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Changing the Culture of Nurse Practitioners: Incorporating Medical Billing and Coding to Prevent Fraud, Waste and Abuse

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Abstract

Medical coding and billing errors are avoidable problems that have afflicted practitioners for decades. Correct coding and billing are required for reimbursement of healthcare services. Fraud, waste and abuse increase healthcare costs, reduce the quality of care provided and directly impact costs to patients. This pilot study was intended to evaluate the impact of an educational webinar on medical billing and coding, fraud, waste and abuse on nurse practitioner (NP) knowledge using a pretest posttest design. Mean scores increased from 58.4% to 76.4%. Test reliability was low at 0.477 (pretest) and 0.142 (posttest) with two questions that were unable to be used. Following the educational webinar, 19 participants felt the educational webinar contributed to their overall knowledge, while 5 participants did not feel the webinar added to higher learning. Ten participants declared neutrality in regard to educational benefit. Although the pilot showed a statistically significant increase in test scores reflecting short term knowledge, revisions in the webinar, test, and data collection process are recommended.

Keywords: fraud, waste, abuse, medical coding, medical billing, reimbursement, False Claims Act, Anti-kickback Statute, Stark Law, provider, Medicare, nurse practitioner, legal issues, advanced practitioner, clinician

Chapter 1 Introduction and Background

Introduction

Fraud, waste and abuse are important and preventable issues in healthcare which continue to plague practitioners and have produced concern for a number of years. In 1986, the federal government designed the False Claims Act (FCA) to specifically target healthcare fraud and abuse. Under the FCA, the government can sue violators for damages, plus $5,500–11,000 per false claim. Additionally, in 1993 the Attorney General stated that tracking fraud and abuse would be a top priority for the Department of Justice. The Health Insurance Portability and Accountability Act of 1996 (HIPAA) established the Health Care Fraud and Abuse Control program (HCFAC). In 2007, the United States Department of Health and Human Services (HHS) and the Attorney General allocated $248,459,000 to HCFAC to fight healthcare fraud and abuse. The HCFAC collected over $11.2 billion in fraudulent claims between 1997 and 2007. As a result of improved analysis, HHS and the Office of the Inspector General (OIG) estimate that their efforts resulted in healthcare savings of approximately $39 billion (Rudman, Eberhardt, Pierce, & Hester-Hart, 2009). Fewer than five percent of the damages from fraud and abuse are recovered annually, regardless of the commitment from federal legislation (U.S Department of Health and Human Services and Department of Justice, 2009).

NPs have become a dynamic part of primary healthcare provider teams. NPs are prepared to fulfill the designated role of the primary care provider which includes the front-line care of patients, ongoing management of acute and chronic conditions, health promotion and coordination of care. (American Association of Nurse Practitioners, n.d.). The NP role includes proper documentation, coding and billing for services, a complex task for which NPs are sometimes inadequately prepared. The consequences of improper billing and coding are potential

accusations of fraud, waste, and abuse. The issue of waste is commonly considered costly to a practice, where money is left on the table, where services are not reimbursed due to improper coding and inadequate documentation of the services provided. Fraud and abuse are more serious concerns which, whether intentional or not, may actually jeopardize the NP license or have other negative legal consequences that can affect the NP, NP associates or the practice organization.

Towers (2013) proposed that practitioners are not trained in coding, yet many know the codes that are relevant to the area in which they practice. Midlevel providers are often ignored and develop documentation and coding skills independently. Proper coding techniques are not taught to clinicians. These skills are often developed by the electronic medical record system (EHR) and a computerized assisted coding system (CAC).

All health care services require some form of reimbursement for services provided. In the primary care setting, services are provided by physicians, NPs, physicians assistants, as well as other ancillary personnel. Prior to the Balanced Budget Act of 1997, NPs were required to bill for services performed under a physician's reimbursement number. The passage of the Balanced Budget Act of 1997 introduced new billing guidelines that permitted NPs to bill and receive compensation for services rendered. The Balanced Budget Act of 1997 expanded Medicare coverage for NP services. NPs were once limited to coverage by the setting and place of service; however, now if conditions are met, NP services are covered and reimbursed separately under the NP's provider number (Allen, Reinke, & Pohl, et al., 2003).

One of the most common ways healthcare providers deceive the government is through fraudulent coding claims. This is potentially preventable with adequate education and expanded knowledge. Problems with incorrect coding and billing can lead to delayed reimbursement, fraud, waste, and abuse. Proper billing and coding require education as part of the professional

curriculum. Shaping the role of a new practitioner involves a balance between the transition from a registered nurse to the expanded role as a NP (Holt, 2008). Tran, Cennimo, Chen, and Altsculer discovered in a 2008 pilot study, that incorporating a small portion of medical billing and coding during undergraduate course work would be beneficial to the provider practice after graduation. Providing proper education prior to practice is the best way to ensure compliance.

Practitioners have an opportunity to change the current healthcare model. Fraud, waste, abuse practices result in unnecessary cost to the Medicaid and Medicare programs. The primary benefit to the practitioner is improved knowledge regarding guidelines of fraud, waste, and abuse. NPs have an opportunity to potentially reduce losses and increase revenue by just knowing the facts. Currently, there is limited education or no formal educational programs that provide nursing practitioner students with the knowledge that is needed to perform common coding requirements.

NPs must be cautious when choosing current procedural terminology (CPT) codes for billing claims. Selecting proper codes for reimbursement is as important as transcribing accurate documentation. Submitting claims with irregularities exposes the practitioner to audits, which can lead to fraud investigation. Buppert (2013) reported that the OIG and the HHS released a report in May 2012 in which auditors identified a group of physicians and mid-level providers that consistently chose the highest reimbursing CPT codes. Despite proof of correct coding for reimbursement, the Center for Medicare Services (CMS) referred the list of practitioners to the Medicare administrative contractors (MACs) for evaluation. If an inconsistency is found CMS focuses on the irregularities and the providers that submit the claims. Furthermore, when an audit has concluded fines and penalties may be added to the amount of repayment (Buppert, 2013).

Measures to reduce cost and guidelines that prevent fraud within the healthcare system have interacted with the political forces to create a complex regulatory environment that directly affects NPs. However, nurses in general have major knowledge shortfalls. The demand for enhanced education in medical coding is acknowledged by practitioners and healthcare organizations. Traditionally, educational programs have relied on clinical rotations or preceptorships to be the training for proper coding techniques instead implementing classroom education in this area (Sa, Cohen, & Marculescu, n.d.).

Liang and Shanker (2017) sought to improve the quality of documentation of neurology residents by payroll simulation. In order to improve the quality of documentation of the residents, checklists based on Medicare and Medicaid guidelines were developed. The checklists were given to the residents with the current evaluation and management (E/M) level, the ideal E/M level, as well as financial losses due to inaccurate coding which were calculated by the evaluators. Ideal E/M level was defined as the highest billable level based on the three required An hour-long educational intervention followed by e-mail feedback ‘‘statements’’ was performed every two weeks. The statements detailed the number of patients the residents had seen, the income generated, the income loss, and areas for improvement. The follow-up charts were evaluated in a similar method over a sixteen-week period. Ten of eleven residents (91%) participated. Two hundred fourteen charts were reviewed in the preintervention phase, of which one hundred fourteen charts (53%) were lacking documentation to support the ideal E/M level, leading to a financial loss of 24% ($5,800). Inadequate documentation was seen in all three components: the history (47%), the examination (27%), and medical decision making (37%). In the postintervention phase, under-documentation was reduced to 14% of two hundred seventy-three visits (P = .001), with a reduction in the financial loss to 6% ($1,880). Overall, improved

documentation and increased potential reimbursement was achieved following a didactic lecture and a sixteen-week period in which individualized, specific feedback to neurology residents was provided (Liang & Shanker, 2017). A similar quality improvement project was conducted, and it was determined that teaching providers in residency did not improve overall coding accuracy; however, educating the providers on an individual level was useful, (Nguyen, O'Mara, and Powell, 2017).

Problem Statement and Purpose

Accurate billing and coding are essential components of NP education and practice. An internet search to determine if medical billing and coding courses were offered during the course of the doctoral and/or master's program was done. After reviewing more than twenty different professional school of nursing websites, not enough information was discovered to determine if medical coding and billing classes were offered or incorporated into the nursing curriculum.

The purpose of the scholarly project was to establish NP student knowledge of billing and coding essentials, and evaluate the effectiveness of a billing/coding educational program in the following areas:

a) NP students will correctly perform basic billing and coding activities via an online questionnaire (pre and posttest)

b) NP students will identify and correct billing and coding issues that could be classified as fraud, waste, and abuse

c) NP students will address legal, ethical, financial and system issues that relate to improper billing/coding, and related concerns of fraud, waste, and abuse.

d) Identification of these problems and education on the issues will help achieve the highest level of nursing practice.

Research Question

The research question asks the following: Are NP students who participate in formal medical billing required courses at selected practitioner programs more competent in basic coding and billing procedures and identifying fraud, waste, and abuse, as compared to their competence prior to the formal education in this area?

P- NP students

I- Education to improve billing and coding knowledge and identify and improve knowledge of fraud, waste, and abuse

C- Baseline knowledge level

O- Improved knowledge and understanding of the medical billing /coding and fraud, waste, and abuse

Identified Practice Setting and Key Stakeholders

The researcher collaborated with selected universities to provide a webinar on medical billing and coding services, fraud, waste, and abuse, and E/M services for NPs in the clinical setting (split/ shared services and incident to billing). Education on medical billing and coding as well as fraud, waste, and abuse were provided by webinar. Data were collected through a generated individual link to an on-line pre and posttest. The researcher provided education sessions and was available via email or phone to answer any questions NP students had before, during, and after the educational opportunities.

