organizations to shift their thought process from a linear or step-by-step logical thought process, to a circular or nonlinear thought process that is constantly reacting to feedback (Senge, 2006). Senge refers to this as a "feedback loop." Utilization of a "feedback loop" allows individuals and organizations to understand the larger picture and how ones' actions influence others within the whole of the system (Senge, 2006). According to Senge systems thinking requires understanding how structural changes in the organization influences the behavior of the individual and conversely, how an individual's actions in a system influence others within the whole of the system. (Senge, 2006).

Learning Organizations

According to Senge (2006) a learning organization is defined as "an organization that is continually expanding its capacity to create its future" (p. 14). In addition to systems thinking, there are four additional principles associated with learning organizations. These principles are: personal mastery, mental models, shared vision, and team learning (Senge 2006). The principles of systems thinking and learning are dependent upon one another and are important to develop in tandem in order for organizations to reach their highest potential (Senge, 2006).

Personal mastery. Individual learning is the focus of personal mastery (Senge, 2006). The APTA encourages the lifelong learning of individuals in order to gain mastery

in their profession (APTA, 2009). The objective of personal mastery is fostering an individual's love of lifelong learning, both personally and professionally, in order for an individual to reach their full potential (Senge, 2006).

Mental models. Individual perception is the focus of mental models (Senge, 2006). In other words, it is how an individual views the world around them (Senge, 2006). It is the need to suspend our prejudices and biases in order to examine new ideas and to be able to work together in a team environment (Senge, 2006). For example, a lack of support, real or perceived, by other individuals in the organization may impede the use of a new therapy by physical therapists (Salbach et al., 2007).

Shared vision. Leaders need to learn how to take their individual vision of an organization and create a shared vision (Senge, 2006). Being able to create a shared vision, results in the binding of the individuals in an organization together in a common purpose (Senge, 2006). For example, support by the organization can result in the decision to use treatments learned in CE courses (Munroe, Duffy, & Fischer, 2008; Skees, 2010). Ultimately the importance of a shared vision is used to facilitate the loyalty and commitment of an individual, to the organization (Senge, 2006).

Team learning. This principle's focus is on learning to think as a group and create new visions (Senge, 2006). According to Senge (2006) team learning combines personal mastery, mental models, and shared vision. In addition to these disciplines is also the need for teams to develop a common language in order for them to be able to communicate effectively (Senge, 2006). This can occur with organizational support. When physical therapists were encouraged to work in small groups following a CE

course the physical therapists were more likely to understand and then use the therapies they had learned, resulting in improved outcomes and cost savings to the patients they treated (Brennan et al., 2006).

According to Senge (2006) these principles "each has to do with how we think, what we truly want, and how we interact and learn with one another" (p. 11). Effective organizations utilize the principles of systems thinking in order to create organizations that are competitive within the marketplace (Senge, 2006). Tapping individual creativity and productivity, in order to make an organization more effective, can also be found in studies into the motivational factors of humans (McGregor, 1966).

Systems Theory and Continuing Education

The systems theory framework provides a feedback loop that shows how actions taken affect the relationship between the different systems and how these interactions impact the whole system (Graham et al., 2006; Senge, 2006). This is because all systems "are composed of interdependent components in some relationship" (Kast & Rosenzweig, 1972, p. 453). As identified in the CE literature the healthcare system is made up of many separate systems made up of the healthcare provider, the healthcare organization, the regulatory or credentialing bodies, the professional associations, healthcare education and information, and the patients (Swankin et al., 2006; Straus et al., 2009; Price et al., 2010).

According to Price et al. (2010) "health care occurs in complex adaptive systems" (p. 237). Many of the issues impacting the effectiveness of CE in the literature above are directly related to the interrelationship between these systems (Swankin et al., 2006; Straus et al., 2009; Price et al., 2010). The interactions of the many different systems

create complexities in the use of CE as a sole determinant of healthcare provider competency (Swankin et al., 2006). Harrison (2004) and Senge (2006) both stated that one of the reasons for this is that "different systems have their own purposes and agendas" (Harrison, 2004, p. S52). For example, Patton and McMahon (2006) pointed out that there are complex systems at work influencing an individual's career development.

Despite the complexities of the healthcare system, Mazmanian et al. (2009) found that CE could be an effective method to improving patient outcomes, provided that the various healthcare systems work together. This can be seen in the literature where there is support by the healthcare organization. Skees (2010) stated that organizational culture is a factor in a nurse's decision to use treatments learned from a CE course. Organizational support for treatments, interventions, and putting knowledge into practice in order to improve patient outcomes is key. Munroe et al. (2008) found that a hospitals' nursing staff utilized evidence-based practice (EBP) once the hospital implemented educational interventions and provided support for evidence-based practice. Conversely Salbach et al. (2007) found evidence-based practice was not being used by physical therapist's due to a lack of organizational support.

Findings by Brennan et al. (2006) also showed the importance of organizational support following a CE course. In their study of physical therapists receiving organizational support through post-course small groups following a CE course, found that the physical therapists were able to improve the patients' condition and decrease the patients' number of visits (Brennan et al., 2006). However, when support is not present in

an organization learning breakdowns begin to occur (Kim & Senge, 1994). These learning breakdowns occur because individual action is not permitted, vague, or based on the wrong conclusion (Kim & Senge, 1994). Learning breakdown in turn prevents organizational learning that is necessary for organizational innovation and effectiveness to occur (Kim & Senge, 1994). Understanding what causes the breakdown in learning can help to facilitate the change needed in the organization (Kim & Senge, 1994).

Research Methods Used in the Literature

The literature reviewed for this study contained qualitative studies, quantitative studies, mixed method studies, literature reviews, and a series of industry publications. The scholarly research surrounding the issue of CE in healthcare professions has used qualitative, quantitative and mixed method approaches equally. There were seven qualitative studies. A majority of the qualitative studies employed a phenomenological methodology. There were eight quantitative studies, which used surveys and questionnaires. There were seven mixed method studies. Almost all of the mixed method studies used surveys and questionnaires that provided for write-in responses. The write-in responses not only allowed the participants to provide additional information, it allowed them to further describe their personal experiences with CE. In deciding which methodology should be used in a research study, Yin (2009) pointed out that the question under investigation ultimately determined the methodology selected.

Qualitative Methodology

In the qualitative research method, four of the studies examined employed a phenomenological methodology. The phenomenological studies contained anywhere

from six to 12 participants. Burhans and Alligood's (2010) study to define the quality of nursing care used 12 nurses in acute care hospitals throughout the United States. Wainwright, Shepard, Harman, & Stephens (2010) in their study examining the clinical decision making of physical therapists, used three participant pairs that contained both an experienced and novice physical therapist. Gunn and Goding (2009) utilized 11 physical therapists from two facilities in their study concerning the continuing professional development of physical therapists. Perry (2008) utilized eight nurses, who identified themselves as being satisfied in their careers, in their study that examined the factors that contributed to the career satisfaction of nurses. Data collection in all four of these studies used semistructured interviews, conducted either by phone or in person, which were recorded and transcribed by the researchers. The credibility and trustworthiness of these studies were determined through member checking and triangulation with other data sources. Additionally, the data analysis conducted by the researchers, in each of these studies, consisted of coding the data and developing the emerging themes. Wainwright et al. (2010) did not specify the type of phenomenological method used in their study, but identified that they used the stage theory of clinical reasoning and Schon's model of reflective practice as the theoretical framework for their study. Gunn and Goding utilized Hycner's five-step approach, while Burhans and Alligood, and Perry used van Manen's hermeneutic approach.

Price et al. (2010) and Austin and Graber (2007) in their studies, which examined the barriers to CE, used qualitative methodologies. Brennan et al. (2006) also used a qualitative methodology in their study examining the impact of CE on patient outcomes.

Price et al. did not specify their number of study participants. Their study utilized narrative comments from healthcare providers, taken from conference evaluations, over a two-year period (Price et al., 2010). Four raters coded the data (Price et al., 2010). Austin and Graber used 23 physical therapists, both clinicians and managers, from six different Illinois hospitals. As with the phenomenological studies, Austin and Graber utilized preplanned open-ended interview questions. Interviews were audio taped and transcribed (Austin & Graber, 2007). The authors also collected data through archival documents, such as formal departmental CE plans, and in-house training flyers and brochures (Austin & Graber, 2007). While Price et al. analyzed their data using interactive coding and used the learning transfer barriers theoretical framework to guide their study. Austin and Graber used a comparative process along with inductive and deductive analysis, using adult learning theory and Senge's (2006) discussion on lifelong learning and organizational success as the theoretical framework to guide them in their study. In order to ensure the trustworthiness and credibility of their data, Austin and Graber used triangulation, peer debriefing, case comparison, and member checking.

All of the studies had limitations of one type or another. Price et al. (2010) in their examination of barriers to CE, failed to address the impact barriers had on a healthcare team. Their study also did not take into consideration the impact of the barriers, when the barriers were known in advance and planned for (Price et al., 2010). Additionally, because the study depended upon the participants voluntarily filling out and submitting a survey, the study may have selection and response bias (Price et al., 2010). The study undertaken by Brennan et al. (2006) was the only study, which sought to measure CE's

impact on patient outcome. However, there were limitations to this study also. According to the authors, selection bias was a possibility in their study because the facilities physical therapists were recruited from might have had participants that were already skilled in the specific therapy under investigation (Brennan et al., 2006). Other limitations such as the physical therapists attitude towards CE, was not measured, nor did the study develop a model to assess patient outcomes (Brennan et al., 2006). Gunn and Goding (2009) also pointed to response bias as a limitation in their study, which examined physical therapist's motivations for participating in CE. The authors pointed out that it was possible that only those physical therapists that were interested in CE responded (Gunn and Goding, 2009). Additionally, the implementation of mandatory CE might have impacted the responses due to a physical therapist being hesitant to report problems (Gunn & Goding, 2009). Since Gunn and Goding's study pertained specifically to a single area of physical therapy the findings were not transferable to other populations. Similarly, Burhans and Alligood's (2010) study is also not generalizable to other populations. This is because their study is limited to the individuals in their study and their personal experiences (Burhans & Alligood, 2010).

Quantitative Methodology

Eight of the studies examined used a quantitative methodology. Each of these studies gathered data with a survey or questionnaire. Out of these studies only two studies used a pretest - posttest design. Almost all of the studies analyzed data using statistical software, such as SPSS or Mplus. Additionally, most of the studies examined suffered from small sample sizes or low response rates.

Rase and Tognetti-Stuff (1984) developed an audit tool in order to ensure that a patient's standard of care was consistent among physical therapists. A total of 30 chart audits were conducted (Rase & Tognetti-Stuff, 1984). The study found that the audit tool developed was effective in measuring patient care (Rase & Tognetti-Stuff, 1984). However, the interrater reliability for completeness of care was ranked higher than for effectiveness of care and was the opposite for intrarater reliability (Rase & Tognetti-Stuff, 1984).

Miller et al. (2010) also conducted a psychometric study that created and evaluated an audit tool to assess the competency of physical therapists. The assessment tool was developed during a two-day workshop made up of eight to 10 physical therapists from a variety of specialty areas (Miller et al., 2010). The collaborative nature used during the development of the assessment tool, was used to address content validity (Miller et al., 2010). The assessment requires a chart review and interview with the physical therapist being assessed (Miller et al., 2010). Prior to administering the assessment, a pilot test was conducted to train the study assessors (Miller et al., 2010). This study was made up of 63 peer assessors and 106 physical therapists (Miller et al., 2010). The results from the assessment found that a majority of physical therapists were competent to practice (Miller et al., 2010). The authors pointed to limitations in their study beyond that of a small sample size, such as selection of the charts to be audited by the assessors were selected by the study participants (Miller et al., 2010). According to Miller et al., this could have led to a response bias known as the Halo effect.

Munroe, Duffy, and Fisher (2008) examined whether or not the attitude and knowledge of evidence-based practice (EBP) among nurses improved when organizational support was provided. Nurses in a rural community hospital were surveyed. The study had a 20 percent response rate (n = 40) (Munroe, Duffy, & Fisher, 2008). The authors used a pretest-posttest design in their study (Munroe et al. 2008). Utilization of a pretest-posttest design allowed the researchers to measure changes in nurses' attitudes and knowledge of EBP after the implementation of organizational supports (Munroe et al. 2008). The reliability of this study was determined through Cronbach's alpha (Munroe et al. 2008).

In a similar study, Aarons, Sommerfeld, and Walrath-Greene (2009) also conducted a study on the adoption and attitudes of EBP among mental health service providers. In their study the authors examined the difference in organizational support of EBP between public and private organizations (Aarons, Sommerfeld, & Walrath-Greene, 2009). Like Munroe et al. (2008) study, this study also found that the adoption and perception of use of evidence-based practice was impacted by the support of the organization (Aarons et al., 2009). This study also had a low response rate (n = 170) (Aarons et al. 2009). The authors used path analysis in analyzing their data and organizational theory and the theory of innovation as their theoretic framework (Aarons et al., 2009).

Patterson, Wolf, Maguin, Dulmus, and Nisbet (2013) conducted another study on EBP. Like the previous two studies, this study also had a small sample size (n = 66) (Patterson, Wolf, Maguin, Dulmus, & Nisbet, 2013). The authors used multivariate

analysis when analyzing their data (Patterson et al., 2013). Despite the limitations of this study, due to its small sample size and its focus on a single organization, the study sheds light on how worker demographics, experiences, and organizational characteristics can impact the acceptance and implementation of EBP in an organization (Patterson et al., 2013).

Willette, Johnson, and Jones (2011) conducted a study to examine the effectiveness of a hybrid CE course on the knowledge and practice of physical therapists. The authors used Kirkpatrick's Four Level Model of Training and Diffusion of Innovation Theory as the theoretical frameworks to guide this study (Willette, Johnson, & Jones, 2011). Data was collected from the study participants prior to the CE course, and then at six weeks, and again at six months after the CE course (Willette et al., 2011). Like many of the other studies examined, this study had a small sample size (n = 36) (Willette et al., 2011). Besides a small sample size of 36 participants other limitations occurred. For example, this study used a blind collection procedure; therefore, pre and posttest results of participants could not be compared (Willette et al., 2011). The findings from this study indicated that the clinical practices of physical therapists changed as a result of the CE course, with a slight decline by the sixth month (Willette et al., 2011). The authors also pointed to barriers faced by participants when attempting to implement EBP from their CE course (Willette et al., 2011).

One of the quantitative studies examined did not focus on medical professionals, but did examine why individuals decided to pursue professional development (Skok, 2013). The author used Senge's Fifth Discipline as the theoretic framework to guide this

study (Skok, 2013). A survey was sent to 184 part-time students, who also worked full-time in a variety of industries (Skok, 2013). One hundred and fifty surveys were returned (Skok, 2013). Again, a small sample size across a variety of industries was one of the limitations found in this study, and therefore the findings cannot be generalized to the workforce as a whole (Skok, 2013). Skok (2013) found that while professional development was shown to enhance an individual's career, many organizations either did not offer professional development or offered limited professional development activities to a specific category of employees. Additionally, Skok found that most organizations prefer coaching or mentoring to formal professional development courses.

One of the earliest studies examining state mandated CE of physical therapists was a quantitative study conducted by Landers et al. (2005). The authors gathered data through the use of a survey sent to a random sample of 3000 physical therapists in different states (Landers et al., 2005). Half of the surveys were sent to physical therapists in states with mandated CE and half of the surveys were sent to physical therapists in states without mandated CE laws (Landers et al., 2005). Like the other qualitative studies examined, one of the limitations found in this study was its low response rate (n = 1,145) (Landers et al., 2005). The authors created the cross-sectional survey, the questions focused on the demographics of the physical therapists, the number of hours of CE they accumulated, and their motivation behind participating in formal CE courses (Landers et al., 2005). A panel of physical therapists reviewed the survey for content validity prior to it being sent (Landers et al., 2005). The authors analyzed the data using chi-square tests, independent sample t-tests, and ordinary least squares regression (Landers, et al., 2005).

The authors found that physical therapists, in states with a CE mandate, complete more hours of formal CE than in states without a CE mandate (Landers et al., 2005). Those physical therapists that belong to a professional organization also completed more hours of CE than those physical therapists that did not belong to a professional organization (Landers et al., 2005). Additionally, the authors found that the reasons physical therapists participated in CE courses was to increase their clinical competency, gain additional certifications, and increase their knowledge (Landers et al., 2005).

Landers et al. (2010) examined employer funding for CE for physical therapists, in states with and without a CE mandate, in order to determine if a greater number of CE hours were taken if there was employer support for CE. Landers et al. (2010) approached this study using the same methodology and procedures used in their 2005 study. As such, this study suffered from the same limitations found in the previous study (Landers et al., 2010). The authors found that a majority of physical therapists received funding for CE activities (Landers et al., 2010). Additionally, those physical therapists who were members of a professional association received more time off and funding for CE (Landers et al., 2010).

As mentioned throughout, common limitations reported in these studies were small sample sizes and low response rates. All of these studies examined aspects of CE, such as motivation and barriers related to participation in CE or professional development courses and uptake and implementation of knowledge. Only one attempted to examine the impact on patient outcomes. Additional limitations found in these studies were related to the self-reporting of respondents. In many of the studies the self-reporting of study

participants indicated a perception among providers that there was a correlation between knowledge gained and improved patient care. However further in depth study of this perception was limited by the quantitative nature of these studies. One way to get around this limitation is by using a mixed method approach.

Mixed Method

The mixed method studies examined used questionnaires and surveys that combined both Likert scale and open and close-ended questions. In most of the studies, statistical software such as SPSS was used in order to analyze the quantitative data and thematic analysis was used to analyze the qualitative data. The qualitative data was then coded and quantified. Many of the limitations found in the mixed methods studies were the same limitations found in the quantitative studies reviewed above. As previously identified, small sample size, low response rate, self-reporting of participants, and the inability to generalize to other populations, were common.

Mackereth (1989) examined student and staff nurses' motivation to engage in CE. The author used a questionnaire made up of normative scale and open-ended questions (Mackereth, 1989). The survey was distributed to both second-year student nurses and staff nurses in three hospitals in London (Mackereth, 1989). Seventy students and 75 staff nurses responded for a combined 81 percent response rate (Mackereth, 1989). The author used Maslow's Theory of Motivation, Hertzberg Hygiene Theory, and adult learning theory as the conceptual framework to ground this study (Mackereth, 1989). The findings identified that staff nurses' ranked salary, working conditions, and job satisfaction as the most important; staff nurses valued CE more than students; CE needs between staff

nurses and students were different; students were more aware of CE opportunities than staff nurses; and when students and staff nurses left nursing it was due to issues such as poor salaries, staffing, and need for personal growth (Mackereth, 1989). Mackereth identified study limitations such as a small sample size and small geographic population.

Murphy et al. (2006) also examined nurses and their motivation for participating in CE. The authors' sample size consisted of 70 nurses participating in the same CE course and therefore a random sample was not used (Murphy et al., 2006). The questionnaire consisted of Likert scale and open and closed ended questions (Murphy et al., 2006). Murphy et al. found that nurses' motivation to participate in CE was to increase their knowledge and skills for promotions. The authors also found that the organization had the capacity to control the barriers nurses faced when participating in CE, such as time off and financial assistance (Murphy et al., 2006). As seen in other studies, a nonrandom sample, small sample size, limited population, and self-reporting of participants was some of the limitations found in this study (Murphy et al., 2006).

Hegney et al. (2010) surveyed members of the Queensland Nurses Union (QNU) in 2004 and 2007 in their exploratory study on the barriers to continuing professional development faced by nurses. The authors' findings mirror those of other studies examined such as; a majority of nurses had access to continuing professional development, yet many employers did not provide financial assistance for continuing professional development courses (Hegney et al., 2010). Additionally, barriers such as cost, time, staffing issues, family commitments, location, and lack of information on available continuing professional development activities were also found (Hegney et al.,

2010). Low response rate and nonresponse bias were two limitations found in this study (Hegney et al., 2010). The authors also cautioned against generalizing the results to other populations (Hegney et al., 2010).

