STAKEHOLDER PERCEPTIONS OF APRN CONSENSUS MODEL IMPLEMENTATION IN MID-ATLANTIC STATES

by

Ronald R. Castaldo

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Nursing Science

Spring 2015

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IMPLEMENTATION IN MID-ATLANTIC STATES

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GLOSSARY

AACN – American Association of Colleges of Nursing

AANA – American Association of Nurse Anesthetists

AARP – American Association of Retired Persons

ACA – Affordable Care Act of 2010

ALANA – Alabama Association of Nurse Anesthetists

AMA – American Medical Association

ANA – American Nurses Association

APC – Advanced Practice Committee

APN – Advanced Practice Nurse

APRN – Advanced Practice Registered Nurse

BON – Board of Nursing

CAH – Critical Access Hospital

CAS – Complex Adaptive System

CCNA - Center to Champion Nursing in America

CMS – Centers for Medicare and Medicaid Services

CNM – Certified Nurse-Midwife

CNP – Certified Nurse Practitioner

CNS – Clinical Nurse Specialist

CPR – Coalition for Patients' Rights

CRNA – Certified Registered Nurse Anesthetist

HRSA – Health Resources and Services Administration

IOM – Institute of Medicine

LACE – Licensure, Accreditation, Certification, and Education

NCSBN – National Council of the State Boards of Nursing

SOPP – Scope of Practice Partnership

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ABSTRACT

The purpose of this exploratory multiple-case study research was to identify and compare similarities and differences in stakeholder perceptions of Advanced Practice Registered Nurse (APRN) Consensus Model implementation processes in the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania. The Consensus Model is a regulatory model that establishes licensure, accreditation, certification, and education (LACE) standards for uniform APRN regulation. Every state separately determines the legal scope of practice for APRNs. As long as inconsistencies exist from state to state regarding APRN regulatory requirements, each state border signifies a potential barrier for APRNs' ability to provide high-quality, cost-effective patient healthcare services. Complexity science theory provided a framework for this study. The purposive sample included 16 stakeholders, including one APRN clinician, one APRN educational program director or professor who teaches in an APRN program, one representative from nursing regulation, and one policymaker or lobbyist who possesses knowledge and expertise with APRN legislation and regulation in each of the four study states. Each 4-member stakeholder group was the primary unit of analysis, and data from all of the stakeholders and cases were included to complete this multiple-case study. Data were collected via an investigator-developed, semi-structured interview guide and a 21-item, Likert scale survey. The interview guide was pilot tested by the investigator in 2012 and 2013. The survey, pilot tested twice in 2014, was first reviewed by an expert in

survey development. The data were also corroborated by an analysis of relevant documents.

Data bits, including investigator-formed concepts and codes, were analyzed and reprocessed to form final study results, including two major themes. These two overriding themes, “Roadblocks to Model Implementation” and “Model Implementation Attractors and Adaptable Elements,” were present in each state case study. Under the first “roadblocks” theme, three common subthemes were uncovered in each state, including Model opposition, deficient Consensus Model understanding, and inadequate relationships with change agents. A fourth subtheme of APRN apathy or unconcern emerged in the Maryland, New Jersey, and Pennsylvania case studies. A fifth subtheme of pre-existing lack of all-inclusive APRN legislation was uncovered in Pennsylvania. Under the second theme, two subthemes, Model facilitators and preferred strategies, emerged in each state. The findings not only provide important insight for APRN clinicians, educators, and scientists, but recommendations for promoting advanced practice nursing healthcare policy were also provided.

Chapter 1

INTRODUCTION

This dissertation is an exploratory research study of stakeholder perceptions of the advanced practice registered nurse (APRN) Consensus Model implementation process in the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania. Advanced practice registered nurses play an increasingly vital role in healthcare delivery in the United States, and the Consensus Model, introduced in 2008, is a framework that establishes standards for uniform APRN regulation. The Model targets the year 2015 for full implementation of all embedded recommendations, including modifications to APRN licensure, accreditation, certification, and education core elements. Several studies and publications support the high-quality and cost-effective care APRNs provide (Brooten, Youngblut, Brown, Finkler, Neff, & Madigan, 2010; Cunningham, 2010; Dulisse & Cromwell, 2010; Ettner et al., 2006; Hogan, Seifert, Moore, & Simonson, 2010; Mundinger et al., 2000; Rosenblatt et al., 1997; Spetz, Parente, Town, & Bazarko, 2013; Stanik-Hutt et al., 2013). However, patient access to APRN healthcare services has been varied and limited, given the differences in APRN scope of practice state to state as well as a lack of common definitions and uniformity in APRN state regulations. Thus, this first dissertation chapter introduces the study purpose, research questions, significance, relevant definitions, and delimitations.

Americans should have access to cost-effective, culturally sensitive, high-quality healthcare. Unfortunately, approximately 49.9 million Americans lacked healthcare

insurance in 2010 (Christie, 2011). The Patient Protection and Affordable Care Act (PPACA) of 2010 outlines several healthcare initiatives, and many new programs have already been implemented to improve access to healthcare services (Institute of Medicine, 2011). The intent of this legislation is to ensure health insurance coverage for an additional 32 million people. The impact of this new strain on the country's healthcare resources will likely be significant. According to the U.S. Department of Health and Human Services (2013), if primary care delivery models essentially remain unchanged, a primary care physician shortage of nearly 20,400 primary care physicians will be anticipated by the year 2020. Demand for primary care physicians will continue to outpace physician supply. APRNs possess the expertise and ability to help meet the increased demands to build a more accessible healthcare system for patients that maintains cost-effectiveness and the highest quality. The limitations of restrictive policies and regulations, including constraints related to full scope of practice, must be eliminated for APRNs to capitalize on this valuable opportunity (Institute of Medicine, 2011).

All types of APRNs play a critical role in meeting the country's escalating healthcare needs. Advanced practice registered nurses, including certified registered nurse anesthetists (CRNAs), certified nurse-midwives (CNMs), clinical nurse specialists (CNSs), and certified nurse practitioners (CNPs) are expertly prepared to provide care to the highest level of their education and skills (APRN Joint Dialogue Group Report, 2008). According to the National Council of State Boards of Nursing (NCSBN) (2015), there are over 267,000 APRNs in the United States. Every state separately determines the legal scope of practice for APRNs, recognition of the various APRN roles and titles, the

criteria for APRN entry into practice, and the certification examinations approved for entry-level practice (APRN Joint Dialogue Group Report, 2008). As long as inconsistencies exist from state to state regarding APRN regulatory requirements, each state border signifies a potential barrier to role portability. Advanced practice registered nurses wishing to become licensed to practice in other states will need to investigate the applicable licensure requirements in those states. Licensure requirements that are not uniform with the APRN Consensus Model may potentially prevent APRNs from being able to practice in certain states, thus contributing to decreased patient access to numerous healthcare services.

Background

History and Development of the APRN Consensus Model

Through the efforts of both the APRN Consensus Work Group and the NCSBN APRN Advisory Committee, the *Consensus Model for APRN Regulation: Licensure, Accreditation, Certification, and Education* was released on July 7, 2008. This final document was the product of nearly 15 years of meetings with various national and state nursing associations and committees (APRN Joint Dialogue Group Report, 2008).

The acronym "LACE" is used throughout the Model to denote the licensing, accrediting, certifying, and educational entities that work together to define, educate, and promote APRN practice. Meetings with various LACE groups, including national and state nursing associations and committees, began in 1993. Around that time, state boards of nursing (BONs) began using APRN certification examinations as one of the requirements for licensure in their respective states. Delegates at the NCSBN Annual

Meeting in 1993 approved a position paper on advanced nursing practice licensure that included both legislative language and administrative rules for advanced practice nurses (APRN Joint Dialogue Group Report, 2008).

Building upon the Model language work of the delegates, the NCSBN collaborated with APRN certifying bodies to design certification examinations that would complement state regulatory requirements. During the remainder of the 1990s, APRN certifying bodies continued to undergo accreditation processes. These certifying entities also provided additional information to state boards of nursing to ensure that specific APRN examinations were both psychometrically sound and legally defensible (NCSBN, 1998). Throughout the early 2000s, the APRN Advisory Panel established criteria for APRN certification and accreditation entities. In January 2002, criteria for a new APRN certification review process were established. Also in 2002, the Advisory Panel produced a document delineating various APRN regulatory issues and concerns (APRN Joint Dialogue Group Report, 2008).

In 2003, the APRN Advisory Panel initiated a draft of a paper for the chief purpose of resolving APRN regulatory concerns, including the growing number of APRN subspecialty areas. The goal of this panel was to formulate the APRN Vision Paper, a document providing guidance to state boards of nursing regarding APRN regulation by establishing an ideal future APRN regulatory model. Eight recommendations were put forth, and by 2006, the draft vision paper was finalized and distributed to state boards of nursing and APRN stakeholders for comment. Feedback from these groups was evaluated by the panel in 2006 (APRN Joint Dialogue Group Report, 2008).

The process to develop a specific consensus statement regarding APRN credentialing began in March 2004 when the American Association of Colleges of Nursing (AACN) and the National Organization of Nurse Practitioner Faculties (NONPF) petitioned the Alliance for Nursing Accreditation (renamed the Alliance for APRN Credentialing). The AACN assembled the APRN Alliance in 1997 with the express purpose of discussing issues related to nursing education, practice, and credentialing. Multiple viewpoints on defining APRN practice, delineating what is a specialization versus sub-specialization, and developing suitable requirements for credentialing were topics that were debated over several years (APRN Joint Dialogue Group Report, 2008).

In June 2004, 32 organizations participated in the APN Consensus Conference in Washington, DC. The abbreviation APN was initially used, however, it was agreed that APRN should replace APN for subsequent discussions, meetings, and documents. The meeting's primary objective was to analyze matters germane to the advanced practice nurse definition, specialization, sub-specialization, licensure, accreditation, certification, and education. After the June 2004 APN Consensus Conference, a smaller group representing 23 various LACE organizations addressed a charge to construct a statement that addressed a future APRN regulatory model. Between October 2004 and July 2007, the Alliance APN Consensus Work Group assembled 16 days (APRN Joint Dialogue Group Report, 2008).

In April of 2006, the APRN Advisory Panel and the APRN Consensus Work Group met jointly to consider APRN-related concerns outlined in the NCSBN draft vision paper. Both groups agreed that an integrated agenda was preferable to potentially

conflicting separate work agendas. A subgroup composed of seven people from each group also gathered in January 2007, naming their new group the APRN Joint Dialogue Group. This newly formed joint assembly addressed areas of agreement and disagreement between the APRN Advisory Panel and the APRN Consensus Work Group. The joint group concluded that one paper, reflecting the work of both groups, would be drafted. The document produced in July 2008 is the work of the APRN Joint Dialogue Group and through the consensus-based work of the APRN Consensus Work Group and the NCSBN APRN Advisory Committee (APRN Joint Dialogue Group Report, 2008). Please refer to Table 1 for a summary table of the APRN Consensus Model development timeline.

In 2008, the Robert Wood Johnson Foundation (RWJF) partnered with the Institute of Medicine (IOM) to evaluate and assess the nursing profession in light of new and growing challenges in providing healthcare in the United States. The Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing at the Institute of Medicine was charged with constructing a report encompassing recommendations for an action-oriented plan for the future of nursing. The IOM assembled a diverse group of stakeholders, including experts from business, academia, healthcare, and health policy arenas. Varied perspectives, including viewpoints external to the nursing profession, were brought to the table for consideration (IOM, 2011).

As a result of its deliberations over two years, the committee formulated four key messages and eight recommendations. The first key message is that nurses should practice to the full extent of their education and training. Regulations defining APRN scope of practice extensively differ by state. Some states, for example, have kept pace

with evolving healthcare systems by changing advanced practice nursing regulations to allow APRNs to provide patient care services, including prescribing medications, without physician supervision or collaboration. However, an overwhelming majority of states have laws that lag behind in this regard. Upon graduation and certification, what APRNs are able to do greatly varies for reasons that are not related to their ability, training, education, or safety concerns (IOM, 2011).

The first recommendation of the IOM *Future of Nursing* report is that APRNs should be able to practice to the full extent of their education and training. To achieve this goal, the committee recommended several action steps for Congress, state legislators, the Centers for Medicare and Medicaid Services, the Office of Personnel Management, the Federal Trade Commission, and the Antitrust Division of the Department of Justice. Both the first key message and the first recommendation of the IOM's 2011 *Future of Nursing* document were the inspiration behind pursuing advanced nursing practice health policy research presented in this paper.

Table 1

APRN Consensus Model Development Timeline

1993	NCSBN delegates adopted position paper on APN licensure
1995	NCSBN and APRN certifiers worked jointly to ensure certification examinations acceptable for regulatory purposes
1997	APRN Alliance convened by AACN to regularly discuss nursing education, credentialing, and practice concerns
1998	APRN certifiers agreed to undergo accreditation and submit additional information to state BONs to ensure certification examinations are psychometrically sound and legally defensible
2002	APRN Advisory Panel approved process for review of APRN certification programs; release position paper regarding APRN regulatory concerns
2003	APRN Advisory Panel drafted Vision paper outlining regulatory concerns including proliferation of subspecialty areas
March 2004	AACN and NONPF submitted proposal to APRN Alliance establishing process to develop consensus statement regarding credentialing of APNs
June 2004	Nursing organizations (32) participated in APN Consensus Conference
October 2004	APRN Alliance formed smaller work group (23 organizations called APN Consensus Work Group) representing LACE groups; meets 2004 through 2007
December 2004	ANA and AACN cohosted APN stakeholder meeting; requested that APN Consensus Work Group draft statement that would address regulation, specialization, and subspecialization
2006	APRN Advisory Panel completed APRN Vision Paper
April 2006	APRN Advisory Panel met with APRN Consensus Work Group to discuss Vision Paper
January 2007	Subgroup of 7 representatives from Work Group and 7 representatives from Advisory Panel met and named new group APRN Joint Dialogue Group
July 2008	Consensus Model for APRN Regulation: Licensure, Accreditation, Certification, & Education released

Current APRN Consensus Model Progress Toward Uniformity in Selected Mid-Atlantic States

The NCSBN monitors each state's progress toward APRN Consensus Model implementation. Periodically, the NCSBN updates maps representing the seven major components of the Model by each state (last updated June 2014). These components include official acknowledgment of the APRN title and recognition of (a) all four APRN roles, (b) separate APRN licenses, (c) APRN educational standards, (d) APRN certification, (e) APRN independent practice, and (f) APRN independent prescribing. In each of the seven components, scores ranging from 0 to 4 are applied. A score of 0 denotes that the component does not apply to any APRN type, while a score of 4 denotes that the component applies to all four types of APRNs in that state. With the seven components and a highest score of 4 for each component, a maximum score of 28, denoting that the state has achieved complete Model implementation, is possible.

Four levels of progress are recognized on a 28-point progress scale. Level-1 represents less that 14 points. Level-2 represents 14 to 20 points, or 50% to 71% Model implementation. Level-3 represents 21 to 27 points, or 75% to 96% Model implementation. Level-4 represents a full 28 points, or 100% Model implementation.