Key stakeholders needed to complete the scholarly project were identified as the following:

- Nurses and NPs in NP DNP/ MSN Programs
- American Academy of Professional Coders (AAPC)
- Statistical professionals within the academic setting
- American Academy of Nurse Practitioners (AANP)
- Tennessee Nurse Practitioner Association (TNNPA)
- Institutional Review Boards (IRB) Southern Adventist University, Vanderbilt University Medical Center, University of Memphis, University of Tennessee at Chattanooga, Rush University Medical Center, Office Contact Management (VUMC)
- Members of the faculty at Southern Adventist University
- Members of the faculty at the University of Tennessee at Chattanooga
- Members of the faculty at the University of Memphis

Concepts and Definition of Terms

The terms below describe concepts used in this study.

Medical billing refers to the process of submitting and following a claim with health insurance companies in order to receive payment for services provided by a healthcare provider. Medical billing converts a healthcare service into a billing claim. The medical biller ensures all claims sent to health insurance companies are processed for payment of services rendered by a healthcare provider (AAPC, n.d.).

Medical coding is the transformation of healthcare diagnosis, procedures, medical services, and equipment into universal medical alphanumeric codes. The diagnosis and procedures are taken from medical record documentation such as physician progress notes, transcription, laboratory and radiology results. The medical coder reviews clinical statements and assigns standard codes for the work reported (AAPC, n.d.).

Fraud is deliberately and voluntarily executing or attempting to perform a scheme or ploy to defraud any healthcare benefit program or to acquire by means of false or fraudulent pretenses, representations, or promises, any of the money of property owned by or under the custody or control of any health care benefit program (Centers for Medicare and Medicaid Services, 2019).

Waste refers to overutilization of services and is not generally thought to be a result of illegal neglect. Waste is identified as the careless expenditure of resources without benefit or acquiring superfluous expenses as a consequence of poor supervision, practices, or regulation. Waste appears when services are overused, which results in excessive costs to healthcare programs (McWay and Kurian, 2017).

Abuse signifies compensation for items or services that have no foundation for payment in which the provider has not knowledgeably and/or deliberately tried to obtain payment (First Healthcare Compliance, 2015).

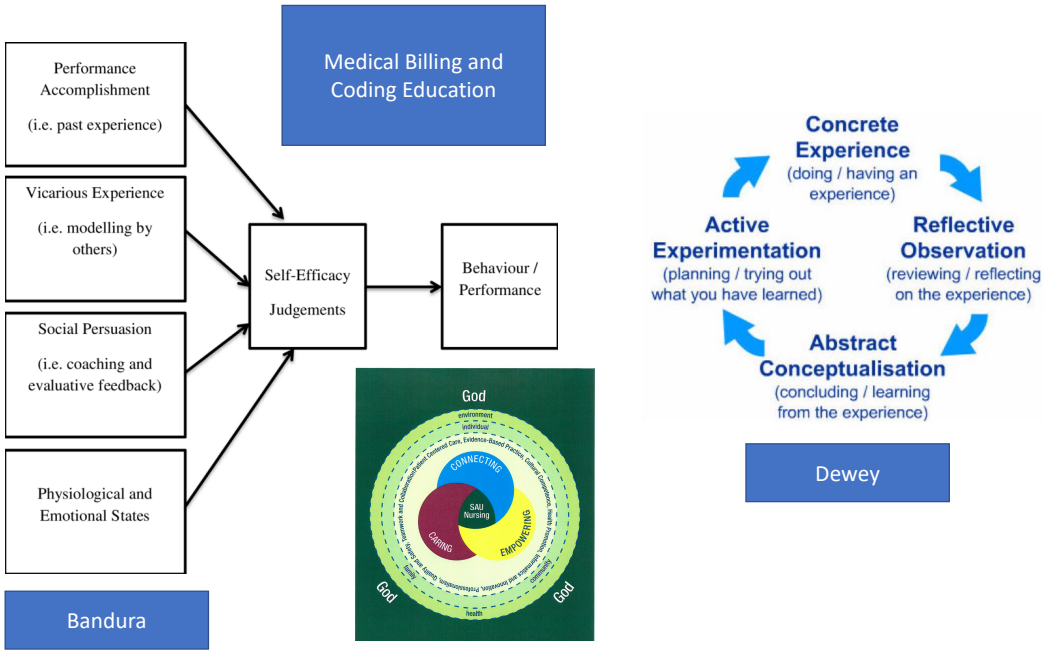
Theoretical Framework

The focus of this project was to educate NP students in selected NP programs in the field of medical billing and to identify and increase awareness of fraud, waste, and abuse. Elements from two theoretical models best support this study and reflect features congruent to each other. Incorporating ideas from social learning theory and self-efficacy theory can improve ways in which NPs guide research, provide insights and examine the usefulness of theoretical frameworks (Lor, Backonja, & Lauver, 2017). Elements from John Dewey's Learning Theory and the model of self-efficacy developed by Albert Bandura best support this study and offer to improve or modify healthcare outcomes and workflow processes for NP's when performing medical coding. As presented in Figure 1 below, Albert Bandura's social cognitive theory

(1997) and John Dewey's learning theory (2018), both offer components that complement each other in relating to this project.

Figure 1

Theory-Research Relationship



The concept of self-efficacy lies at the heart of psychologist Albert Bandura's social cognitive theory. Bandura (1997) suggests that a person's efficacy beliefs, combined with their outcome expectations, are prognostic of how successful that individual will be in performing the action in question and in achieving the desired outcome. Observational learning, modeling process through attention, retention, reproduction and motivation, coaching and learning as well as the physiological and emotional state of the learner all play a role in the performance of the learner. Past experiences, modeling by others, coaching and feedback, and reasoning processes are what outline human behavior. Those skills are largely a reflection of the choices that define behavior and performance.

The three main concepts in the social learning theory are that

1. people learn through observation,
2. the internal mental state is essential to the learning process,
3. ~~k~~knowledge does not necessarily lead to a change in behavior.

Main principles of the learning theory consist of learning by observation. According to the self-efficacy theory, people believe they can execute the needed steps to complete a goal if self-efficacy and outcome expectancy are met. The individual observes options from past experiences and selects options consistent with their knowledge and motivation base (Takahashi, 2007).

Learning theories are used as key instructional guides when planning for clinical training and educational methods included in the nursing curriculum. Applying general principles of learning theories can increase the effectiveness of educational endeavors (Aliakbari et al., 2015). John Dewey (2018) suggested that learners need direction and that teachers have a vital role in supporting the learning by encouraging and challenging individuals' interest and enthusiasm, so students can develop academically. Dewey's theory (2018) contends that for education to be successful, learners need the opportunity to connect current knowledge with previous skills and experience. Dewey's (2018) theory is based on the need for the learner to engage directly with the environment and to act as an independent learner. Learning to understand is the basis for John Dewey's (2015) learning theory.

One of the main concepts of John Dewey's Model of Learning (2015) is reflective inquiry. Reflective inquiry requires thinking and reflection and demands the learner consider a solution before moving on to resolve the problem (Dimova & Kamarska, 2015). By incorporating this concept in learning about billing, coding, fraud, waste and abuse, NPs will

develop better cognitive skills, provide improved patient care, and increase accurate reimbursement.

In order for students to be selfconfident in the area of medical billing and coding, they must educate themselves on medical coding/billing guidelines, they must gain experience, and participate in learning opportunities related to medical coding/billing, as well as fraud, waste, and abuse. Students who are able to participate in learning are more likely to succeed. When people believe in their own ability to accomplish tasks or goals, more success is achieved. The student should seek out knowledgeable mentors who will promote higher self-efficacy and will strengthen mastery of the skill. Exchanging negative emotions for a positive state of mind is the key to building the students' interpretation of self-efficacy. By focusing on self-efficacy and reflective inquiry, NP students will experience an improvement in learning in the academic and clinical setting.

These two models overlap in context and design. Bandura's concept that behavior is learned through observation, imitation and modeling relates to Dewey's model of learning. Effective social interactions and hands-on learning impact people in a complementary and dynamic fashion. The notion of learning can be identified by the way students gain, process, and recollect knowledge during educational experiences. Intellectual, emotional, and environmental influences, as well as past understanding, all play a role in how knowledge is assimilated or improved, and skills are retained. Considering the multitude of theories in education and nursing practice it is crucial that theories of learning guide nursing education and practice. Competency of all aspects of nursing are foundational, and nursing research and education should represent future goals of the profession as well as educating clients on all aspects of care. Learning by

hands on experience, reviewing and reflecting on experiences, learning from experiences and trying out what has been studied will bridge the gap between NPs and patients.

Chapter 2 -Literature Review

The search was conducted by utilizing the online databases: Cochrane, CINAHL, EBSCOhost, PubMed, and Google Scholar. Key search terms included: Medicare, Center for Medicare and Medicaid Services, CMS, Medicare fraud, healthcare fraud, fraud, waste, abuse, practitioner, clinician, medical billing, and medical coding. This literature review yielded articles which were significant resources for this research. To guarantee the information used would be ~~u~~p-to-date and germane, all sources referenced were articles published since 2000 in English. The literature review encompassed professional journals, peer reviewed journals, online articles, and federal agency websites such as Medicare, the Center for Medicare and Medicaid Services (CMS), the Department of Health and Human Services, the Department of Justice, and the National Health Care Antifraud Association. The fundamental principles of a systematic search were followed. The search included the exploration for relevant literature, evaluating and selecting literature presentation, organizing and outlining a method for the literature, and extracting the data relevant to this study.