Joyce and Cowman's (2007) study examined reasons why nurses participated in CE. The authors used a descriptive survey research design combined with open and closed-ended questions (Joyce & Cowman, 2007). The data was analyzed using SPSS statistical software and the qualitative data was categorized and quantified (Joyce & Cowman, 2007). Joyce and Cowman received permission to use a survey instrument that had been developed by another author. Joyce and Cowman made changes to the survey based on conversations with the survey author and then tested the content validity of the survey instrument by using a cohort of senior nurses (Joyce & Cowman, 2007). The authors' had 243 surveys returned (Joyce & Cowman, 2007). As seen in the other studies, two of the primary motivations for nurses to participate in CE courses were to obtain a promotion and improve their clinical ability (Joyce & Cowman, 2007).

Nalle et al. (2010) conducted a study of nurses' CE needs, as well as the motivating factors, and the barriers associated with participating in CE. The authors created an online survey using SelectSurvey Software (Nalle et al., 2010). Fifteen stakeholders, involved in CE, established the content validity of the survey (Nalle et al., 2010). Participant recruitment took place through professional nursing associations and organizations employing nurses (Nalle et al., 2010). Over 800 nurses responded to the survey over the four-month period it was accessible (Nalle e al., 2010). The final sample size was 672 (Nalle et al., 2010). As was found in other mixed method studies the

quantitative data was analyzed using SPSS statistical software (Nalle et al., 2010). The study findings are consistent with the other studies examined. Nurses participated in CE for a variety of reasons, such as licensure requirements and career advancement (Nalle et al., 2010). The types of CE most popular among nurses were those that improved their clinical knowledge and skills, related to leadership and management, and were employer or Joint Commission on Accreditation of Healthcare Organizations (JCAHO) mandated (Nalle et al., 2010). The authors also found that the barriers to CE faced by nurses had to do with cost, time, travel, and a lack of relevant programs (Nalle et al., 2010). The authors pointed out that the sample size for this study was low when compared to the overall numbers of nurses throughout the state (Nalle et al., 2010). Additional limitations to this study were that the sample was not random, participants self-reported, and a high number of respondents had advanced degrees and were members of a professional nursing association (Nalle et al., 2010).

An online survey regarding the formal and informal methods of CE for athletic trainers was sent to a random sample of 1000 athletic trainers who were members of their professional association (Armstrong & Weidner, 2010). The purpose of the study by Armstrong and Weidner (2010) was to determine the perceived effects of both formal and informal continuing activities on the knowledge, skills, and abilities of athletic trainers and on patient care. The survey instrument was developed based on CE activities of athletic trainers over a two-year period (Armstrong & Weidner, 2010). Five athletic training educators were used to establish the face and content validity of the survey instrument (Armstrong & Weidner, 2010). Of the 1000 surveys sent to athletic trainers,

427 responded (Armstrong & Weidner, 2010). The authors analyzed the quantitative data using SPSS statistical software and the qualitative data using theme and pattern analysis (Armstrong & Weidner, 2010).

As identified above there are many methods that can be employed in order to study the influence of CE on physical therapist competency and patient care. Each of these methods has benefits and limitations according to Trochim and Donnelly (2008). However, a qualitative approach to this study was selected because of the research problem under investigation. Creswell (2007) stated, "we conduct qualitative research because a problem needs to be explored" (p. 39). According to Trochim and Donnelly qualitative studies is a desirable methodology when the purpose of the study is to understand "how the phenomenon is understood and experienced by the respondents, how it interacts with other issues and factors that affect their lives" (p. 143). The findings of this study show that athletic trainers used a combination of formal and informal CE methods in order to improve their knowledge and practice (Armstrong & Weidner, 2010). Additionally, athletic trainers believed that informal CE activities were more effective in improving their clinical knowledge and subsequently improved patient care (Armstrong & Weidner, 2010). Like other mixed method studies limitations were found such as the self-reporting of athletic trainers and small sample size.

Study Method Selection

After a review of the above studies used in this literature review, a phenomenological design was ultimately selected due to its focus on how individuals construct meaning from their experiences (Price, 2003). According to Price (2003),

phenomenology is “one of the most popular research approaches used by nurses in health care” (p. 24). Finlay (2009) also examined the use of phenomenological research in healthcare studies. This research, pointed out that the aim of phenomenological research was to describe an event in order to shape the meaning that we ascribe to that event (Finlay, 2009). Additionally, this literature review identified that the effectiveness of CE activities were dependent upon a complex array of factors and variables that are not easily controlled.

Gunn and Goding’s (2009) phenomenological study regarding the experiences of physiotherapists in the United Kingdom with continuing professional development is very similar to the study being proposed. Therefore, Gunn and Goding’s study will help guide this proposed study. Additionally, the nursing and healthcare literature provides information on conducting phenomenological studies as well as examples (Price, 2003; Giorgi, 2005; Perry, 2008; Finlay, 2009). These studies and journal articles will also be used as guidance in examining the experiences of physical therapists and their perceptions as to how physical therapist competency and patient care can be improved as a result of CE.

Summary

CE as a sole determinant of the competency of healthcare providers is questionable in its effectiveness in improving patient outcomes (Vaughn et al., 2006). The above literature review has indicated the need for the use of multiple educational techniques in CE courses and multiple methods of assessment for determining provider competency. The reasoning for this is that the healthcare system is connected by many

complex interrelated systems consisting of healthcare providers, patients, healthcare organizations, regulatory bodies, and professional associations. Each of these systems and the motivating factors which drive or inhibit the healthcare provider, influences the effectiveness of CE.

As discussed above, healthcare provider competency is important to improving patient outcomes. To accomplish this the literature has identified the importance of a needs assessment. In order to address the learning needs of the healthcare provider, the provider and/or the organization they work for can conduct an assessment (Swankin et al., 2006; Aguinis & Kraiger, 2009). The learning needs of the provider could also be met through formal or informal activities as purported in the professional development literature.

In instances where formal classroom or web-based CE is used, CE providers should administer an assessment to determine the knowledge of the participants prior to a CE course, while assessments following the course can help determine the participants gain in knowledge. Courses should incorporate different educational strategies in order to reinforce learning (Davis & Galbraith, 2009; Chipchase et al., 2012). Also important is that CE courses be evidence-based (Graham et al., 2006).

Organizational support for providers is another factor important for evidence-based practice to occur (Salbach et al., 2007). Studies showing that CE is an effective method for improving provider competency and patient outcomes also have the support of the healthcare organization (Brennan et al., 2006). The healthcare organization, healthcare provider, and CE providers are all systems interacting with one another. The

healthcare provider themselves are also motivated by a variety of factors. According to MacGregor (1966) individuals seek to meet many of their higher level needs in the workplace. The healthcare organization has the capacity to help employees meet these needs, which in turn impacts their motivation (MacGregor, 1966). Ultimately it is these motivators and various system relationships with one another that impacts provider learning, organizational learning, provider practice, and patient outcomes (Swankin et al., 2006).

While Chapter 1 provided an introduction to this study, Chapter 2 reviewed the relevant literature related to this study and set forth the justification for the proposed study. Next, Chapter 3 will discuss the methodology used to conduct this study in more detail and the rational for the methodology selected.

Chapter 3: Research Method

Introduction

The purpose of this phenomenological study was to understand the experiences of physical therapists and the role that mandated CE played in developing the competency of physical therapists in Illinois and whether mandated CE should be the method used by states to address healthcare provider competency. This research focused on the experiences of physical therapists with CE and how they maintained competency in their profession. This study employed a phenomenological approach in order to examine the complexities associated with the relationships between the various systems that impact the competency of physical therapists. Additionally, this study also examined the factors that motivated physical therapists to pursue CE and the factors that impacted the type of CE they pursue.

This chapter examined the phenomenological research design that was used in this study in more detail. Other details of the study discussed are: participant selection, sample size, the role of the researcher in the study, the procedures employed in the collection of data, the analysis of the data, the procedures used to ensure the quality of the study, the feasibility and appropriateness of the study, and the procedures for participant protection and ethical considerations. Finally, the phenomenological approach was used to address the research questions below.

Research Questions

RQ: How has mandatory CE influenced the professional competency of physical therapists and patient care in Illinois?

Subquestions

SQ1: How do Illinois physical therapists perceive the effectiveness of the states' CE law?

SQ2: How does human motivation impact the choice of CE coursework and use of CE knowledge in the workplace?

SQ3: How do CE training and other systems influence a physical therapist's competence and patient satisfaction?

Research Design and Approach

According to Patton and McMahon (2006) utilizing a qualitative methodology "encourages individuals to tell their own . . . stories" (p. 164) regarding their professional development. In order to understand the impact of CE on the development of competency, it was necessary to understand how the physical therapist, as an individual system, views the role of CE in developing their competency and the impact of other systems that contribute to or hinder competency. As Gunn and Goding (2009) identified, there are many factors at work that can motivate or hinder the effectiveness of CE.

Understanding how competency is developed among physical therapists required an understanding of what motivated physical therapists to participate in CE, what motivated physical therapists to select a specific CE courses, and how the different healthcare systems identified in Chapter 2 interacted with each other. Using the theories on human motivation and systems theory as the theoretical framework was appropriate for this qualitative study because it allowed a narrative approach that let the study participants tell their stories (Patton & McMahon, 2006). It granted the participants an

opportunity to provide detailed explanations and reflect upon their experiences with both informal and formal CE, as well as other experiences that related to their professional competency (Patton & McMahon, 2006; Gunn & Goding, 2009). "The approach aims to gain an in-depth understanding of multiple individual experiences . . . [and] explore a complex area of study" (Gunn & Goding, 2009, p. 210).

A quantitative method could have been used in this study because survey research allows for qualitative judgments (Trochim & Donnelly, 2008). As identified in Chapter 2, many studies into CE have been conducted using survey research. However, survey research does not let the participants provide a detailed description of their experiences and limits investigation into a complex phenomenon within its actual setting (Trochim & Donnelly, 2008; Yin, 2009). According to Moustakas (1994) quantitative studies fail to examine the experiences of a person and the meanings they attach to those experiences.

In addition to survey research, this study could have employed an examination of archival data such as the number of malpractice suits against physical therapists or physical therapist disciplinary data from the IDFPR. However, as identified in Appendix B and in Chapter 1, among the 10,000 physical therapists licensed in Illinois, there are very few practice act violations that occur each year. Additionally, data regarding malpractice suits levied against physical therapists are equally very few in number (U.S. Department of Health & Human Services, 2013). Therefore the use of a quantitative methodology was not appropriate for this study.

For the above reasons a qualitative phenomenological study was selected as the most appropriate methodology for this study. A phenomenological design is used when

the researcher wants to describe the essence of a phenomenon in rich detail from the perspective and experiences of a group of individuals (Creswell, 2007). Utilizing a phenomenological design allowed for the development of themes to emerge and shape an understanding of the impact of CE on the provider, the patient, and the organization from the perspective of the individuals effected (Moustakas, 1994; Finlay, 2009; Gunn & Goding, 2009). "In phenomenology, perception is regarded as the primary source of knowledge" (Moustakas, 1994, p. 53).

The purpose of a phenomenological study is to "explore the lived experiences of others" (Price, 2003, p. 24). This study asked physical therapists to reflect upon their experiences with a variety of CE and professional development activities and identify a number of issues associated with improving their professional competency and its influence on the treatment and outcomes of their patients (Smedley, 2008; Gunn & Goding, 2009). This phenomenological study examined how competency is developed by a group of Illinois physical therapists and describes the influences of mandated CE on the development of competency. It also described how the relationships between the various healthcare systems worked to improve or hinder provider competency.

Participant Selection

According to Moustakas (1994) in a phenomenological study, the "essential criteria [for participant selection] include[s]: . . . experience with the phenomenon, . . . interest in understanding its nature and meanings" (p. 107) and agreement with the research process. Price (2003) pointed to these same characteristics, concurring that study participants should be selected based on their experience with a phenomenon and their

willingness to share their experiences. Many times a researcher already knows who their participants will be because of their ease of access (Yin, 2009).

This study utilized a group of Illinois licensed physical therapists that were currently practicing in Illinois. The study participants were primarily recruited, by mail, from the IDFPR Physical Therapist database. This list was purchased from the department for $93.72. Other sources of recruitment were by e-mail to the board members and district leaders of the IPTA. These e-mail addresses were publicly found on the associations website. Recruitment e-mails were also sent to faculty at universities and colleges with Physical Therapy programs. Again, these e-mails were found publicly on the university and colleges' websites and e-mails to the department heads, requesting permission to send e-mail to the faculty, were requested. Additionally, both mail and e-mail was sent to physical therapists working in physical therapy clinics. Names, e-mail addresses, and clinic addresses were publically available through web searches and clinic websites. Finally, a study recruitment flier (Appendix E) was also placed in the IPTAs online newsletter. This flier was paid placement in the online newsletter as an advertisement.

A purposeful convenient sample was used. A convenience sample was used due to time and cost constraints. However, the sampling was also purposeful and participants were recruited throughout the state of Illinois to attempt to get representations from the different regions throughout Illinois, as well as ensuring that the participants had "firsthand experience with the phenomenon of interest" (Smedley, 2008, p. 187).

The physical therapists taking part in this study were initially not compensated. However, participant recruitment was more difficult than anticipated. After recruiting participants for over a year, only five individuals had agreed to participate in the study out of the eight to 10 proposed. During the reauthorization of this study with the Institutional Review Board (IRB), the IRB suggested providing compensation to study participants might attract the additional three to five participants needed to complete the study. The IRB approved changes to the recruitment material, and the remaining participants received compensation in the form of a $25 Amazon gift card.

Since the study's focus was on the experiences of practicing physical therapists in Illinois, a convenience sample from the above outlined organizations should have been appropriate and generalizable to physical therapists throughout the state. Care was taken to select physical therapists from both urban and rural areas of the state, as studies have shown that there tend to be more geographic barriers for rural healthcare practitioners than urban practitioners (Hegney et al., 2010). Additionally, studies also identified that newly licensed practitioners were more interested in gaining on-the-job experience, while those who had been in the field for a while were more interested in pursuing CE (MacKereth, 1989). Therefore, only physical therapists, who had gone through the 40 hours of mandatory CE necessary for license renewal, were recruited.

As identified in Chapter 2, Landers et al. (2005), in their study on CE among physical therapists in states with and without mandatory CE, found that physical therapists take more hours of formal CE than nonmembers when they belonged to a professional association. However, this should not have significantly impacted this study

because all physical therapists in Illinois are required to complete 40 hours of CE every two years (Illinois Physical Therapy Continuing Education Rule, 2004). Additionally, both IPTA members and nonmembers were recruited for this study.

The Researcher's Role

As a former lobbyist for the IPTA, I put aside all perceptions, biases, and previous knowledge as it related to this study. According to Moustakas (1994) it is important for researchers to set aside any preconceptions, prejudgments, and biases from their previous experience with a phenomenon in order to shed new light and understanding on the phenomenon under investigation. Therefore, my role in this phenomenological study was to treat all participants with respect and utilize an unbiased perspective when interviewing participants (Creswell, 2007; Yin, 2009). I approached this study as if the participants had no prior knowledge of this issue. I used interaction with the study participants to create new layers of meaning about the phenomenon under investigation (Moustakas, 1994). According to Moustakas phenomenology is a reflective process that allows hidden meanings to emerge. Additionally, in order to ensure quality, I developed a study protocol for the purpose of increasing reliability and guiding the data collection and analysis (Yin, 2009). Specific details of the study protocol can be found in Appendix C.

Sample Selection

As indicated earlier a sample that is both purposeful and convenient was used for this study. The participants were all licensed physical therapists in Illinois, and had experience with Illinois's mandatory CE law. Recruitment was conducted through: the IDFPR database, through the IPTA, and other organizations that employ physical

therapists. Recruitment of physical therapists through the IDFPR database was the primary means for recruitment because it listed all 10,000 physical therapists throughout the state of Illinois, only 1/3 of this group are members of the IPTA.

A minimum of eight participants, up to 10, was the number of physical therapists recruited for this study. Creswell (2007) recommended using up to 10 individuals when conducting in-depth interviews. However, as indicated in Chapter 2, Burhans and Alligood (2010) used 12 participants. Smedley's (2008) phenomenological study of nurse preceptors utilized seven participants. Gunn and Goding (2009) used 11 participants for "maximum variation" (p. 210). Wainwright et al. (2010) used three participant pairs. Perry (2008) used eight participants. Price (2003) did not recommend a specific number of participants and suggested interviewing participants until recurring themes developed.

Data Collection Procedures

The primary form of data collection was through in-depth participant interviews as identified below. Participant interviews took place by phone due to: the geographic distance between me and the participants and cost considerations. All of the interviews were done via Skype and were recorded using Callnote with the participants knowledge. All of the audio files were transcribed. While I transcribed a majority of the recordings, a few were transcribed through Scribie.com an audio transcription service. All of the audio files and documents associated with this study are kept electronically. All electronic files are stored on a password-protected computer and backed-up to a secure cloud site. The transcripts were provided to the participants to ensure accuracy and allow for clarification of responses (Moustakas, 1994; Smedley, 2008).

Interviews were focused and a series of open and close-ended questions were used. Conducting a focused interview allowed the interviews to take place in the time constraints of the participants (Yin, 2009). The benefits of open-ended questions are that they allowed the participant to reflect on their experiences and provided insight into the phenomenon under investigation (Moustakas, 1994; Creswell, 2007). In order to add richness and depth of understanding to the study Creswell (2007) suggested utilizing additional data sources as well.

Demographic information was asked of all participants in the study. The demographic information consisted of questions such as age, race, gender, number of years as a physical therapist, educational attainment, APTA and IPTA membership, and specialty practice area. The following questions were originally organized by sub question as identified below. However, the thematic analysis of data indicated that participant responses did not fit neatly into each of the sub questions.

Sub question 1

1. How do you feel about Illinois's mandatory CE law? Please explain.
2. If the state did not implement mandatory CE for physical therapists would you still seek CE hours? More hours or less? Please explain.
3. Do you believe mandatory CE has influenced the performance of physical therapists in the clinical setting? Please explain.
4. Do you believe mandatory CE has improved patient satisfaction and outcomes? Please explain.

5. Do you think the implementation of mandatory CE has encouraged your organization to provide learning and growth opportunities for physical therapists? Please explain.
6. Do you take part in any informal learning opportunities through your employer not related to the states mandatory CE law? Please explain.
7. Do you prefer informal or formal learning opportunities? Please explain.
8. Do you think that Illinois's CE law needs to be changed? Please explain.

Sub question 2

9. Why do you participate in CE? Please explain.
10. What form/type of CE do you take (teaching or taking a course, web based course, specialty certification, clinical residency/fellowship, professional research/writing, self-study, journal club, IPTA program, department in service, Board/committee leadership position, or clinical instructor)? Please explain.
11. What characteristics do you look for when selecting a CE course? Please explain.
12. How has CE benefited you personally? Please explain.
13. Are the CE courses you take pertinent to your area of practice? Please explain.
14. Have you faced any barriers to meeting your CE requirements (examples: cost, time, geographic location, family commitments)? Please explain.

Sub question 3

15. Does your employer provide access to formal CE and/ professional development opportunities? Please explain.
16. Are you currently enrolled in a CE course or special training through your employer? Please explain.
17. What type of CE support does your employer provide (examples: paid the cost of the course, paid leave, meals, hotel, mileage, other)? Please explain.
18. In what ways has your participation in CE benefited your employer? Please explain.
19. In what ways has your participation on CE benefited your patients? Please explain.
20. Do you implement the knowledge from participation in formal CE into your clinical practice? Please explain.
21. Do you implement the knowledge from participation of informal CE into your clinical practice? Please explain.
22. Have you experienced any barriers in implementing knowledge gained from your CE experience into your clinical practice? Please explain.
23. Does your organization support CE? Please explain.
24. Does your organization support using your knowledge from CE in your clinical practice? Please explain.
25. Do you believe that organizational support of knowledge to practice has improved patient outcomes? Please explain.