As of June 2014, Delaware, Maryland, and New Jersey are considered Level-2 states, with 16, 17, and 13 points respectively. Pennsylvania is considered a Level-1 state with only 6 points (NCSBN, 2014). Specifics of each major component by Mid-Atlantic state will be covered in the next section.

Delaware

Delaware currently scores 0 points with the first component of APRN title recognition (APN is the current acronym). However, Delaware recognizes all four APRN roles (4 points), and licensure, education, and certification language recognizes and addresses all four APRN roles (4 points in each component). Finally, no APRN role in Delaware currently incorporates independent practice (0 points) and independent prescriptive authority (0 points) (NCSBN, 2014).

Maryland

Maryland recognizes the APRN title for all four types of APRNs (4 points). All four roles, including a fifth role called nurse psychotherapist, are recognized (4 points). Currently, Maryland scores 0 points for the license component; however, both education and certification components each score 4 points (all APRN roles recognized in these components). Maryland scores 1 point for the CNS role in regard to independent practice; however, the other 3 roles do not hold independent practice. No roles (0 points) incorporate independent prescriptive authority (NCSBN, 2014).

New Jersey

New Jersey also currently scores 0 points with the first component of APRN title recognition (APN is the current acronym). However, New Jersey recognizes all four APRN roles (4 points), and education and certification language recognizes and addresses all four APRN roles (4 points in each component). Currently, New Jersey only requires an "APN certification," not a specific APRN license for each role (only 1 point in this

component). CNMs are not regulated under the Board of Nursing in New Jersey. Instead, CNMs are granted licenses through the State Board of Medical Examiners, Midwifery Liaison Committee. Finally, no APRN role in New Jersey currently incorporates independent practice (0 points) and independent prescriptive authority (0 points) (NCSBN, 2014). CRNAs in New Jersey must be supervised, while CNMs, CNSs, and CNPs must have written collaborative agreements. New Jersey uses a "joint protocol" to meet the collaborative agreement requirement. Title 13, Chapter 37 of the New Jersey Administrative Code defines "joint protocol" as "an agreement or contract between an advanced practice nurse and a collaborating physician which conforms to the standards established by the Director of the Division of Consumer Affairs" (New Jersey Administrative Code, 2012, p. 50).

Pennsylvania

With the first component of APRN title recognition, Pennsylvania currently scores 0 points. Only 2 APRN roles are recognized, including CNS and CNP (2 points). Pennsylvania currently recognizes and uses the abbreviation "CRNP" (Certified Registered Nurse Practitioner) in lieu of CNP. No APRN role requires a separate license (0 points). With both the education and certification components, only CNS and CNP roles are recognized (2 points for each component). Finally, no APRN role in Pennsylvania currently incorporates independent practice (0 points) and independent prescriptive authority (0 points) (NCSBN, 2014).

Table 2 summarizes the current implementation point system for each Mid-Atlantic state in the study. The first column represents the Board of Nursing for each state, followed by each state's abbreviation and the current point total in parentheses.

Table 2

Adoption of the Major Elements of the APRN Consensus Model (DE, MD, NJ, PA)

Board	APRN Title	Roles	License	Education	Certification	Independent Practice	Independent Prescribing
DE (16)	0	4	4	4	4	0 CRNA 0 CNM 0 CNS 0 CNP	0 CRNA 0 CNM 0 CNS 0 CNP
MD (17)	4	4	0	4	4	0 CRNA 0 CNM 1 CNS 0 CNP	0 CRNA 0 CNM 0 CNS 0 CNP
NJ (13)	0	4	1	4	4	0 CRNA 0 CNM 0 CNS 0 CNP	0 CRNA 0 CNM 0 CNS 0 CNP
PA (6)	0	2	0	2	2	0 CRNA 0 CNM 0 CNS 0 CNP	0 CRNA 0 CNM 0 CNS 0 CNP

Source: National Council of State Boards of Nursing (2014).

Problem Statement

Limited research addressing the specific issues or concerns of the implementation process of the APRN Consensus Model has been published. To the investigator's knowledge, there is no research that systematically addresses the stakeholder perceptions and views of the Model's implementation. While the literature addresses actions of state advanced practice committees and councils on steps in adopting pieces of the Model, individual state leader perceptions and views are not widely known. The NCSBN is an

endorsing organization of the APRN Consensus Model. However, only one state board of nursing is listed as an endorsing body (last updated December 2010). Since the Consensus Model's completion in July 2008, only the Arkansas State Board of Nursing has officially endorsed the Model (APRN Joint Dialogue Group Report, 2008).

The purpose of this exploratory case study research was to identify and compare similarities and differences in stakeholder perceptions of APRN Model implementation process in the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania.

The research questions that directed the study are:

1. How do APRN Consensus Model stakeholders perceive the implementation process of the Model?
2. What issues are related to the 2015 APRN Consensus Model implementation deadline?

Significance of the Study

This qualitative study contributes to the body of professional nursing knowledge regarding advanced practice nursing healthcare policy issues and the APRN Consensus Model implementation process. This study not only emphasizes the complexity of this national regulatory model but also to the complex nature of individual state nurse practice acts and regulations. Attempting to implement changes to APRN statutory and regulatory language without an appreciation of the complexities of the Model and the numerous stakeholders involved means that timely and successful APRN regulatory changes are less likely to be adopted.

With the relative newness of the APRN Consensus Model, there are large gaps in the literature that address the position statements, viewpoints, and concerns of state boards of nursing and other Model stakeholders. Results of this research will inform state nursing associations and boards of nursing about best practices and strategies to achieve implementation of the Model, thus increasing patient access to APRN healthcare services and eliminating barriers to APRN practice.

Patient access to high-quality, cost-effective APRN healthcare services is at risk if state lines continue to serve as barriers to APRN practice. Opposition to incorporating Model language into state nurse practice acts and regulations also may jeopardize patient access to APRN healthcare services due to APRN inability to practice to the fullest extent of licensure, education, and training. APRNs currently practicing in states that incorporate independent practice and favorable nurse practice acts will most likely have an easier time both endorsing and fully implementing the Model. States that have many legal restrictions and barriers in their nurse practice acts will undoubtedly face a much harder time fully implementing the Model. Two pilot studies conducted by the investigator, one in Spring 2012 and the second in Spring 2013, revealed barriers to Model implementation, including Model content educational deficits and physician opponent barriers. The 2012 pilot study focused on Model stakeholders (n = 2) in Delaware only. The 2013 pilot study built upon the previous year's research and included stakeholders (n = 8) from Delaware, Maryland, New Jersey, and Pennsylvania.

Complexity science theory provided a framework for this study. Different stakeholders, viewed as complex adaptive systems or CASs, may be studied through the

unique lens of complexity science. Both complexity science theory, and the various CASs germane to this dissertation, guided the review of the literature in the second chapter.

Definitions of Key Terms

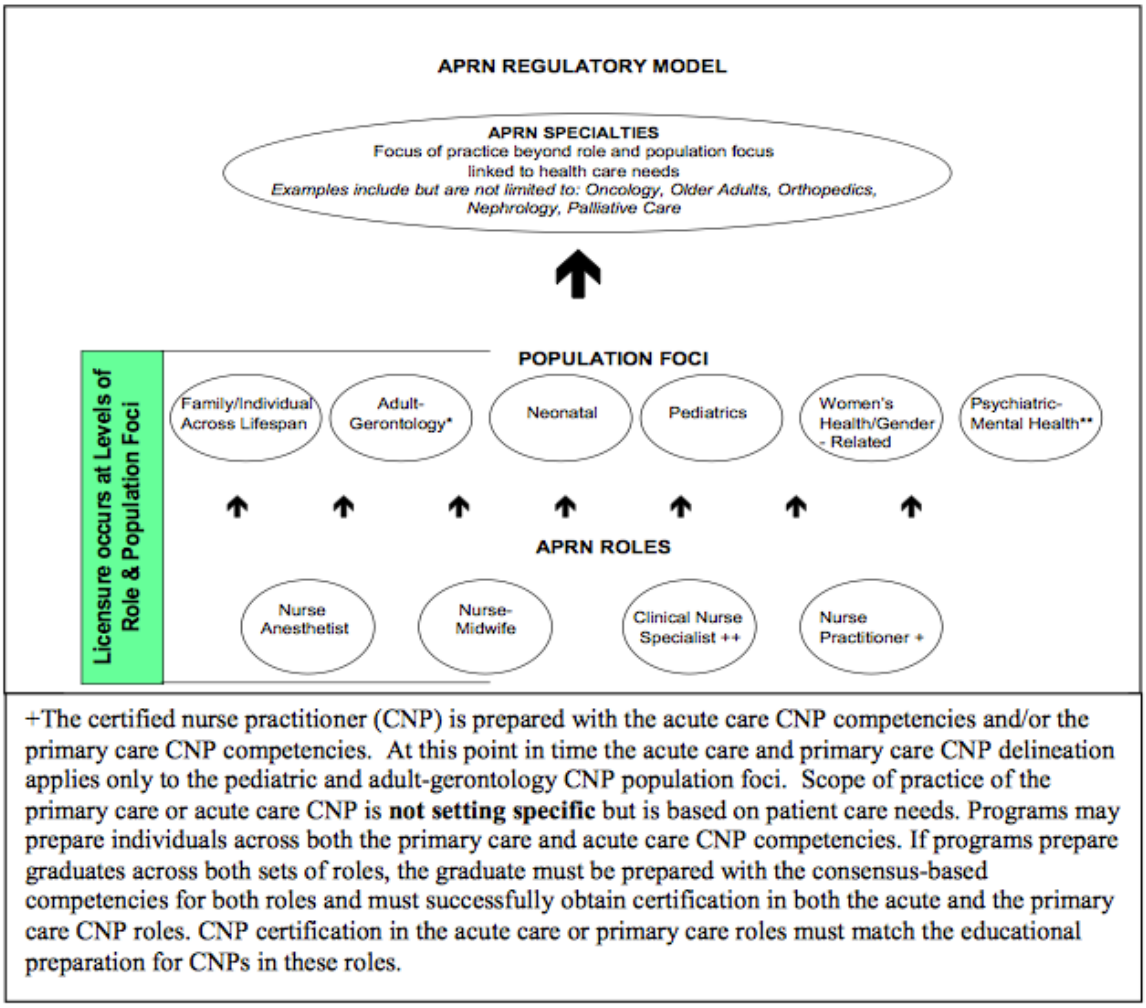
Advanced Practice Registered Nurse

An advanced practice registered nurse (APRN) is a nurse who has completed an advanced educational program and has passed a national certification examination in order to practice in one of the four APRN roles. Current APRN students must complete an accredited graduate-level (either master's or doctoral) educational program. The APRN, regardless of the role, possesses extensive clinical skills and advanced clinical knowledge, which allows the APRN to provide high-quality, competent healthcare services to a wide spectrum of patients. Core educational courses common to each APRN role are advanced pathophysiology, advanced pharmacology, and advanced physical health assessment (APRN Joint Dialogue Group Report, 2008).

APRN roles. Upon completion of their educational programs, all APRNs are expertly prepared to provide healthcare services across a continuum to at least one of six population types or "foci," including family care and/or individual across the lifespan, adult-gerontology, pediatrics, neonatal, women's health and/or gender-related, and psychiatric/mental health. The individual APRN's licensure and scope of practice are grounded upon the specific advanced graduate education in one of the four roles and in one of the aforementioned population foci. The education, certification, and licensure of

each APRN must be congruent in regard to both role and population focus (APRN Joint Dialogue Group Report, 2008).

Figure 1 summarizes that APRN roles and population foci delineated in the APRN Consensus Model.



* The population focus, adult-gerontology, encompasses the young adult to the older adult, including the frail elderly. APRNs educated and certified in the adult-gerontology population are educated and certified across both areas of practice and will be titled Adult-Gerontology CNP or CNS. All APRNs in any of the four roles providing care to the adult population (e.g., family or gender specific) must be prepared to meet the growing needs of the older adult population. Therefore, the education program should include didactic and clinical education experiences necessary to prepare APRNs with these enhanced skills and knowledge.
** The population focus, psychiatric/mental health, encompasses education and practice across the lifespan.
++ The clinical nurse specialist is educated and assessed through national certification processes across the continuum from wellness through acute care.

Figure 1. APRN Regulatory Model with roles and foci. From *APRN Joint Dialogue Group Report* (p. 10), by APRN Consensus Work Group & the National Council of State Boards of Nursing APRN Advisory Committee (2008), Chicago, IL: Author. Copyright 2008 by APRN Consensus Work Group & the National Council of State Boards of Nursing APRN Advisory Committee. Reprinted with permission (See Appendix A).

APRN Consensus Model. After approximately 15 years of deliberation, including the feedback and input from 48 advanced practice nursing organizations nationwide, the Consensus Model For APRN Regulation was released in July 2008. The essential elements of licensure, accreditation, certification, and education (LACE) are the pillars of this regulatory model. At the core of the Model is the recognition of four types of APRNs, including certified registered nurse anesthetists (CRNAs), certified nurse-midwives (CNMs), clinical nurse specialists (CNSs), and certified nurse practitioners (CNPs). A registered nurse pursuing advanced education to prepare himself or herself as an APRN can choose among these four roles and at least one of six population foci (APRN Joint Dialogue Group Report, 2008).

Due to the critical role APRNs play in caring for the current and future healthcare needs of patients throughout the country, it is vital that the licensure, accreditation, certification, and education of APRNs be satisfactorily aligned and congruent state to state. In order for all APRNs to continue providing safe and competent care, along with ensuring patient safety and patient access to care, clear LACE elements at each state level must be in place. The deadline outlined by the Model for individual states to achieve full implementation is 2015. Refer to previous definition of "APRN Roles" for a diagram of the APRN Consensus Model roles and foci (APRN Joint Dialogue Group Report, 2008).

Certified Registered Nurse Anesthetist

A certified registered nurse anesthetist (CRNA) is a type of APRN who can administer anesthesia for all types of surgical operations and procedures, from the simplest to the most complex. CRNAs also work in all anesthetizing locations, including traditional hospital surgical suites, obstetrical delivery rooms, ambulatory surgery centers, the offices of plastic surgeons, dentists, podiatrists, and pain management specialists, and the United States military, Public Health Services, and Department of Veterans Affairs healthcare facilities. According to the American Association of Nurse Anesthetists (AANA) (2014b), the scope of practice of a CRNA includes conducting and documenting a preanesthetic patient evaluation, explaining the anesthesia plan to the patient and obtaining the informed consent for anesthesia administration, and administering pre-procedural medications and intravenous fluids. The CRNA, in conjunction with the patient, anesthesiologist (if one is present), and the surgeon or proceduralist participates in the selection of the anesthetic plan, and this plan is initiated once the patient proceeds to the anesthetizing location, usually an operating room. The anesthetic plan may include either general, regional, monitored anesthesia care, or local anesthesia. In addition to drug procurement and selection, the CRNA is responsible for patient airway management during the perioperative timeframe, including using endotracheal intubation, mechanical ventilation, respiratory therapies, and extubation. Once the anesthetic is initiated, the CRNA continuously monitors the patient's vital signs using appropriate invasive and noninvasive monitoring modalities. Anesthesia is maintained throughout the surgical procedure by administering anesthetics, accessory

medications, and various necessary intravenous fluids. The CRNA safely emerges the patient from anesthesia at the end of the surgical procedure and decides the most appropriate post-anesthesia recovery area for the patient, whether it is a post-anesthesia care unit or intensive care unit. This summary of CRNA responsibilities and practice parameters is not intended to be all-inclusive, and individual CRNAs may have additional anesthesia responsibilities based upon supplementary certification and education (AANA, 2014b).