Literature Review and Synthesis

This literature review examines studies regarding medical billing and coding, fraud, and waste among practitioners. A limited number of studies have been published. In reviewing the literature, common themes were focused on establishing stronger practitioner clinical guidelines, transparency around coding and billing practices and ways to decrease cost of overall expenditure in healthcare (Center for Medicare and Medicaid Services, 2019; Natale, 2012; Vitale, 2018). Articles included in the literature address tackling fraud, waste and abuse through increased governmental regulation together with increasing education among current state and future practitioners.

Healthcare spending in the United States (U.S.) increased to 4.6% in 2018, reaching $3.6 trillion or $11,172 per person. Healthcare spending accounted for 17.7 % of the national Gross Domestic Product (GDP) in 2018 which declined from 17.9% in 2017. (Centers for Medicare and Medicaid Services, 2019). Growth within the healthcare system was faster in 2018 as compared to 2017 in which spending increased 4.2%. The faster growth in 2018 was attributed to increased growth in the net cost of health insurance, which increased 13.2% subsequent to growth of 4.3% in 2017. Primary reasons for growth were the return of the health insurance taxes in 2018.

Spending has been projected to increase through 2027, with national health spending expected to reach $5.9 trillion, or 19.4% of the GDP. The average annual health expenditure growth of 4.0% has been anticipated to outpace average annual growth in the overall economy by 5.5% in 2027. Half of the populace's health costs have come from hospital care (33%) and physician/clinical services (20%) (Center for Medicare and Medicaid Services, 2019).

Medicare was designed as a health insurance program for people age 65 and older, individuals with disabilities, and citizens of all ages with end-stage renal disease. There are four parts of Medicare which were created at beginning of the program: Hospital insurance (Part A); medical insurance (Part B); Medicare Plans or managed care (Part C), and prescription drug coverage (Part D), (Centers for Medicare and Medicaid Services, 2019). Several factors have increased the cost of Medicare and overall healthcare. The Medicare program has paid millions of dollars annually for fraud. The National Health Care Anti-Fraud Association (NHCAA) has estimated that about three percent, which could mean more than $300 billion of national healthcare spending has involved fraud (NHCAA, 2018).

Fraud, waste, and abuse have become a significant issue in America. In an effort to combat healthcare fraud, waste, and abuse, the United States Department of Health and Human Services Office of the Inspector General (HHS-OIG) in combination with numerous other law enforcement organizations, has highlighted efforts to fight against healthcare fraud. Now more than ever, it is imperative that providers seek ways to diminish risk in the areas of deception, surplus, and manipulation (Vine, 2018).

A retrospective chart review was performed on ten charts in which documentation practices were calculated on evaluation and management (E&M) codes within an academic primary care center. The findings revealed that documentation in six of the ten charts evaluated did not support the E&M code assigned by the practitioner. Four of the encounters were over coded with the remaining two encounters being under coded. Findings support the need for additional education of NPs in the area of coding and billing (Allen, Reinke, Pohl, Martyn, & McIntosh, 2003).

NP students must be able to participate in accurate billing and coding processes. This requires education on procedures as well as education on fraud, waste and abuse. It is essential that all providers, including NPs be able to detect and prevent these problems. Healthcare providers could be held legally liable unless procedures are in place to detect and prevent fraudulent behaviors. Furthermore, failure to identify and educate practitioners may lead to a loss of revenue and reputation (LaPointe, 2019). With John Dewey's Model of Learning (2015) in mind, practitioners must consider new models of health care and incorporate new concepts and solutions to provide better customer service, improved patient care, and increase accurate reimbursement. Health care providers must be dedicated to understanding the guidelines that are

mandated by Medicare, Medicaid, and commercial insurers. It is vital for NP students to be cognizant of billing, coding, and documentation rules and guidelines (Vitale, 2018).

Training for NPs regarding financial reimbursement has typically concentrated on the microeconomic issues of health care; therefore, NPs typically understand and appreciate the significance of economic concerns. While nursing education functions as a model for real-world instruction with emphasis on psychomotor abilities and on the job experience, NPs are not normally educated on skills required for medical billing and diagnosis coding. The results of inaccurate coding can be profound. Reimbursement for accurate coding can increase by 10% to 30% with vigilant use of updated codes and modifiers. Coding skill development is a constant practice given the occurrence of continually changing coding conventions. A review on NP attitudes and knowledge toward CPT coding revealed the concern that NPs may have less motivation to master coding skills. NPs employed in private practice had the highest mean knowledge score, and those who work in health maintenance organizations (HMOs) had the lowest mean score (Sa, Cohen, & Marculescu, 2001). Didactic opportunities for NPs related to CPT coding education to better understand how to bill for services rendered.

Fighting fraud, waste, and abuse when billing for services in the clinical area has been a challenging problem due to the current medical reimbursement structure. Most medical providers regularly submit straightforward and precise claims; however, a small portion of participants often yield to the financial enticement and exaggerate the complexity of payable services. Since 2007, various healthcare agencies, in combination with the United States (U.S.) government have suppressed healthcare providers involved in fraud, waste, and abuse. Natale (2012) states that physician documentation training is an important component in correct coding and is the basis for accurate revenue and reimbursement. Law enforcement authorities announced the arrest of 90

people involved in Medicare schemes across the United States (Vitale, 2018). Billing for services never performed, providing medical equipment that was not necessary, and reimbursing payments in order to gain Medicare billing numbers from innocent patients are just some of the ways these conspiracies are alleged to have taken place. The arrest included 16 physicians across the country at an estimated cost to taxpayers of $260 million dollars (Vitale, 2014).

There are several agencies that investigate fraud, waste, and abuse. One particular group of interest is the Medicaid Fraud Control Unit (MFCU). The function of MFCU is to investigate and prosecute Medicaid provider deception and patient mistreatment or negligence. MFCU cases typically begin as recommendations from outside sources or are created from internal data extracting. MFCU staff offer recommendations and determine if the cases have possibility for criminal prosecution and/or civil action (HHS, OIG, 2017).

Clinical practice guidelines and medical coding enables the NP to effectively use the billing process by bringing standardization of procedures through identifiable codes. Medicare, as well as other payors, use standard procedure and diagnosis codes to ensure the items billed merit the procedures, tests, or treatments. Practitioners may have designated specialties; however, there are some basic rules for coding that will always apply regardless of the specialty. The basic rules are:

- Practitioners should only report the procedures that are documented.
- Providers should report procedure and diagnosis codes in sequence.
- Practitioners should follow National Correct Coding Initiatives (NCCI) and Medical Unlikely Edits (MUE).
- Providers should stay abreast on any new coding changes throughout the year.

Direct pay, incident to, and shared/split services are the three basic types of reimbursement that Medicare will allow the Advanced Nurse Practitioner (APN) to bill for services. Employers must be aware of state and federal guidelines, standards of care, and any billing requirements. NPs may provide services to Medicare patients within the full scope of practice within that state. Roles vary by state and may include the following:

- Rounding autonomously and following patients with physician management.
- Rounding with the physician and furthering the work with a mutual effort.
- The APN must be licensed by the state to practice and be certified by a recognized national certifying body that has set standards for NPs (Pohlig, 2013).

Despite the recent push for transparency there are still gaps in coding medical services. Trust is the fundamental component of the practitioner-patient relationship. Medicare and other federal health care programs place trust in the practitioner and their medical decision making to treat patients with proper care and required services. Federal health care programs rely on providers to submit accurate claims when requesting payment for Medicare-covered health care items and services. Fraudulent health care professionals who bill federal health care programs for unlawful personal gain have produced the necessity for laws that fight fraud, waste, and abuse and safeguard applicable medical care (Centers for Medicare and Medicaid Services, 2017). NP students should understand the complexity of medical coding and billing guidelines and be actively involved in understanding federal fraud, waste, and abuse laws such as the Anti-Kick Back Statue, Stark Law, and the False Claims Act (Vine, 2018).

Anti-Kickback Statute (AKS)

The *Anti-Kickback Statute* is the law that excludes the exchange anything of value in an effort to persuade or reward a referral of federal health care program. When a provider offers, is

reimbursed, requests, or takes unauthorized compensation, the provider violates this law. Civil fines for violating this statute may include fines of up to $74,792 per inducement and three times the amount of the reward. Violating the *Anti- Kickback Statute* may include charges, incarceration, or both (Centers for Medicare and Medicaid Services, 2017).

Stark Law

The *Stark Law* prohibits a practitioner from making referrals for certain services that can be billed to Medicare by an entity in which that provider or a direct family member has ownership unless there is an exception. Practitioners that breach the *Stark Law* may face fines up to $24,253 for each service, reimbursement of claims, and possible exclusion from all Federal health care programs (Centers for Medicare and Medicaid Services, 2017).

False Claims Act

Intentionally submitting a false claim to collect federal money violates *the False Claims Act.* This act protects the Federal government from being fleeced or sold inferior products or services. Under this act, health care workers can be held accountable for civil penalties as well as three times the damages incurred (Center for Medicare and Medicaid Services, 2017).