26. Are there any other additional issues that you would like to cover?

The above participant questions were related to the main research question. Most of the questions were contemplative and asked participants to reflect on the influence of CE on their practice and its outcome on patient care. Interview questions were structured to: identify feelings of physical therapists towards Illinois's CE mandate, determine what motivated physical therapists to take CE, and identify what systems were at work in influencing the effectiveness of CE. These interview questions related back to the themes found in the literature review, such as: CEs influence on provider competency, mechanisms for assessing competency, and the systems and motivators at work, which improve or hinder a healthcare providers competency.

In addition to individual interviews archival documents, such as the IDFPR disciplinary reports for physical therapists, physical therapy websites, and my notes were also reviewed. Creswell (2007) suggested examining multiple types of evidence related to a phenomenon under investigation to aid in its understanding.

Data Analysis and Interpretation

After the data collection phase, the data was analyzed. Framework analysis was one method, which could be used to analyze data in a phenomenological study and could be used when conducting thematic analysis (Gale, Heath, Cameron, Rashid, and Redwood, 2013; Ward, Fuber, Tierney, & Swallow, 2013; Vaismoradi, Turunen; & Bondas, 2013). According to Moustakas (1994) data analysis begins through the horizontalizing of the data. Horizontalizing consists of identifying statements, applying equal value to each, and deriving meaning in order to create themes (Moustakas, 1994).

A deductive approach was utilized in this phenomenological study. The themes and codes used were identified in the literature review conducted in Chapter 2 (Smedley, 2008; Gunn & Goding, 2009; Gale et al., 2013).

Specialty qualitative software program such as MAXqda and NVivo could be used to help code and categorize the data. However, Ward et al. (2013) explained that it was not necessary. Other software such as Microsoft Word or Excel could also be used to organize data, as could low tech methods such as paper and post-it notes (Ward et. al., 2013). The data from this study was summarized using Microsoft Word and categorized using Microsoft Excel.

Evidence of Quality

There are many techniques that can be used to enhancing the validity of a phenomenological study. According to Creswell (2007) validity refers to whether "an idea is well grounded and well supported" (p. 215). In order to enhance internal validity member checking was used (Trochim & Donnelly, 2008). Moustakas (1994) used the term "debriefing" instead of member checking. Through debriefing, study participants have the opportunity to "review and confirm or alter the research data to correspond to his or her perception of the experience" (Moustakas, 1994, p. 110). In this study, after each participant interview took place, the audio recording was transcribed and sent to the participant for their review and clarification. To address the issue of construct validity, using other data sources in addition to interviews and themes found in the literature allowed for the triangulation of data (Creswell, 2007; Yin, 2009). In addition to the aforementioned, this study also examined physical therapy clinic websites.

Study quality can also be enhanced through bracketing. Bracketing is when the researcher sets aside their personal experiences of the phenomenon in order to develop a "fresh perspective" (Creswell, 2007, p. 59). Other forms of quality occurred through the development of protocol to be followed (Appendix C), through the informed consent of the participants, and the ethical conduct of the researcher.

Feasibility and Appropriateness

As indicated earlier, participants were recruited from: the IDFPR database, IPTA, and physical therapy organizations and clinics that employ physical therapists. According to the IDFPR, there are over 10,000 physical therapists licensed in Illinois. The nature of the study required participants to have experience with the phenomenon under investigation. With over 10,000 licensed physical therapists in Illinois, these entities and organizations provided the best sources for recruiting study participants.

Due to time and cost constraints, study participants were interviewed over the phone using Skype, and recorded using Callnote. In order to transcribe the audio file from each interview an online transcription service, Scribie.com and myself were used. Scribie.com has a minimal cost associated with it. Since some of the recordings had an echo in it, it was difficult for the transcription service to transcribe some of the audio files. Due to the quality of the recordings at times, I was the best option for transcribing the audio files.

Informed Consent and Ethical Considerations

The highest standards of ethical conduct were used throughout the course of this study. Prior to any research being conducted, or any changes in recruitment, Walden

University IRB approval was obtained. The IRB approval for this study was 03-04-15-0090097 and it expired on February 4, 2017. The individuals involved in the study were provided with an overview of the study, including the risks and benefits of being a participant. The utmost care was taken to ensure the privacy and confidentiality of the study participants (Moustakas, 1994; Yin, 2009). Participant names are not revealed in the study. Participants are referred to as P1, P2, etc.

Participants will be provided with a copy of the research findings. All of the data acquired, through the course of the study, was secured. Any physical documents were scanned into a jpeg image and then shredded. Audio, jpeg, Word, Excel, and other electronic files were kept on a password-protected computer and were backed-up to Dropbox, which is password-protected cloud storage. Files will be kept for the required retention period and then destroyed.

Summary

Chapter 3 discussed the rational for using a phenomenological design, how participants were recruited, the role that I played in the course of the study, the data collection procedures that were used, how the data was analyzed, how the study ensured quality, the feasibility of the study, and a discussion of the ethical considerations. Chapter 4 discusses the analysis of the data and the results of the study. Finally, Chapter 5 discusses the study findings, conclusions, and offers recommendations for further study.

Chapter 4: Data Analysis & Results

Introduction

This chapter reviews the methodology used to analyze the participant data and examine the results of this phenomenological research study on state mandated CE and the competency of physical therapists in Illinois. The purpose of this phenomenological study was to understand the role mandated CE plays in improving the competency of licensed physical therapists in Illinois and whether mandating CE is the best method for addressing provider competency.

As identified in Chapter 1, CE does not assess the competency of physical therapists on its own. The development of a healthcare providers' competency is the result of complex systems at work (Patton, 2007). Therefore, a phenomenological research methodology was used for this study. Qualitative methodologies such as phenomenology are commonly used in healthcare research (Gale et al., 2013; Vaismoradi et al., 2013). According to Yin (2009) qualitative methodologies are used in order to understand complex phenomena. The use of this research methodology allowed the study participants to reflect upon their experiences with CE. Participants were able to identify how CE impacted their competency as physical therapists, and the role it played in improving the care of their patients.

There were four research questions examined in this study. The main research question asked: How has mandatory CE influenced the professional competency of physical therapists and patient care in Illinois? The following three sub questions were also asked:

SQ1: How do Illinois physical therapists perceive the effectiveness of the states CE law?

SQ2: How does human motivation impact the choice of CE knowledge in the workplace?

SQ3: How do CE training and other systems influence a physical therapist's competence and patient satisfaction?

This chapter begins with a discussion on how framework analysis was used to analyze the data. The data analysis used a deductive approach, organizing the data by the themes identified in literature review in Chapter 2. These themes were then used to answer the research questions above. The main research question was answered through each of the study's sub questions. For example, SQ1 inquired whether physical therapists believed the CE law improved a physical therapists practice and improved patient care, and if they thought changes needed to be made to the law. SQ2 asked about human motivation and a physical therapist's choice in CE course and use of knowledge in the clinical setting. The themes that emerged relating to SQ2 were: the motivating factors and barriers that physical therapists face in their participation in CE, the type CE courses preferred and characteristics preferred in CE courses, and a physical therapist's application of CE knowledge in their clinical practice. SQ3 examined the influence of CE on a physical therapist's competence and patient satisfaction. The themes found relating to SQ3 were: an organization's support for CE, and the benefits of CE to the organization, provider, and patients. This chapter then concludes with a summary of the research question findings.

Framework Analysis

In order to analyze the interview data, framework analysis was used. According to Gale et al. (2013) "the Framework Method is most commonly used for the thematic analysis of semi-structured interview transcripts" (p. 2). In qualitative research, interviews are conducted until data saturation is reached (Ward et al., 2013). In this study, 10 participants were selected. Participants were Illinois licensed physical therapists who had been through at least one license renewal cycle and had experience with Illinois's mandated CE law. The number of participants was selected based on previous studies, which indicated data saturation was reached after six to 12 interviews. In this study, data saturation occurred after eight participants. However, since there was additional interest from physical therapists, I conducted a total of 10 semi structured interviews. Of these interviews, two failed to record and I used interview notes. The interview notes were sent to the participants for their review to ensure that the notes taken captured the interview accurately. All of the other participants reviewed written transcripts of their interviews for accuracy. Each of the participants was given the opportunity to add comments and make any clarifications to their responses.

There are several steps involved in conducting framework analysis. Step one requires researchers to familiarize themselves with the data through the process of immersion (Gale et al., 2013; Ward et al., 2013). Of the 10 interviews, I transcribed half of the interviews, while Scribie.com transcribed the other half. Immersion was accomplished during the interview transcription process and by reviewing the Scribie.com transcripts prior to sending them to the study participants for their review.

After I received the transcripts back from the participants, I reviewed all of the participant transcripts again. Immersion also took place through my listening to the audio files a second time in conjunction with the transcripts and field notes taken during the interview. The final step in the immersion process was done through the summarization of the data by individual question.

Coding the data and the development of themes is the second step in framework analysis (Gale et al., 2013; Ward et al., 2013; Vaismoradi et al., 2013). A deductive approach was used for this study. A deductive approach is used when "themes and codes are preselected based on previous literature, previous theories, or the specifics of the research question" (Gale et al., 2013, p.3). In this study, the themes were identified in the research found in Chapter 2. The themes found in Chapter 2 covered the factors that motivated physical therapists to take CE and apply their CE knowledge in their practice; presented the barriers to CE and the application of CE knowledge in their clinical practice; and identified the systems that impacted the implementation of CE knowledge into practice. Coding the data initially took place through notating the participant transcripts in the transcript margins. As indicated in the previous step, the data was also summarized in Microsoft Word.

Charting, or the organization of themes and subthemes using computer software, is step three in the framework analysis process (Ward et al., 2013). Not only was Microsoft Word used to summarize the data, but also Microsoft Excel was used in order to organize the interview data into each of the themes and subthemes previously

identified in the literature. This step allowed me to refine the data and also allowed the themes and subthemes to become clearer.

Step four is summarizing the data (Ward et al., 2013). According to Ritchie et al. (2003), summarizing the data allows "the researcher to reduce material into understandable but brief summaries of what was said by participants" (as cited in Ward et al., 2013, p. 2427). I initially summarized the interview data by question. Once the data was placed into themes and subthemes, the interview data was further condensed and summarized into tables. The participant ID and question number link the summarized data in each of the tables back to the original transcript.

The final step in the framework analysis process requires the researcher to check the summarized data back to each of the original transcripts (Ward et al., 2013). According to Gale et al. (2013) "there is a clear audit trail from original raw data to final themes, including the illustrative quotes" (p. 6). Ultimately this step helped to ensure rigor in the data analysis process by catching errors in the coding process (Vaismoradi et al., 2013). As discussed previously, the themes and subthemes identified in this study were then used in order to answer the study's main research question and sub questions.

Main Research Question

The main research question under investigation was: How has mandatory CE influenced the professional competency of physical therapists and patient care in Illinois? As will be explained in more detail in the sub questions below, a majority of the study participants believed that mandatory CE, while not perfect, helped to keep physical therapists accountable for furthering their knowledge, skills, and abilities, which

ultimately led to improved competency. They also felt that CE benefited not only the physical therapists, but also the patient and the organization. A majority of the participants equated improved practice to improved patient care. Ultimately, by having more advanced skills for treating patients, they felt that their patients got better faster. Finally, a majority believed that their employers supported their CE efforts financially and through in-service opportunities. They also believed that their employers benefited financially from having skilled practitioners through increased patient referrals and through patient satisfaction with their treatment and outcomes.

Subquestion 1: Perceived Effectiveness

Subquestion one asked: "How do Illinois physical therapists perceive the effectiveness of the states' CE law?" Answers to this question can be found in the participant responses to interview questions one, two, three, four, and eight. When participants were asked how they felt about Illinois's CE law, the participants felt that overall the law was a good thing, but some were skeptical about the law's effectiveness in achieving its intended purpose. As identified in Table 1 below, participants thought that some of the benefits of the law were that it was a good first step to helping physical therapists gain competency and learn new skills that they do not learn in school. They also believed that if CE were not mandated, some physical therapists would not do it. Ultimately the law holds physical therapists accountable for additional learning. However, the participants also pointed out that the law might not necessarily meet its goal of improved competency. For example, participants pointed to low quality CE

courses, different licensure requirements between states, and the inability to validate or measure competency.

Table 1

Feelings on IL's Continuing Education Law

Participant Responses: Pros	**Question**	**Participant**
"I think it's a good thing" "first step...I think it helps" "it's very good" "I agree with the law" "a good thing…it should be required" "good" "it's necessary"	1	P1, P2, P3, P4, P5, P7, P8, P9
"If you don't mandate it people won't do it" "provides accountability" "Holds you accountable for additional learning" "without it (law) many people would do less" "if mandated we know we have to do it" "incentive for those that don't participate to do something" "Ethics requires us to be lifetime learners and be competent practitioners...law helps meet that requirement"	1, 2, 8	P1, P2, P5, P6, P8, P10
"new information…continuing your education experience…techniques that you learn in school are not all of the techniques that you can learn and use in your position" "other skills...to achieve"	1, 2	P3
Participant Responses: Cons	**Question**	**Participant**
"Does not guarantee continued competency…no validation" "I don't know that it's actually achieving the goals that it's intended to achieve"	1	P2, P6
"poor quality of courses has increased" "[course must have] an approved continuing education sponsor"	1	P6
"problem with having a license in two different states"	1	P7
"most employers do not pay for continuing education"	1	P9

Improved Physical Therapist Practice

When asked how mandatory CE has impacted the performance of physical therapists, most felt that it had a positive impact on the physical therapist and their patients through improved practice. Table 2 identified that many physical therapists believed that mandatory CE has improved patient care and physical therapist's clinical abilities. They also believed that CE could improve a physical therapist's competency if the course focused on it, or if it was in the physical therapists area of practice. Not only

does CE allow physical therapists to stay on top of the latest research, but it also provides physical therapists with new treatment options. Many of the participants have passed on the knowledge from CE courses to other physical therapists in their clinics through in-service. CE courses have also provided physical therapists with networking opportunities and a forum for discussing difficult cases.

Yet while most of the participants felt that CE had a positive impact on their clinical practice, a few believed it had a neutral impact on their practice. A few of the participants felt that the impact of CE on clinical practice was dependent upon several factors:

- the mindset of the therapist and whether they were there to learn or just get hours,
- whether or not the courses were quality courses,
- whether or not the courses were pertinent to the physical therapist's area of practice, and
- whether or not knowledge could be implemented in the clinic.

Ultimately many of the participants pointed out that there is currently no way of validating or measuring the impact of CE on a physical therapist's competency.

Table 2

Impact of Mandatory CE on Practice

Improved Practice	**Question**	**Participant**
"I think it would improve, if they did it" "I think it has" "Higher level of clinical experience" "learned many advanced skills" "confidence"	2	P1, P2, P5, P9, P10
"Share information…in-service" "Staying on top of research" "bring knowledge back to the clinic and provide in-service to other therapists"	2	P3, P5, P10
"Idea of new things to try and new ways of doing things" "discuss patients and problem solve"	2	P8, P10
Neutral Impact	**Question**	**Participant**
"difficulty...applying what you've learned clinically...[because of] work pressure"	2	P4
"No way to validate"	2	P2
"dependent upon what the therapist…wants to get out of it" "it helps those that see value in it" "depends on the therapist"	2	P6, P7, P9

Improved Patient Care

When participants were asked if mandatory CE improved patient satisfaction and outcomes, nine out of 10 of the participants agreed that it had. According to the study participants, when physical therapists are staying on top of the latest techniques and research and are treating their patients with the most up-to-date, evidence based practice then patients should be getting better faster. Additionally, advanced CE courses can teach therapists multiple methods for treating a patient's condition if traditional methods are not working. Most physical therapists also have an incentive to get patients better more quickly, because a patient's insurance can often limit their number of visits to the physical therapist. Therefore, if a patient is able to get better faster they are happy, and improved patient outcomes results in improved patient satisfaction.

However, four of the participants pointed to other factors more pertinent than the law for improving patient satisfaction and outcomes. Factors, such as the quality of the CE courses taken and advanced topics can improve physical therapist's skills. Also, the physical therapist's communication and relationship with the patient are also more pertinent to achieving patient satisfaction and outcomes.

Table 3

Improved Patient Satisfaction & Outcomes

Law Improved	**Question**	**Participant**
"treating patients with the most up to date evidence based practice" "special skills" "more tools…different approach" "staying on top of the latest techniques and research" "new knowledge" "therapist is more competent"	4	P2, P3, P5, P7, P10
"patients should be getting better faster" "Improved outcomes…patients getting better faster" "get people better faster"	4	P1, P2, P5
"sometimes allowed only a certain number of visits with the insurance company"	4	P5
Law Neutral	**Question**	**Participant**
"bigger benefit…the quality of courses"	4	P6
"Communication and relationship that you establish with the individual"	4	P8
"if you don't have the personality to be a good therapist then you won't have good outcomes" "if you aren't there for the right reasons you aren't learning"	4	P9, P10

As identified above, a majority of the participants believed that Illinois's mandatory CE law is good for physical therapists. They point to CE as having improved their practice, and through improved practice has improved patient outcomes and therefore satisfaction. Additionally, when participants were asked if they would still seek CE hours if the state did not require it, all of the participants said that they would. Half of the participants felt that the number of hours they would take would be comparable to the

40 hours per license renewal period, that is currently required in Illinois law, while the remaining participants were split between whether they would take more or less hours.

Suggested Changes

As identified in Table 4, when asked if Illinois's mandatory CE law needed to be changed, the participants were almost equally split. For those participants who believed that the law did not need to be changed, they argued that it set out reasonable expectations for holding physical therapists accountable. They also pointed out that the APTA's Code of Ethics requires physical therapists to be lifetime learners. P2 noted that, "I think without it many people would do less [hours] . . . [Physical therapists] who are not members of IPTA or APTA don't see that continuing push for maintaining competency." The participants felt that mandating CE required physical therapists to take CE in order to improve their skills. They felt that if CE were not mandated then some physical therapists simply would not take any courses to advance their skills. While many participants recognized that not all physical therapists took courses relevant to their clinical practice, it was hoped that physical therapists would take those courses that would ultimately benefit them.

For those physical therapists that indicated that they believed the law should be changed, none indicated that it needed to be repealed. Some of the suggestions for changes included: less CE hours for license renewal, increased hours allowed for online courses, uniform CE requirements across the United States, and the inclusion of pre-and post-tests for CE courses in order to provide some type of competency measure.

Table 4

Should Law Be Changed?

Participant Response/Yes	Question	Participants
"CE pre and post test needed"	8	P2
"Cost can be a problem"	8	P4
"More distance/online learning"	8	P4, P7
"Less hours"	8	P9
Participant Response/No	**Question**	**Participants**
If mandated people will do it/holds people accountable/reasonable expectations/life long learning is required by APTA Code of Ethics	8	P1, P3, P5, P6, P8, P10

In making the argument for fewer CE hours, P9 stated, "from a financial standpoint, it's really expensive to take a really good course . . . I look for a course that is appropriate to what I'm doing . . . quality hours are better than 40 hours of information you won't use or remember."

Sub question 2: Human Motivation and Choice of Continuing Education and Use of Knowledge

Sub question two asked, "How does human motivation impact the choice of CE coursework and use of CE knowledge in the workplace?" As discussed in Chapter 2, there are motivating factors that influence the reasons that physical therapists participate in CE and the CE courses they select. Motivating factors can be intrinsic or extrinsic. Intrinsic motivation can be found inside an individual, such as self-esteem, self-confidence, and job satisfaction. Extrinsic motivation can be found outside of an individual, such as career advancement, pay raises, professional recognition, and licensure requirements. Questions nine and 12 examined the reasons that the participants engaged in CE and discussed the ways it benefited them personally. These two questions

were the primary questions used for identifying what factors were present in motivating physical therapist participation in CE. Barriers to CE were asked in question 14, however analysis of each participant transcript identified barriers mentioned throughout each of the questions in the participant interviews. Time barriers were identified in participant responses to questions 11, 14, and 26. Geography barriers were identified in participant responses to questions 8, 11, 14, and 26. Cost barriers were identified in participant responses to questions 11, 14, and 26. Organizational barriers were identified in participant responses to questions one, three, four, five, 22 and 26. Patient barriers were identified in participant responses to questions four, 22, and 26. Participant barriers were identified in participant responses to questions one, three, four, eight, 11, 14, 22, and 26. The type and format of CE courses preferred by participants were identified in questions seven, 10, and 26. The characteristics that participants looked for when selecting a CE course were identified in participant responses to questions 11, 13, 20, and 26. Finally questions 20 and 21 examined CE knowledge to practice.