Certified Nurse-Midwife

A certified nurse-midwife (CNM) is a type of APRN who can provide various primary care health services to women throughout the lifespan, including family planning services, prenatal care, postpartum services, childbirth care, newborn care, and routine gynecological care, and peri-menopausal and post-menopausal care. CNMs may also diagnose and treat reproductive health symptoms, including sexually transmitted diseases of both the female patient and her partner, whether the partner is male or female. CNMs provide their healthcare services in a variety of settings, including hospitals, ambulatory care centers, birthing centers, private offices, community health clinics, and patient homes (American College of Nurse-Midwives, 2014). This summary of CNM responsibilities and practice parameters is not intended to be all-inclusive, and individual CNMs may have additional midwifery responsibilities based upon supplementary certification and education.

Clinical Nurse Specialist

A clinical nurse specialist (CNS) is a type of APRN who assists patients with illness prevention or treatment and serves as an expert nurse consultant for various nursing staffs. According to the National Association of Clinical Nurse Specialists (NACNS), the CNS's scope of practice includes diagnosing and treating diseases, disabilities, and injuries within the expertise of the individual CNS. The CNS may have clinical expertise in a particular patient care population, including pediatrics, geriatrics, women's health, and psychiatric/mental health. In addition to delivering direct patient care, CNSs positively affect care outcomes by offering expert consultation to nursing staffs and by initiating quality improvements in diverse healthcare delivery systems. CNSs may work in a variety of healthcare settings, including hospital emergency rooms, critical care units, private offices, and nursing education centers. The CNS assimilates nursing practice, which focuses on patient wellness and illness prevention or resolution, with medical diagnosis and treatment of disease, injury, or disability (NACNS, 2014). This summary of CNS responsibilities and practice parameters is not intended to be all-inclusive, and individual CNSs may have additional advanced practice nursing responsibilities based upon supplementary certification and education.

Certified Nurse Practitioner

A certified nurse practitioner (CNP) is a type of APRN who provides healthcare services to certain patient populations, from neonates to the geriatric population. CNPs are educated to diagnose and care for patients, and they may practice in both primary care and acute care capacities. Both CNP roles permit the nurse practitioner to provide initial,

ongoing, and comprehensive healthcare services, including conducting comprehensive patient histories, physical examinations, and health screenings. In addition, the CNP may diagnose, treat, and manage patients with acute and chronic illnesses, including diabetes, hypertension, various infections, and injuries. CNPs care for patients by ordering, performing, and interpreting diagnostic tests, such as blood tests and x-rays, prescribing appropriate medications or therapies, and making referrals for additional care outside the area of individual CNP expertise. Regardless of the primary care or acute care CNP educational background, nurse practitioners promote maintenance of patient health and disease prevention, along with diagnosing and managing current disease states (American Association of Nurse Practitioners, 2014). This summary of CNP responsibilities and practice parameters is not intended to be all-inclusive, and individual CNPs may have additional advanced practice nursing responsibilities based upon supplementary certification and education.

Stakeholder

Stakeholders are individuals with an interest or concern in a particular topic. Stakeholders of the APRN Consensus Model include APRNs, physicians, hospital administrators, patients, APRN educators, directors and coordinators of APRN educational programs, executive directors of state boards of nursing, other state directors of regulatory bodies, lobbyists, and policymakers. The investigator set boundaries to the stakeholders included in this study, and the stakeholders defined in this multiple-case study design were APRN clinicians, APRN educators, nursing regulatory staff members, and healthcare lobbyists or policymakers.

Delimitations

This exploratory case study research investigating stakeholder perceptions of the APRN Consensus Model implementation process in the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania has inherent boundaries. Stakeholders living or working in the selected Mid-Atlantic states may differ significantly from other stakeholders throughout the rest of the United States. As of November 2014, most of the states that have fully implemented the APRN Consensus Model are states with large rural populations, including Montana, North Dakota, Idaho, Utah, and New Mexico. Many of the aforementioned states have numerous critical access hospitals (CAHs). Some requirements for CAH certification include having fewer than 25 inpatient beds, being located at least 35 miles away from any other hospital, and offering 24 hour/7 days per week emergency services (Health Resources and Services Administration [HRSA], 2014b). According to the HRSA (2014a) as of November 2014, Delaware, Maryland, and New Jersey do not have any CAHs. Pennsylvania has 12 critical access hospitals. Montana contains 48 CAHs, while North Dakota has 36, Idaho has 27, Utah has 11, and New Mexico has 9 of these hospitals. In addition to having a greater number of nonmetropolitan counties, states that have fully implemented the Model are more likely to contain CAHs that depend on APRNs, sometimes solely, for certain healthcare services. For example, some critical access hospitals employ CRNAs only for anesthesia services.

Furthermore, numerous Model stakeholders exist outside of the four types of APRNs, including patients, physicians, registered nurses, hospital administration staff

members, directors of insurance companies, lobbyists, and policymakers. The participants included in this study were APRN clinicians, directors of APRN education programs and/or APRN educators, advanced practice nursing regulatory staff, and either lobbyists or policymakers. With one participant in each of the above categories, duplicated in each Mid-Atlantic state, only 16 stakeholders were interviewed. APRN perceptions may vary based on the specific APRN clinical role. Only one APRN clinician was interviewed in each Mid-Atlantic state. In Delaware, a CNP served as the clinician participant. In Maryland, a former CNS and current CNP served as the clinician participant. In New Jersey and Pennsylvania, a CRNA served as the clinician participant. No CNMs were interviewed; however, participants in all interview categories possessed knowledge pertaining to all four APRN types. Depending on the role and participant's background, knowledge levels varied. For example, a participant representing advanced practice nursing regulation may not have been an APRN; however, he or she was conversant on regulatory topics pertaining to all four APRN types.

Chapter 2

REVIEW OF THE LITERATURE

Introduction

The enactment and implementation of the Patient Protection and Affordable Care Act (PPACA) (2010), along with the Institute of Medicine's (IOM) *The Future of Nursing: Leading Changing, Advancing Health* publication, has highlighted the need for cost-effective and high-quality healthcare services in the United States (IOM, 2011). A national shortage of healthcare providers, primarily primary care providers, has underscored access to healthcare concerns in many parts of the country, chiefly in rural communities. Many research studies, including publications cited in *The Future of Nursing* report, provide considerable evidence that APRNs are capable and qualified to meet the increased demand of healthcare services that the PPACA allows (IOM, 2011).

Inconsistencies state-to-state with nurse practice acts, along with the inability of most APRNs in the United States to fully practice independently, also limit patient access to APRN high-quality and cost-effective healthcare services. Primary care healthcare provider shortages are highlighted the most by *The Future of Nursing* report; however, patients are potentially denied access to a host of other specialty services that APRNs competently provide, including anesthesia, labor and delivery, pediatric, critical care, and geriatric services (IOM, 2011).

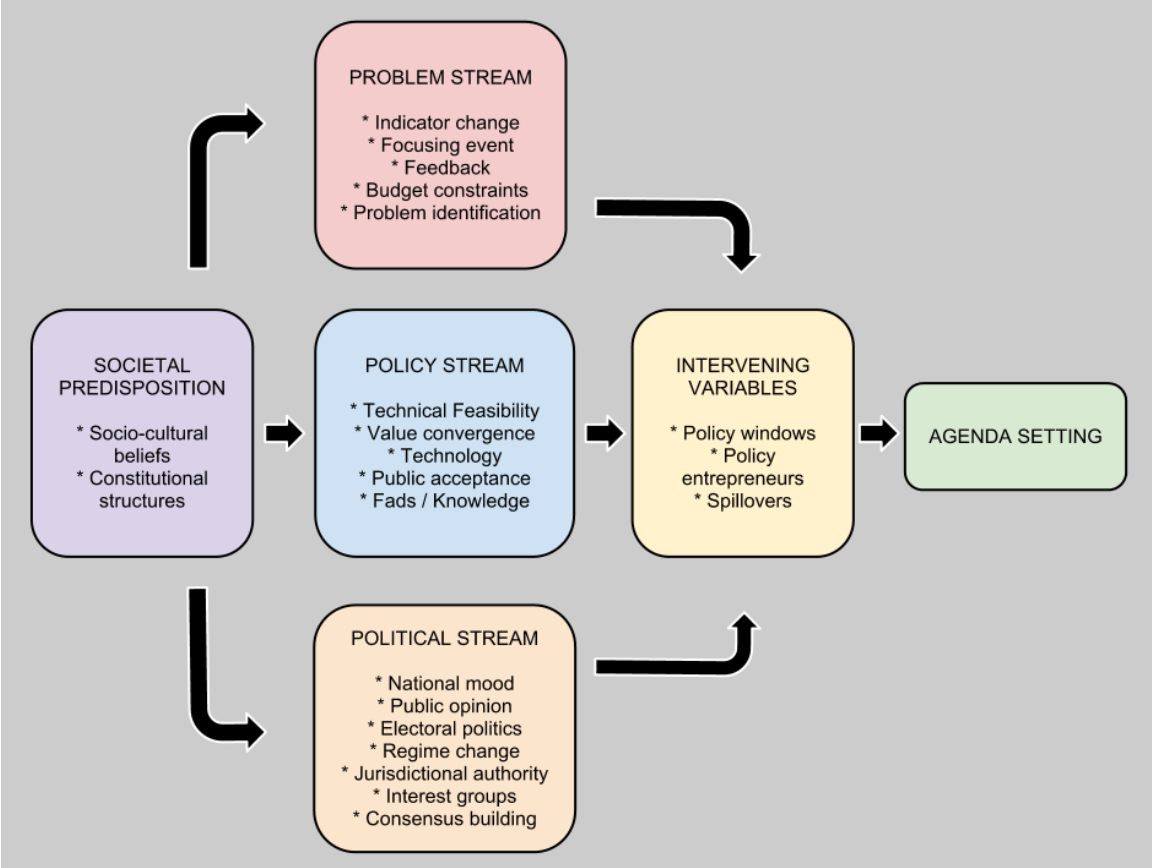
This chapter includes a review of the theoretical and empirical literature that supports the healthcare policy environment of change as well as the basic tenets of the

APRN Consensus Model. John Kingdon's (1995) "Multiple Streams" Framework and John Kotter's (1996) "8-Step Process for Leading Change" Model are briefly explored, followed by complexity science theory. The theoretical literature provides a basis for the subsequent empirical review of the literature. The empirical literature review is organized using complexity science theory, including three of the nursing profession's metaparadigm concepts, including Nursing, Human Being, and Environment. These concepts, viewed as types of complex adaptive systems (CASs) by Chaffee and McNeill (2007) also encompass additional subsystems (see Figure 2). These subsystems structure the empirical literature, including germane APRN research, legislative updates, and consensus conceptual literature.

Review of Theories of Change

Kingdon's Multiple Streams Framework

John Kingdon's (1995) "Multiple Streams" Framework conceptualizes three separate "streams" or categories of the policymaking process, including problem, policy, and political streams. Kingdon's model acknowledges the complex nature of the policy process and that policy change successfully occurs when critical actions in the three streams occur. The actions in each stream may involve a diverse group of stakeholders, and some stakeholder actions in each stream may be more visible than others. According to Kingdon, activities in each stream transpire separately, but concurrently. If the three streams reach a critical point in time when they are able to converge, a "policy window" opens, and a particular policy change may occur. Figure 2 illustrates a policy streams diagram.



Source: M. Burns (2013)

Figure 2. Kingdon's "Multiple Streams" framework.

The first stream, or problem stream, comprises various constituents or citizens, information pertaining to real world issues and concerns, and the effects of prior governmental decisions and interventions (Kingdon, 1995). Rigolosi and Salmond (2014) described in their retrospective, descriptive study how interviewees explained the decades-long process of how individual states moved forward to remove barriers to APRN practice. The second stream, or policy stream, consists of various policy stakeholders, including advocates, researchers, consultants, analysts, and other specialists

who analyze issues and concerns from the problem stream and help formulate potential strategies and solutions (Kingdon, 1995). Rigolosi and Salmond explained how certain strategies were employed by advocates for APRN independent practice, including building strong relationships with key legislators, hiring professional lobbyists to convey important messaging, and knowing the evidence that supports APRN independent practice. The third stream, or political stream, comprises legislative activities, like elections and legislator consideration of constituent opinion and mood (Kingdon, 1995). According to Rigolosi and Salmond, APRN independent practice stakeholders who were successful in gaining independent practice in their states developed strong nursing coalitions and conducted effective face-to-face meetings with legislators.

Kingdon (1995) labeled the critical opportunity in the policymaking process when "all the stars align" to introduce a bill for official consideration as the "policy window." The opening of a "policy window," according to Kingdon, is the infrequent and brief opportunity to launch the proposal into the hands of the elected decision-makers. The problem, policy, and political streams converge into one powerful stream, and the policy window, or window of opportunity, opens. Once in the hands of the politicians, the proposal may be placed on the agenda. Kingdon noted that policy windows may be opened by events in the political stream, like shifts in national mood or changes in administration. According to Rigolosi and Salmond (2014), states that incorporated independent nurse practitioner practice, including Colorado, Hawaii, North Dakota, and Vermont, were able to successfully converge the different streams and implement the

independent practice policy change by strategically taking advantage of the open policy window.

Kingdon (1995) compared the process that policy stream specialists go through to the biological process of natural selection. Ideas and strategies "float around" and "marinate" in a primeval or primordial soup. Members of the policy stream consider many factors when discussing and creating potential strategies and solutions. Through a natural selection-like process, the feasibility of different proposals and options are considered. Financial considerations, including potential funding sources and budget, and predominant public opinion and mood help to determine which proposals "rise to the top" of the primordial soup. According to Kingdon, political support and opposition play a role in specialist evaluation and consideration of viable proposals.

Kingdon (1995) defined a simplified version of the public policymaking process by outlining four key steps, including the setting of the agenda, the listing and consideration of a series of alternatives for potential selection, the authoritative selection or vote among the specified alternatives, and the implementation of the final decision. Kingdon's policy streams and policymaking steps may be combined to illustrate important steps that both nurse scientists and APRNs may take in the implementation of healthcare policy.