Healthcare Costs

Medicare estimates that Medicare Part A will be exhausted by 2026 (“Solutions to reduce fraud, waste, and abuse in HHS programs, 2018”). Spending for Medicare Part B will grow around eight percent over the next five years, overtaking the United States economy. HHS must promote comprehensive economic stewardship and program reliability, to guarantee that Medicare successfully serves recipients well into the future. This includes helping beneficiaries and providers, safeguarding Medicare from fraud, waste, and abuse, and applying judicious

payment policies. The supervision effort of the OIG is dedicated to recognizing and recommending suggestions to decrease improper payments, prevent and discourage fraud, and foster cost-effective payment policies ("Solutions to reduce fraud, waste, and abuse in HHS programs, 2018").

Summary

The literature review showed that NPs are often entering the workforce with inadequate knowledge and training related to medical billing and coding guidelines, misinterpretation of the practitioners responsibility associated with the importance of accurate medical coding and billing, and a misunderstanding the consequences of fraud, waste and abuse related to the NP role. There is a clear gap and identified need for increased educational opportunities for seasoned and new NPs.

Chapter 3 Project Description

Project Objective

The objective of this project was to educate NP students at selected universities in the state of Tennessee through an educational webinar related to medical billing and coding, fraud, waste, and abuse. The researcher planned to evaluate baseline knowledge and measure the effectiveness of educating the NP students following an educational intervention in the academic setting. The project was outlined in four stages:

Stage 1- Gained access to NP programs

Stage 2- Structured a program to educate on 1995 E/M guidelines, fraud, waste, and abuse as well as incident to, split-shared billing and supplement what is currently being taught within the NP programs

Stage 3- Assessed-NP student knowledge level and implement an educational program

Stage 4- Evaluated the effectiveness of the educational program

Evidence-based Project Implementation and Design

This quantitative scholarly project utilized a pre-test and post-test methodology as same-group comparisons. The researcher collaborated with universities to provide a webinar on medical billing and coding services, fraud, waste, and abuse, and E/M services for NPs in the clinical setting (split/ shared services and incident to billing). The researcher contacted each graduate program coordinator and queried the current practice in regard to medical billing and coding, fraud, waste, and abuse.

A comprehensive webinar was then created and distributed to each participating university by the researcher through the online platform Google docs. The webinar consisted of

XXX slides and was approximately 60 minutes in length. The objective of the webinar was to educate NP students on medical billing and coding as well as fraud waste and abuse. Participants were asked to identify their favorite movie star or music genre in the pretest and posttest as a unique identifier. This identifier served as the code for each individual throughout the research. The webinar training video was available to each participant after the informed consent was e-signed. Competence was identified and tracked through pretest and posttest surveys. Outcome measurements included:

1. Pre and/or post-test results.
2. Measurement of basic coding understanding
3. Measurement of understanding issues that could be identified as fraud, waste, and abuse
4. Perceived satisfaction with learning method.

Education on medical billing and coding as well as fraud, waste, and abuse were provided by webinar. Data collection was generated and gathered through Google docs forms within the Google document platform for pretest and posttest scores. Participants were coded with unique identifiers with a security question. Participant understanding was measured by pretest and posttest assessment. Methods for assessment included a survey link to an on-line pre and posttest that consisted of multiple-choice questions.

Timeline of Project Phases

The timeline is described below:

1. Fall 2018: Begin project proposal, develop research design, purpose, and question

2. Spring 2019: Continue research on project and present 15-minute proposal Power Point at Southern Adventist University in Spring 2018. Prepare and submit to the IRB

3. Summer 2019: Initiate project, start collecting data, meet with mentor, interpret and frame findings

4. Fall 2019: Continue project and gathering information for presentation at Southern Adventist University

5. Spring 2020: Continue project and gathering information for presentation at Southern Adventist University

6. Summer 2020: Continue project and gathering data for presentation at Southern Adventist University

7. Fall 2020: Continue project and gathering data for presentation at Southern Adventist University

8. Spring 2021: Complete project and present finding from research

Resource personnel involved the various Tennessee nursing universities staff, NP student's medical coders and billers, DNP project advisors, the Institutional Review Board at Southern Adventist University, the Institutional Review Board at Vanderbilt University Medical Center, the Institutional Review Board at University of Tennessee at Chattanooga, and the Institution Review Board at the University of Memphis.

Protection of Human Subjects

The students consented electronically to participate in the study. To proceed with this pilot, approval from Southern Adventist University's Institutional Review Board (IRB) was obtained. This study was performed at Tennessee based universities on data collected from NP

students. The following identifiers of the individuals were removed:(a) names, (b) university, (c) gender; (d) electronic mail addresses, (e) web universal resource locators (URLs), (f) Internet Protocol (IP) address numbers, and (g) any other unique identifying number, characteristic, or code.

Mutual Agreement with The Agency

The researcher contacted Southern Adventist University, University of Tennessee at Chattanooga, University of Tennessee at Memphis and Vanderbilt University Medical Center and obtained the appropriate approval from the school's faculty for conducting the educational program. Once approval from the IRB at Southern Adventist University was granted, the researcher contacted Tennessee Nursing Schools via e-mail.

Evaluation Plan

A self-developed pretest and posttest was created utilizing multiple choice test questions from various coding and regulatory sources. The questions consisted of information on medical coding and billing as well as questions related to fraud, waste and abuse. The pretest served as a measure of baseline knowledge prior to an online educational webinar.

According to the International Journal of Developmental Research (IJDR), multiple choice questions are a telling and successful tool used for evaluation. To make any evaluation impartial and useable, tests should be strategically mixed with all types of questions. Multiple choice questions remain the most widely used methods of unbiased assessments and are used for decisive and comprehensive evaluation. Additionally, multiple choice questions have contributed to various entrance analyses where classification of students is of the utmost importance (Mehta & Mokhasi, 2015). The pretest and posttest were constructed of multiple-choice questions. Multiple choice

questions have shown to be an effective and proficient method to measure learning outcomes (Brame, 2020). Multiple choice questions contain the problem as well as a list of proposed options. The options contain one correct or best answer in addition to an incorrect substitute (Brame, 2020). The reliability is improved and amplified when the numbers of multiple-choice questions are focused on a solitary learning objective. Moreover, the individual scoring related to multiple choice questions exempts the questions from complications of inconsistency that can cause problems evaluating essay and true/false questions (Brame, 2020). All test questions on the pretest and posttest were identical in order.

The educational webinar was self-developed from medical coding and billing regulations and guidelines, medical coding and billing internet resources, the current procedural terminology (CPT) book and various coding and billing articles. The pretest, posttest and educational webinar were reviewed and approved by DNP project advisors.

Baseline test included prior knowledge of the 1995 Documentation Guidelines for Evaluation & Management Services, amount of time the student was exposed to prior fraud, waste, and abuse concepts, and compared pre and posttest knowledge related to medical billing/coding as well as fraud waste, and abuse. The pretest and posttest were multiple choice questions. Pretest and posttest questions one through six were unique descriptive identifiers for each participant. Question seven through twenty-three addressed medical coding and billing, fraud, waste and abuse specific questions. Question twenty-four evaluated whether the teaching material increased the practitioners confidence in billing, coding and recognition of fraud, waste and abuse. Cronbach's alpha test was used to measure the reliability and internal consistency of the pre and posttest. Descriptive statistical analysis was performed for frequencies and percentages. The Wilcoxon Signed Rank test was performed to compare differences in pretest

and posttest scores. Statistical analysis was performed by using the IBM Statistical Package for Social Sciences (IBM SPSS Inc.). Pretest and posttest documents were stored in Google Forms. Data were populated, collected and stored in Google Sheets via the internet. Data were transferred to SPSS for analysis. A preset alpha of 0.05 was used for statistical significance.

Chapter 4 Analysis of Results

Data

Four universities were initially asked to participate in the research. The universities asked to participate were Southern Adventist University, University of Tennessee at Chattanooga, University of Tennessee at Memphis and Vanderbilt University Medical Center. All respondents that participated in the research were from Southern Adventist University. Thirty-four participants responded to the pilot. Of the 34 participants that responded, only 30 participants had a valid pretest and posttest score.

Table 1

Participant Demographics (n = 30)

Participant Demographics		***Number (%)***
Gender	Female	20 (67%)
	Male	10 (33%)
Previous Billing /Coding	No	23 (77%)
Education	Yes	7 (23%)
Place of Education	On the job	1 (3%)
	In the Classroom	5 (17%)
	Other	1 (3%)
	N/A	23 (77%)

Tests, consents and data were stored and managed through Google docs. Respondents were all NP students who were enrolled in a master's or doctoral nursing program in the state of

Tennessee. The data related to NP student gender, years of previous coding and billing education, where the education occurred, and estimated number of clocked hours for education prior to the pretest, posttest and educational webinar are represented in the participant education Table 1.

Pretest and Posttest Findings

Participants were asked to consent via e-consent, complete the pretest, then view the educational webinar. After reviewing the webinar, the participants were then asked to complete a posttest. The pretest and posttest consisted of multiple-choice questions. Pretest and posttest questions one through six were unique descriptive identifiers for each participant. Questions seven through twenty-three addressed and measured comprehension of the teaching material related to the practitioner's confidence in medical coding and billing as well as fraud waste and abuse. Questions twelve through twenty-three specifically queried participant's knowledge and understanding of the evaluation and management of patient. Questions 22 and 23 were eliminated due to errors in the evaluation tool. Question twenty-four of the posttest evaluated the participant's assessment of the webinar. The mean score for the pretest out of 15 useable questions was 8.77 (SD 2.24), 58.44% (SD 14.93%) (n= 30). The posttest showed a mean score of 11.47 (SD 2.11) out of 15 questions, or 76.44% (SD 14.09%) (n=30).