Motivating Factors

Table 5 shows a summary of the intrinsic factors that motivated participants to take CE courses, while Table 6 shows a summary of the extrinsic factors. Participants expressed that they were motivated by both extrinsic and intrinsic factors. However intrinsic factors, such as self-confidence and job satisfaction, were identified the most often. According to the participants, reinforcing their existing training and advancing their skills, improved their self-confidence as practitioners. According to P5, "Confidence. When you're treating a variety of patients, you want to feel confident in

what you're doing . . . So, if we have the highest level of knowledge, we can get our patients better quicker." Similarly, P10 acknowledged participating in CE to "stay current on evidence-based practice … to provide the best care for patients … [and] to be able to deliver care confidently."

Participants also indicated that job satisfaction was another reason for their participation in CE. In a small clinic, it prevents isolation and creates an avenue for additional resources. According to P7, "it keeps me from being isolated as an individual PT." While P10 mentioned that they enjoyed having "other PTs and professors . . . as a support system." Job satisfaction can also be found in a change in specialty or working with a specific population. According to P8, "I took . . . an amputee rehab course, and that just prompted a huge interest for me in treating amputee patients." While P4 stated, "because I've participated in so much continuing education . . . I got my [Master's Degree] and geriatrics specialization . . . because that was my ultimate goal, to be a certified geriatric specialist." Becoming an expert in a specific area and having the skills to deal with difficult patient's conditions also added to job satisfaction. Participants also indicated that they enjoyed learning, which led to self-esteem.

Table 5

Human Motivation: Intrinsic

Self Esteem	**Question**	**Participants**
"Enjoy the science…fun"	9	P2
"enjoy learning"	9, 12	P10
Self Confidence	**Question**	**Participants**
"Learn techniques…evidence based" "better clinician"	9	P1
"Improve skills" "gain new insight"	9, 12	P2
"Skills as a therapist" "more techniques"	9, 12	P3
"advance my knowledge"	9	P4
"confidence…broaden my area of expertise"	9, 12	P5
"What I need for patient care" "make myself a better therapist"	9, 12	P6
"learn the latest tech and treatment options…reinforce the training I've received already" "learn things I didn't realize I'd need"	9, 12	P7
"areas that I'm interested in" "helps you make [patient] recovery better"	9, 12	P8
"learn new techniques and new ideas" "advances skill level"	9, 12	P9
"stay current on evidence based practice…deliver care confidently" "confidence in treatment & diagnosis"	9, 12	P10
Job Satisfaction	**Question**	**Participants**
"gone back for Master's" "that was my ultimate goal was to be a certified geriatric specialist"	12	P4
"become more of an expert in a certain area"	9, 12	P5
"DPT…working on a specialty area"	9	P6
"keeps me from being isolated as an individual PT"	12	P7
"love for that particular group of individuals, working with them" "difficult patient…new technique"	12	P8
"difficult patient...[new] tool that you've learned form a course."	12	P9
"Enjoy being with other PTs & professors to have them as support [resources]" "[creating] comprehensive plan of care for my patients"	9, 12	P10

Extrinsic factors focus on career advancement, pay raises, professional recognition, and licensure requirements. In Table 6, the participants indicated that professional recognition and licensure requirements were two of the main factors for participating in CE. Professional recognition comes from both patients and an employer when a patient gets better quicker, or is happy with their outcomes. According to P5 “if we have the highest level of knowledge we can get our patients better faster . . . I think it’s good for marketing and to the public.” Three participants pointed to the fact that they

"had to" take CE courses. However, extrinsic factors tended to be less important, than intrinsic factors to physical therapists.

Table 6

Human Motivation: Extrinsic

Professional Recognition	**Question**	**Participants**
"enjoy what you can do for the patient"	9	P2
"get patients better faster...marketing and for the public"	9	P5
"Provide the best care for patients"	9	P10
"specific [courses] to address patient problems" "[employer is] wanting me to complete the hand therapy process"	12, 16	P6
"Presenting a class" "speaking"	16	P4
Licensure Requirements	**Question**	**Participants**
"[for] CE Credit"	7	P1
"I have to"	9	P8
"required"	9	P9

Barriers

As identified in Chapter 2, barriers to CE can impact not only the courses a physical therapist takes, but also a physical therapist's effectiveness in implementing the course knowledge into their clinical practice. All of the participants in this study mentioned that they had experienced one or more barriers as outlined below. As identified in tables seven to 12 below, the barriers faced by participants are related to time, geography, cost, organization, patient, and provider.

Time. Four of the participants referred to time as being a barrier to their CE. Time barriers can take several forms:

- the amount of time a provider has with a patient,
- the amount of time a provider has to learn a new skill, and

- time away from family.

P5 stated, “because some of the classes, all of the classes, usually span a weekend; and a lot of the times you have commitments, family commitments going on, on the weekend.” While P10 acknowledged “for some people getting CE is hard when there are small children at home.” The duration or length of time of a course was also seen as a barrier. Both P7 and P10 looked at the length or duration of a course as one of the characteristics that they looked for when selecting a CE course.

Table 7

Continuing Education Barriers: Time

Participant Responses: Family	**Question**	**Participant**
"trying to take vacation time" "family commitments" "For some people getting CE is hard when there are small children at home"	14, 26	P5, P10
Participant Responses: Course Length	**Question**	**Participant**
"duration" "length of course…prefer 2 hours vs. an 8 hour course"	11	P7, P10
Participant Responses: General	**Question**	**Participant**
"once in a while time is a barrier"	26	P4

Geography. Seven of the participants pointed to geography as a barrier to their CE. Geography relates to where a physical therapist lives in relation to where the CE courses are located. Geography can also be grouped into either time or cost barriers. For example, it takes more time to get to the location the further away it is. Additionally, it costs more to get to a CE course the further away it is. P1 pointed out, “Sometimes there is not a course in my area. You have to travel and that increases costs.” While P8 stated

that when looking for a CE course they look at “location because of where I live. I can’t fly as much fun as that is, I can’t fly different places for CE classes.”

Table 8

Continuing Education Barriers: Geography: Time & Cost

Participant Responses	Question	Participant
"for some people at certain points in their lives, going to an onsite continuing education class can be difficult" "it's hard for some people to get there [if] they don't have that employer support"	8, 26	P4, P6
"travel" "location … willing to do that if need be, but…" "location" "travel increases cost" "not a course in my area" "not as many good courses offered in our area and I can't afford to drive 3-4 hours or fly to take a continuing education course." "location because of where I live…I can't fly…" "I wish there were more quality CE courses in my area"	11, 14, 26	P1, P4, P5, P8, P9, P10

Cost. As indicated above, seven of the participants pointed to cost as a barrier to their CE. Of those, six of the participants cost barriers were also related to geography. For example, P9 stated, “there are not as many good courses offered in our area, and I can’t afford to drive 3-4 hours or fly to take a continuing education course.” In addition to geography, cost is also a factor in the cost that providers pay to take a CE course.

Three of the participants indicated that they were limited by the cost of CE courses because their employer either does not provide reimbursement for the course or limits the amount of reimbursement. P7 stated that cost was a significant barrier to them because, “I’m personally responsible for paying.” P10 pointed out that they were limited in the number of employer approved CE hours; when signing up for a CE course, “I have to ask myself if I can afford it.” P9 felt that “from a financial standpoint, it’s really expensive to take a really good course.”

Table 9

Continuing Education Barriers: Cost

Participant Responses: Course	Question	Participant
"financially" "limited in employer approved hours" "cost" "cost since I'm personally responsible for paying" "financial…[employer doesn't pay]" "price"	11, 14	P2, P7, P10
Participant Responses: Geography	**Question**	**Participant**
"travel" "location … willing to do that if need be, but…" "location" "travel increases cost" "not a course in my area" "not as many good courses offered in our area and I can't afford to drive 3-4 hours or fly to take a continuing education course." "for some people at certain points in their lives, going to an onsite continuing education class can be difficult" "location because of where I live…I can't fly…" "I wish there were more quality CE courses in my area"	11, 14, 26	P1, P4, P5, P8, P9, P10

Organization. All of the participants felt organizational barriers impacted their CE in some way. Organizational barriers could be organizational policies, lack of appropriate or deficient equipment or technology, cost of treatment, lack of peer support, and insufficient staff. Participants in this study pointed to similar barriers, such as CE courses of poor quality, a lack of validation or measures of CE courses, the inability to implement CE knowledge to practice due to work pressures, the size of the employer, insurance company policies that limit patient visits, or equipment that is unaffordable to the clinic. Some of the statements made by participants regarding organizational barriers were: P2 stated, “there is no validation that we have in most cases what we learn.” P9 stated, “most of our employers do not pay for continuing education.” P5 stated, “often you might need particular equipment that maybe your clinic doesn’t have or can’t afford right now.” P8 stated, “if the person you work with . . . didn’t necessarily go with you or didn’t understand what you were doing then that can be a problem because then there may not be very much carry over.” P4 pointed out that, “people learn things, but then because of the work pressure, can’t implement some of the things they’ve learned.”

Table 10

Continuing Education Barriers: Organization

Participant Responses: Quality	**Question**	**Participant**
"There's no validation [of CE impacting competency]" "poor quality of courses have increased" "not sure it's actually achieving the goals" "APTA...presenting courses that are clinically oriented to the clinician, I don't really think they do that enough"	1, 4, 26	P1, P2, P6
Participant Responses: Internal Policies	**Question**	**Participant**
"[company] doesn't see it as their responsibility…They see it as our professional responsibility as an individual" "difficulty…applying what you learned clinically. People learn things but…because of work pressure, can't implement some of the things they learn" "most employers do not pay for CE" "they [employer] don't help us with any of that, they just expect us to have our license every two years and do what you need prior to that" "small employer, not a lot of [CE] opportunity" "not much carryover of CE [knowledge to other PT's] you work with" "the same therapist wouldn't treat the same person all the time and then you have a whole bunch of different people trying different [treatments] out on them"	1, 3, 5, 22	P4, P7, P8, P9
Participant Responses: External Policies	**Question**	**Participant**
"having an approved continuing education sponsor is stupid" "we are only sometimes allowed a certain number of visits with the insurance companies." [Number of CE Hours allowed in each category] "class must be approved sponsor of IL Continuing Education"	1, 4, 8, 26	P4, P5, P8
Participant Responses: Equipment	**Question**	**Participant**
"often you might need particular equipment that maybe your clinic doesn't have or can't afford right now" "[CE provider] courses that require certification to use their stuff…you have to sign an agreement that you will not teach anybody else the techniques and you have to pay a yearly fee to use their equipment, and you never purchase it, it's just rented" "obtaining equipment…we don't have some of the equipment and to get the equipment we need to be able to justify the need"	22	P5, P6, P10

Patient. Barriers to the effectiveness of CE knowledge by physical therapists could also be due to the patient. Patient attitudes or beliefs and their adherence to the treatment plan were found to be barriers in previous studies outlined in Chapter 2. A few participants in this study pointed out that the success of the treatment is dependent upon the patient: the rapport that is developed between the patient and the therapist, the adherence to the treatment plan, and the expectations of the patient. As pointed out by P4

when referring to geriatric patients, “we can’t rehab them all the way back . . . but we can give them the tools they need to be more fully rehabilitated.”

Table 11

Continuing Education Barriers: Patient

Participant Responses: Attitude and Ability	Question	Participant
"Other factors that go into the [effectiveness of CE that are more important]…communication and relationship that you establish with the individual" "The patient is the one that does all of the work. We're just the facilitator and educator."	4, 26	P2, P8
"can't [always] rehab them all the way back…we can give them tools"	22	P4

Provider. Barriers to CE can also be attributed to the provider themselves, such as their attitudes, beliefs, knowledge, skills, and abilities. Half of the participants in this study pointed to the attitudes of the provider as being a barrier. For example, P6 stated, “if you are interested in an advanced level course, you’ll take it, and if you’re not, you’ll do the easier or no-brainer continuing education . . . it’s very much dependent upon what the therapist wants to do and . . . get out of it.” Other provider barriers dealt with licensure requirements in different states due to being dual licensed, finding challenging CE courses as the physical therapist becomes more advanced in their practice, and providers not using uniform treatments on patients. Experiences from P8 found that in larger physical therapy facilities, “that sometimes there were different therapists assigned to [the same patient] . . . the same therapist wouldn’t treat the same person all the time and then you’d have a whole bunch of different people trying out different things on them.”

Table 12

Continuing Education Barriers: Provider

Participant Responses: Attitudes	Question	Participant
"Its very much dependent upon what the therapist wants to do and wants to get out of it" "depends on the therapist" "some [clinicians] don't care to learn" "most of my co-workers who have graduated recently are waiting til the last minute … taking courses they are really not interested in…trying to fill hours the cheapest way. I feel they are missing out on learning more advanced skills …[and] it will change the expertise of future therapists and affect patient outcomes." "if you don't have the personality to be a good therapist then you won't have good outcomes" "You can tell the PTs who are at the course and interested in the speaker and those who are just there for the hours" "If you aren't there for the right reasons you aren't learning" "I just don't see some clinicians growing professionally…even with the CEUs…it is a minority" "Disparity in quality between courses…benefit of [CE] is dependent on the caliber of classes I choose"	3, 4, 26	P4, P6, P7, P9, P10
Participant Responses: Dual Licensure	**Question**	**Participant**
"having a license in two different states. It creates a challenge" "in MO you need only 30 hours every two years, but in IL you have to have 40 and I don't understand why there has to be a difference" "keeping track of IL & MO licensures" "[license] expiration and different times"	1, 14	P7, P8, P9
Participant Responses: Courses	**Question**	**Participant**
"a little harder as you're more experienced…[CE] not quite challenging enough as far as giving new information"	11	P4

Choice of Continuing Education Course

There are many types of CE opportunities available for healthcare practitioners. Austin and Graber (2007) found that formal, course-based programs, like seminars and workshops, were the most popular among therapists. Physical therapists in Illinois have a variety of options for obtaining their CE hours. CE activities in Illinois include teaching a course, attending a course, a clinical residency and fellowship, professional research or writing, self-study, journal clubs, district meeting educational programs, and in-service programs. The number of CE hours that physical therapists get for each of these activities is specified in Illinois's Administrative Code (Illinois Physical Therapy Continuing Education Rule, 2004) as indicated below:

- Ethics: three CE hours.
- Educational institution, college or university: 15 CE hours.
- Teaching a course: two CE hours the first time, one hour the second time the same course is taught. Teaching courses can be 50% of CE hours.
- Specialist Certification: 40 CE hours.
- Clinical residency or fellowship: "one hour of CE for every 2 hours spent in clinical residency, up to a maximum of 20 hours" (68 Ill. Admin.Code 1340.61 (b)(3)(C)).
- Professional research or writing: 15 CE hours for a refereed article, three CE hours for a nonrefereed article, and five CE hours for a textbook chapter or poster presentation.
- Self-study: up to 50 percent, or 20 CE hours.
- Journal clubs: up to five CE hours.
- IPTA district meeting: up to five CE hours.
- Departmental in-services: up to five CE hours.
- Skills certification: up to five CE hours.
- Clinical instructor: up to five CE hours.

This study not only examined the type of CE participants preferred, such as informal courses or formal courses, but it also examined the types of courses preferred by Illinois physical therapists, and the characteristics that physical therapists look for when selecting a CE course.

Type of learning preferred. While all of the participants in this study took part in formal and informal learning opportunities, seven of them preferred formal learning activities. According to the participants, formal CE provides labs and demonstrations, more personalized instruction, were better organized, and were evidence based. P4 pointed to the rigor found in formal continuing education, stating, "there were very scary labs . . . return demonstrations and tests so I do think I learned more in that setting." Other participants pointed to back and forth discussions, one-on-ones with the instructors, and CE credit as reasons for their preference of formal CE.

However, four of the participants pointed out that they enjoyed informal CE such as self-study found in webinars and professional publications. One of the main preferences for informal CE was for its flexibility. According to P7 "it better meets my schedule." While P2 stated, "I enjoy sometimes being able to do stuff on the Internet and taking a test at the end because you have the flexibility of time."

Table 13

Type of Learning Preferred

Participant Responses: Formal CE	**Question**	**Participants**
"[for] CE Credit"	7	P1
"on-on-one with instructors [over several days] you get to know the techniques well" "labs…demonstrations…and tests…learned more" "new course…once a year…get new ideas…bouncing ideas off of one another" "labs…working hands on"	7, 10	P1, P3, P4, P8, P9, P10
"more organized…research based"	7	P5, P8
Participant Responses: Informal CE	**Question**	**Participants**
"better meets my schedule" "flexibility of time"	7, 10	P7, P2
"relaxed atmosphere … more readily able to bounce ideas off of each other"	7	P9
"MEDLINE…news and read the articles that apply to me"	10	P4

Type of course. There are many types of CE activities available to physical therapists. However, the two types of CE activities that the participants preferred the most were self-study and formal courses. Eight of the participants indicated that they liked self-study courses. Self-study courses consist of webinars, online, or home study. Seven participants indicated that they favored formal courses. Formal courses can be found in university or college classes, conferences, or seminars. According to P4,

> I always loved to go to combined sections meetings [conferences] and that's where I get a lot of my CEUs and I do like to do distance learning on the computer too . . . I always do MedLearn things, even though that's for physicians. I always do their weekly quiz . . . I'd look on MEDLINE every day to see what's new in the news and then read the articles that apply to me.

Webinars, online, or home study and formal classes, conferences, or seminars were the most popular among physical therapist. Physical therapists also got their CE hours through in-service, university, college, or specialty coursework. Four of the participants indicated that they got their CE hours taking university or specialty coursework. For example, P6 prefers courses offered through universities because "I find those are the highest level because they tend to offer a lot of evidence to support the techniques and the concepts in the course." Three of the participants pointed to in-service programs as one of the main ways they get their CE hours. P3 acknowledged that they took in-service on a weekly basis, but the state limited them to only five CE hours. Table 14 below has identified the types of courses that physical therapists typically take, with

journal clubs, study groups, case presentations, district meetings, and teaching a course being utilized less often.

Table 14

Type of Course

Participant Response	Question	Participants
Web/Online/Home study	7, 10, 26	P1, P2, P3, P4, P5, P7, P8, P10
Formal Class/Conference/Seminars	10	P2, P3, P4, P5, P8, P9, P10
Specialty Coursework/DPT/University Course	10	P5, P6, P8, P10
In-Service	10	P3, P9, P10
Journal	7	P10
Study groups	10	P1
District Meetings	10	P1
Teaching a course	10	P2
Case Presentation	10	P2

Characteristics for selecting a course. While formal courses, seminars, or conferences tended to be the preferred CE activity of physical therapists as identified above, there were specific characteristics that physical therapists looked for when selecting a CE course. Table 15 below identifies the primary characteristics participants looked for when selecting a CE course. All 10 participants looked for courses that were pertinent to their area of practice. Of those, six participants looked for courses that are reputable, five looked for topics of personal interest, three pointed to location and cost as considerations, two looked at time as a consideration, and one pointed out that they liked courses that had demonstrations as a component. As identified earlier, participants chose courses based on motivating factors, or barriers such as location, cost, and time. For example, P6 stated that what they looked for when signing up for a CE course is that they

do want to see that they are going to reference at least the evidence that's out there, the researched evidence, and incorporate that into the course philosophy. I think that it's important to be related to what I do in my life with my patients. And then I usually look at who some of the speakers are, and what their training is, and decide from there.