Kotter's Process for Leading Change Model

John Kotter (1996) described an 8-stage process for both creating and sustaining significant change. He also explained several common errors for why businesses fail

when attempting to enact change initiatives. Kotter's first step in successful change implementation is "establishing a sense of urgency" (p. 21). According to Kotter, the urgency or heightened sense of awareness of change or opportunity must begin at the top of the organization's hierarchy and work down to all team members. Due to state-specific regulations and statutes, state lines often serve as roadblocks for APRNs, threatening their ability to practice and provide full, comprehensive patient care in other states. The same regulations and statutes often limit APRN scope of practice within the provider's home state.

Kotter's (1996) second step in creating major change is "creating the guiding coalition" (p. 21). Kotter stated that each department or level of an organization must have a guiding coalition consisting of dedicated volunteers to perform varied tasks. Some coalition members may be managers or leaders, understanding both the big picture and the individual tasks that must be taken to achieve the strategic initiatives.

Kotter (1996) also recommended "creating a vision to help direct the change effort" and "developing strategies for achieving that vision" as a third step in his change model. According to Kotter, a well-formulated vision is aimed at taking advantage of a rare or extraordinary opportunity. The timing for implementing the Consensus Model is ideal, especially with the introduction of the 2011 Institute of Medicine (IOM) Report recommendations for nurses and the Affordable Care Act of 2010.

Kotter's (1996) remaining change steps highlight both immediate next steps and potential (more global) future steps. Kotter's fourth change step addressed communicating the change vision by "using every vehicle possible to constantly

communicate the new vision and strategies" (p. 21). Kotter emphasized that a vividly formed vision and strategy, disseminated by the guiding coalition in an authentic and notable way, will prompt other members of the organization to discuss and buy into them without the skepticism or other factors that often derail strategic initiatives.

Kotter's (1996) fifth change step incorporated "changing systems or structures that undermine the change vision" (p. 21). Systems, especially complex adaptive systems (CASs), can be compared to a spider's web, with a center and myriad inputs, outputs, and throughputs interconnected in a seemingly intricate fashion. Anderson, Crabtree, Steele, and McDaniel (2005) noted that many sophisticated practices used to analyze CASs start this process by breaking down each system into workable pieces. The smaller pieces are studied, and when it is believed that these smaller pieces are understood, the system is reassembled and studied as a whole. Conclusions made from studying the entire, whole system are influenced by the study of the individual components or parts.

According to Morgan (1989), organizations are open systems, and as more variables, or agents, come into our consciousness, the open system becomes increasingly complex. Everything in the open system is inextricably related to something else, although it may be in unequal degrees of reciprocity (Morgan, 1989). Anderson et al. (2005) discussed that numerous healthcare systems, including individual clinical practices and free-standing facilities, like nursing homes, have not been successful in implementing best practice initiatives due to the traditional approach of breaking down a CAS into smaller parts. The authors suggested that a system may only be understood as the integrated whole. It is oversimplifying to suggest that the CAS is merely the sum of

its parts. The system also contains numerous multi-layered relationships between the smaller components, and in dissecting the system, these crucial relationships may be lost (Anderson et al., 2005).

Kotter's (1996) sixth step in the change process is "planning for visible improvements in performance" and "generating short-term wins" (p. 21). Kotter stated that the credibility behind an organization's strategic goals will not last without acknowledgment and confirmation that its actions are benefiting the organization. Cynics on the team may create obstacles unless visible proof of real results is shared system-wide. With the numerous changes that will be necessary in order to include all Model language into state nurse practice acts, it is likely that multiple attempts at updating and improving nursing policy at the state level will occur.

Kotter's (1996) seventh step is "building on the change." Kotter warned that "victory" should not be declared prematurely. The organization must continue to build on the strategic initiative and possibly create new ones depending on the dynamic nature of the climate. The dynamic nature of the climate and uncertainty will reinforce the urgency to "keep moving forward" and "maintain a finger on the pulse." Continued APRN relationships with other coalition partners, like other non-medical doctors (MDs)/non-doctors of osteopathy (DOs), physician champions, legislators, and other stakeholders will be key.

The final step of Kotter's (1996) model is "institutionalizing the change." According to Kotter, unless the strategic initiative has been deeply engrained into the day-to-day operations of the organization, the change is not complete. Through

successful enactment and incorporation of Consensus Model language in state nurse practice acts and nursing rules and regulations, healthcare settings will begin to "institutionalize" the changes.

Complexity Science Theory Review and Analysis

Both Kingdon's Multiple Streams Framework and Kotter's Process for Leading Change Model acknowledge the different stakeholders or CASs involved in successfully implementing policy changes, including healthcare and nursing policy changes. Both the nursing profession and the healthcare system may be viewed as CASs, and these demonstrate discernable characteristics, including nonlinearity, self-organization, unpredictability, and others (Chaffee & McNeill, 2007). Complexity science theory is not simply one theory but rather is an assemblage of complementary theories from different disciplines, including physics, chemistry, biology, economics, sociology, and anthropology (Zimmerman, 1999).

Complexity science, according to Dent (1999), is an approach to research that embodies numerous philosophical assumptions of "the emerging worldview," including holism, nonlinear relationships, and mutual causality. Zimmerman (1999), who defined complexity science as the study of CASs, also stated that specific theories, including chaos theory, self-organization, and fractal geometry, are encompassed by complexity science. Zimmerman defined complex adaptive systems by concisely examining each word. The word "complex" addresses a large number of connections or relationships among systems. "Complex" may be viewed as synonymous with diverse. The word "adaptive" implies the ability to change or learn from experience. Finally, a "system" is a

set of interdependent or connected agents or things. According to Chaffee and McNeill (2007), complexity theory explains why certain complex systems adapt and progress to a constantly changing environment, while other systems fail to adapt and cease to exist.

Complexity science offers an alternative view and framework for a nurse scientist to study healthcare systems that display seemingly intricate and puzzling behaviors when examined through a traditional or more predictable lens. Chaffee and McNeill (2007) compiled 11 properties of CASs from their analysis of scholars in complexity theory. In a CAS, *nonlinearity* is the rule. Traditional worldviews that attempt to describe policies related to healthcare often assume a "cause and effect" approach in which the output of a system is directly proportional to its input. According to Zimmerman, Lindberg, and Plsek (1998), the machine is the dominant metaphor in Newtonian science, and reductionism is used to understand each part of the machine. In a reductionistic paradigm, the whole of the machine is simply the sum of its parts. The machine, in a Newtonian worldview, is a predictable system that functions in a linear fashion. Linearity, according to Zimmerman et al., implies that the size of an output is directly correlated with the magnitude of the system's input. An amount of "input" does not necessarily correlate with the amount of "output" in a non-linear system. Zimmerman et al. described the "butterfly effect," in which seemingly inconsequential actions or inputs make tremendous impacts or outputs. This effect can also work in the opposite way, where large efforts or inputs never produce significant changes or outputs.

Human beings and human organizations are complex systems that are not predictable. *Unpredictability* is a second property of a CAS (Chaffee & McNeill, 2007).

The great number of connections represents the rich diversity in a CAS. The CAS is capable of learning from experiences and changing, representing *adaptation*, a third property (Chaffee & McNeill, 2007). In addition, the CAS represents a set of interrelated, but independent agents. An agent may be one person or an entire organization. The individual actions of a CAS, according to Zimmerman et al. (1998), are not controlled by one central body. Therefore, *self-organization* is another key property of a CAS (Chaffee & McNeill, 2007). For example, a CAS is not simply maneuvered by a central body or chief executive officer; rather, the intricate, dense web of the CAS is comprised of interacting agents that operate from their own local knowledge bases.

Complex adaptive systems have numerous linked attributes. Therefore, it is not possible to decipher one central starting point for all of the diverse attributes or properties (Zimmerman et al., 1998). Chaffee and McNeill (2007) described this property of CASs as *porous.* The boundaries of each CAS may be described as "blurry" and "porous," and this quality allows for unrestricted flow of information (Chaffee & McNeill, 2007). A nurse caring for a patient may suddenly become a patient himself due to injuring his back during a patient transfer. This change of role from "nurse caring for patient" to "nurse as a patient" is an example of a porous boundary.

Each individual agent in one CAS is also a CAS itself. The property of *embeddedness* addresses this phenomenon (Chaffee & McNeill, 2007). A certified registered nurse anesthetist (CRNA), for example, is a CAS who is also an agent in a hospital's anesthesia department. The anesthesia department is both a CAS and an agent within the hospital. The hospital similarly is both an agent and a CAS within the

healthcare community. Finally, the healthcare community is both an agent and CAS within society as a whole.

When addressing an organization, such as a large community hospital or a national healthcare association, complexity science theory supports the view that the relationships between individual people or systems are more critical than the individual. *Inherent order*, according to Chaffee and McNeill (2007), is the property of maintaining order within a CAS without a specified central control. An example of a hospital emergency "code team" may be used to illustrate this important concept of complexity science. The code team, comprised of a diverse group of assistants, each possessing unique code strengths and individual talents, will most likely be more effective at successful patient resuscitation than a code team with "the best" individual code leader due to creating outcomes based upon team member interrelationships. Rather than exclusively depending on a single code team leader, the diverse code team must focus on achieving goals that are beyond the abilities of any one code team member. Instead of solely one boss or one central command center, a CAS has distributed control, or an emergence of outcomes caused by a self-organization process within the CAS. Zimmerman et al. (1998) also used a school of fish as an example. The individual fish in a school (independent agents of a CAS) form a cohesive CAS that has the ability to achieve outcomes that supersede any individual fish. The school of fish possesses capabilities and qualities that cannot be explained by the attributes of the individual fish. One fish is not the boss or command center. The school of fish is, therefore, better

equipped to react to a stimulus than any individual fish in the school. The control is distributed in this example rather than centralized.

History and historical perspective play a large role in CASs. Zimmerman et al. (1998) described how traditional science can ignore historical perspective and outliers in its tendency to seek equilibrium. Proponents of complexity science theory attempt to understand potential movements of CASs by understanding historical examples. The property of *co-evolution* describes how CASs do not evolve independently from their environment and past experiences. Progress in the co-evolution process transpires alongside constant tension (Chaffee & McNeill, 2007).

Kotter (1996) acknowledged the difficulty organizations have with overcoming resistance to change. According to Zimmerman et al. (1998), CASs innately seek the natural energy or momentum of other systems. Instead of battling resistance to change, CASs will employ another system's attractors or patterns that draw energy and flow. *Attractors*, another CAS property, are change catalysts that permit new ideas, behaviors, and actions to emerge (Chaffee & McNeill, 2007). Instead of focusing on a large-scale change initiative that may be met with large-scale resistance, supporters or attractors of complexity science may choose smaller change initiatives that attract people and still move the CAS in a positive, or better, direction.

Unquestionably, the world of contemporary healthcare in the United States is complex in nature. In addition to technological advances and increases in population, governmental and insurance entities have shifted traditional healthcare approaches, techniques, and practice settings. Healthcare services are offered at commercial

pharmacies, surgical procedures are frequently performed on an outpatient basis, and recovery care is increasingly occurring at the patient's home. Federal and state laws, including the Patient Protection and Affordable Care Act of 2010, have been passed into legislation with the expectation that consumer or patient behaviors will be regulated in an increasingly complex world.

Chaffee and McNeill (2007) identified the profession of nursing as a CAS. According to the American Nurses Association (2014), there are roughly 3.1 million licensed registered nurses in the United States, with over 267,000 registered nurses prepared as APRNs (NCSBN, 2015). Nurses enter the workforce through multiple educational entry points, including associate, baccalaureate, master's, and doctoral degrees. The scopes of practice for registered nurses and APRNs have expanded over the years, and many nurses are in leadership positions at local, state, and national levels, including chief executive officer and legislator roles. Chaffee and McNeill designed a model of nursing as a CAS. The nursing profession is grounded in nursing science, therefore, the view of nursing through a complexity science lens will be beneficial to nurse scientists studying nursing practice, leadership, research, education, and advanced clinical topics.

Expanding upon a model designed by Marshall Clemens and the New England Complex Systems Institute (Figure 3), Chaffee and McNeill (2007) proposed an "exploded view" of the metaparadigm of nursing as a type of CAS in the form a conceptual model (see Figure 4). Under the nursing profession's metaparadigm concepts of Nursing, Human Being, Environment, and Health, Chaffee and McNeill listed

numerous subsystems. Each subsystem and chief concept is a type of CAS, according to the authors. Complexity science theory will be most useful in guiding this dissertation.

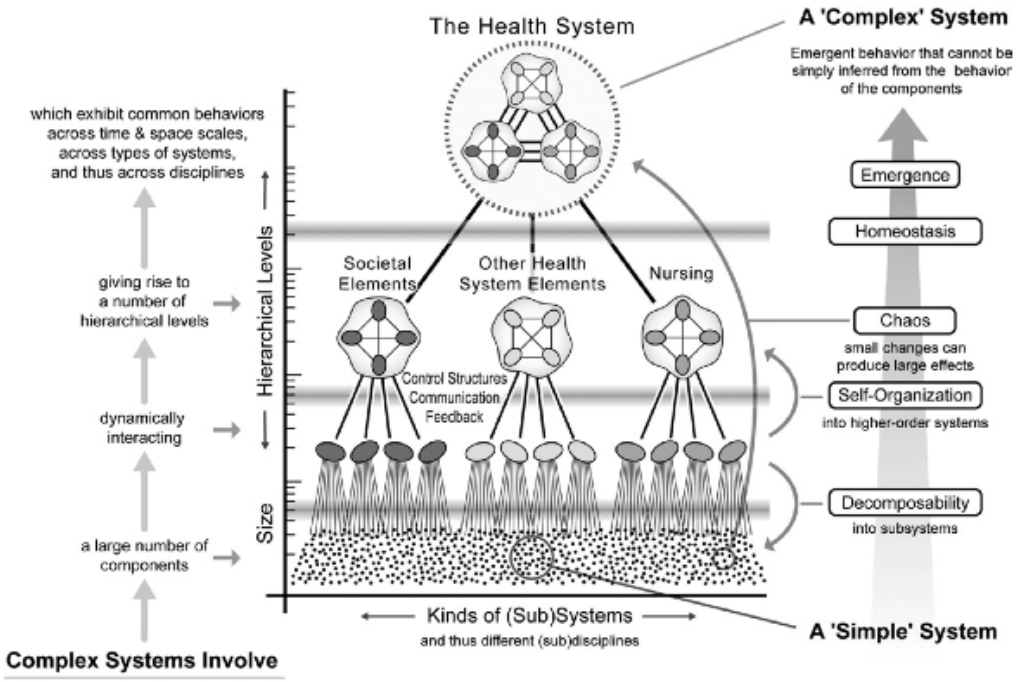


Figure 3. A model of nursing as a complex adaptive system. From "A model of nursing as a complex adaptive system," by M. W Chaffee & M. M. McNeill, 2007, *Nursing Outlook*, *55*, pp. 232-241. Copyright 2007 by M. W. Chaffee and M. M. McNeill. Reprinted with permission (See Appendix B).