Table 2 provides descriptive statistics for each question as well as the total score for both pretest and posttest for the 30 participants who completed both tests. Table 2 reveals that, for some questions, participant performance at posttest was ~~b~~etter than performance at pretest. However, several questions show the opposite and the desired effect, i.e., more participants answered correctly at posttest than at pretest. Questions 22 and 23 were multiple answer

questions in which the tool did not allow the participant to select all that apply thus invalidating the questions.

Reliability

Testing for reliability for pretest and posttest was performed using the Cronbach's coefficient alpha. The Cronbach's alpha coefficient was calculated on all pretest and posttest items except for the last two items that were select all that apply which had to be dropped as participants were only able to select one answer. The results yielded a value of $\alpha = 0.477$ pretest ($N = 30$) and posttest and $\alpha = 0.142$ ($N = 30$).

Table 2

Questions for Pretest and Posttest and Correct and Incorrect Data (n=30)

Question Number	***#Pretest Correct***	***%***	***#Posttest Correct***	***%***	***#Pretest Incorrect***	***#Posttest Incorrect***
Question 7	5	16.7%	10	33.3%	25	20
Question 8	23	76.7%	23	76.7%	7	7
Question 9	26	86.7%	28	93.3%	4	2
Question 10	25	83.3%	24	80.0%	5	6
Question 11	10	33.3%	16	53.3%	20	14
Question 12	13	43.3%	14	46.7%	17	16
Question 13	23	76.7%	25	83.3%	7	5
Question 14	9	30.0%	7	23.3%	21	23
Question 15	20	66.7%	27	90.0%	10	3
Question 16	23	76.7%	13	43.3%	7	17
Question 17	3	10.0%	10	33.3%	27	20
Question 18	24	80.0%	27	90.0%	6	3
Question 19	25	83.3%	24	80.0%	5	6
Question 20	20	66.7%	23	76.7%	10	7
Question 21	14	46.7%	8	26.7%	16	22

The pretest and posttest had 15 useable questions out of 17 original questions. The pretest showed 7 of 15 usable questions where 75% or more of the participants got the question right (Questions 8, 9, 10, 13, 16, 18, and 19). This indicates some baseline acquaintance with billing,

coding, and concepts related to fraud, waste and abuse. The posttest had 8 questions of the 15 where 75% or more of the participants answered correctly (Questions 8, 9, 10, 13, 15, 18, 19, and 20), a slight increase from pretest, with two of these questions being different from those that performed well in the pretest (Questions 15 and 20). Questions 15 and 20 addressed what constitutes a new patient to a practice and the determinants of medical decision making.

On the pretest, there were six questions where less than 50% of the participants were able to answer correctly (Questions 7, 11, 12, 14, 17, and 21). Likewise, the posttest had six questions where less than 50% of participants answered correctly (Questions 7, 12, 14, 16, 17, and 21). The majority of the questions that were troublesome at the posttest time were questions that were also troublesome at pretest. Question 16 was a question that appeared as a new area of knowledge deficit at the time of the posttest. Questions 10, 14, 16, 19, and 21 all performed inferiorly at the time of the posttest, with questions 16 and 21 showing the most significant decline in correct answers.

- Question 7 dealt with legal entities that oversee participation in federal healthcare programs (knowledge level).
- Question 11 sought a definition of Civil Money Penalties (knowledge level)
- Question 12 was a situational application of E & M coding illustrating waste (application level)
- Question 14 required selection of correct history, exam and medical decision-making for a new level III patient (comprehension level)
- Question 16 requested elements to be documented related to history according to 1995 E & M guidelines (comprehension level)

- Question 17 sought to determine understanding of incident-to billing services (comprehension)
- Question 19 was a true/false question about cloning as an acceptable form of documentation (knowledge level)
- Question 21 was a situation-based question that provided documentation of a patient visit with the question asking for an appropriate E & M billing code (synthesis/application level)

Hypothesis Testing

Questions seven through twenty-three tested knowledge of the topics presented in the webinar. Questions 22 and 23 were dropped from analysis as participants were not able to properly answer them. The remaining 15 questions were used to test the research hypothesis. The mean score for the pretest out of 15 useable questions was 8.77 (SD 2.24), 58.44% (SD 14.93%) (n= 30). The posttest showed a mean score of 11.47 (SD 2.11) out of 15 questions, or 76.44% (SD 14.09%) (n=30). Of 30 participants who completed both the pre and posttests, 25 demonstrated increased knowledge, three students had the same score on the pre and posttests, and two participants actually had lower scores on the post test. A Wilcoxan Signed Rank Test for related samples was done to assess statistical significance of these differences and resulted in a standardized test statistic of 4.047 (n = 30), p = 0.001. The Wilcoxon signed rank test showed the difference between both measurements was significant. Thus, the null hypothesis rejected. The data provided statistical evidence that the educational webinar increased the NP student's knowledge of medical coding and billing, fraud, waste and abuse.

Chapter 5 Discussion of Findings

Introduction

The original objective of this project was to evaluate Tennessee NP students' knowledge of medical billing and coding as well as fraud, waste and abuse. Fraud, waste and abuse are significant and unnecessary problems among all healthcare providers. In 1965, Medicare brought attention to an increased display of mistrust regarding health costs. Policy makers moved to control upward spending trends resulting in changes to reimbursement. The Patient Protection and Affordable Care Act (ACA) demands nurses continue educational improvement, promote and evolve leadership qualities, as well as provide care coordination with internal and external stakeholders by focusing on cost containment, quality service advancements and continuous patient access improvements (Cleveland, Motter, & Smith, 2019). Current educational programs provided by various professional organizations have had some success in Medicare fraud detection and prevention; however, further program development will be required to continue this trend. These issues have created concern for providers in healthcare for many years. To correct the system, educational programs must have an efficient approach that identifies, prevents, and provides solutions to vulnerabilities (Thorpe, Deslich, & Sikula et al., 2012).

Discussion of the Tool Construction and Reliability

This quantitative pilot study implemented an educational program for nurse practitioners focusing on provider billing, coding and the recognition and prevention of fraud, waste and abuse. In an effort to answer the research question and in an attempt to measure the success of the project, a pretest and posttest was developed using multiple choice questions.

Pretest and posttest designs are one of the most practical tools that can be used to assess the impact of an intervention or treatment. The pretest has an advantage of determining if there are any significant differences within the experimental and control groups prior to administration of any treatment, or when there is no control group, determining baseline measures prior to an intervention. In this case, the pretest determined baseline knowledge. The posttest allows the researcher to determine if there is a difference between the groups, or in this case, determined how much of a change or how much growth there was between the pretest and the posttest. The challenge of the pretest-posttest design is determining how much of a change occurred and/or how much progress occurred between the pretest and the posttest. One limitation of the pretest-posttest design is that there can be a threat to internal validity when there is an interaction between the pretest and the posttest as well as the treatment.

The educational webinar consisted of 80 slides and was approximately 45 to 60 minutes in length. The pretest and posttest timeline were captured for each participant on sheets in Google docs. The timeline for all participants varied. The timeframe between the pretest and posttest roughly ranged from six minutes to twenty-four hours. Based on these findings, if the participant had a time span of only 6 minutes between the pretest and posttest, it was obvious that the entire presentation was not viewed. The participant would not have been able to improve their knowledge or achieve a higher posttest score. Reassessment of the posttest several days to a week after the webinar would be beneficial as well.

Requiring course work or offering an elective class within the NP curriculum would be valuable to the participant as well as the NP program. Collaborating with professional organizations to offer CEUs or to obtain certification in specialty areas would encourage participation in billing and coding courses that are specifically designed for providers.

Integrating questions into the webinar to assess engagement, learning and long-term retention would be recommended.

Developing the educational webinar into more than one presentation would make the material more understandable and beneficial for the participant. Incorporating more practical information and scenarios, as opposed to laws and historical information, into the webinar(s) would make the material more relatable to clinical practice.

Thirty-four NP students participated at some level in the educational webinar. Only 30 completed the posttest and were able to be matched to a pretest. A pretest and a posttest measurement of knowledge was used to determine increased understanding. The results indicate that the posttest measurements displayed an increase in understanding.

Learners need foundational knowledge and understanding to associate information. The foundation for learners to absorb information is through observation (Tran et al., 2008). Successful learners need to be engaged to achieve learning. Participants did not have the opportunity to practice billing and coding exercises during or after the educational webinar. Incorporating quiz questions within the webinar that provide immediate feedback would be more engaging and provide enhanced learning. Multiple choice questions could be used with coordinating colors that denote rationale for the correct answer. For example, green for praise and yellow for “try again”. Feedback should be provided for incorrected answers with rationale as to why that answer is not best. Reinforcement of educational concepts might be accomplished if the student is unable to move forward with education until a correct answer has been selected. Of course, this must be balanced with an increased time commitment as practice is incorporated with the goal of optimal learning.