Table 15

Characteristics for Selecting CE Course

Participant Response: Apply to Practice	**Question**	**Participants**
"improve my knowledge" "transfer to my daily practice" "related to what I do" "topic" "line of practice" "content" "pertain to what I am doing" "I look for information about what will be taught in the class to make sure I can bring it back [implement knowledge gained] immediately"	11, 13, 20	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10
Participant Response: Reputable/Quality	**Question**	**Participants**
"Quality of Presenter" "reputable presenter" "credentials of who's teaching" "researched evidence…incorporate that into the course " "speakers…training" "credentials" "background of speakers" "Colleague … says good course or instructor" "word of mouth"	11	P2, P4, P5, P6, P10, P9
Participant Response: Interest	**Question**	**Participants**
"personal interest" "challenging" "area of interest to me" "learn something new" "looks interesting"	11, 13	P2, P3, P4, P7, P8
Participant Response: Location	**Question**	**Participants**
"location"	11	P5, P8, P10
Participant Response: Cost	**Question**	**Participants**
"cost" "price" "free CEU online"	11, 26	P4, P7, P8
Participant Response: Time	**Question**	**Participants**
"length of course" "duration"	11	P7, P10
Participant Response: Demonstrations	**Question**	**Participants**
"watching and doing…have an actual patient being treated"	11	P1

Use of Continuing Education in the Workplace

As referenced above, when physical therapists in this study were selecting CE courses, they primarily looked-for quality courses that were evidence based and relevant to their area of practice. Not only did all of the participants look for CE courses pertinent to their area of practice, Table 16 below shows that all of the participants implemented the knowledge gained from their participation in formal CE courses in their clinical practice. Two of participants indicated that they used the knowledge right away. Other participants acknowledged that CE knowledge had changed and improved their practice. For example, their practice had changed through the implementation and use of measurable outcomes, understanding patient needs better, educating patients, and being able to bounce ideas off of other physical therapists and implementing those ideas immediately.

Table 16
Use of Formal CE in Practice

Participant Response	Question	Participant
Yes response	20	ALL
"I always listen to my patients…get a perspective of theirs…what means success for them"	20	P2
"right away"	20	P3
"[CE] changed my practice…I wanna' make sure that the outcome measure matches what that persons ability's gonna be."	20	P4
"[CE] has improved my practice and my expectations for [patients]"	20	P4
"better understanding of [a particular diagnosis], and with a better understanding you can educate [the patient]"	20	P5
"[CE course] learn new treatment…techniques…exercises. Learn even more about a the physiology of a diagnosis…better understanding" " Can bounce ideas off of each other, talking about clinical issues…gaining something...you're gonna implement into practice"	20	P5
"I look for information about what will be taught in the class to make sure I can bring it back immediately"	20	P10

Eight of the participants stated that they used the information they had learned in informal CE in their practice. Table 17 shows that participants identified benefits such as better compliance with rules and regulations and department in-services that allow techniques to be used immediately. Some reasons participants gave for not using informal CE in their practice as identified by P7 was because, "some of the training I don't see as serious, or there is not a great need to add it into the treatment plan." P8 responded, "not usually and thank God I've never had to use CPR."

Table 17

Use of Informal CE in Practice

Response: Yes	**Question**	**Participant**
"Better compliance with Medicare rules & regulations"	21	P2
" informal in-service, we talk about techniques and yes, it can be used right away"	21	P3
"So a lot of my informal education at the nursing home level, learning about rules, regulations, aging, medications, learning that kind of thing has helped me be more effective"	21	P4
" good to bounce ideas off in informal sessions - talk about clinical issues…gaining something to implement into practice"	21	P5
"I try to apply all of it"	21	P10
Response: No	**Question**	**Participant**
Some of the training I don't see as serious/that there is not a need to add it to the treatment plan"	21	P7
"I've never had to use CPR . . . I guess its on a case by case basis"	21	P8

Sub question 3: Continuing Education's Influence on Physical Therapist Competence and Patient Satisfaction

Sub question three asked, "How does CE training and other systems influence a physical therapists competence and patient satisfaction?" Organizational support provided for CE can be found primarily in the analysis of questions six, 15, 17, 23, but

were also found in participant responses to questions one, five, and 14. Additionally, how CE benefits the organization, physical therapist, and patient were examined.

The benefits of CE to the employer is found primarily in question 18, but were also found in participant responses to questions three, four, five, 17, 20, and 21. Benefits of CE to the provider is found primarily in question 12, but were also found in participant responses to questions one, two, three, four, seven, eight, 21, and 24. Benefits of CE to the patient are found primarily in question 19, but were also found in participant responses to questions three, four, 12, and 20. Both organizational support for CE and the benefits to employers, providers, and patients are discussed in more detail below.

Organizational Support for Continuing Education

Nine out of the 10 participants indicated that the organizations that they worked for provided access to or supported formal CE or professional development opportunities. As identified in Table 18 below, eight participants indicated that they received some type of financial support from their employer. All eight stated that their employer paid for all of the course or part of their course, two indicated that their employer provided mileage and or hotel reimbursement, three specified that they received paid time-off, three pointed to paid in-house CE courses or job specific training, and one received reimbursement for meals. All of the participants indicated that their employer provided in-service opportunities, peer group meetings, and job specific or regulatory training of some type.

Table 18

Organizational/Employer Supports

Participant Response: Financial	**Question**	**Participant**
"Hospital I work for assists with CE Hours" "understand our needs… help us with CE" "stipulation when you're signing up for a course…it needs to be relevant" "company pays for it" "I get money for [CE]…$500/year" "Pay for the course or part of the course" "monetary support only to the expense of the class" "pay for any approved course...hotel…paid time...they paid for my DPT" "they pay for it" "Financial support" "mileage…pay for" "travel" "16 hours of paid time off…for a course" "lets me go during work hours" paid time during normal work hours" "day off during the week" "hotel" "meals" "[employer is} wanting me to complete the certified hand therapy process"	1, 5, 13, 14, 15, 17, 23	P1, P2, P3, P4, P5, P6, P8, P10
Participant Response: Onsite Opportunities	**Question**	**Participant**
"want more skillful clinicians…peer groups meet…influenced to take CE so you can further advance you skills" "Onsite learning Opportunities" ""[provides informal training] CPR, stroke based care, [requirements from] the Joint Commission" "Hospital required" "clinical competency [testing in-house]…reimbursement" "they provide it" "peer group…specialty group meetings" "peer groups meet" "meetings…related to regulations, infection control, drug utilization … quarterly on-the job-training" "In-service amongst therapists" "Monthly…updates on clinical topics" "Dementia training" "dementia and documentation training"	5, 6, 17, 23	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10

Table 19 below, shows that the amount of financial support received by participants, from their organizations, can range from five hundred dollars to two thousand dollars a year.

Table 19

Dollar Amount Covered by Employer for CE

Participant Response	**Question**	**Participant**
$500	15, 17	P8
$600	17	P1
$1,000	17	P3
$2,000	17	P5

As identified in subquestion two, one of the characteristics that participants looked for when selecting a CE course, was if they could incorporate the knowledge from

the course into their practice. Similarly, in Table 20 below all of the participants indicated that when they selected a CE course, they made sure that it was pertinent to their area of practice. According to the study participants, they selected CE courses that were pertinent to their area of practice either all of the time or a majority of the time. Some stated that they were required to take a course that was specific to their area of practice, if their company was paying for it. However, participants have indicated that there were times when they would take a course because it looked interesting or they wanted to learn something new. Even if the course was not pertinent, they were still able to transfer the knowledge into their current practice. P3 stated, "that's one of the stipulations when you're signing up for a course. It needs to be relevant to wherever you're working."

Table 20

CE Taken Pertinent to Clinical Practice

Participant Response	Question	Participant
[required by employer] "that's one of the stipulations…relevant" "when company pays I feel obligated" [PT choice] "I try to make that a point" "pretty much" "I like things to be...applicable" "pretty much exclusive to that" "yes" "usually" "most of the time" "we need to explain the area of need, justify why it's important, and how it can improve the clinic"	13	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10

In addition to participants taking CE courses pertinent to their area of practice, all 10 participants reported that their employer supported their use of CE knowledge in the work place. As identified in Table 21, participants indicated that their employers wanted them to use evidence-based practice and the knowledge they acquired to treat patients and to pass on their CE knowledge to their co-workers through an e-mail summery or through in-service. One of the participants pointed out that their employer allowed them to spend additional time with patients to try new techniques. Not only did the participants

use their CE knowledge in their practice, but they also felt that the use of their CE knowledge also improved the outcomes of their patients.

Table 21

Organization Supports PTs Using CE Knowledge in Their Clinical Practice

Participant Response	**Question**	**Participant**
[Responded yes]	24	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10
Participant Response: Knowledge Sharing	**Question**	**Participant**
"we are required to give a synapsis of what we learned to our co-workers. Either through e-mail or by in-service" "collaborative effort with CE…follow-up with in-service/share our knowledge with other PTs…so we are a better rehab team"	24	P1, P10
Participant Response: Marketing	**Question**	**Participant**
"absolutely, and one of our promotions"	24	P4
Participant Response: Use with Patients	**Question**	**Participant**
"they want you to use your knowledge you have there to treat the people that you are seeing" "In our facility…we have as much time as we want with a patient. So if I want to take a little longer with a patient and try different techniques then I can do that"	24	P8, P9

All but one of the participants believed that organizational support of the use of their CE knowledge had improved patient outcomes. As identified in Table 22, participants felt that patients benefited from a physical therapist that was more skilled or specialized in a specific area, that patients got better faster, and that the new treatment and knowledge led to greater patient satisfaction. As P6 pointed out,

> [employer] identified newer research on manipulations as being critical for the treatment of certain disorders . . . so they, as an organization, decided to have everyone trained in that and really emphasized that if you're not doing the most appropriate treatment, you're doing a disservice to the patient. I think they're

> focused on making sure everybody feels comfortable with these techniques by hiring someone special to come in once a year. It's a pretty strong dedication to us. So I think anything that they think will support us and the patients they get behind and endorse and encourage us to do.

One participant felt that since there were no outcome-based measures for determining patient outcomes, that there was no way to identify whether or not CE knowledge improved patient outcomes.

Table 22

Organizational Support of the Use of CE Knowledge Improves Patient Outcomes

Participant Response	Question	Participant
[Responded yes]	25	P1, P2, P3, P4, P5, P6, P7, P9, P10
"one clinic might be better than another because their patients get better sooner with less visits"	25	P1
"it validates your efforts…they want you to be more clinically competent"	25	P2
"we come back with more information…specialization…talented…in that particular skill…helps the outcome of the patients"	25	P3
"[If the organization] identified some of the new research on manipulations as being critical for treating certain disorders…they as an organization decided to have everyone trained in that…if you're not doing the most appropriate treatment, you're doing a disservice to the patient. They're focused on making sure everybody feels comfortable with those techniques by hiring someone special to come in once a year. Strong dedication to us...Support us and the patients"	25	P6
"allows us to bring back treatment/knowledge that leads to greater patient satisfaction"	25	P7
"I took a course…helped categorize patients…it helped me define patients…get them on the right path from the beginning then they get better faster."	25	P9
"additional PTs and PTAs trained"	25	P10

As indicated by one of the participants, there is difficulty in measuring patient outcomes. Despite this, a few of the participants indicated that patient outcome is measured through patient satisfaction surveys developed by their employer, through tools such as standardized functional outcomes, or through the examination of clinic data that

shows patients at one clinic get better faster than at others. Table 23 below points to the various measures used to try to determine patient outcomes or patient satisfaction.

Table 23

Measure for Identifying Patient Outcomes

Participant Response	Question	Participant
"employer...doesn't use [data on] outcomes to their benefit…patient treatment to compare one treatment center to come up with data that says one clinic might be better than another because their patients get better sooner with less visits."	25	P1
"helps the outcome of the patients…We do use a standardized functional outcome piece at our work"	25	P3
"Patient satisfaction survey developed by the employer"	25	P7
"No outcome based measures or anything that we're doing with people…not measurable"	25	P8

Benefits of Continuing Education

Overall, participants believed that there are many benefits associated with CE. Benefits impact the organization, provider, and patient. Each of these impacts is discussed in more detail below.

Organization. Table 24 identifies ways in which participants believed that their participation in CE has benefited their employers. All of the participants believed that the organization benefited from the improved knowledge and skills of their employees. Eight of the participants believed that the organization benefited financially through increased revenues by marketing their employees' skills and through referrals. All of the participants believed that their employers were saving money through information sharing among employees, such as in-service, and through better compliance with rules and regulations. Finally benefits such as higher customer satisfaction and employee recruitment were also identified.

Table 24

Continuing Education Organization Benefits

Participant Responses: Marketing/Referrals/Increased Revenue	**Question**	**Participant**
"I became certified in doing functional capacity evaluations…allowed me to bring in more clientele, generate more revenue. That's a way of marketing for our company" "more money" "generated revenue for them…lots of revenue" "outside referrals…brought patients to my employer" "physicians look for those specialty groups in order to give the best treatment for their patients [referrals]" "brought in more patients [because of specialty]...bringing in more money" "market…good PR with the public" "specialization]...marketable...more referrals" "increased referrals" "[organizations] are very cognitive of the needs to [improve outcomes and patient satisfaction] ."	4, 5, 18	P1, P2, P3, P5, P6, P9, P8, P10
Participant Responses: Information Sharing/Skills	**Question**	**Participant**
"Share information and give in-services" "bring the knowledge back to the clinic and provide in-service to the other therapists" "Onsite CE opportunities" "[informal CE] Better compliance with Medicare rules & regulations" "CE can be done in the organization…that helps with cost…add to special skills"	3, 4, 5,20, 21	P1 ,P2, P3, P4, P5, P6, P7, P8, P9, P10
Participant Responses: Customer Satisfaction	**Question**	**Participant**
"customer satisfaction" "successful at motivating and educating patients [patients get better faster/customer satisfaction]" "patients are more satisfied" "[organizations] are very cognitive of the needs to [improve outcomes and patient satisfaction] ."	4, 17, 18	P2, P7
Participant Responses: Employee Recruitment	**Question**	**Participant**
"recruitment of employees"	18	P4

Provider. Tables 25 and 26 identify ways in which participants felt that CE has benefited them. According to all of the participants, CE had improved their knowledge, skills, and abilities as physical therapists. Two participants indicated that CE helped them reach their professional goals. Two participants felt that it improved their competency. Two participants felt that it had improved their confidence as practitioners. Two participants said that it led to increased job satisfaction, and one participant indicated it was their ethical duty.

Table 25

CE Provider Benefits

Participant Response: Knowledge, Skills, & Abilities	Question	Participant
"I think it [PT clinical abilities] would improve if they did it" "if you're interested in it it's beneficial" "we should be searching for those continuing education courses that are going to benefit us" "better clinician"	3, 7, 8, 12	P1
"New Information" "techniques you learn in school are not all of the techniques you can use in your position" "improved my skills…gain new insights" "[informal CE] Better compliance with Medicare rules & regulations"	1, 12, 21	P2
"I knew there are other skills that I wanted to achieve or know about" "the more you learn, the more you wanna' know" "more techniques that I can use and have ready at hand" "[Informal CE] informal in-service, we talk about techniques and yes, it can be used right away" "we come back with more information…specialization…talented…in that particular skill…helps the outcome of the patients"	2, 3, 12, 21, 24	P3
"[CE] has improved my practice and my expectations for [patients]" "So a lot of my informal education at the nursing home level, learning about rules, regulations, aging, medications, learning that kind of thing has helped me be more effective"	20, 21	P4
"you're staying on top of the latest research, the latest topics" "if you take classes in the field you're working in, it's going to make you a more efficient, effective therapist" "[CE course] learn new treatment…techniques…exercises. Learn even more about a the physiology of a diagnosis…better understanding" " Can bounce ideas off of each other, talking about clinical issues…gaining something...you're gonna implement into practice" "[Informal CE] good to bounce ideas off in informal sessions - talk about clinical issues…gaining something to implement into practice"	3, 20, 21	P5
"make myself a better therapist" "quality of the courses…more advanced skills" "[If the organization] identified some of the new research on manipulations as being critical for treating certain disorders…they as an organization decided to have everyone trained in that…if you're not doing the most appropriate treatment, you're doing a disservice to the patient. They're focused on making sure everybody feels comfortable with those techniques by hiring someone special to come in once a year. Strong dedication to us...Support us and the patients"	4, 12, 24	P6
"It helps those clinicians who see value in it" "It's allowed me to learn things I didn't realize that I'd need." "prevents me from being isolated as an individual PT	3, 12	P7
"gives you an idea of new things to try and new ways of doing things…we all get caught in a routine it kind of helps push you out of that"	3	P8
"I have learned many advanced skills from my selections" "different techniques to do my job" "advances your skill level"	3, 12	P9
"heightened level of confidence and abilities"	3	P10

Table 26

CE Provider Benefits: Professional Goals, Competency, Confidence, Job Satisfaction, & Ethics

Participant Response: Professional Goals	**Question**	**Participant**
helps me reach my professional goals	1	P10
"I'd gone back and for my master's…I got my geriatrics specialization…my ultimate goal was to be a certified geriatric specialist"	12	P4
Participant Response: Competency	**Question**	**Participant**
"any certification that you get you have validation of academic achievement, and clinical stuff" "We really focused on competency" "it validates your efforts…they want you to be more clinically competent"	3, 24	P2
"Therapist is more competent"	4	P10
Participant Response: Confidence	**Question**	**Participant**
"heightened level of confidence and abilities" "improve confidence in treatment and diagnosis"	3, 12	P10
"more confident as a physical therapist"	12	P5
Participant Response: Job Satisfaction	**Question**	**Participant**
"It's allowed me to learn things I didn't realize that I'd need." "prevents me from being isolated as an individual PT	12	P7
"prompted a huge interest for me [in treating a specific population of patients]"	12	P8
Participant Response: Ethics	**Question**	**Participant**
"PT Code of Ethics requires us to be lifetime learners and be competent providers. Law helps meet that requirement"	8	P10

Patients. All of the participants believed that their patients benefited from their participation in CE through improved patient care and patient outcomes. Participants pointed to benefits such as improved patient care and outcomes because:

- they had more techniques and approaches that they could use when treating their patients,
- they had higher levels of knowledge and could identify when a patient needed to be referred back to a doctor,

- they had built relationships with other physical therapists and therefore had more resources available that could help them problem solve and provide patients with education, knowledge, and information, and
- the additional skills or specializations that they had meant that patients in more rural communities did not have to travel as far to get the care they need.

Table 27

Continuing Education Patient Benefits

Participant Response: Improved Patient Care	**Question**	**Participant**
"I think it [patient care] would improve if they did it" "treating our patients with the most up to date evidence based practice. According to that they should be getting people either better or moving them along the system if they are not getting better." "treating our patients with the most up to date evidence based practice. According to that they should be getting people either better or moving them along the system if they are not getting better." "better techniques and approaches …proven to be reliable" "They [patient] get better quicker"	3, 4, 12, 19	P1
"When you have more tools in your toolbox, if one approach is not working for a patient, you can offer a different approach and see if that is more effective for them." "the [different] techniques…approaches…something else that needs further attention referring back to the physician [benefits my patients]."	4, 19	P3
"staying on top of the latest treatment techniques, the latest research trying to get…people better faster." "higher level of knowledge in the field…apply that knowledge to my patients to help them get better faster" "better understanding of [a particular diagnosis], and with a better understanding you can educate [the patient]"	4, 19, 20	P5
"Even if you're not excited about a course you can learn and apply it. Patients benefit from the new knowledge." "provide individualized treatment…[provide] out of the box approach"	4, 19	P7
"You might have a challenging or difficult patient and you can have some newly learned technique that kind of helps you make their recovery better." "new technique…to get them better outcome"	12, 19	P8
"allows you to discuss cases and problem solve" "Therapist is more competent" "putting together a comprehensive plan of care for my patients" "increases your skills and knowledge" "[develop] mentors…experts...resources when providing care and solving complex cases" "Increases competency to provide better care to patients"	3, 4, 12, 19	P10

Participant Response: Improved Patient Outcomes & Satisfaction	Question	Participant
"improved outcomes and patient satisfaction." "I'm … more knowledgeable … so I can pass that knowledge on [to the patient] in more meaningful ways" "I always listen to my patients…get a perspective of theirs…what means success for them"	4, 19, 20	P2
"other clinicians as a resource…free material I can get...knowing where to find things…networking" "[CE] changed my practice…I wanna' make sure that the outcome measure matches what that persons ability's gonna' be."	19, 20	P4
"if you have a difficult patient and they aren't responding to traditional forms of therapy, then you can pull out a tool that you've learned from a course." "better outcomes…patients get better faster because of the skill set I have."	12, 19	P9
Participant Response: Convenient Care Options	**Question**	**Participant**
"I needed to know about the thumb, so I needed to take a course on the thumb. So a very specific thing that I was looking for to address patient problems." "that in our community, people have to drive to a larger town to get treatment and if I can have that [knowledge] and offer that for them, they won't have to drive"	12, 19	P6

(table continues)

Summary

The main research question that was addressed by this study was how mandatory CE influenced the professional competency of physical therapists in Illinois and patient care. In order to do that, this study examined the experiences of 10 Illinois licensed physical therapists, who had gone through at least one license renewal cycle and therefore had experience with Illinois's mandatory CE law. A phenomenological study was conducted in order to examine the participant's experiences and feelings about Illinois's CE law. The participant responses were analyzed using framework analysis and then placed in the themes found in the literature review in Chapter 2.