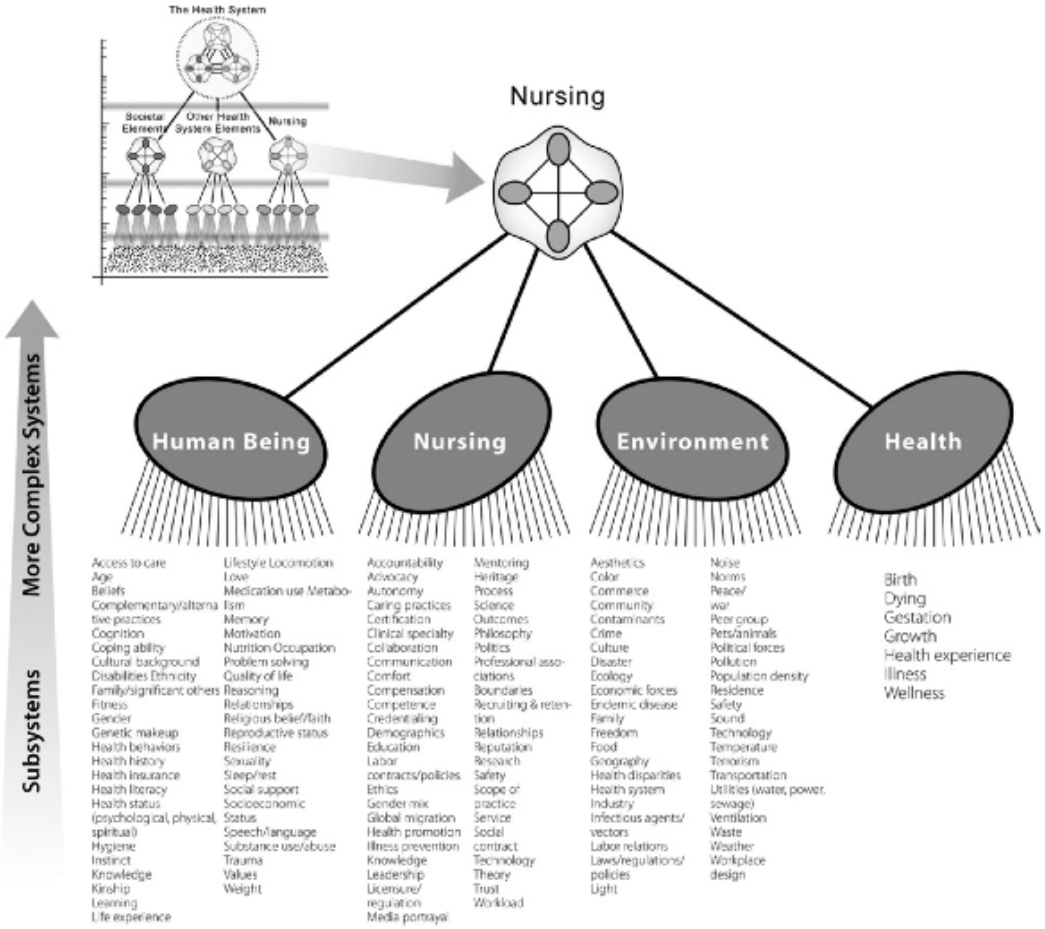


Figure 4. An exploded view of the metaparadigm of nursing as a complex adaptive system. From "A model of nursing as a complex adaptive system," by M. W Chaffee & M. M. McNeill, 2007, *Nursing Outlook*, *55*, pp. 232-241. Copyright 2007 by M. W. Chaffee and M. M. McNeill. Reprinted with permission (See Appendix C).

A conceptual model of the complex adaptive systems involved in APRN Consensus Model implementation at the state level was developed by the investigator to provide a visual interpretation of the various CASs involved with this healthcare policy topic. This model (see Figure 5) also includes stakeholder groups or CASs that were not included in this dissertation research. "Inputs," including stakeholder groups like APRN

clinicians, APRN educators, nursing regulatory staff members, physicians, and patients are represented to the left. These "inputs" also represent the various resources that have the ability to ultimately generate "outputs," including short-term and long-term outcomes. The various CASs in the "inputs" column generate the "outputs" by taking different actions or getting involved in specific activities. This visual specifically labels these actions or activities as different Model implementation strategies, like grassroots lobbying by APRNs, direct lobbying by hired lobbyists and/or strategists, educating Model stakeholders, attending regular APRN state committee members to assess the Model implementation process and ongoing strategy. Both short-term (successful passage of APRN Consensus Model language at the state level) and long-term (increased patient access to APRN healthcare services and APRN portability) outcomes are included as "outputs," or direct products of the Model implementation actions and activities. Evaluation is ongoing during each phase of the conceptual model because CASs have porous boundaries that allow for regular exchanges of stakeholders, ideas, strategies, and other resources. The actions of the different stakeholders will have impact on the "outputs" or outcomes, and the various actions will produce these impacts in a nonlinear fashion. It is anticipated that some perceived "larger" actions may produce little or no outcomes, while some "smaller" actions may yield enormous results. The properties of a CAS, including adaptable elements, attractors, co-evolution, embeddedness (an APRN clinician may also be an educator and a member of the APRN state committee), emergent behavior, nonlinearity, porous boundaries, and unpredictability, inspired and contributed to the creation of this conceptual model.

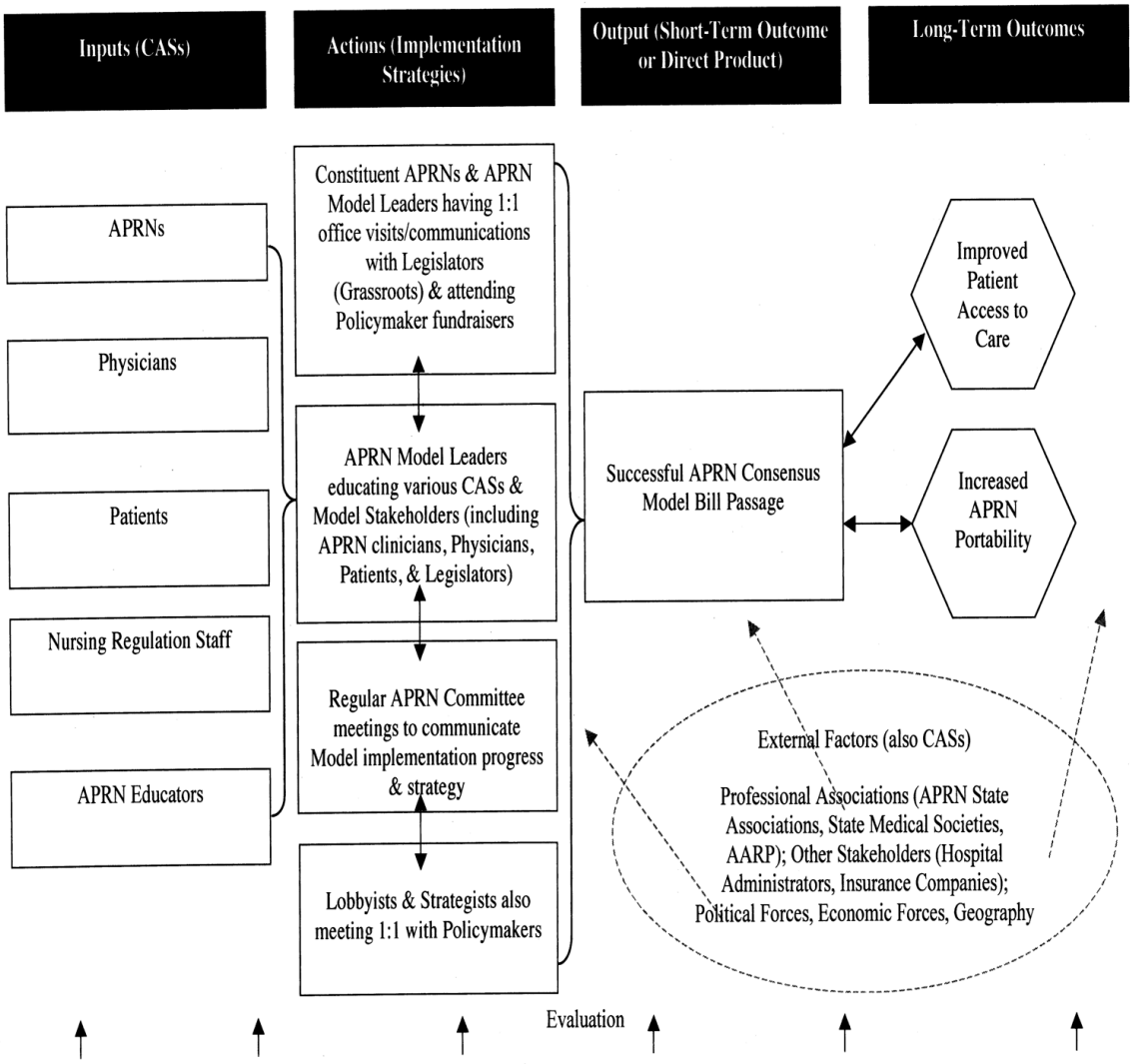


Figure 5. Conceptual model of the complex adaptive systems involved in APRN Consensus Model implementation at the state level.

Review of Empirical Literature

With the relative newness of the APRN Consensus Model, there are large gaps in the literature that address the position statements, viewpoints, and concerns of state boards of nursing and other stakeholders on this Model. There is no single, universally

accepted definition of the concept "consensus." Regardless, leaders in business, politics, and healthcare seek and strive for consensus in decision-making processes. The purpose of this study was to examine stakeholder perceptions of the APRN Consensus Model implementation process, thus, it is also imperative to understand how the consensus is defined in the body of literature.

Complexity science theory provides a framework to study various stakeholders, viewed as CASs. Through a lens of complexity science, the review of literature has been organized by the various subsystems of the metaparadigm of nursing as interpreted by Chaffee and McNeill (2007), with synthesis and inspiration from complexity science theory. Chaffee and McNeill designed a protracted model of nursing as a CAS (see Figure 4), with numerous subsystems. Under the CAS of Nursing, the authors included subsystems that include "scope of practice," "licensure/regulation," "professional associations," and "communication." Under the CAS of Human Being, "quality of care," "access to care," and "complementary/alternative practices" are subsystems created by the authors. Lastly, under the CAS of Environment, Chaffee and McNeill included the subsystems of "economic forces" and "political forces" (p. 238).

A synthesis of complexity science theory organizes this literature review. The review is structured around the CASs of Nursing, Human Being, and Environment. Under the CAS of Nursing, the subsystems of scope of practice, licensure/regulation, professional associations, and communication categorize the relevant literature. The CAS of Human Being includes the subsystems of quality of care, access to care, and

complementary/alternative practices. Finally, under the CAS of Environment, the subsystems of economic forces and political forces are incorporated for organization.

Complex Adaptive System: Nursing

Subsystem: Scope of practice. Currently, many inconsistencies exist from jurisdiction to jurisdiction regarding the laws and rules pertaining to the regulation of APRNs. Complexities and variations in state laws and rules, ranging from the actual title an APRN uses to what medications APRNs are permitted to prescribe, lead to workplace inefficiencies and confusion for different CASs, especially healthcare providers and the public. Laws that govern APRN scope of practice significantly vary not only in Mid-Atlantic States of Delaware, New Jersey, Maryland, and Pennsylvania but all throughout the United States (IOM, 2011).

CRNAs faced a scope of practice battle in Alabama in 2010 relating to management of pain. A rule was proposed by the Alabama State Board of Medical Examiners that would limit interventional pain management to physician-MDs and DOs solely. Since acute and chronic pain management is within the scope of practice of CRNAs, the Alabama Association of Nurse Anesthetists (ALANA), along with individual CRNAs, hospital management leaders, and the Federal Trade Commission (FTC), communicated their opposition to this proposed rule to the state medical examiners board (ALANA, 2010).

Fortunately, the FTC determined that the proposed pain management rule in Alabama violated the rights of CRNAs to practice pain management techniques within their scope of practice. The FTC comments, along with the communications of opposition

to the rule and testimonies from CRNAs and leadership from the Alabama Board of Nursing and the Alabama Nurses Association, prompted the medical examiners state board to table the implementation of the restrictive pain management rule (ALANA, 2010).

According to Gutchell, Idzik, and Lazear (2014), Maryland has experienced varied success with removing scope of practice barriers for APRNs. A law was passed in 2010 that repealed a restrictive stipulation that required nurse practitioners to obtain a written collaborative agreement with a physician. Stakeholders other than nurse practitioners and other APRNs, including the Maryland Nurses Association and the Maryland Hospital Association, effectively mobilized and strategized a plan to repeal the written collaborative agreement requirement for Maryland nurse practitioners. Three years later, in 2013, a new bill was drafted and introduced into the Maryland General Assembly addressing the acceptance of nurse practitioner signatures on various healthcare patient documents. Unfortunately, according to Gutchell et al., this signatory barrier bill was not received favorably overall by Maryland legislators due to several reasons, including perceived lack of support from a diverse group of stakeholders.

According to Cunningham (2010), the National Health Policy Forum issued a background paper addressing both APRN and physician assistant (PA) workforce and scope of practice matters in 2010, the same year the PPACA was formally introduced. Policymakers, especially in states with large rural populations and critical access healthcare concerns, must fully grasp and appreciate the potential for expansion of non-physician scopes of practice. Cunningham (2010) stated that urban areas in the United

States may have greater than two times that number of physicians than in rural areas, highlighting the need and potential for APRNs and other non-MD/DO healthcare providers to offer quality healthcare services. However, several different barriers, including opposition from physician groups, currently exist that prevent both healthcare providers and patients from capitalizing on these non-physician services.

Many states, according to Cunningham (2010), vary extensively in the scope of services APRNs are permitted to perform. Unlike PAs, who must work under the supervision of a physician, some APRNs can practice and prescribe medications independently, without supervision or a collaborative agreement/arrangement. Despite some states enjoying independent APRN practice for several years, the AMA and the Federation of State Medical Boards have consistently voiced opposition to decreased medical oversight of APRNs and PAs. Furthermore, citing concerns regarding conflicts of interests, the AMA also urged investigations of retail clinics where prescriptions are both written and filled by the same corporate entity. However, the FTC, according to Cunningham, has counteracted such AMA-directed inquiries by citing research demonstrating retail clinic quality of primary care services.

According to the Coalition for Patients' Rights (CPR), "scope of practice" may be defined as the range of healthcare-related activities and services in which a healthcare professional is educated, certified, and licensed to provide (CPR, 2014). Formed in 2006, the CPR represents over three million licensed and certified healthcare providers who are dedicated to ensuring that patient provider access and choices are protected. Healthcare members of the CPR, who are neither MDs nor DOs, complete years of education and

training in their specific fields. APRN groups that are CPR coalition members, including the American Association of Nurse Anesthetists (AANA), the American Association of Nurse Practitioners, the American College of Nurse-Midwives, and the National Association of Clinical Nurse Specialists (NACNS), consist of APRNs who have long been recognized as qualified and essential players to the American healthcare system at both the federal and state levels (CPR, 2014).