Research reliability can be defined as the point to which the research method produces constant and dependable results. Information is deemed reliable if information applied on the same data can be reproduced and yields the same outcomes (Dudovskiy, n.d.). The more reliable the test, the more confidence scores from administration of the test are essentially the same scores that would be obtained if the test were readministered. Reliability is expressed numerically, usually in ranges between 0 to 1.00. A high coefficient indicates high reliability or consistency. Scores can be affected by errors in measurement or characteristics of the test. Generally, reliabilities above 0.7 are considered adequate for evaluation of the research. The total pretest and posttest scores are not considered reliable. The pretest produced an Alpha score of 0.477 and a posttest Alpha score of 0.142 which indicates poor reliability between construct items. Higher reliability may be obtained including more questions. These reliability scores were based on fifteen useable questions. This is a small number and likely contributes to the low reliability. The rule of thumb is four to six questions per objective (Shrock & Coscarelli, 2007). Additionally, it would be ideal to look at each question individually to ensure uniformity in meaning. Participants should have the same understanding of the material prior to full study and possible repilot of the test. Determining if the students who scored highest overall missed certain questions could also be done. When this is found to be the case, a negative discrimination index is present and may indicate a need for question revision. Inter-item correlations may also be helpful in identifying questions that seem not to fit well in the test.

While this was a statistically significant finding, the practical significance is limited by the small number of participants, the poor reliability of the assessment tool, the 17% (5/30) of the sample who actually did the same or more poorly on the post-test, and the overall small increases in scores from pre to post test (pre – 8.77 % and post – 11.47 correct out of 15 questions).

Statistical consultation for accurate data collection and analysis, as well as statistical methods are essential when performing research. It is never too late to re- evaluate the data for accuracy.

Discussion of Hypothesis Testing

The central purpose of the project was to discover if the educational webinar enhanced the provider's knowledge of medical billing and coding, fraud, waste and abuse. This was an ambitious undertaking since the length of time between the pretest, educational webinar and the posttest was 6 minutes to 24 hours. Participants were already in a terminal program engaged in continuous learning. The researcher's results were dependent upon university faculty petitioning students and practitioners to participate in the pretest, educational webinar and posttest.

Pretest and posttest scores demonstrated low level of knowledge. Participant posttest scores were statistically significantly higher; however, the practical significance was limited. Participants with limited knowledge of the material may have guessed answers to the questions during the pretest and posttest. Conversely, participants with more experience may have skimmed the pretest, educational webinar and posttest resulting in aberrant pretest and posttest scores.

The pilot was offered to participants during the fall and spring semesters and was voluntary. Participants were not required to contribute to the research. The participants were asked to join in the pilot during regular classes and may have been part of the coursework or extra credit for the course. Based off the responses and time allowed to review the pretest, webinar and posttest, the participants may not have completed the pilot earnestly. Participants may not have considered the information valuable or the content significant. A study conducted by Padilla-Walker, Zamboanga, & Thompson et al. (2005) specified that using extra credit as an incentive for voluntary research participation may not meet educational goals and possibly limits

the generalizability of research findings. Furthermore, when educational opportunities are offered as extra credit in research, many participants do not take advantage of the research. However, the research suggests there is value in requiring the participation of research for students. Requiring students to participate offers enhanced educational benefits through creative discussion and follow-up evaluations and assessment of research participation benefits (Padilla-Walker, Zamboanga, & Thompson et al., 2005).

Pretest and Post Test Evaluation/ Educational Webinar

The pretest and posttest questions assessed knowledge of the student's understanding of billing and coding, fraud, waste and abuse. The pretest and posttest assessment were composed of matching questions in order to compare like results. The pretest and posttest began with 17 multiple choice questions. Questions 22 and 23 were eliminated due to flaws in the tool design, therefore; the length of the test was shortened. A total of 15 questions evaluated understanding posttest after the webinar. Design flaws were noted in the pretest and posttest questionnaire. Test questions were centered around historical information as well as laws that related to fraud, waste and abuse. Future development of the assessment tools should include questions that are made to measure the clinical side of the practicum. Measuring the amount of time, the participants appropriated to take the pretest, webinar and posttest with the overall results would be valuable information to consider.

The educational material was complex and may have been difficult to absorb in one setting After reviewing the data, offering multiple webinars or sessions on the material should be considered. Multiple learning opportunities would offer the participant more time to absorb the content and link prior knowledge to current information. Additionally, providing slides with

billing and coding questions as well as real time scenarios would give the participant more hands on practice and offer more educational experiences to enhance long term retention.

Personal Application

Questions four and five asked if the participant(s) had previous billing and coding education and where the education was acquired. Looking back, it can be seen that the type of billing and coding education received from the participant(s), whether formal or informal, may have produced inconsistent results in the pretest and posttest.

Medical coding and billing are subjects in which most NP students may not be well versed. Many practitioners may rely on outside sources, coders, to capture the billing and coding procedures. Most practitioners are concerned with taking care of patients, not coding, thus causing less accurate codes to be selected. Practitioners may rely on the electronic health record for assistance which may return incorrect results, leading the clinician to select the incorrect code.

Linking Findings with Theory and Prior Research

John Dewey's Learning Theory (2018) and the model of self-efficacy developed by Albert Bandura best define the concept of how theories can be applicable in clinical education and academic activities included in the nursing program. (Aliakbari, Parvin, Heidari, &Haghani, 2015). Dewey's theory (2018) contends that for learning to be successful students need the opportunity to associate current information with earlier skills and understanding. The theory is based on the need for learner to engage directly with the environment and to act as an independent learner. The pretest, educational webinar and posttest presented the participant an opportunity to enhance their knowledge about billing and coding, fraud, waste and abuse. The

webinar did not offer the foundational background to link current knowledge to prior knowledge. Seventy-seven percent of (n = 26) participants had little to no previous education on the content provided in the pilot.

Dewey believed that humans learn through a “hands on” approach and acquire information through interaction with the environment (Dimova & Kamarska 2015). The webinar did not offer any additional educational opportunities or time to practice the information explained in the webinar. Suggestions for future research would include reevaluating the webinar to add educational opportunities, in the form of slides or interactive questions, with real time feedback. In the course of this project, the NP/student participated in a pretest, educational webinar and a posttest related to medical coding/billing guidelines as well as fraud, waste and abuse. After sufficient data were obtained, numbers were tallied from the pretest and posttest scores. Once the numbers from the tests were compared, information was either retained for future use in practice or the information was never learned and forgotten. Participant pre-test scores were statically significantly lower than p*ost* scores following the educational intervention.

The Social Learning Theory emphasizes the importance of observing, modeling, and imitating behaviors, attitudes, and emotional reactions of others. Bandura considers how the environment as well as rational behaviors interact to guide human behavior and learning (McLeod, 2008). The educational webinar provided the participant the opportunity to observe and understand but did not offer the opportunity for participant reaction or observation. Direct feedback during or after the session was not provided to the participant. The researcher was unable to assess any change to the participants’ behavior based off the pretest, webinar or the posttest. More provision for feedback should be considered prior to any future research.

Analysis of the types of questions missed in both the pretest and more importantly, in the posttest reveal challenges in participant's ability to apply their learning effectively to situations and scenarios. This also supports the recommendations for more hands-on interaction and feedback that are suggested by Dewey and Bandura. Practice with feedback has been show in literature to be effective (Liang & Shanker, 2017). The pilot project gives some initial indications that the format of the education should be modified for better effectiveness.

The intent of the project was to provide relevant information on medical billing and coding as well as fraud, waste and abuse in a format that would enable the participant to understand and retain information related to the project. The pilot demonstrated a moderate impact on knowledge I spite of a number of limitations.

Limitations of the Research Process and Tool

There were several limitations in this project. The first identified limitation of this study was limited access to participants in the selected universities. Sample size limited the scope of the responses and did not allow a complete picture of the effectiveness of the webinar and evaluation tool. Reasons for limited access were due to inability to obtain sponsorship to complete research at other Tennessee university internal review boards as well as restricted access to participant participation due to the Corona virus pandemic.

Lack of previous research in the area of nursing education related to medical coding and billing as well as fraud, waste and abuse was the second major limitation of this study. While citing and referencing prior research studies establishes the basis of the literature review in any study, prior studies in this field were limited. Further research in this area would advance the development of education and leadership in nursing. When NPs understand the billing and coding aspects of healthcare, the financial aspects of care are better met.

Google docs was used to administer the pretest and posttest questionnaire. Data from the pretest and posttest were captured in Google docs sheets. The pretest and posttest were designed with identical questions. Questions 22 and 23 were inquiries that allowed the participant to have more than one answer. The tool design was unforeseeably flawed. Incorrect formatting on behalf of the researcher did not allow participants to answer questions with check all that apply accurately. These questions could only be answered with one response in which data and results from the webinar were distorted. Redesigning the tool for future testing on this subject may allow for improvement of the pretest and posttest design as well as the educational webinar. Advanced testing prior to participant analysis may allow the researcher to capture more accurate information in the future.

The final limitation of the study was the webinar used to educate the NP students. Education for the study was conducted and only available online. There was no other type of learning offered. There are over seventy different learning styles patterns (Coffield, 2004). Each of these styles are supported by a successful industry dedicated to issuing learning-styles assessments and guides as well as professional development workshops for educators (Pashler, et al., 2009). Although the difference in types of learning styles may vary, the central idea behind the different styles is the same. All people have a specific learning style or preference. People learn best when information is presented in one's own individual style. The ideal instruction requires teaching using various learning styles and tailoring the instruction accordingly (Pashler, et al., 2009). In the case of this webinar ,which was presented online in a non-interactive narrative slide presentation, it may have been ineffective in meeting learning styles of some of the individuals, particularly those who need more interactive, discussion, case-based, practical, kinesthetic learning approaches.