Study participants were asked about the perceived effectiveness of Illinois's CE law and whether they felt it improved the practice of physical therapists and patient care. They were asked about the motivating factors and the barriers to CE, what they looked for when selecting a CE course, and whether they implemented CE knowledge in the

workplace. Finally they were asked about their employer's support for CE and the benefits of CE to the employer, the provider, and the patients.

Main Research Question

The main research question examined how mandatory CE influenced the competency of physical therapists and patient care in Illinois. Findings from each of the sub questions were used in answering the main research question. Themes found in the literature review, which impacted a physical therapists competence and subsequently patient satisfaction, were:

- motivating factors, which encourage physical therapists to take CE courses and apply the knowledge from those courses in their clinical practice;
- barriers, which discourage physical therapists from taking CE courses and discourage the application of CE knowledge in their practice; and
- organizational support for CE.

As identified earlier, while participants did find flaws with Illinois's CE law, overall they believed it was a good thing. Participants believed it created accountability and improved the knowledge skills and abilities of physical therapists. Participants believed that the improved practice by physical therapists, through new knowledge and advanced skills, resulted in the better treatment of patients allowing them to get better faster, improving patient satisfaction.

Sub question 1

Sub question one examined how Illinois physical therapists perceived the effectiveness of Illinois's CE law. Sub question one examined physical therapists feelings

about Illinois's CE law, the impact of the law on their practice, the impact of the law on patient care, and whether or not changes to the law needed to be made. According to the participant responses, CE had a positive influence on their competency and subsequently on patient satisfaction. Participants identified that when CE courses focused on improving provider competency, were quality courses, provided advanced skills, and were within a physical therapists area of practice it could improve a physical therapists competency and subsequently patient care, through improved patient outcomes and satisfaction. According to P1,

> Well, if we're keeping up to date with the evidence out there and utilize the information that we are given . . . then we should be utilizing that information, treating our patients with the most up to date evidence based practice. According to that they should be getting people either better or else moving them along in the system if they are not getting better.

However, participants also noted that there was no tool to validate if CE was improving provider competency. They pointed out that there were poor quality courses and there were some physical therapists that did not take courses that improved their competency, but were only looking for low cost options to get their hours in for license renewal. For example P9 stated, "You can take as many courses as you want, but if you don't have the personality to be a good therapist then you won't have good outcomes."

Sub question 2

Sub question two examined how human motivation impacted the choice of CE coursework and use of CE knowledge in the workplace. Chapter 2 identified themes such

as motivating factors, barriers, choice of CE coursework, and the use of CE knowledge in the workplace that impacts CE on physical therapist competency and patient satisfaction. Responses by study participants indicated that they were motived by self-confidence, job satisfaction, and professional recognition. This was accomplished by becoming a better therapist to deliver care confidently to patients, by becoming a specialist in their area of practice, and having satisfied patients and employers.

However, participants indicated that barriers could hinder the competency of physical therapists and patient satisfaction. For example, time barriers such as family commitments could get in the way of attending CE course. The distance of a CE course was also a deterrent, leading to increased costs for taking a course. Cost was also an issue when participants had to pay for all or part of their CE because their employer did not cover it. Organizational policies and budgets also created barriers. Examples given by participants included:

- a lack of funding for CE opportunities for providers,
- a lack of funding for appropriate equipment,
- insurance companies limiting the number of visits allowed for patients, and
- work pressures that prevent participants from implementing new knowledge in their practice.

Participants pointed to provider barriers such as the provider's attitude, juggling dual licensure requirements, the inability in finding advanced courses, and a lack of uniformed treatment of patients in a clinic that can impact the performance of physical therapists and patient outcomes. Finally participants identified patient barriers such as patient

communication, patient attitudes, and patient expectations as barriers that can impact patient outcomes and satisfaction.

Participants attended both formal and informal CE activities. However, participants showed a preference for formal class-based CE because they felt the courses were higher quality and evidence based. Participants also pointed to the benefit of labs, demonstrations, and one-on-ones with instructors that helped them to grow as physical therapists and provide better care to their patients.

All of the participants acknowledged that they used formal CE knowledge in their practice. Participants indicated that formal CE improved their practice, they learned new treatments, and had a better understanding of a particular diagnosis. Half of the participants also stated that they used their knowledge from informal CE courses in their practice. Participants felt that they had better compliance with rules and regulations, and were taught some techniques during in-service that could be used with patients right away.

Sub question 3

Sub question three examined how CE training and other systems influenced a physical therapists competence and patient satisfaction. Chapter 2 identified themes, such as the various systems and training that influenced a physical therapist competence and the benefits of CE on the organization, provider, and patient. Some of the themes identified by study participants touched on organizational support for CE and the benefits of CE to the organization, provider, and patient.

A majority of the participants indicated that they received some support for their CE activities from their employers such as financial support to onsite training opportunities. Participants who had their CE paid for by their employers indicated that the CE course had to be relevant to their clinical practice. Participants also indicated that their organizations supported their use of CE in their practice. Participants pointed to employer support of knowledge sharing with co-workers through in-service programs and peer groups. Employers encouraged the use of new skills that help patients get better faster. Employers also supported CE because they were then able to market their employees' skills and abilities to the public.

Participants pointed out that CE provided a host of benefits to the organization, the provider, and patients. Participants identified organizational benefits, such as marketing and referrals, which led to increased revenue for employers. Additionally information sharing of skills between physical therapists in the clinic added to special skills and reduced training costs to the organization. Participants also pointed to increased patient satisfaction, because when patients got better faster they were happier. When patients are happy and satisfied they come back and refer others. Additionally the specialized skills of physical therapists also led to referrals by other organizations. Finally participants pointed out that organizational support for CE helped organizations with employee recruitment.

Other CE benefits were to the provider. Participants pointed to benefits such as improved knowledge skills and abilities that helped improve their competency and self-

confidence. Participants also stated that CE courses had helped them reach their professional goals and improved their job satisfaction.

Finally patients also benefited from a physical therapist's involvement in CE. According to participants, patient care was improved by having more knowledgeable and skilled providers. Additionally, having skilled practitioners in rural areas allowed for patients to be treated locally so they did not have to travel as far for specialized care. Participants felt that those factors ultimately led to improved patient satisfaction and outcomes.

This chapter discussed the method used to analyze the study data. Study results were then presented by research question and the themes found in the literature review, and summarized above. The final chapter, Chapter 5, will present the study's findings, conclusions, social change implications, and provide recommendations for future studies.

Chapter 5: Findings, Conclusions, and Recommendations

Introduction

The purpose of this phenomenological study was to understand the role mandated CE plays in improving the competency of licensed physical therapists in Illinois and whether mandating CE is the best method for addressing provider competency. According to the Illinois Physical Therapy Act (2001), "It is the legislature's intent that only individuals who meet and maintain prescribed standards of competence and conduct may engage in the practice of physical therapy." In order for that to occur, the Illinois state legislature passed a law that requires Illinois physical therapists to complete 40 hours of CE every two years in order to renew their professional license. The purpose of mandated CE for licensed physical therapists is to increase the competency of the healthcare professional and to protect the public they serve (APTA & FSBPT, 2010).

The problem this study addressed was the need to examine the effectiveness of Illinois's CE law on its effectiveness in improving the competency of physical therapists and its impact on the health and wellbeing of the public they serve. In order to accomplish this, a phenomenological study was undertaken to understand what role mandated CE played in improving the competency of licensed physical therapists in Illinois and whether mandated CE was the best method for addressing provider competency. A phenomenological methodology was selected for this study in order to examine the experiences of those individuals impacted by the phenomenon under investigation. In this study, the phenomenon under investigation was the impact of CE on the development of physical therapist competency.

How CE impacts the competency of physical therapists and its impact on patient care is discussed through the theoretical frameworks of systems theory and human motivation theory. This final chapter includes a discussion of the findings in this study in relation to the findings in the literature review. Finally, the implications for social change, study limitations, and recommendations for further study are also addressed.

Findings

As discussed in Chapter 2, the conceptual frameworks used in this study were Senge's systems theory, along with Maslow and McGregor's theories of human motivation. Systems theory was used in order to examine the relationships between the physical therapist, patient, and organization on the effectiveness of CE. Human motivation theory was used in order to examine what motivates physical therapists to pursue or take CE courses.

Systems Theory

As identified in Chapter 2, systems theory is made up of two components: systems thinking and learning organizations (Senge, 2006). According to Senge (2006), the development of learning organizations can only be created through systems thinking. Systems thinking examines how the organization influences how individuals work and, conversely, how the individuals in the workplace influence the organization (Senge 2006). In this study, the systems examined were the organization, the provider, and the patient. Learning organizations are defined as "an organization that is continually expanding its capacity to create its future" (Senge, 2006, p 14). In other words, organizations continue to strive to be better in order to be more competitive. In order to

do this, they must encourage four principles: personal mastery, mental models, shared vision, and team learning (Senge, 2006). Due to the complexities of the healthcare system, systems theory was used as one of the theoretical frameworks for this study in order to understand the impact of mandatory CE on the organization, the provider, and the patient.

Systems thinking. How the organization influences its employees and how the employees influence the organization is the foundation of systems thinking. Findings from the literature review identified that organizational support and organizational culture were important factors in a physical therapist using the knowledge and skills learned in a CE course. Brennan et al. (2006) found that organizational support of CE led to improved patient outcomes and decreased the number of patient visits. Similarly, Mazmanian et al. (2009) found that CE could be an effective mechanism for improving patient outcomes when the various healthcare systems work together. These findings from the literature review support the findings in this study.

In this study, when participants were asked if mandatory CE had encouraged their employers to provide learning and growth opportunities for physical therapists, seven out of 10 participants felt that it had. Most of the participants indicated that their employers provided on-site CE opportunities or encouraged them to participate in courses that benefited the organization. When asked about employer provided access to informal and formal learning opportunities, all of the participants indicated that their employers provided informal CE training such as regulatory training requirements, hospital required training, in-service training, and peer group and specialty group meetings. Six out of 10

participants indicated that their employers provided access to formal CE courses outside of the workplace. Employer support for CE was shown through financial support or reimbursement for CE courses and related activities and by providing training in the workplace. Additionally, for those participants that received financial support, the formal CE courses that they took had to be related to their area of practice.

All of the participants believed that their employers supported the use of their CE knowledge in their clinical practice. Not only was the use of knowledge encouraged with patients, but participants also indicated that their organizations wanted them to pass on the knowledge from the course to the other therapists in the clinic through in-service. Finally, nine out of 10 participants believed that their organizations support of CE knowledge in their clinical practice had improved patient outcomes.

Learning organizations. As noted above, the learning organization is made up of four principles or components: personal mastery, mental models, shared vision, and team learning. According to Senge (2006) learning organizations are dependent upon the individuals in it, "organizations learn only through individuals who learn" (p. 139). The first principle to learning organizations is personal mastery, which is achieved by the individuals in the organization. It "goes beyond competence and skills" (p. 141) according to Senge. As noted above in systems thinking, organizations provide CE opportunities to their employees in a variety of ways. Senge pointed out that organizations often provide their employees with learning and growth opportunities such as CE "because they believe it will make the organization stronger" (p. 143). As noted

above, many of the study participants indicated that their organizations do encourage or provide them with CE opportunities.

Personal mastery. Personal mastery goes beyond taking CE courses because "it is required by law." Personal mastery is focused on the intrinsic motivation of physical therapists as to why they participated in CE. MacKereth (1989), Murphy et al. (2006), Joyce and Cowman (2007), and Gunn and Goding (2009) identified a number of motivating factors that led healthcare providers to pursue CE beyond that of organizational support. Intrinsic motivating factors identified in the literature were for reasons such as personal growth, self-confidence, responsibility to their patients, and change in specialty. These intrinsic factors were also found in this study.

According to the study participants, the desire to improve their knowledge and clinical abilities was their primary reason for taking CE. However, some of the other reasons were for increased job satisfaction and self-esteem. Some participants were able to meet personal goals, while others just enjoyed learning. According to P2, "I mean it's amazing the land of physical therapy, to enjoy the science and to enjoy what you can do for a patient."

Mental models. Mental models are based on how individuals perceive the world around them (Senge, 2006). Findings from the literature review identified that physical therapists perceived that their organization supported their participation in CE when they received time off for CE activities or financial compensation (Austin and Graber, 2007; Landers et al., 2010). Support was also perceived when the organization identified or supported CE activities (Brennan et al., 2006; Munroe et al., 2008). Studies also

identified that if CE was not mandated, then many physical therapists would not participate or would not take CE courses relevant to their clinical practice (Landers et al, 2005). These findings are similar to those found in this study.

Table 1 showed that a majority of the participants indicated that mandating CE was a good thing. However, they also believed that if it was not mandated that some physical therapists would not do CE. A few of the participants also pointed out that the impact of CE on a physical therapist's practice was dependent upon the individual therapist's choice of classes and what they wanted to get out of it.

Additionally, the participants pointed to organizational barriers, shown in Table 10, which had an impact on the use of CE knowledge in the workplace. Participants pointed to organizational barriers such as internal and external policies, equipment barriers, and quality barriers. These are barriers that impact learning organizations that may be real or perceived by the participant. The organization itself has the ability to mitigate these organizational barriers and the way they are perceived or experienced by physical therapists. These organizational barriers are also consistent with those found by Salbach (2007) and Price et al. (2010).

Shared vision. Shared vision consists of an organization's effectiveness in creating organizational policies and goals, which have the support of their employees. It looks at the commitment or support that an organization has made to their employees. Findings in the literature review identified that the various healthcare systems must work together to be effective (Harrison, 2004; Austin & Graber, 2007; Mazmanian et al., 2009). Organizational support encourages healthcare providers to use the information

from CE in their clinical practice, which in turn has indicated improved patient outcomes. The literature review has identified that organizations benefit from improved provider skills, because it gives them a competitive advantage (Murphy et al., 2006; Aguinis & Kraiger, 2009). As identified earlier, findings in this study are supported by those found in similar studies.

This study looked at the support that organizations provided to their employees in terms of CE opportunities and support, for physical therapists, for using their CE knowledge in the work place. As discussed in systems thinking above, participants believed that overall their CE efforts are supported and encouraged by the organizations they work in. They also believed that their CE knowledge has not only benefited their patients, but their organization. Participants pointed out that patients benefited from better care from more highly skilled providers, which in turn led to better patient outcomes and satisfaction. Organizations benefited from being able to market the more advance skills and specializations of their providers, which led to more referrals and more income.

Team learning. Team learning combines personal mastery, mental models, and shared vision (Senge, 2006). Its focus is on learning to work as a team. Studies, identified in the literature review, have shown that organizational support of CE, followed-up by team learning, resulted in improved patient care and outcomes (Brennan et al. 2006).

This study found that organizations encouraged team learning through the use of in-service opportunities and through the meeting of peer and specialty groups. All of the participants in this study noted in table 24 that their organizations benefited from

knowledge sharing. P10 pointed out that after they attend a CE course they follow-up with an in-service course to share their knowledge with other physical therapists in the practice. Knowledge sharing, according to P10, makes them a better rehab team.

According to Senge (2006), systems thinking and learning organizations develop in tandem. Organizations are made up of people. Systems theory looks at the various systems at work that influence the individuals and the organizations they work in. The systems theory framework allowed this study to examine what motivated physical therapists to take CE, examined how individual beliefs influenced them, examined how individuals and organizations could work to create a shared vision, and finally, what role organizations had on team learning. Those organizations that harness the principles of systems thinking are able to increase productivity and improve organizational effectiveness (Senge, 2006).

Human Motivation

Human motivation theory was the second theoretical framework used to examine the factors that motivated physical therapists to take CE. Aspects of Maslow's hierarchy of needs, as well as McGregor's Theory Y will be discussed in this section. In Chapter 2, the literature review identified that motivating factors and barriers influenced individuals (Price et al., 2010). Motivating factors are tied to the factors that motivate physical therapists to pursue CE and use CE in the workplace. Barriers inhibit the pursuit of CE and the use of it in the workplace. As addressed in the literature review, these factors can encourage or discourage practitioners based on their individual needs (Austin & Graber, 2007; Price et al., 2010; Skees, 2010). Additionally the organization can encourage or

discourage practitioners as well (Austin & Graber, 2007; Lang et al., 2007; Salbach et al., 2007; Price et al., 2010; Skees, 2010).

The literature review identified that healthcare practitioners are motivated by needs such as: promotion or higher salary, personal growth through increased knowledge and clinical abilities, better employment, self-confidence, change in specialty, professional recognition, feeling or responsibility and the desire to be a leader (MacKereth, 1989; Murphy et al., 2006; Joyce & Cowman, 2007; Gun & Goding, 2009). Barriers identified in the literature were: the cost of CE which could be related to the cost of taking a course, how far away a course is, whether there were relevant CE courses in the area, family commitments, and time constraints such as a lack of time off (Murphy et al., 2006; Austin & Graber, 2007; Hegney et al., 2010; Maloney, 2011). As identified above, whether or not the organization supported CE could also act as a motivating factor or barrier. Studies have found that when an organization supports CE it improved the providers' skills in the workplace (Gunn & Goding, 2009). Additionally, practitioners with better knowledge helped shield the organization from liability and gave the organization a competitive advantage (Murphy et al., 2006; Skok, 2013. The motivating factors and barriers found in the literature review were also found in this study as identified below.

Study participants indicated that they were motivated to take CE by some of the higher-level needs, identified by Maslow, such as self-esteem and self-actualization. As described in Tables 5 and 6, the primary motivation for all of the participants was to improve their self-confidence as practitioners by improving their knowledge and skills.

Job satisfaction was the next motivating factor; with participants earning a specialty certification or advance degree. Job satisfaction was also improved when participants had additional resources available to them or had a new tool they could use to help with difficult patient cases. Professional recognition from patients and employers were also motivating factors, as was the CE mandate for license renewal.

Participants also identified barriers to CE that were provider related, in Table 12. Six of the participants identified provider related barriers such as provider attitudes, compliance with multi-state mandates, and a lack of challenging courses. The largest provider barrier was that of the provider's own attitude towards CE. For example, P6 stated, "I think it's very much dependent upon what the therapist wants to do and wants to get out of it."

McGregor's Theory Y is a management approach focused on motivating employees, encouraging them to reach their full potential by giving them opportunities to meet their needs. Additionally, by motivating employees, organizations are better able to meet their full potential and become more competitive. Study participants pointed to several benefits to the organization from their participation in CE. As described in Table 24, all of the participants pointed to the benefits of knowledge sharing and skills to the organization, which led to better compliance with rules and regulations, and uniformed treatment of patients in the clinic. According to participants, organizations benefited from marketing the advanced or special skills of their employees, and also benefited from increased referrals due to their special skills. Both marketing and referrals brought in

more money to the organization. Finally, the organization also benefited from satisfied patients due to improved outcomes, because their physical therapists had advanced skills.