Efforts to limit the professional practice of APRNs and other non-MD/DO providers, including psychologists, audiologists, podiatrists, chiropractors, naturopathic doctors, optometrists, and physical and occupational therapists, have been led by physician groups, including the American Medical Association (AMA). The Scope or Practice Partnership (SOPP), also introduced in 2006, is an alliance of medical and osteopathic physician organizations. As of 2010, the SOPP consisted of 49 state medical associations, including Washington, DC, 14 national medical specialty societies, the AMA, the American Osteopathic Association, and 20 state osteopathic associations (AMA, 2010). The chief aim of the SOPP is to limit the scopes of practice of other healthcare providers (Lindeke & KellyThomas, 2010). In addition to monitoring state legislation and regulation regarding the scopes of practice of non-physician clinicians, the SOPP funded studies into the educational preparation and licensure requirements of non-physician healthcare providers with the goal of opposing independent practice of those providers. These investigatory reports have been used in various state legislator meetings, and AMA resolutions, including the 2005 AMA Resolution 814 “Limited Licensure Health Care Provider Training and Certification Standards” and the 2009 AMA Report

28 “Collaborative Practice Agreements Between Physicians and Advanced Practice Nurses,” have passed that mirror SOPP key objectives (Lindeke & KellyThomas, 2010).

Subsystem: Licensure/regulation. The benefits of implementing the national standards contained with the Consensus Model also include assuring public safety through the standardization of licensure. Under the Model, each APRN will practice under both a registered nurse (RN) and APRN license. Several states outside of the Mid-Atlantic region have been successful in navigating the complexities of fully implementing the APRN Consensus Model into state statute. As of June 2014, 11 states and the Commonwealth of the Northern Mariana have fully implemented all 28 points of the APRN Consensus Model (NCSBN, 2014). North Dakota fully implemented the Consensus Model in 2011, and Madler, Kalanek, and Rising (2012) delineated the timeline of the major legislative events in that state. The North Dakota Board of Nursing and the North Dakota Nurse Practitioner Association were noted as being the most influential stakeholder groups in facilitating the legislative policy changes.

According to Madler et al. (2012), the groundwork for gaining independent APRN practice in North Dakota began in 1992 when both the board of nursing and state legislature recognized licensure for APRNs in the state. Four years later, APRNs, now licensed in North Dakota, became eligible for prescriptive authority. North Dakota later became the eighth state in October 2003 to opt out of the Centers for Medicare and Medicaid (CMS) federal condition that requires a CRNA to be supervised by a physician. The November 13, 2001 CMS rule allows states to opt-out or be exempted from the federal physician supervision requirement. For a state to opt-out of the federal

supervision requirement, the state's governor must send a letter of attestation to the CMS. This letter from the state's governor must attest that he or she has consulted with both the state's boards of medicine and nursing regarding issues concerning access to care and the quality of anesthesia services in the state, that it is in the best interests for the citizens of the state to opt-out of the current federal physician supervision mandate, and that the opt-out is congruent with state law (AANA, 2014c).

Also in 2003, APRNs in North Dakota were granted the authority to approve mobility-impaired parking permits for select patients and declare medical certification of death. In 2008, a bill recognizing APRNs as Medicaid primary care providers was successfully adopted. Finally, in 2011, Senate Bill 2148, a bill allowing independent prescriptive authority for all APRNs, was passed. With this bill in place, the APRN Consensus Model was fully implemented in North Dakota (Madler et al., 2012).

Madler et al. (2012) cited APRN presence in the state capital, along with ongoing outreach and communication with legislators, as key driving forces that contributed to the success of facilitating full scope of practice for APRNs. Other political stream strategies for complete Model implementation included selecting the most appropriate legislator to sponsor the bill, hiring a respected lobbyist to further educate legislators and other stakeholders, using pertinent state APRN practice data to bolster justification for needed change, and persuasive testimony of APRNs and supporting physicians in the state assembly. Lastly, regular communication, chiefly through electronic newsletter blasts sent by the North Dakota Board of Nursing, to all APRNs in the state was instrumental in the success of achieving full Model implementation (Madler et al., 2012).

Redmond, Palumbo, and Rambur (2012) conducted a cross-sectional study to assess Vermont CNPs' self-perceived knowledge of the 2011 administrative rules change that incorporated elements of the APRN Consensus Model. The authors used Dillman's Tailored Design Method for Web-based surveys. The survey instrument, including sections on perceived knowledge, participant knowledge of new rules change, and demographic questions, was created after conducting a literature review and performing reliability and validity testing. According to Redmond et al., the content validity was attained through the review of literature, followed by a panel review by six experts.

Relationships among participant demographics, knowledge question results, and perceived knowledge levels were examined using SPSS version 20 software. A total of 41 CNPs participated in the Vermont survey. The survey participants averaged a score of 62% correct, although all participants asserted to be "somewhat knowledgeable" of the administrative rules change. Redmond et al. (2012) concluded that perceived knowledge of the CNPs had little relationship to actual knowledge. Their study suggested that knowledge deficits exist among Vermont CNPs regarding the 2011 administrative rules change, thus, questions were raised about the readiness of CNPs to abide by new practice regulations (Redmond et al., 2012).

Subsystem: Professional associations. In addition to individual state nursing associations, other CASs at the national level, including the Robert Wood Johnson Foundation (RWJF) and the IOM, are stakeholders of the APRN Consensus Model. In 2008, the RWJF collaborated with the IOM to evaluate and address the need to bolster the nursing profession in meeting the new challenges of providing healthcare in the

United States. The Committee on the RWJF Initiative on the Future of Nursing, at the IOM, was charged with "producing a report containing recommendations for an action-oriented blueprint for the future of nursing, including changes in public and institutional policies at the national, state, and local levels" (IOM, 2011, p. xii). As a result of its deliberations over two years, this IOM committee formulated four key messages and eight recommendations in 2011. The first key message is "nurses should practice to the full extent of their education and training" (IOM, 2011, p. 4).

Equally important, the first recommendation of the IOM (2011) *Future of Nursing* report is that APRNs "should be able to practice to the full extent of their education and training" (p. 9). To accomplish this task, the committee outlined several action steps for state legislators, Congress, the Centers for Medicare and Medicaid Services, the Office of Personnel Management, the FTC, and the Department of Justice Antitrust Division (IOM, 2011).

The 2011 *Future of Nursing* report from the IOM and the 2008 APRN Consensus Model are major works that have the ability to create a positive change for APRN practice. Under the APRN Consensus Model, APRNs will be licensed as independent health practitioners, practicing in one of the four APRN roles. Each APRN will be required to select at least one of the six population foci defined for APRN practice. The different population foci include family, adult-gerontology, pediatrics, neonatal, women's health, or psychiatric (Stanley, Werner, & Apple, 2009). Once fully implemented, the APRN Consensus Model will have significant implications for all APRN practice, including boards of nursing sole oversight over regulation, licensure requirements

standardization, and independent practice. Licensed APRNs in one state may move to any other state and obtain a license to practice, assuming specific criteria are satisfied (Stanley, 2009).

Implementation of the APRN Consensus Model must involve all licensure, accreditation, certification, and education (LACE) entities. Many nursing associations and organizations have endorsed the Model; however, state laws and regulations governing APRN practice must be modified in order to achieve full implementation. As of December 2010, 48 organizations have endorsed the Consensus Model for APRN Regulation: Licensure, Accreditation, Certification, and Education (APRN Joint Dialogue Group Report, 2008).

The National Council of State Boards of Nursing (NCSBN) is an endorsing organization of the APRN Consensus Model. However, since the Consensus Model's completion in July 2008, only the Arkansas State Board of Nursing has endorsed the Model (APRN Joint Dialogue Group Report, 2008). The list of endorsing bodies, however, was last updated in December 2010.

Following the release of the 2011 IOM report, the "Campaign for Action" project was started through the collective efforts of the Center to Champion Nursing in America, an initiative of the AARP, and the RWJF. In March 2012, 12 new state action coalitions, diverse groups of professionals from nursing, business, and other arenas were named by the "Campaign for Action." These state coalitions, now totaling 48, address the key messages and recommendations of *The Future of Nursing* report and act as driving forces

for change by capturing best practices, identifying successful models from other venues, and determining areas for additional research (Campaign for Action, 2012).

Subsystem: Communication. Over a 15-year timespan, various APRN stakeholder groups met to discuss the development of the APRN Consensus Model. Clear and open lines of communication were necessary in order to achieve this monumental accomplishment. When considering that nearly 50 stakeholder groups, all different types of CASs, contributed to the Model's development, one cannot deny the critical role of effective communication. Communication is key to consensus, and consensus may be viewed as the product of communication (Scheff, 1967).

According to Scheff (1967), two distinct definitions of consensus—agreement and co-orientation—exist in the field of sociology. The commonsense or informal definition of consensus is simply defined as agreement. The second definition of consensus stems in part from John Dewey's work in interactionist social psychology. Instead of focusing on individual members' orientations in a group, the co-orientation of individual members is examined in the process of achieving consensus. The informal definition of consensus, or agreement, does not consider individual perceptions of agreement, according to Scheff. Actual agreement may be independent of individuals' perceptions of agreement (Scheff, 1967).

Scheff (1967) succinctly delineated different levels of co-orientation. Agreement is referred to as the zero-level of co-orientation. When one perceives the feelings of a team member, this is known as first-level co-orientation. Scheff also described first-level co-orientation as one recognizing that the other recognized "it," or a specific point, topic,

or meaning. When one perceives the perceptions of another team member, the second-level of co-orientation is realized. Scheff similarly described this second-level as one recognizing that the other team member recognized what the original person recognized.

Scheff (1967) depicted "complete consensus" as a series of reciprocating understandings between group members regarding a particular issue. Examples of complete consensus, according to Scheff, are extremely rare. However, various levels or examples of partial consensus exist. Similar to the different levels of co-orientation, zero-level (agreement), first-level (perceived consensus), and second-level (closer to complete consensus) are defined.

According to Schively (2007), consensus building theory is rooted in communicative planning literature. The product of interactive and purposeful communications among team members is group learning. Shared information emerges out of initial conflicts in team meetings. If participants, according to Schively, already agree on topic or decision, then group discussions will likely be limited to information pertaining only to the existing consensus.

Ideally, all members of a stakeholder group or CAS should be actively engaged in a decision-making process, and sufficient time for both meaningful communication and participation exists. The decision-making CAS must have common values and demonstrate a commitment to working through conflicts and differences in opinion. Each CAS group member has the fundamental right to express himself or herself in his or her own words, and of his or her own will. According to Trimbur (1989), the process of consensus should not be rushed. Further, by thoughtfully and deliberately communicating

with all active team members, gaps in conversation, through which different viewpoints and interpretations may emerge, may also be considered.

According to Trimbur (1989), pauses in the communications during stakeholder meetings allow different viewpoints and interpretations to emerge. Team member input, including differences in opinion, are welcomed. This active participation of all team members brings meaningfulness via individuals realizing their own power to contribute by collaborating with other team members. Consensus does not devalue or degrade individual team members; rather, it can empower and motivate members through the synergy of social or group activities. The process of consensus should not be hurried, but ironically deferred (Trimbur, 1989).

Complex Adaptive System: Human Being

Like the system of Nursing, the CAS of Human Being encompasses multiple subsystems in interaction with the environment. The health of the Human Being is influenced by systems changes within healthcare reform, and the subsystems embraced by the Human Being CAS include quality of care, access to care, and complementary/alternative practices.

Subsystem: Quality of care. The Patient Protection and Affordable Care Act (2010) incorporates performance-based outcomes and high quality of care as key tenets. Several peer-reviewed studies demonstrate that APRNs who are permitted to practice autonomously and independently provide high-quality healthcare services to a wide-spectrum of patients in numerous healthcare settings. Dulisse and Cromell (2010)

examined outcomes of anesthesia care provided by CRNAs and anesthesiologists, each practicing independently and as a team (CRNA-anesthesiologist practicing together). In 2001, the Centers for Medicare and Medicaid Services (CMS) permitted states to opt-out of the physician supervision of CRNAs requirement. Medicare Part A and B data were collected between 1999 and 2005. Dulisse and Cromwell analyzed both inpatient mortality and anesthesia complications. Complications from anesthesia were infrequent, therefore, the researchers used a single "yes" or "no" notation to indicate whether a complication occurred during a patient admission. Inpatient mortality rates between opt-out and non-opt-out states were compared by the researchers by stratifying by year and anesthesia practice arrangement (anesthesiologist or CRNA). T-tests were used for measuring differences in adjusted mortality rates between opt-out and non-opt-out states within each stratum. To determine the effects on the probability of mortality and complications, the researchers estimated logistic regressions using indicators for opt-out status both before and after, along with type of anesthesia provider. Dulisse and Cromell concluded that the CRNA solo group mortality rates in opt-out states were lower than the solo anesthesiologist group mortality rates. The difference in mortality rates was present both before and after the implementation of the supervision opt-out. Finally, the researchers discovered comparable surgical complication rates among the three anesthesia provider groups. Removal of the supervision requirement for CRNAs did not increase surgical risks for patients (Dulisse & Cromwell, 2010).

Mundinger et al. (2000) evaluated the health status of patients receiving care from physicians or CNPs. The CNPs practiced independently without a mandatory physician

collaboration or relationship. Seventeen physicians from four community-based primary care clinics and seven nurse practitioners from one primary care clinic participated in the study. Between August 1995 and October 1997, a randomized trial was conducted. A 15-item questionnaire was used to determine patient satisfaction after initial appointments. The researchers discovered the status of CNP patients were comparable ($p = 0.88$) at the initial, six, and 12-month visits (Mundinger et al., 2000).

Rosenblatt et al. (1997) examined the differences in obstetric care provided by obstetricians, family physicians, and certified nurse-midwives to low-risk patients. A random sample of the three types of obstetric care providers was obtained in Washington State. From those providers who elected to participate, a random sample of their low-risk obstetric patients was obtained. The obstetric care provided to these patients occurred between September 1, 1988 and August 31, 1989. The unit of analysis in the study was the individual healthcare provider (obstetrician, family physician, or CNM). A total of 54 obstetricians, 59 family physicians, and 43 CNMs agreed to participate. According to Rosenblatt et al. (1997), 60 providers in each category were necessary to achieve a power of 0.8. Although over 400 obstetricians and over 1,100 family physicians were initially identified, fewer than 60 nurse-midwives practiced in Washington State at the time of the study. The researchers concluded that patients of the CNMs had lower cesarean rates than the other providers, with an 8.8% cesarean section rate for the nurse-midwives compared to 13.6% rate, and 15.1% rate for obstetricians and family physicians respectively (Rosenblatt et al., 1997).

Brooten et al. (2010) examined outcomes of care by CNSs on prenatal, infant, and maternal health and cost through one year after birth. Women at high risk of delivering low-birth weight babies were the focus of this study. A randomized clinical trial involving 173 women and 194 infants was performed. These patients received either home care provided by CNSs (intervention group) or "traditional care in the office setting" (control group) between January 1, 1992 and January 1, 1996. The group receiving care from the CNSs experienced a decreased infant mortality rate, fewer preterm babies, more twin pregnancies carried to term, lower prenatal hospitalizations, and lower infant re-hospitalizations.