Discussion of Bias

The target audience for this pilot were NP students in a master's or doctoral program for nursing. The rationale for his selection was that Tennessee NP students would have similar background, educational opportunities and training. The pilot was not offered to any other participants (universities) outside of Tennessee. NP students in Tennessee may or may not have the same educational chances available in medical billing and coding, fraud, waste and abuse as in other states. The pilot did not take any other state or region into account and this may have skewed results.

Participation in the pilot was voluntary. When only a subset of the total population participates in a study, the results are not representative of the total population. Having participation in the pilot be voluntary and non-voluntary would have been a better representation of the total population of students.

Bias may be found within the data collection and interpretation. While collecting the data, judgement calls were made as to what was defined as pretest and posttest based on the time stamp for each participant. The overall results were based on a flawed tool and left the data vulnerable to misinterpretation.

Bias may have been introduced in that participants did not have the same type of medical billing and coding education or number of hours for education related to the topics in the educational webinar. Participant education types varied from on-the-job training to formal educational seminars. The amount of time the participant had previously devoted to medical billing and coding, fraud, waste and abuse was as diverse as the type of education received. Times varied from 0 to multiple hours.

Recommendations for Clinical Practice

Medical billing and coding as well as fraud, waste and abuse are important aspects in nursing. The role of compliant billing goes beyond education in the classroom. Education requirements should extend outside of the classroom and into everyday practice. Passing information on to the patient is a crucial way to facilitate the continuum of care. One way to assist in this complex problem is to provide opportunities for learning to NP students prior to graduation and to extend the opportunity beyond completion.

The majority of time spent in the academic setting for the NP student revolves around clinical content while neglecting the other areas of professional practice that are non-clinical, such as billing and coding. Offering or incorporating medical billing and coding classes and/or certifications while obtaining a terminal degree would ensure higher learning as well as lay the foundation for solid medical billing and coding practices once the NP student has graduated.

NPs are held to the same criteria as all other providers whether patients are covered by commercial payers or Medicare. Participation in federal health care program(s) means clinicians are as at risk of being incriminated with Medicare fraud or abuse as anyone else who violates the rules. Therefore, NPs as well as student NPs must know the rules for which they will be held liable (DiSantostepfano, 2013).The clinician who renders the services(s) is responsible for the billing, irrespective of the person that submitted the claim on behalf of the clinician .

Participation in continuing education classes/webinars offered by various organizations, such as CMS and the American Association of Nurse Practitioners (AANP) is important for practitioners. Guidelines should be created that require all practitioners attend continuing education on medical billing and coding as well as fraud, waste and abuse annually.

Health Policy Changes

Healthcare payment and reimbursement is a key policy change that can be implemented and positively impact NPs. Policies that directly impact payments and reimbursement for practitioners would encourage the profession to offer continuing education as well as provide incentive to stay abreast of changes related to medical billing and coding and fraud, waste and abuse. NPs deserve equal pay/reimbursement for equal work. The NP Roundtable has called for reform in order to ensure that the correct charges associated with providing quality care promote an effective and efficient use of the healthcare provider work force. The roundtable supports re-evaluating reimbursement systems to reflect the actual charges of care to ensure that all practice settings, nurse-managed health centers and developing delivery models, can be self-sustaining ("Health Reform & Health Policy," n.d.).

Clinical Significance

Healthcare providers must be aware of current guidelines and regulations related to medical coding and billing, fraud, waste and abuse and the importance to overall healthcare. Incorporating education in the classroom provides the foundation for evidence- based care and promotes change in practice. Practitioners must be mindful of current standards, billing challenges and changing legislation. Understanding different reimbursement methodologies requires critical thinking skills and ongoing education to keep up with industry regulations. By becoming familiar with medical billing and coding guidelines, NP students will be prepared with the knowledge needed to correctly code services performed.

Practice changes suggested by this pilot include incorporating medical billing and coding, fraud, waste and abuse education throughout the course of the program. Education should include focusing on aspects that provide a balanced approach to the profession once the student

has completed the program. Concentrating on standards other than biological aspects of nursing should be considered an important aspect in overall practitioner education.

Future Applications and Research

The American Nurses Association (2015) provides ethical codes that must be followed for the profession. Provision 3.5 “Protecting patient health and safety by action or questionable practice”, Provision 5.5 “Maintenance of competence and professional growth”, and Provision 7.2 “Contributions through developing, maintaining and implementing professional practice standards” are requirements associated with expanding NP’s knowledge.

Practitioners must be prepared to act in incidents of incompetent, wrong, unlawful, or diminished practice. In order to successfully function, clinicians must be familiar with the standards of practice, federal, state and local laws and guidelines. Nurses should maintain competency and endeavor to achieve excellence in practice regardless of the function or situation. NPs are obligated to maintain professional autonomy. And is necessary to achieve higher standards and guarantee quality care.

To improve this research, expanding medical coding and billing as well as fraud, waste and abuse education into one or more individual courses of the program would be ideal. This would permit the student to obtain and retain a better understanding of the complex material. Offering separate classes in medical coding and billing, fraud, waste and abuse would also create an opportunity for students to focus on material that is outside of clinical care.

Consider completing a full study to assist students and incorporate suggestions from this discussion and correcting noted problems gain additional knowledge as well as facilitate learning in the areas of medical billing and coding, fraud, waste and abuse. Future studies could compare larger groups of practitioner students, explore the value of educating NP students while

completing programs, assist in understanding barriers, disprove underlying assumptions and minimize bias.

Offering coding certifications for NP students who enroll, and successfully complete coursework would encourage involvement in medical coding and billing education. Proposing continuing education units for completed courses, not required in the program but offered by the University, would increase participation and increase practitioner's knowledge.

Summary and Conclusion

The purpose of this pilot was to determine if the educational webinar improved the NP student's knowledge of medical billing and coding, fraud, waste and abuse. This was a quantitative study that evaluated testing and comprehension before and after an educational webinar. The responses to this pilot confirm providing education to NP students is necessary to promote the provider's education; however, due to flaws in the tool the data for this pilot were skewed and unreliable. It is important for the standardization of data collection during research.

The pilot initially sought to determine if education on medical billing and coding, fraud, waste and abuse made an impact on posttest scores. The educational material was complex and may have been difficult to absorb within one setting. The challenge was to provide information that was relevant to all NP students while maintaining the importance of the material.

Several limitations to the research were identified. Limited information in coding and billing research was found during exploration. Obvious design flaws in the tool contributed to overall findings. Based off the findings, the pretest, webinar and posttest will need further examination to develop future findings. Questions will need to be established off changing guidelines and procedural codes. Queries should examine the same identical constructs as outlined in the pilot with an emphasis on the updated information.

Additional research in coding and billing with the enhancement of supplementary courses in healthcare systems, policy, and finance would assist in ensuring sufficient NP knowledge for future practice. Obtaining a larger sample selection and refinement of the tool would be needed to decrease major limitations and to increase the overall value of the education.

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Appendix A- Pretest and Post Test Questionnaire

Pre-test and Posttest Survey Tool: Changing the Culture of Nurse Practitioners Curriculum:

Incorporating Medical Billing and Coding to Prevent Fraud, Waste, and Abuse

1. Please list research ID # below:
    a. _____

2. Please choose the University you are affiliated with:
    a. Southern Adventist University
    b. Vanderbilt University Medical Center
    c. University of Tennessee at Chattanooga
    d. University of Memphis

3. Please choose your gender:
    a. male
    b. female

4. Have you had previous billing and coding education?
    a. yes
    b. no

5. If you have had billing/coding education, where did you receive the education?
    a. On-the-job training
    b. In the classroom as part of nurse practitioner curriculum
    c. Continuing education conference
    d. Billing/coding-specific certification program
    e. Other
    f. N/A

6. If you have had billing/coding education, please estimate the number of clock hours of education you have received.
    a. _____ clock hours

7. Which of the following agencies of the U.S. government has the authority to exclude individuals and entities from participating in federal health care programs?
    a. Office of the Inspector General
    b. Food and Drug Administration
    c. Homeland Security
    d. Department of Health and Human Services, Health and Human Services

8. Which piece of legislation mandated the establishment of a joint Health Care Fraud and Abuse Control program?
    a. Health Insurance Portability and Accountability Act (HIPPA)
    b. Electronic Medical Records
    c. Affordable Care Act
    d. The Sunshine Act

9. An INTENTIONAL deception or misrepresentation made by a person with the knowledge that a deception could result in an unauthorized benefit to himself or another person is an example of:
    a. Abuse
    b. Fraud
    c. Waste
    d. Negligence

10. A law that prohibits the offer or solicitation of remuneration, including an inducement and/or rebate, in exchange for referrals of Medicare-payable services would be:
    a. Anti-kick Back Statute
    b. False Claims Act
    c. Physician Self- Referral
    d. Exclusion Statute

11. What best describes of the Civil Money Penalty?
    a. A fine imposed on a health care provider who files false or fraudulent claims to any health care organization for ten years.
    b. A law that prevents physicians from referring patients to receive "designated health services" payable by Medicare or Medicaid from entities with which the physician or an immediate family member has a financial relationship, unless an exception applies.
    c. A law that prohibits the knowing and willful payment of remuneration to induce or reward patient referrals or the generation of business involving any item or

service payable by the Federal health care program (e.g., drug, supplies, or health care services for Medicare or Medicaid patients).

d. A penalty that prohibits patients from receiving medical services from facilities that receive money from corporations that offer coverage from private health care programs.