Participants also pointed to organizational barriers to CE, identified in Table 10. Organizational barriers impacted a physical therapist's coursework and the use of CE knowledge in the workplace. Nine of the participants identified organizational barriers such as quality CE courses, the internal policies of their companies, the external policies of other organizations in the healthcare system, and equipment barriers. Four of the participants pointed to internal policies such as, a lack of financial support or organizational support in helping providers meet their CE needs, or a lack of support in transferability or use of knowledge in the workplace. Three of the participants pointed to the cost of equipment as barriers. Three of the participants pointed to external organizational policies as barriers, such as insurance company limits to treatment, and sponsorship requirements for CE providers. Additionally, three of the participants pointed to the quality of CE courses offered by CE providers.

Implication for Social Change

Whether or not mandatory CE improves the competency of physical therapists, and subsequently patient care and satisfaction, was the social need addressed by this study. This study adds to the body of research on CE, specifically the impact of CE on physical therapists and their patients. It also provided important information on the impact of CE to key decision makers in Illinois and the various stakeholder groups.

Participants in this study agreed that, while Illinois's CE law does not guarantee competency, it was needed. When asked about the law, P5 stated, "I think it's a good

thing . . . as professionals we should be required to do CE on a regular basis. And I don't think, if you don't mandate it, people won't necessarily do it." Similarly, when asked about how CE influences the performance of physical therapists, P8 stated that, "it keeps people accountable for their actions."

Some of the reasons that the law does not guarantee competency was noted by P2, "we can't validate it." Additionally, P9 pointed out,

> It depends on the therapists and the type of courses they take. Again for me I usually spend the money and take reputable, worthwhile courses where I can usually take the information and use it in the clinic the next day. I have learned many advanced skills from my selections. Most of my co-workers that have graduated recently are waiting 'til the last minute and taking courses they are not really interested in, they are just trying to fill hours the cheapest way because of student loan debt. I feel they are missing out on learning more advanced skills. If this is happening in other states or facilities it will change the expertise of future therapists and affect patient outcomes.

Despite the uncertainty among participants about the laws effectiveness in meeting its goal of improved physical therapist competency, a majority of the participants believed that, the law ultimately improved patient satisfaction and outcomes. According to P1,

> Well if we are keeping up to date with the evidence out there and utilize the information we are given that is good . . . Then we should be utilizing that information, treating our patients with the most up to date, evidence based

practice. According to that they [physical therapists] should be getting people either better, or else moving them along in the system if they aren't getting better.

All of the participants in this study acknowledged that they participate in CE to learn new skills and techniques. The study participants indicated their desire to continually improve their competency as physical therapists. Additionally the participants pointed out that they use the knowledge from their formal CE courses in their physical therapy practice. According to P4, "I wanna' make sure that the outcome measure matches what that persons ability's gonna' be. So yeah, it's changed my practice and expectation for older adults."

Finally, all of the participants believed that their patients have benefited from their participation in CE. According to study participants, patients benefited because the physical therapist had different techniques that they could use if one technique was not working, and by being more knowledgeable, they could get better patient outcomes. According to P8, "they [patient] have gotten a new technique that I have learned . . . that I'll try on them to try to get them better outcomes with their rehabilitation." Similarly, P9 stated, "I think I get better outcomes and sometimes the patients get better faster because of the skill set I have."

Limitations and Recommendations for Future Research

Limitations identified at the beginning of this study made the assumption that the topic of the mandatory CE law and its impact on provider competency would be of sufficient interest to attract participants to the study. That was not the case, and required a change in recruitment strategy and time in order to draw enough participants.

Additionally, this study required participants to draw information based on their CE experience since their initial licensure. As with studies that require self-reporting, participant recall of events may have resulted in inaccuracies. However, findings from this study have been supported by the findings from the literature review.

Additional limitations found in the study were on the impact of CE on providers and patients due to the inability to measure the outcomes. Not only was there an inability to measure the impact of CE on the participant, but there was also no way to measure the outcome of CE's impact on patients. As pointed out by P2, "there is no validation that we have in most cases what we learn," while P8 pointed out "there isn't really any outcome based measures or anything that we're doing with people."

Despite the lack of measurable outcomes, participants believed that CE had improved their knowledge, skills, and abilities. Additionally, many participants believed that they had seen their patients "get better faster," had "better outcomes," and saw greater "patient satisfaction." As shown in Table 23, according to participants, some of the methods used to determine patient outcomes or satisfaction were through employer developed patient satisfaction surveys, through tools such as standardized functional outcomes, or through the examination of clinic data that showed patients at one clinic got better faster than at others. Future research into understanding patient outcomes, could examine the tools identified above.

The purpose of using a phenomenological methodology in this study was to examine the lived experiences of a phenomenon from the point of view of those who had experience with the phenomenon in question (Moustakas, 1994). A purposeful

convenience sample was used in this study. The participants recruited were physical therapists that had experience with Illinois's CE law. However, future studies could examine Illinois's CE mandate from the point of view of CE providers. For example, P8 pointed out that in order to provide CE courses in Illinois, the organization must be an approved CE provider; while P6 pointed out that some CE providers make them "sign an agreement that you will not teach anybody else the techniques and you have to pay a yearly fee to use their equipment." Additionally, the employers' viewpoint could be examined as well. For example, as indicated by P6 above, specialized equipment may need to be used in order to practice a specific technique. P5 pointed out "you might need particular equipment that maybe your clinic doesn't have or can't afford right now."

Summary

Chapter 1 laid out a road map for this study. It started out by identifying the policy problem and then moved on to the purpose and nature of the study, the research questions under investigation, the assumptions, limitations, the scope of the study, and set forth the study's implications for social change. Chapter 2 was the literature review. The literature review looked at previous studies into CE and provider competency. It examined the various methods of CE, how provider competency is evaluated, the motivators and barriers to CE, and established the theoretical frameworks that would be used to examine the phenomenon under investigation. Chapter 3 set forth the research method that was used in this study. It identified the study questions, the research design, participant selection, the data collection procedures, how the data would be analyzed and interpreted, how quality would be ensured, and the participant protections and ethical

considerations. Chapter 4 provided the data analysis and results of the study. It explained the method used to analyze the data and provided the results to the research questions in the study. Finally, Chapter 5 examined the study findings, which were supported by the findings in the literature review, conclusions, and recommendations for future study.

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Appendix A: State Continuing Education/Continuing Competency Laws 2013

State	CC/CE	Renewal Period	CC/CE Hours	Activities Allowed?	Notes
Alabama	Yes	Annual	10 hours of CE.	APTA Sponsored events (seminars, self directed study, etc.), advanced certifications, college or university courses taken or taught.	
Alaska	Yes	Every 2 years	24 contact hours of CE.	CE & jurisprudence exam. Approved courses related to PT competency.	1 contact hour = 50 min classroom instruction
Arizona	Yes	Every 2 years	20 contact hours.	3 categories of activities. Approved CE course/program, specialty certification, residency, post grad coursework, correspondence course, internet, video, in-service programs, teaching/lecturing.	1 contact hour=60 min of instruction.
Arkansas	Yes	Every 2 years	2 CEU's.	Accredited course/program and passage of jurisprudence exam.	1 CE Unit = 10 contact hours. Number of hours in a seminar/workshop.
California	Yes	Every 2 years	30 hours of CC.	Specifies exact number of content hours in a specific category. Publishing, developing CE course, Board exam subject expert, serve on taskforce, clinical instructor, attending a conference/board mtg., FSBPT practice review tool, specialty certification, & Board's CA law exam.	Continued Professional Development
Colorado	Yes	Every 2 years	Unknown	Self assessment, learning plan, Demonstration of skills,	Continuing competency program passed in 2011 begins in 2014
Connecticut	Yes	Annually	20 hours	CE must be related to an individual's area of practice. Specific CE types are not defined.	Must be related to CC.
Delaware	Yes	Every 2 years	3 CEUs.	College, university, extension, independent study, seminars, workshop, conferences, lectures, video tapes, professional	1 CEU = every 10 hours of an approved CE course

				presentations, publications, in service, peer review & non peer review publication, holding office, & clinical instructor.	
DC	Yes	Every 2 years	4 CEUs or 40 credit hours	Eligible CE courses are specified by the DC Board of PT.	
Florida	Yes	Every 2 years	24 hours CE	Courses sponsored by colleges and universities with a PT program.	
Georgia	Yes	Every 2 years	30 clock hours	Must have 4 hours in ethics and jurisprudence or jurisprudence exam. Have 2 classes of CC requirements.	Continuing Competence - new rules heard May 2013
Hawaii	None				
Idaho	Yes	Annual	16 contact hours	Hours must be germane to practice. Academic courses, workshops and conferences, authored research, home study, supervision, and specialty certification.	
Illinois	Yes	Every 2 years	40 hours of CE.	Teaching an approved CE course, Specialty certification, residency or fellowship, peer-reviewed & non peer reviewed article or presentation, self-study, journal clubs, Department in service, IPTA education programs, professional leadership, & clinical instruction.	CE hour = 50 min.
Indiana	Yes	Every 2 years	22 hours, of CE	CC must come from category I & II activities. Formal courses, workshops, seminars, symposia, home study, for credit courses, research/writing, teacher, presenter, supervision, in house seminars, active participation in professional organizations, attendance at INPTA state or district meetings, other activities as approved by the committee.	Continuing Competency effective Feb. 2013. 2 hours of jurisprudence & ethics required for 1st renewal.
Iowa	Yes	Every 2 years	40 hours, 20 must be clinical.	Organized program of learning, conferences, symposiums, academic courses, electronic based courses, teaching in an approved college, presentations, author, and other career related topics.	Licensees must finance the cost of CE.

Kansas	Yes	Every 2 years	40 hours CEU.	Lecture, panel, workshop, seminar, symposium, in-service training, college/university courses, administrative training, self instruction, professional publications,	1 contact hour = 60 min of instruction
Kentucky	Yes	Every 2 years	40 hours CE.	CC & Jurisprudence exam (2 hours). Hours earned between category I & II CC. Courses, symposia, workshops, home study, college/university course, presentation, authorship, teaching, specialization certification, residency/ fellowship, 1,000 hrs of PT practice, board appointment, event attendance, reading journal articles, in service, community service related to healthcare, CPR, HIV Aids course.	Continued Competency
Louisiana	Yes	Every 2 years	30 hours of CE.	Must directly relate professional competence. Jurisprudence exam and ethics. Courses and activities sponsored by APTA, clinical coursework, residency, fellowship, College/University, clinical instructor/academic coordinator, publication, & presentations.	
Maine	None				
Maryland	Yes	Every 2 years	3 CEUs	Post graduate work, authorship, seminar, conference, workshop, home study, professional education, APTA courses.	3 CEUs = 30 contact hours.
Massachusetts	None				Recommends PTs participate in continuing competence.
Michigan	None				Individuals responsible for maintaining their competency
Minnesota	Yes	Every 2 years	20 contact hours of CE.	3 categories of activities. Educational activities approved by the board, In-service educational activities, teaching, lecturing, or presentations.	1 contact hour = 60 min.
Mississippi	Yes	Every 2 years	24 hours.	Association/AMA educational programs, presentations, academic course work, home study.	

Missouri	Yes	Every 2 years	30 hours of CE.	Education intended to expand and improve knowledge. Organized program of learning. APTA, MPTA, FSBPT, AMA, AOA courses. Courses, seminars, programs, academic coursework, post graduate clinical program, delivery of a presentation/program, research & publication, home study, Grand Rounds, CPR, clinical instructor.	
Montana	Yes	Every 2 years	20 hours of CE.	Courses live or electronic, must meet continuing competency requirements of FSBPT, clinical specialty coursework, teaching or lecturing, member of APTA, APTA clinical instructor, Board member of the MAPTA, APTA, FSBPT, publication, and jurisprudence exam.	
Nebraska	Yes	Every 2 years	20 hours of CE.	Requires passage of the Nebraska Law Tutorial (jurisprudence exam). Continued Competency as specified by the APTA/FSBPT. Programs @ state /national association mtgs., formal PT course/presentation, University PT course, home study, management courses related to PT, video or satellite program, research paper or other scholarly activities, residency/fellowship program, Specialty certifications, supervisor of clinical education.	
Nevada	Yes	Annually	1.5 CEUs/15 contact hours	Lectures, seminars, classes, correspondence course, APTA approved certification exam.	
New Hampshire	Yes	Every 2 years	24 hours of CPE.	Academic coursework, seminars, conferences, workshops, in-service training, formal mentored independent study, direct supervision in clinical setting, supervision of conditional licensee, publications, professional presentation, service on professional boards/committees, distance learning, teaching, journal, mentor of PT in clinical	

				residency/fellowship, infection control education, practice review tool, research project, specialty certification, & academic coursework.	
New Jersey	Yes	Every 2 years	30 credits of CE.	Must include ethics & jurisprudence. Professional courses, academic coursework, electronic courses or seminars, journals, presentation of CE course, research & writing, courses, programs, seminars, clinical specialty certification, residency/fellowship, FSBPT practice review tool.	CE course, programs, or seminars must have an exam at the end.
New Mexico	Yes	Every 2 years	30 hours of CE.	Lecture, CPE, fellowship, panel, workshop, seminar, symposia, APTA programs, university/college courses, in-service programs, management courses, presentation, specialty certifications, journal reading, PT research, home study, internet, alternative medicine courses, residencies/fellowship, APTA ethics program, supervision of student in clinical setting.	
New York	Yes	Every 3-years	36 hours of CE.	Formal courses related to practice. College credit, preparing/teaching a course, technical presentation at conference, specialty certification, self-study, author, & jurisprudence exam.	
North Carolina	Yes	Every 2 years	30 points of CC.	Course or conference, electronic courses/self-study, residencies/fellowships, FSBPT practice Review Tool, Clinical instructor certification, presenting/teaching, Clinical practice, self assessment, in-service, service w/in a professional association, & jurisprudence exercise.	
North Dakota	Yes	Every 2 years	25 hours of CE.	Must be related to clinical practice, CPR certification, self-study, coursework, teaching.	

Ohio	Yes	Every 2 years	24 hours of CE.	Courses must improve the competence of PTs. Organized program of learning in person or self-study, teaching, authorship.	
Oklahoma	Yes	Every 2 years	40 contact hours.	CE must contain ethics education, CE course, synchronous education, presenter, post grad, Publication, study groups, home study/internet, publishing, study groups, learning opportunities, FSBPT practice review tool.	
Oregon	Yes	Every 2 years	24 hours of CE.	Courses, seminars, workshops, CEU by recognized PT entity, university/college, CPR course, teaching course, publishing, clinical instructor, activities by board approval.	
Pennsylvania	Yes	Every 2 years	30 hours of CE	Need CE hours in law & ethics, APTA/FSBPT/CAPTE courses, fellowship/residency, specialty certification, authorship.	
Rhode Island	Yes	Every 2 years	24 hours of CE.	Formal presentations, conferences, college/university coursework, self-study, teaching, clinical supervision.	
South Carolina	Yes	Every 2 years	3.0 CEUs	Organized program of learning related to professional competency. APTA & SCAPTA CE programs, college coursework, AMA CE, in-service, CPR, FSBPT CC, clinical certification.	30 hours of CE.
South Dakota	None				
Tennessee	Yes	Every 2 years	30 hours CC.	Requires passage of jurisprudence exam & ethics. Defined as planned learning activities beyond initial licensure. Class I & II activities: Audit, Courses, workshops, seminars, home study, University credit, CE presenter, author, PT teacher, specialization cert., advanced degree, clinical residency, reading professional journals, PT study group, in-service programs, PT delegate/board member.	

Texas	Yes	Every 2 years	30 CCUs	Hours must include ethics and professional responsibility. CE programs: onsite/paper/web, in-service, conferences, college/university courses, publication, program/course development/teaching, residencies/fellowships, exams, practice review tools.	
Utah	Yes	Every 2 years	40 hours of CE.	CE must include coursework in ethics & law, teaching, post professional doctorate, clinical residency/fellowship, course content must be related to PT and can consist of lecture, seminar, conference, webinar, internet, training. Journal club, authorship, presentation, specialty certification.	
Vermont	Yes	Every 2 years	24 CCUs.	Must be related to PT practice & patient/client management.	
Virginia	Yes	Every 2 years	30 hours of CC.	15 hrs. must be from didactic forms of CE approved/provided by the VPTA/APTA/colleges/university/JCAHO/AMA/NATA/government agencies, & specialty certification. Remainder of hours can come from activities that relate to the PT profession.	
Washington	Yes	Every 2 years	40 hours of CC.	CE must be related to PT practice, courses in person or electronic, journal articles, clinical practice, service on PT boards/commissions, teaching/presentations, ethics, PT coursework, & consulting.	
West Virginia	Yes	Every 2 years	24 CE units.	Specialty certification, residency/fellowship, FSBPT practice review tool, clinical instruction, CE course CAPTE college/university/APTA/WVPTA.	1 CE Unit = 1 clock hour.
Wisconsin	Yes	Every 2 years	30 hours of CE.	Must have hours in ethics and complete a jurisprudence exam. Seminars, lectures, symposia, conferences, self-study, clinical specialty certification, authorship, presentation/teaching, web	

				based, PT course development, clinical instructor, PT study group, serving as a APTA delegate or PT board/commission.	
Wyoming	Yes	Every 2 years	20 hours of CE.	15 hours must be clinical and remainder related to job responsibilities. CPR & jurisprudence exam.	

Note. Adapted from "State continuing education requirements," by TodayinPT.com a Gannett company, 2013. Retrieved from http://ce.todayinpt.com/state-ce-requirements

Appendix B: IL PT Practice Act Violations Since 2001

Date	Act Violations	Type
Jan-01	0	
Feb-01	1	Inappropriately touching 2 female patients
Mar-01	0	
Apr-01	0	
May-01	0	
Jun-01	0	
Jul-01	2	Both cases defaulted on Il Student Assistance loans
Aug-01	0	
Sep-01	0	
Oct-01	1	Defaulted on Il Student Assistance loan
Nov-01	0	
Dec-01	0	
Jan-02	0	
Feb-02	0	
Mar-02	2	Both cases failure to document patient care & treatment
Apr-02	0	
May-02	0	
Jun-02	0	
Jul-02	0	
Aug-02	0	
Sep-02	0	
Oct-02	1	Practicing on a nonrenewed license
Nov-02	0	
Dec-02	0	
Jan-03	1	Unlicensed practice
Feb-03	1	Practicing on a nonrenewed license
Mar-03	0	
Apr-03	0	
May-03	0	
Jun-03	0	

Jul-03	0	
Aug-03	0	
Sep-03	0	
Oct-03	1	Defaulted on Il Student Assistance loan
Nov-03	0	
Dec-03	0	
Jan-04	0	
Feb-04	0	* 2 PT Assistants reprimanded
Mar-04	0	
Apr-04	0	
May-04	0	
Jun-04	0	
Jul-04	0	
Aug-04	0	
Sep-04	0	* CE sponsor reprimanded practice prior to licensure
Oct-04	0	
Nov-04	0	
Dec-04	0	
Jan-05	1	Falsifying treatment record & billing for PT services (* 2 PT Assistants reprimanded for practicing unsupervised)
Feb-05	0	* 1 PT assistant reprimanded for practicing unsupervised
Mar-05	0	
Apr-05	0	
May-05	0	
Jun-05	0	
Jul-05	0	
Aug-05	0	
Sep-05	0	
Oct-05	0	
Nov-05	0	
Dec-05	2	1 disciplined in CO. & 1 practicing on nonrenewed license
Jan-06	0	
Feb-06	0	
Mar-06	0	
Apr-06	0	
May-06	1	Delinquent in child support payments

Jun-06	0	1 PT assistant unlawful possession of controlled substance
Jul-06	1	Default on Il Education loan
Aug-06	1	Exam score invalidated after found confidential exam materials used
Sep-06	0	
Oct-06	1	Default on Il Education loan
Nov-06	0	
Dec-06	0	
Jan-07	1	Attempted aggravated battery of a child
Feb-07	0	
Mar-07	0	
Apr-07	1	Felony conviction 1st degree murder
May-07	0	
Jun-07	0	
Jul-07	1	Positive drug test
Aug-07	0	
Sep-07		
Oct-07	1	Falsifying treatment records
Nov-07	0	
Dec-07	1	Unprofessional conduct w/a patient
Jan-08	0	
Feb-08	0	
Mar-08	0	
Apr-08	0	
May-08	0	
Jun-08	1	Exam score invalidated after found confidential exam materials used
Jul-08	0	
Aug-08	0	
Sep-08	1	Reprimanded for taking an exam prepclass which used live questions (1 unlicensed practice as PT assistant)
Oct-08	0	
Nov-08	0	
Dec-08	1	Failure to comply with terms of probation
Jan-09	0	

Feb-09	0	
Mar-09	1	Failure to pay Il income taxes
Apr-09	0	
May-09	1	Misdemeanor conviction domestic battery
Jun-09	1	Default on Il Education loan
Jul-09	0	
Aug-09	0	
Sep-09	1	Failure to pay Il income taxes
Oct-09	0	
Nov-09	0	
Dec-09	1	Controlled substance
Jan-10	0	
Feb-10	0	
Mar-10	1	Patient abandonment
Apr-10	1	Reprimanded for poor patient record treatment
May-10	0	
Jun-10	0	
Jul-10	0	
Aug-10	1	Unlicensed practice during suspension
Sep-10	0	
Oct-10	0	
Nov-10	0	1 PT assistant excessive alcohol
Dec-10	0	
Jan-11	0	
Feb-11	1	Positive drug screen
Mar-11	0	
Apr-11	0	
May-11	0	
Jun-11	0	
Jul-11	1	Inadequate patient treatment documentation
Aug-11	0	
Sep-11	0	
Oct-11	1	Failure to pay Il income taxes
Nov-11	0	
Dec-11	1	Conviction & sex offender reg. act. 1 unlicensed practice of physical therapy

Jan-12	0	
Feb-12	0	
Mar-12	0	
Apr-12	1	Drug test positive
May-12	0	
Jun-12	0	
Jul-12	0	
Aug-12	1	Record keeping violation
Sep-12	0	
Oct-12	2	In adequate supervision of PT assist. & ethics violation
Nov-12	2	Improper billing & advertising violation
Dec-12	1	Delinquent in child support payments
Jan-13	0	
Feb-13	0	
Mar-13	0	
Apr-13	0	
May-13	1	Record keeping violation
Jun-13	1	Minimal level of practice standards not met.