Stanik-Hutt et al. (2013) conducted a systematic review of the scientific literature to investigate how certified nurse practitioner care affected patient outcomes on the measures of quality, safety, and effectiveness. Selection study criteria included randomized controlled trial (RCT) or observational study of at least two provider groups conducted in the United States between 1990 and 2009. Databases used in this review included Proquest, Cochrane, PubMed, and the Cumulative Index to Nursing and Allied Health Literature.

According to Stanik-Hutt et al. (2013), 63 studies met the inclusion criteria after the extensive database review. Next, the researchers refined their evaluation process by focusing on outcomes that were supported by at least three studies (n = 37), then grading the strength of the evidence from the aggregated outcomes, using a scale of high, moderate, low, and very low. Peer-reviewed journal articles ultimately included in this systematic review included 12 studies in medical journals, 15 studies in nursing journals,

and 10 studies in interprofessional publications. For an outcome to receive a high grade, the strength of evidence had to be supported by at least two RCTs or 1 RCT and two high-quality observational studies. A moderate score was assigned if the research was supported by either one RCT, one observational study of high-quality, and one observational study of low-quality, or by three high-quality observational studies. Finally, a low grade was assigned if the initial assessment of the strength of evidence was supported by fewer than three high-quality observational studies (Stanik-Hutt et al., 2013).

According to Stanik-Hutt et al. (2013), when addressing the comparison between CNP and physician-only practice quality of care, the evidence strength was determined to be "high." This high evidence score signified similar patient satisfaction with healthcare provider and care, self-reported perceived health status, number of unforeseen emergency room visits, and hospital admission rates. When evaluating similarities of care involving CNPs with physician-only care in hospital length-of-stay, the evidence was less strong, receiving a grade of "moderate." For safety of care, the evidence strength was deemed "high" when comparing CNP care with physician-only, suggesting alike patient outcomes for mortality. For effectiveness of care, the evidence strength was also deemed "high" when comparing CNP care with physician-only care, suggesting similar outcomes for patients being treated for diabetes mellitus and hypertension (Stanik-Hutt et al., 2013).

Subsystem: Access to care. Kuo, Loresto, Rounds, and Goodwin (2013) examined the impact of state regulations on nurse practitioner care in the United Stated from 1998 to 2010. This timeframe was selected because 1998 was the year that

Medicare significantly expanded nurse practitioner reimbursement for services. Patients included in the study were Medicare Part A and B beneficiaries over the age of 65 and not enrolled in a health maintenance organization (HMO) for the entire calendar year for each year during the 1998 to 2010 study timeframe. To differentiate the various level of state regulatory restrictions, Kuo et al. classified regulations into three levels, including nurse practitioner independent practice and prescriptive authority, nurse practitioner independent practice but supervision requirement for prescriptions, and supervision requirement for both clinical practice and prescriptive authority. The authors were chiefly interested in uncovering any significant variation among states in which nurse practitioners served as patients' primary care providers.

Using a least squares regression model and factoring in important variables, like age, race, ethnicity, gender, insurance, and availability of a primary care physician, Kuo et al. (2013) studied the relationship between the various state regulations with the estimated number of nurse practitioners in individual states. Statistical analyses were conducted with SAS software, version 9.2. The authors mentioned that one important study limitation pertained to the submission of charges to Medicare when both a physician and nurse practitioner participated in a patient's care. Data obtained may not accurately reflect all nurse practitioner care provided since billing groups may opt to bill Medicare for "physician only" care since the physician reimbursement rate is 15% higher than that for nurse practitioners. Furthermore, according to Kuo et al., some hospitals or other healthcare employers may have local policies against independent nurse practitioner billing for services rendered.

Kuo et al. (2013) reported that the percentage of Medicare beneficiaries in 2010 with nurse practitioners as the primary care providers varied from a low of 0.8% in Hawaii to a high of 14.8% in Alaska. The authors claimed that primary care delivery by nurse practitioners to Medicare patients rose 15-fold during the years of 1998 and 2010. Finally, according to Kuo et al., states with the least scope of practice restrictions for nurse practitioners had a 2.5-fold increase in patient primary care delivered by nurses. The authors concluded that removing restrictive advanced practice nursing regulations in all states would increase patient access to care to primary care services.

Due to state-specific regulations and statutes, state lines often serve as barriers for APRNs, threatening their ability to practice and provide full, comprehensive patient care in other states. CRNAs without graduate degrees, for example, who wanted to practice nurse anesthesia at some point in the future in Illinois but did not have a current Illinois license (licensed in another state) were at risk of not being able to practice in Illinois due to Illinois-specific state law. Fortunately, a grandfathering period was reopened for CRNAs in August 2009 as a result of a state House bill introduced at the request of the Illinois Association of Nurse Anesthetists (Tobin, Conover, Anderson, & Allain, 2009).

In Illinois, current qualifications for advanced practice nurse licensure include obtaining "a graduate degree appropriate for national certification in a clinical advanced practice nursing specialty or a graduate degree or post-master's certificate from a graduate level program in a clinical advanced practice nursing specialty" (Illinois General Assembly, 2011, §65-5). However, due in part to the grassroots lobbying efforts and vigilance of the Illinois Association of Nurse Anesthetists, CRNA applicants may be

issued a CRNA license if they do not have a graduate degree if they apply prior to July 1, 2018 and submit several documents and other pertinent information, including current state RN and/or advance practice nursing license numbers, proof of current national certification, proof of successful completion of post-basic advanced nursing practice formal education in the nurse anesthesia specialty prior to January 1, 1999, a complete work history for the past five years immediately preceding application date for Illinois licensure, and verification of advanced practice nursing licensure from the applicant's original state of licensure, current state of licensure, or state in which the applicant has been actively practicing as an advanced practice nurse within the immediate past five years (Illinois General Assembly, 2011).

According to the AANA (2014a), 36 states currently have adopted a master's degree requirement for licensure as a CRNA. Despite this master's level licensing requirements, some state boards of nursing reserve the right to review applications for CRNA licensure and grant licenses by endorsement if certain proof is furnished and requirements are met. Two states, Illinois and New Jersey, additionally adopted a grandfathering deadline for licensure if CRNA applicants do not possess a master's degree or higher in the nurse anesthesia specialty. The remaining states currently grandfather CRNAs without graduate degrees without any specific deadline for application (AANA, 2014a). Such deadline restrictions may significantly impact patient access to care, especially in rural communities with critical access hospitals. New Jersey, as one of the Mid-Atlantic states of study in this dissertation research, is especially noteworthy in that the grandfathering deadline has passed. As it currently stands, CRNAs

without master's level education or above in nursing will not be issued CRNA APN licenses in New Jersey as of June 16, 2009 (State of New Jersey, 2011).

Subsystem: Complementary/alternative practices. While complementary/alternative practices are usually associated with healthcare practices outside the realm of conventional Western medicine, the use of complementary techniques may be applied to consensus building practices among different CASs. Consensus thrives in an environment that embraces diversity, including diversity of the various team members and diversity of opinion. According to Fiol (1994), building consensus and generating diversity are two chief components to achieving collective learning. Fiol mentioned that philosophers, like John Dewey and Thomas Kuhn, believed that unity of interpretations was the foundation to developing knowledge. However, others believe diverse interpretations of various stakeholders in a CAS complement and foster knowledge development. Fiol emphasized that organizational managers and leaders have traditionally viewed consensus as a one-dimensional concept that is either present or missing. According to Eisenberg (1984), the art of building consensus begins with recognizing its multidimensional and complex nature. Eisenberg argued that ambiguity in groups eventually facilitates consensus. Uncertainty and diversity of opinions complements group discussion and collective action. Through the initial differences, group participants begin to broaden their beliefs to incorporate multiple interpretations.

Eisenberg (1984) contended that organizations and other CASs must generate "sufficient consensus" in order to remain viable or active; however, "high levels of consensus" may not be advantageous among individual team members (p. 230).

According to Eisenberg, increased adaptability and creativity flourish in environments where inconsistencies exist among goals. Ambiguity is paradoxically necessary in achieving "sufficient consensus" because multiple and diverse interpretations of a topic, from different team members, fosters agreement on abstractions without discounting specific interpretations.

Team members can ultimately agree on a final decision even though the individual meanings assigned to that action differ. Fiol (1994) further expanded how consensus may be achieved in the face of multiple group member interpretations. Multiple dimensions may surround a meaning, and Fiol argued that organizational action can still occur despite opposition surrounding one dimension as long as consensus exists around another dimension.

Complex Adaptive System: Environment

Subsystem: Economic forces. In the healthcare financial arena, there are numerous CASs, including insurance companies, Medicare, Medicaid, hospitals, clinicians, and patients. Supporters of the APRN Consensus Model assert that allowing APRNs to practice to the full extent of their education and training would result in monumental reductions in healthcare expenses. According to Hogan et al. (2010), independent practice CRNAs provided anesthesia services to patients at the lowest economic cost. Different anesthesia delivery models were examined throughout the United States, including CRNA-only, CRNA-anesthesiologist team, and anesthesiologist-only models. The chief purpose in comparing these models was to estimate the costs and revenues that would likely be generated under each. Anesthesia delivery models

investigated included CRNA practicing alone, anesthesiologist practicing alone, medical direction model involving one anesthesiologist medically directing one to four CRNAs, and a medical supervision model involving one anesthesiologist supervising greater than 4 CRNAs. When CRNAs provided anesthesia care as the sole provider, overall costs were 25% less than the second lowest cost model (Hogan et al., 2010).

Ettner et al. (2006) explored potential cost savings of integrating CNPs into traditional hospital care practices. When nurse practitioners participated in patient care, a net cost savings of $978 per patient was realized compared to the non-nurse practitioner group. Health outcomes, according to Ettner et al., were comparable for the two groups, and the authors concluded that the use of nurse practitioners was cost-effective. Rosenblatt et al. (1997) concluded that nurse-midwives used 12.2% fewer costly hospital resources than the obstetrician and family physician groups in the previously mentioned obstetric care study. Brooten et al. (2001) found their intervention group involving prenatal care by CNSs resulted in a savings of greater than 750 hospital days at an approximate cost of $2,880,000.

Spetz et al. (2013) reported that nurse practitioner healthcare services in retail clinic settings offered additional and convenient access to care, along with clearly posted affordable prices for patients. Recognizing that nurse practitioner scope of practice varies state by state, Spetz et al. explored if variations in state advanced practice nursing regulations affected the healthcare costs or quality at retail clinics in the United States. Claims data from a major healthcare insurer between 2004 and 2007 were used in the study, with data from 27 states and 9,503 retail clinic patients.

Spetz et al. (2013) analyzed 14-day care episode means for both retail episodes (index visit was a retail clinic) and non-retail episodes (index visit was not a retail clinic). With the retail clinic group, episodes were separated into 3 categories: (1) nurse practitioner supervision/collaboration required, (2) nurse practitioner independent practice but no independent prescriptive authority, and (3) nurse practitioner independent practice and independent prescriptive authority. Data comparisons were made for costs, types of care provided, and resource value units.

When comparing data means, Spetz et al. (2013) found that emergency room visits were lower for the retail episode group. The retail episode group experienced decreased urgent care and hospital visits when compared to the non-retail episode group. The analysis also uncovered lower total payments and non-patient payments in the retail episode group compared to the non-retail group. When nurse practitioners enjoyed independent practice in their states, Spetz et al. discovered that the retail episode group benefited from lower expenditures. Therefore, patients who used retail clinics in states where CNPs could practice independently had even lower expenditures. Interestingly, CNPs who independently prescribed medications were linked to "slightly higher" costs when compared with nurses who did not enjoy independent prescriptive authority.

Finally, according to Spetz et al. (2013), when a patient's index visit was at a retail clinic, he/she was more likely to have a prescription filled. Although filled prescriptions contribute to healthcare expenses, this effect was diminished in states where nurse practitioners enjoy independent practice. On the other hand, CNPs prescribing

independently was associated with a higher likelihood of a prescription being filled (Spetz et al., 2013).

According to Spetz et al., (2013), approximately 5,000 retail clinics will be operating by 2015. Fixed-effects equation coefficients from their study suggest that average cost of a 14-day retail episode case was $543 in a state without CNP independent practice. When CNPs could practice independently, the cost decreased to $484. The cost rose to $509 in states where CNPs could both independently practice and prescribe. Spetz et al. estimated that nearly $810 million in savings would be realized if all states allowed nurse practitioner independent practice.

Cunningham (2010) stated that significantly decreased healthcare expenditures overall may be realized due to lower salaries of non-physician healthcare providers. In 2010, Cunningham reported that the approximate average annual salaries for CNPs and PAs were $80,000 and $90,000 respectively, compared to $186,000 for primary care physicians and $340,000 average salary for physician specialists. Cunningham warned, however, that if increased access to care to CNP or PA services resulted in significant increases in the volume of healthcare services obtained by patients, then global healthcare savings realized by decreased salaries may not be nearly as substantial. Increased patient services may truly be warranted; therefore, healthcare research investigating legitimate need versus provider-induced increase in services used is necessary.

Subsystem: Political forces. When healthcare legislation enters the various policy streams, different CASs, including state medical societies, nursing associations, and legislators, articulate their viewpoints and statements pertaining to the specific piece

of legislation. Donelan, DesRoches, Dittus, and Buerhaus (2013) examined primary care physician and nurse practitioner perspectives on current practice. The authors acknowledged that proposed legislation to expand both supply and scope of practice initiatives for nurse practitioners is both controversial and highly-debated. From November 2011 to April 2012, Donelan et al. conducted a national postal-mail survey of primary care clinicians, including 505 physicians and 467 CNPs. Various domains were included in the questionnaire, including scope of primary care work, practice setting characteristics, and attitudes about expanding the role of the primary care nurse practitioner.

The overall questionnaire response rate was 61.2%. Survey questions were inspired by the 2011 Institute of Medicine *The Future of Nursing: Leading Change, Advancing Health* report. When questioned if CNPs should be able to lead medical homes, only 17.2% of primary care physicians agreed, compared to 82.2% of nurse practitioners. When asked about whether CNPs should be able to practice to the full extent of their education and training, 76.3% of physicians agreed with that statement compared to 95.6% of CNPs. Almost two-thirds (66.1%) of physicians who participated in the study agreed that physicians provide a higher-quality physical examination and consultation with patients than do CNPs. Approximately three-quarters (75.3%) of nurse practitioners disagreed with the same statement. The authors concluded that current policy recommendations addressing CNP scope of practice are highly controversial, and the two healthcare provider groups do not agree overall on their primary care delivery respective roles (Donelan et al., 2013).