12. The NP completes an established patient visit that includes a comprehensive history and a high level of medical decision-making and bills the visit as E & M code of 99213. This is an example of:

a. Waste

b. Fraud

c. Corruption

d. Abuse

13. What qualifies as an ESTABLISHED patient under the 1995 E&M Guidelines?
    a. a patient who has received professional services from a physician/practitioner or another physician/practitioner of the same specialty within the past three years in the same group setting.
    b. a patient who has transferred to a specialist for treatment of a condition
    c. a patient seeking treatment in an outpatient setting for the first time
    d. a patient who has received professional services from a physician/practitioner within the past five years in the same setting.

14. Make the appropriate selection for a Level III new patient visit:
    a. medical decision making- low complexity, history-detailed, exam- detailed
    b. medical decision making- straight forward, history- detailed, exam- comprehensive
    c. medical decision making-low complexity, history- expanded problem focused, exam- problem focused
    d. medical decision making- low complexity, history- detailed, exam- comprehensive

15. Which patient would be considered a new patient to your practice?
    a. A patient who has not previously been seen, or someone for whom you did not have a current medical record
    b. A patient who has not received any professional services from the physician, or another physician of the same specialty who belongs to the same group practice, within the past three years
    c. A patient who received treatment last week but at your secondary clinic across town
    d. A patient that has a new diagnosis this visit who has been prescribed a new medication

16. What elements must be met when documenting for history in the 1995 E&M Guidelines?
    a. chief complaint (CC), history of present illness (HPI)
    b. chief compliant (CC), history of present illness (HPI), review of symptoms (ROS)
    c. chief compliant (CC), history of present illness (HPI), review of symptoms (ROS), and Past, Family, and/or Social history (PFSH)
    d. Medical Decision Making (MDM)

17. In order to bill Incident-to services, the following guidelines must be met:
    a. Services must be provided by a caregiver whom the practitioner directly supervises, and who represents a direct financial expense to the practitioner (such as a “W-2” or leased employee, or an independent contractor).
    b. Services must be provided under “direct” supervision meaning the practitioner must be present in the immediate office suite to render assistance if needed. If the practitioner is a stand-alone practitioner, they must directly supervise the care. If in a group, any physician member of the group may be present in the office to supervise.
    c. Diagnosis must be established by the provider (or group) with active involvement. If diagnosis is new, the service should be billed under the nurse practitioner’s NPI, not the physician.
    d. All of the above

18. A split/shared E/M visit is defined as a medically necessary encounter with a patient where the physician and a qualified non-physician practitioner (NPP) each personally perform an equal portion of an E/M visit face-to-face with the same patient on the same date of service.
    a. True
    b. False

19. Cloning is an accepted form of documentation:
    a. True
    b. False

20. What determines the complexity in Medical Decision Making (MDM) for appropriate billing?
    a. The amount and/or complexity or data to be reviewed, number of diagnoses of management options, risk of complications and/or morbities or mortality
    b. The number of diagnoses or management options to adequately care for both acute and chronic health problems
    c. The risk of complications and/or morbities or mortality that are a direct result of the prescriptions written
    d. The amount and/or complexity or data to be reviewed, particularly lab data and other recent or remote diagnostic tests

Please read the scenario below and use the information to answer questions 21, 22 & 23:

68 year old female with allergic rhinitis

CC : "Stuffy nose"

HPI: Patient states she began having increased nasal congestion about three weeks ago. She states the problem is sometimes quite severe and is worse when she goes outside. She is concerned she may be developing seasonal allergies. She says the congestion is often associated with watery eyes and can last for several hours at a time.

Medications: HCTZ 12.5 mg po qd .

PMH : positive for hypertension

ROS

Ears, Nose, Mouth and Throat - Negative for epistaxis, sore throat or decreased hearing

Pulmonary - Negative for cough, hemoptysis, SOB

Physical Exam

General: NAD, conversant; looks about her stated age

Vitals: 130/72, 88, 98.6

Head: NC/AT, no sinus tenderness or submandibular lymphadenopathy

Neck: Supple without lymphadenopathy; trachea midline

Eyes: anicteric sclerae with moist, pale conjunctiva and no lid lag

Nose: normal non-injected nasal mucosa, with normal septum and turbinates

Oropharynx: No mucosal ulcerations, normal hard and soft palate. No pharyngeal erythema

Ears: Patent external auditory canals with pearly TMs and normal hearing acuity

Lungs: CTA

CV: RRR with no MRGs

Extremities: no edema

Assessment

1. Possible allergic rhinitis in a patient with optimally controlled HTN

Plan

1. OTC acetaminophen and diphenhydramine
2. Saline nasal flushes
3. Patient was instructed to avoid decongestants with phenylpropanolamine due to the risk of exacerbating her hypertension

21. Based off the findings above/ please choose the appropriate new level code:
    a. 99204
    b. 99203
    c. 99205
    d. 99202

22. Which of the following are potential problems with the above chart? (Select all that apply)
    a. Fraud
    b. Waste
    c. Abuse
    d. Up-coding
    e. Down-coding
    f. Inadequate history
    g. Inadequate physical exam

23. From the scenario, which areas could be improved for optimal reimbursement? (Select all that apply)
    a. History of present illness (HPI)
    b. Review of Systems (ROS)
    c. Past medical history (PMH)
    d. Physical exam
    e. Assessment plan

24. This educational activity increased my confidence in this billing, coding, and recognition of fraud, waste and abuse?
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly agree

Appendix B - IRB Approval

From: irb <irb@southern.edu>

Sent: Friday, August 2, 2019 11:50 AM

To: Morrow, Tralissa <tralissa.morrow@vumc.org>

Subject: IRB Approval - Tralissa Morrow 2019-2020-006

August 2, 2019

Principal Investigator: Tralissa Morrow

Research Project: Changing the Culture of Nurse Practitioners Curriculum: Incorporating Medical Billing and Coding to Prevent Fraud, Waste, and Abuse

IRB Tracking Number: 2019-2020-006

Dear Tralissa,

It is a delight to inform you that the Institutional Review Board examined your research study proposal and supporting documents and the IRB committee has approved your research request as **expedited.** We wish you the very best as you move forward with this study and look forward to reading your findings when they are ready.

If there are minor changes to this research, before making those changes please notify us by completing and submitting FORM B (Certification of Modification, Annual Review, Research Termination, or

Research Completion). Please submit applications to irb@southern.edu. If substantial changes are planned you, as the principal investigator, should submit a new IRB FORM A application.

Many blessing to you as you move forward. Please let us know if there is anything else we can do to assist you with this research study.

Always in His service,

Cynthia

Cynthia Gettys, Ph.D.
IRB Chair
Southern Adventist University
423-236-2285
cgettys@southern.edu

"I applied my mind to **study** and to explore by wisdom all that is done under the heavens…" - Ecclesiastes 2:13
"Research is to see what everyone else has seen and to think what nobody else has through." - Albert Szent-Gyorgyi

Appendix C - Invitation to Study Email

Dear Student,

My name is Tralissa Morrow. I am a DNP student working on my scholarly project, Changing the Culture of Nurse Practitioners Curriculum: Incorporating Medical Billing and Coding to Prevent Fraud, Waste, and Abuse, at Southern Adventist University.

My scholarly project focuses on nurse practitioner billing and coding procedures and avoiding fraud, waste, and abuse. I am inviting you to participate in my study.

You are being invited to participate in this study so that more information can be learned about nurse practitioner students' knowledge on medical billing/coding, fraud, waste, and abuse.

Participation in the study involves:

- Completing a pre-test questionnaire prior to an educational offering
- Participating in an educational program on medical billing/coding, fraud, waste, and abuse
- Completing a post-test questionnaire after the educational session
- A time commitment of approximately 90-120 minutes. This includes watching a webinar, taking a pretest and a posttest

For more information about this study, please contact me by email at tmorrow@southern.edu.

Thank you,

Tralissa Morrow

Appendix D - Informed Consent

Changing the Culture of Nurse Practitioners Curriculum: Incorporating Medical Billing and Coding to Prevent Fraud, Waste, and Abuse

INFORMED CONSENT FORM

You are being invited to participate in this study so that more information can be learned about nurse practitioner students' knowledge on medical billing/coding, fraud, waste, and abuse.

If you agree to participate, you will take a computerized questionnaire and participate in an online educational webinar. You will not be putting your name on anything. You will be assigned an ID code. Your email information with assigned ID code will be kept separate from your survey data. Your name or any identifying information except for the ID code will not be on the survey. The information collected is for research purposes and any information you give will be kept confidential.

The online educational webinar will last approximately 90 to 120 minutes. Before and after the webinar you will be asked to complete a questionnaire/quiz. Each computerized questionnaire

should only take 10 – 15 minutes of your time. By clicking "Yes" to the question below, you are giving permission to participate in the study. Although all studies have some degree of risk, the potential in this investigation is quite minimal. All questions are based on your understanding and perceptions of medical coding knowledge. You will not incur any costs as a result of your participation in this study. If you agree to participate, you will receive the experience of participating in a research study and contributing to empirical body of knowledge.

AUTHORIZATION: I have read the above and understand the nature of this study. I understand that by agreeing to participate in this study I have not waived any legal or human right and that I may contact the researcher at Southern Adventist University, Tralissa Morrow, 423-315-9454 at any time. I agree to participate in this study. I understand that I may refuse to participate, or I may withdraw from the study at any time. In addition, I understand that if I have any concerns about my treatment during this study, I can contact Dr. Cynthia Gettys at Southern Adventist University Institutional Review Board at 423-236-2285.

__ No thank you

__ Yes, I will participate in your study