Note. Adapted from "IDFPR consolidated reports," by the Illinois Department of Financial and Professional Regulation, 2001-2013. Retrieved from http://www.idfpr.com/News/Disciplines/DiscReportsDefault.asp

Appendix C: Study Protocol

Research Questions:

How has mandatory Continuing education (CE) influenced the professional competency of physical therapists in Illinois and patient care?

Subquestions

1. How do Illinois physical therapists perceive the effectiveness of the states' CE law?
2. How does human motivation impact the choice of CE coursework and use of CE knowledge in the workplace?
3. How does CE training and other systems influence a physical therapists competence and patient satisfaction?

Study Purpose:

The purpose of this phenomenological study is to understand the lived experiences of the role mandated CE plays in developing the competency of physical therapists in Illinois and whether mandated CE is the best method for states to use to address provider competency.

Proposition:

A variety of systems working together are necessary in order for CE to be able to impact the competency of healthcare professionals and improve patient outcomes. This is due to the complex relationships between individuals, groups, and organizations. Additionally the motivating factors or barriers can impact the type of CE that a physical therapist participates in and whether CE knowledge is utilized in the workplace.

Theoretical Framework:

Systems theory and theory of human motivation provide the theoretical framework for this study. A systems theory framework allows for the study of how the physical therapist, as an individual system, views the role of CE in developing their competency and the impact on other systems, which contribute to, or hinder competency development. Theories of human motivation examine both the motivators and barriers to an individual participating in CE.

Data Collection Procedures:

Unit of analysis: Illinois Physical Therapists (participants)
Location: Phone interviews or in person interview if feasible
Timeframe: approximately 60 minutes
Additional Information: Interviews will be recorded using Google Voice, Skype, or other type of digital recorder. I will also be taking notes by hand throughout the interview. Recordings will be transcribed immediately following the interview using Dragon Dictation or Scribie.com.

Participant Questions:

Basic demographic questions will be asked of the participants (age, race, sex, number of years as a physical therapist, educational attainment, APTA/IPTA membership and specialty area).

1. How do you feel about Illinois' mandatory CE law? Please explain.
2. If the state did not implement mandatory CE for physical therapists would you still seek CE hours? More hours or less? Please explain.
3. Do you believe mandatory CE has influenced the performance of physical therapists in the clinical setting? Please explain.
4. Do you believe mandatory CE has improved patient satisfaction and outcomes? Please explain.
5. Do you think the implementation of mandatory CE has encouraged your organization to provide learning and growth opportunities for physical therapists? Please explain.
6. Do you take part in any informal learning opportunities through your employer not related to the states mandatory CE law? Please explain.
7. Do you prefer informal or formal learning opportunities? Please explain.
8. Do you think that Illinois' CE law needs to be changed? Please explain.
9. Why do you participate in CE? Please explain.
10. What form/type of CE do you take (teaching or taking a course, web based course, specialty certification, clinical residency/fellowship, professional research/writing, self-study, journal club, IPTA program, department in service, Board/committee leadership position, or clinical instructor)? Please explain.
11. What characteristics do you look for when selecting a CE course? Please explain.
12. How has CE benefited you personally? Please explain.
13. Are the CE courses you take pertinent to your area of practice? Please explain.
14. Have you faced any barriers to meeting your CE requirements (examples: cost, time, geographic location, family commitments)? Please explain.
15. Does your employer provide access to formal CE and/ professional development opportunities? Please explain.
16. Are you currently enrolled in a CE course or special training through your employer? Please explain.
17. What type of CE support does your employer provide (examples: paid the cost of the course, paid leave, meals, hotel, mileage, other)? Please explain.
18. In what ways has your participation in CE benefited your employer? Please explain.
19. In what ways has your participation on CE benefited your patients? Please explain.

20. Do you implement the knowledge from participation in formal CE into your clinical practice? Please explain.
21. Do you implement the knowledge from participation of informal CE into your clinical practice? Please explain.
22. Have you experienced any barriers in implementing knowledge gained from your CE experience into your clinical practice? Please explain.
23. Does your organization support CE? Please explain.
24. Does your organization support using your knowledge from CE in your clinical practice? Please explain.
25. Do you believe that organizational support of knowledge to practice has improved patient outcomes? Please explain.
26. Are there any other additional issues that you would like to cover?

Appendix D: National Institute of Health (NIH) Certificate of Completion

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Denise Ethington** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 05/31/2012

Certification Number: 928876

Appendix E: Study Recruitment Flier

VOLUNTEERS NEEDED FOR A RESEARCH STUDY ON THE EXPERIENCES OF IL PHYSICAL THERAPISTS WITH ILLINOIS' CONTINUING EDUCATION LAW

I am looking for IL licensed physical therapists willing to participate in a study about your experiences with both formal and informal continuing education activities.

As a participant in this study, you would be asked to participate in a recorded interview. The study will take approximately 1/2 hour to complete. Additionally you will be asked to review a transcript from the interview for accuracy and participate in a short follow-up call to clarify any responses.

Participants in this study will receive a $25 Amazon gift card.

If you are interested in participating in this study,
please contact the researcher:

Denise Ethington
309/825-0917 (cell)
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Thank you!

Walden University's approval for this study 03-04-15-0090097 and it expires on **February 4, 2017.**

Appendix F: Interview Summary

Q1. When participants were asked about how they felt about Illinois' Continuing education (CE) law, there were no negative responses. A majority of respondents felt that over all it was a good thing, but some were skeptical about the laws' effectiveness in achieving its intended purpose.

Pros:
- First step
- Learn new skills that can be used in practice, that aren't taught in school
- If not mandated some PTs wouldn't do it
- Holds PT's accountable for additional learning

Cons:
- Doesn't guarantee competency/No validation
- Increase in poor quality courses
- Not sure it actually meets its goal
- Difficult for PTs licensed in multiple states (different requirements)

Changes to CE Law?
- Having an approved CE sponsor isn't necessary (money maker for the state)
- Should be fewer hours because many employers don't pay for CE and courses are expensive.
- Uniform requirements across states (P7, P8, P9 hold licenses in two states. IL 40 hours and MO 30 hours).

Q2. When participants were asked if they would still seek CE hours if the state didn't require it, all of the participants said that they would. The half of the participants felt that the number of hours they would take would be comparable to what is required in IL law, while the remaining participants were split between whether they would take more or less hours.

More (P4, P10)
Less (P7, P8, P9)
Comparable (P1, P2, P3, P5, P6)

Participant 2 felt that since the APTA and IPTA advocated the importance of CE, that nonmember PT's would take fewer hours.

Participant 9 felt that really good CE courses were more expensive and prefers a quality course, pertinent to their area of practice, was more important than the number of hours; especially when self-paying.

Q3. When asked how mandatory CE has impacted the performance of PT's, most felt that it had a positive impact on the physical therapist and their patients.

Improvement in Practice
P1 improved patient care and PT clinical abilities
P2 can improve competency of the PT if the course focuses on it. No way to validate.
P3 allows PTs to provide in-service on what they've learned to other PTS in the clinic. Share information and learn more.
P5 CE provides increased clinical competency, when courses are taken in the PTs area of practice. PT's can stay on top of the latest research.
P8 Gives PT's new treatment options and keeps PT's accountable.
P10 Improves PT's confidence, allows PT's to pass on their knowledge through in-service, creates networking opportunity and gives PT's a forum for discussing difficult cases.

Neutral Impact on Practice
P6, P7, and P9 felt that the impact of CE on practice was dependent upon:
- the mindset of the therapist and whether they want to learn or just get hours;
- whether or not the courses are quality courses and pertinent to the PTs area of practice.

Barrier
P4 work pressure prevents the effectiveness in implementing what is learned in CE courses.

Q4. When participants were asked if mandatory CE improved patient satisfaction and outcomes, a majority of the participants agreed that it had.

Improved Patient Satisfaction and Outcomes
P1 If patients are treated with the most up to date, evidence based practice then patients should be getting better.
P2 Improved patient outcomes results improved patient satisfaction.
P3 CE provides multiple methods for treating patients if traditional methods are not working.
P4 Moderately agree
P5 When PT's are staying on top of the latest techniques and research help get patients better faster. There's an incentive to get patients better quickly, because insurance can limit their number of visits. If they get better faster they're happy.
P6 Patients benefit from new knowledge.
P10 If you're there for the right reasons, you're learning and more competent.

Other Factors More Pertinent than the Law:
P6 Quality of the courses taken, advanced topics that improve PT skills are more pertinent to patient satisfaction and outcomes than the law.
P8 Communication and relationship with the patient, combined with other factors.
P9 PT's need to want to take courses which advance their level of skill in order to improve patient outcomes.

Q5. When asked if mandatory CE has encouraged employers to provide learning and growth opportunities to PTs, a majority of the participants felt that it had.

Most of the participants' employers provided onsite CE opportunities, or encouraged PT's to participate in CE courses that benefited the organization.

Employer provides CE (P1, P2, P4, P10)
Employer encourages CE so PTs have improved skills (P3)
Employer realizes that it can market our skills and generate more revenue (P5)
The employer provided CE prior to IL law (6)

P7, P8, and P9 all work for employers who do not provide CE, this is because they either work for a small company that can't afford it, or the company sees it as the professional responsibility of the PT.

Q6. All of the participants take part in some type of informal learning opportunity offered through their employer, not related to the state's mandatory CE law.

Types of informal learning opportunities:
CPR (P1, P8, P10)
Stroke based care (P1)
Peer group/Specialty group meeting (P3)
Quarterly meeting and training on regulations, infection control, and drug utilization (P4)
In-service (P5, P6, P9, P10)
Dementia training (P7)
Monthly meetings on clinical topics (P7)
Hospital Required Course (P10)

Q7. While all of the participants take part in formal and informal learning opportunities, a majority of the participants prefer formal learning opportunities.

Reasons Prefer Formal:
CE Credit (P1)
One-on-one with the instructor (P3)
Labs, demonstrations, and tests…learn more (P4)
Better organized and research based (P5, P8)
Back and forth discussion (P10)

Reasons Prefer In-formal:
In-service (P3, P10)
Online or web (P10)
Better meets schedule (P7)
Relaxed atmosphere (P9)

Q8. Participants were almost equally split on their feeling about changing Illinois's CE law.

Why law shouldn't be changed:
Mandating it requires that PTs take CE in order to improve their skills (or some wouldn't) and will hopefully take those courses that benefit them in their practice (P1, P6)
Holds PT's accountable (P8)
Reasonable expectations (P10)
PT Code of Ethics require PT's to be lifetime learners (P10)

Why/how law should be changed:
Testing process at the beginning & end of a CE course (P2)
Increase allowable hours for computer/web/online courses. (would help with barriers to CE such as cost & location) (P4, P7)
Less hours (P9)
Uniform requirements across the US (P9)

Q9. Participants stated that the reasons that physical therapists participate in CE are because:

Improve/learn new skills or techniques (P1, P2, P3, P4, P5, P7, P8, P9, P10)
Enjoy helping patients/help patients get better faster (P2, P5, P6, P10)
Confidence (P5, P10)
Become an expert in my field (P5)
Reinforce training/stay current (P7, P10)
It's the law (P8, P9)
Building relationships with other PT's and instructors to have as support/resources (P10)
Q10.

The form or types of CE activities that participants prefer to take are:

Study groups (P1)
District meetings (P1)
Taught a course (P2, P3)
Case presentation (P2)
Internet/online/distance learning (P2, P3, P4, P5, P7)

Formal class/seminar/lecture/live/conferences (P2, P4, P5, P8, P10)
In-service (P3)
Interactive/labs or hands on activities (P1, P9)
University (P5, P6)
Home Study (P8)

Q11. Participants look for the following characteristics when taking a CE course:

Involves demonstrations (P1
Subject improves my knowledge/challenging content (P2, P4,
Quality of the course/instructor/referral (P2, P4, P5, P6, P9, P10)
Applies to my practice/topic/specialty group/personal interest (P3, P5, P6, P7, P8, P9, P10)
Location (P5, P7, P10)
Cost/price (P7, P8)
Length of course (number of CE hours) (P7, P10)

Q12. According to the participants, CE has benefited them personally, in the following ways:

Better clinician (P1, P6)
Gain new insight/new skills (P2, P7)
Have a variety of techniques/tools to better address patient problems (P3, P6, P8, P9)
Help achieve a specialization (P4)
Becoming an expert in your field (P5)
Practice confidently (P5, P10)
Provides a support system (P7)
Created interest in working with a new population of people (P8)

Q13. According to the study participants, they select CE courses that are pertinent to their area of practice. Some stated that they are required to take a course that is specific to their area of practice if their company is paying for it. However, participants have indicated that there are times when they will take a course because it looks interesting or they want to learn something new. Sometimes in those classes they are able to transfer that knowledge to their current practice.

Q14. Most (seven) of the participants have reported that they have faced some barriers to meeting their CE requirements.

Location/no courses in the area (P1, P9)
Cost/finance/limited in employer paid courses (P1, P2, P7, P9, P10)
Travel (P5, P10)
Family commitments (P5)
Vacation time/time off (P5)

Different state licensure requirements (P8)

Q15. Most (seven) of the participants have indicated that their employers provide access to formal and or CE opportunities.

Employer funding (P1, P8)
In-house education (P1, P8)

Q16. About half of the participants had completed or were going to be completing CE through their employer (P4, P5, P6, P10).

Q17. All but one participant received some type of CE support from their employer.

Pay for the course/registration (P1, P3, P4, P5, P6, P8, P10)
In-house CE programs/training (P2, P7, P8)
Mileage reimbursement/travel (P2, P10)
Paid time off (P3, P4, P6)
Hotel (P6, P10)
Meals (P10)

Q18. Ways that the participant's participation in CE has benefited their employers:

Specialization leads to referrals/more patients (P1, P2, P3, P5, P9, P10)
More successful in motivating and educating patients (P2)
Employee recruitment (P4)
Marketing (P5, P6, P9)
Patients more satisfied/positive view of employer (P7)
Generates more revenue (P5, P8)

Q19. Ways that the participant's participation has benefited their patients:

Patients get better faster/better outcomes (P1, P5, P8, P9)
Pass knowledge on in a more meaningful way (P2)
Able to have different techniques/approaches that can be used/know when to refer back to MD (P3, P8)
Understanding where to find resources (P4, P10)
Meeting people/being with other clinicians/networking/mentors (P4, P10)
Higher level of knowledge (P5, P6)
Patients don't have to go further to get treatment (P6)
Provide individualized treatment (P7, P10)
Improved competency (P10)

Q20. Every one of the participants' has implemented the knowledge from their participation in formal CE into their clinical practice.

Use knowledge right away (P3)
Knowledge has changed my practice/implement & use measurable outcomes (P4)
Educating patients better about their condition/understanding the patients needs better (P1, P5)
Bouncing ideas off of other clinicians and implementing them (P5)
Look for information about the class to bring knowledge back immediately (P10)

Q21. Eight of the participants noted that they use the knowledge from informal CE in their clinical practice.

Better compliance w/rules & regulations (P2, P4)
In-service, discuss techniques as a group that can be used immediately (P3, P5)
Apply techniques to different populations (P4)
For those that do not, it's because of the following:

Haven't needed to use the information/training (P7, P8)

Q22. Half of the participants indicated that they did not have any barriers to implementing the knowledge gained from their CE into their clinical practice.

Of the other half, some of the barriers that they encountered were:

Myth that patient can be fully rehabbed, against the evidence (P4)
May need a specific piece of equipment that the clinic doesn't have or cannot afford (P5, P10)
Some CE providers make you sign an agreement that you won't teach the technique to anyone else (P6)
More than one therapist may be treating a patient for the same problem, and those therapists used different techniques (P8)

Q23. All of the participants agreed that their organizations supported CE.

Support but don't fund (P2)
Pay for it and provide it (P4, P8, P10)
Must justify the need for the CE (P10)

Q24. All of the participants agreed that their organizations supported using the knowledge from CE in their clinical practice.

Required to give a summary to co-workers through e-mail/conduct in-service (P1, P10)
Use knowledge to treat patients (P8)
Allowed to take a little more time with patients and try new techniques (P9)
Wants staff using evidence based practice (P4)

Q25. All but one of the participants believed that organizational support of the use of their CE knowledge had improved patient outcomes.

Patients get better faster (P1, P9)
Organization support/values efforts of PT and competency (P2, P3)
PT becomes more skilled/specialized in a specific area (P3)
Uses standardized functional outcome measure (P3)
Organization brings training in-house to PTs yearly/ encourages training (P6, P10)
New treatments/knowledge leads to greater patient satisfaction (P7)

One participant indicated that they received general support, but there were no outcome-based measures for patient outcomes (P8)

Q26. Any other issues related to CE:

P1
- Clinician should be the main proponent of CE
- Wishes APTA had CE courses better oriented to the clinician
- CE courses can provide an overview of different techniques and present those techniques on actual patients.
    - Allows more information in a limited amount of time
    - Allows clinician to understand why one approach may be better to use than another

P2
- Patient is the one who does all of the work
- PT is there to support and educate the patient

P4
- Time is often a barrier to getting CE courses in
    - Can take online courses to fill in the gaps
- Some PTs should have a more advanced skill set but don't, even with mandatory CE.

P5
- When learning a new technique, CE isn't always teaching how to properly bill for it.

P6
- Disparity in the quality of courses.
- Hard for some to get to courses
- Some don't have employer support
- Quality of the course is more important than the number of CE hours taken

- Online courses seem to be very easy/basic/don't learn as much

P8
- Classes have to be approved by an approved sponsor or a separate fee and documentation must be submitted in order for the CE credits to count.

P9
- Would like more quality CE programs in the area

P10
- For some getting CE in is hard, especially when there are small children at home
- If PTs broaden their knowledge they can offer more comprehensive care/services to their patients.