Many state leaders, including governors and legislators, have either commissioned studies or explored new healthcare delivery models to increase high-quality and cost-effective services to their citizens. According to Cunningham (2010), Colorado and Massachusetts are examples of states that have conducted research addressing the use of APRNs and PAs in various settings, including retail clinics. In 2008, Colorado Governor Bill Ritter commissioned a scope of practice study of CNPs, PAs, and dental hygienists. The purpose of this study was to evaluate various primary care practitioners and the healthcare services they provide in meeting the needs of Colorado citizens. In Massachusetts, research was also conducted to explore potential healthcare savings and increased access to care by utilizing APRNs, PAs, and retail clinics (Cunningham, 2010).

In summary, complexity science theory upholds a viewpoint of the nursing profession as a CAS that contains the metaparadigm subsystems of Nursing, Human Being, Environment, and Health. In turn, each metaparadigm subsystem contains numerous other subsystems, each exhibiting the properties of CASs (Chaffee & McNeill, 2007). Each subsystem included in this review of literature plays an important role in the implementation process of the APRN Consensus Model and in healthcare practices, in general. Opponents to the implementation of the Consensus Model, like certain physician groups, may view the process through a thin lens, believing that they will lose income and power or authority. However, when Model implementation is viewed through a complexity science lens, it becomes apparent that additional subsystems, or CASs, play a role in achieving APRN Consensus. The PPACA (2010) is projected to reduce the

number of uninsured Americans by 32 million (IOM, 2011). APRNs, practicing to the full extent of their education and training, may provide high-quality and cost-effective services, aiding with increased primary prevention measures and reducing more costly secondary and tertiary healthcare prevention measures (IOM, 2011). Current shortages of primary care providers, along with other healthcare specialists, combined with the increase in number of people insured provides a broader interpretation of the complexities involved in the implementation of the APRN Consensus Model.

Chapter 3

METHODOLOGY

The purpose of this case study research was to identify and compare similarities and differences in stakeholder perceptions of APRN Consensus Model implementation process in the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania. The purposive sample included 16 Model stakeholders, including APRN clinicians, directors or coordinators of APRN educational programs, professors who teach in APRN programs, APRN state regulatory staff members, and policymakers or lobbyists who have knowledge and expertise with APRN legislation and regulations. Data were collected via a semi-structured interview guide and survey. The data were also corroborated by an analysis of relevant documents. Data collection occurred between March 2014 and October 2014.

This chapter is an overview of the methods used in the study of stakeholder perceptions of the APRN Consensus Model implementation process in the selected Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania. To answer the main research questions and fill the knowledge gaps in the professional literature, an explorative, descriptive multiple-case study approach was used. The following broad sections are included in the chapter: (a) research design and methodology, (b) participants and participant selection, (c) data collection, (d) data management and analysis, (e) psychometric issues and qualitative evaluative process, and (f) ethical considerations.

Research Design and Methodology

An exploratory, descriptive case study methodology was employed in this research study. According to Hinshaw (1979), exploratory investigations are consistent with a theoretical structure where concepts are vaguely defined or undefined. A qualitative research technique, like a case study using unstructured or semi-structured interviews with open-ended questions, was appropriate for this exploratory case study research (Hinshaw, 1979). The design structure of this research was also inductive. Data bits, comments, and statements from the interviewees were read, reread, and organized. The data bits, or words and phrases, were translated into codes and themes to uncover important areas of interest.

The investigator framed this case study approach on a constructivist paradigm. Constructivism is defined by Powers and Knapp (2006) as a theory that "assumes a subjectivist epistemology and also represents a particular epistemological stance that knowledge is not simply 'out there' to be discovered but is 'constructed' or made up (i.e., co-created through the interaction of subject and object/researcher and 'researched')" (p. 27). Constructivists believe that truth is subjective, based on one's unique perspective, and relative to the individual. The researcher and participant collaborate closely, allowing the participant to tell his or her story and describe his or her personal views of reality (Baxter & Jack, 2008).

Yin (2014) described a twofold definition of a case study. According to Yin, a case study is an empirical investigation that explores a "contemporary phenomenon," or "case," in sufficient depth (p. 16). A case study inquiry is investigated within its "real-

world context" (p. 16) and when the phenomenon of interest and its context may not have clearly defined boundaries. Yin also acknowledged core features of case study methodology, including the use of multiple data sources and need for triangulation during the data analysis period. A case study approach, according to Yin, is appropriate when the main research question is a "how" or "why" question, the researcher has no control over the study participants or events and when the research emphasis is on a modern and complex social phenomenon within its real-world context. Yin described the case study strategy's roots and worth in policy research, sociology, community psychology, city planning research, business management science, and social work.

Yin (2014) stated that the study's propositions and unit or units of analysis are also critical components in the design. Powers and Knapp (2006) defined a proposition as "a statement about the relationships between concepts in a theory" (p. 136). According to Baxter and Jack (2008), propositions serve several purposes, including guiding the case study, data collection, and discussion. Propositions also can serve as the foundation for a conceptual framework or structure. Theories, the literature, and personal or professional experiences serve as sources for developing propositions (Baxter & Jack, 2008). One proposition for the main research question of this study was *stakeholders perceive the implementation of the APRN Consensus Model as a slow and challenging process due to the many complex adaptive systems involved, including regulatory, political, and legislative systems*. Propositions point the researcher in a direction to seek out relevant evidence (Yin, 2014).

Yin (2014) equated the selected "case" to the unit of analysis. According to Baxter and Jack (2008), personally asking what one wants to analyze helps to answer what the case is for the researcher. Yin acknowledged the need for completion of two key steps when determining the units of analysis, including defining and bounding the case of inquiry. The cases for this study are the APRN Consensus Model stakeholders in the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania. In each state, the four stakeholders comprised the primary unit of analysis, and data were collected on a total of 16 stakeholders from the four Mid-Atlantic states. Data from each stakeholder group or "case" were included to complete this multiple-case study.

The goal of a multiple-case study approach, according to Yin (2014), is to confirm replication of findings across cases. The presentation of consistent findings, across multiple cases, is deemed as being more robust and compelling (Yin, 2014). Each individual case study, according to Yin, consists of a complete study, in which convergent evidence is sought regarding the facts and conclusions for the case. Yin described the "replication approach" to multiple-case studies, in which each individual case study report is analyzed, and cross-case conclusions are drawn. Each individual case, like the stakeholders in each Mid-Atlantic state, may serve as "replications" (p. 59) to support a particular conclusion or demonstrate a certain phenomenon.

With bounding the case, Yin (2014) stated that distinguishing which persons, or Model stakeholders, are to be included in the investigation is vital. According to Yin, bounding the case assists the case study researcher in determining the scope of data collection and how to distinguish information about the phenomenon of interest from data

external to the context, or case. Participants and participant selection will be covered in the next section.

Participants and Participant Selection

For this study, a multiple-case design was executed to study stakeholder perceptions of the APRN Consensus Model in the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania. Following acceptance of the study proposal by the dissertation committee, permission to commence data collection was obtained by the University of Delaware Institutional Review Board (Appendix G). Stakeholders (n = 16), obtained via convenience sampling, included APRN clinicians, directors or coordinators of APRN educational programs, professors who teach in APRN programs, representatives from nursing regulation, and policymakers or lobbyists who have knowledge and expertise with APRN legislation and regulations. Each APRN clinician participant possessed a master's degree or above and was either involved in his or her state advanced practice nursing association or other advanced practice nursing committee. Directors or educators of APRN programs who participated in the study, all doctorally-prepared, were either personally known to the investigator or obtained through Internet searches of APRN program staff in the selected Mid-Atlantic states. Each educator participant selected verbalized familiarity with the Model, gained through attendance at national or regional conferences on the topic. All nursing regulatory staff participants possessed doctoral degrees, and they voiced familiarity with the Model due to attendance at national NCSBN meetings. Legislator participants were selected because they either participated in a state legislative health committee and/or they sponsored or

co-sponsored advanced practice nursing legislation in the past. Lobbyist participants were selected based upon their service to state advanced practice nursing associations, including lobbying on various APRN bills for at least 2 years or more. The investigator used current contacts and resources to obtain all of the participants from Delaware. For the States of Maryland, New Jersey, and Pennsylvania, some participants were obtained through snowballing, or referral from other participants.

All interview participants were 18 years of age or older. Regulatory staff from state boards of nursing, policymakers, and lobbyists were not required to be APRNs; however, directors of APRN-specific education programs, other APRN educators, and APRN clinicians held an advanced practice nursing degree in one of the six Model population foci. Individuals under the age of 18 and individuals who did not agree to be audiotaped during the interviews were excluded from this study.

Data Collection

According to Yin (2014), high-quality case study research requires data collection from many sources. In this study, data were gathered through interviews, surveys, field notes, and document reviews to enhance data credibility. The elements of the synthesized view of the metaparadigm of nursing as a complex adaptive system (Figure 4) and Kingdon's Multiple Streams Framework underpinned the creation of the interview guide and survey. Original interview questions were formed considering the numerous different stakeholders as complex adaptive systems. These CASs, in turn, may be members of either the problem, policy, and/or political streams as suggested by Kingdon's model.

Interviews

An investigator-developed interview guide, comprised of an open-ended, semi-structured format with probes (Appendix E) was used by the investigator to conduct all participant interviews. A purposive sample (n = 16) was obtained from the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania. No fixed sequence of questions was enforced, and the participants were encouraged to raise important issues not addressed by the investigator. Participants were free to discuss their opinions, experiences, views, and knowledge in full detail. Interviews were conducted at a private location of each participant's choosing. Eight interviews were conducted face-to-face, and eight were conducted via telephone due to participant preference. The participant responses to the interview questions guided the length and structure of the interview, and interviews lasted between 41 to 95 minutes (average interview length was 67 minutes). Before each interview concluded, the researcher asked participants to take a moment to consider if they had any additional information to share or if they wanted to return to a specific topic from earlier in the interview.

In addition to audiotape recording the interviews, thoughts and ideas that occurred in the investigator's mind were handwritten during each interview. The handwritten notes served several purposes, including providing prompts for the researcher to return to a particular topic or probe further and also to serve as a back-up of participant data in the event of audiotape recorder malfunctioning. Instead of interrupting a participant during an interview, and thus risk losing potentially valuable data, the notes served as reminders to the investigator to follow-up on different relevant topics.

Immediately following each interview, audiotaped recordings were transcribed by a professional transcriptionist. After each typewritten transcript was returned to the investigator, usually within 24 to 48 hours, the transcript was read to check for accuracy and to make any corrections. After each transcript was read by the investigator, and any spelling corrections were made, individual transcripts were emailed to participants. All participants were encouraged to read their individual transcripts and to add any additional comments, corrections, or other information. Thirteen participants responded to the request to review the original transcripts, and three participants provided minor corrections and clarifications.

Survey

After the scheduled interviews, a 21-item, researcher-designed Likert scale survey was administered to all participants (Appendix F). The survey was extensively modified from a questionnaire used by Hall-Long (1993) addressing perceptions of political strategies and efforts in her nursing education research. All participants were emailed a unique survey website address and an access password within 72 hours of their interviews. Participants were asked to rate their perceptions of both frequency of use and effectiveness of various Model implementation strategies in their respective state of practice or employment using a 1 (never used/never effective) to 5 (most frequently used/most effective) scale. Strategies evaluated included use of both conventional and electronic media, grassroots lobbying efforts, presentation of APRN research relating to safety, cost-effectiveness, and access to care, activities of state action coalitions, communications to state APRNs regarding Model implementation progress, constituents

contacting their legislators, actively attending legislator fundraising events, contributing money to legislator campaigns, and assisting with Model draft legislation.

Fourteen of the 16 participants successfully completed the entire survey. Since the tool was administered after the scheduled interview time, the investigator was not physically present to answer or clarify any questions pertaining to the survey. However, each participant was instructed to contact the investigator if he or she had any questions regarding the survey, and the contact information was provided both during the interview time and on the informed consent document. No participants contacted the investigator with any questions pertaining to the survey. The survey, designed using the Qualtrics Online Survey Software and Insight Platform, was delivered to all 16 participants via email within 72 hours of each interview. Survey completion time ranged from 3 minutes to 11 minutes.

Document Review

Organizational document review, open-ended interviews, and structured surveys of stakeholders were analyzed to ensure that case study findings were based on the convergence of data from multiple sources (Yin, 2014). Purposively selected documents for review included minutes from state advanced practice committee meetings, nursing association newsletters, state nursing regulatory documents, and active APRN state bills. Review of the selected documents occurred until no new ideas or themes emerged that either supported or refuted the interview and survey data. Access to the supplemental documents was obtained via the Internet through public healthcare and legislative websites.

Data Management and Analysis

To enhance the "replication logic" (Yin, 2014, p. 57) for the multiple-case studies, the analytical procedures employed in this case study research are detailed in this section. Miles and Huberman's (1994) continuous and concurrent process of data reduction, data displays, and conclusion drawing/verification provided a primary guide for this multiple-case study's content analysis.

According to Miles and Huberman (1994), data reduction is defined as "the process of selecting, focusing, simplifying, abstracting, and transforming the data that appear in written-up field notes or transcriptions" (p. 10). Data reduction is considered a central part of the analysis process, and Miles and Huberman emphasized that the reduction process is not separate from the analysis. Prior to data collection, during what Miles and Huberman refer to as the "anticipatory" data reduction period, the investigator selected which cases (Mid-Atlantic states), research questions, and data collection approaches to choose in the study. As the data collection process progressed, additional data reduction occurred, including coding and forming different themes. The creative process of synthesizing the data laid the foundation for the next level of analysis, data display. Displaying the data, according to Miles and Huberman, may include deciding which data to include in a chart or matrix. This phase of the analysis included the aggregation of information from content analysis and descriptive statistical procedures into data displays that would allow conclusion drawing and verification.

According to Baxter and Jack (2008), qualitative data analysis and data collection processes take place concurrently. Investigator interpretation of the data was shared and

discussed with the participants as the data were collected and analyzed. Participants had the opportunity during the interview to clarify, to expound upon, and/or to contribute new views on any research data topic. After each interview, data were transcribed verbatim. According to Rubin and Rubin (2012), transcripts of interviews provide a quicker, more efficient way of scanning the data rather than continually listening to the recordings. Once typewritten transcripts were made, they were proofread by the investigator for accuracy prior to sending them back to participants for their reviews and corrections.

After receiving the transcripts from the participants, words or phrases were highlighted and given a code to describe what the word or phrase meant to the investigator. No interview participants were contacted again to specifically clarify any comments from the initial interviews. Coding of secondary documents, including the APRN Consensus Model document, individual state nurse practice act information, minutes from state advanced practice committees, and active state APRN-related bills, was also performed. The interview data were very rich, providing numerous concepts for coding during the data reduction process. Qualitative data from interviews and document review were presented with overall dominant themes. Descriptive statistics were used to tabulate and analyze the ordinal level data obtained from the surveys. Overall mean scores per implementation strategy and the mean scores grouped by state were analyzed and displayed from the survey data. As previously stated, a multiple-case study technique was performed to confirm replication of findings across cases.

The traditional display of data in narrative text format was employed; however, the presentation was supplemented by the use of tables. An important step of the

analytical process that assisted in examining stakeholder perceptions of the various implementation strategies was entering the data into the cells of the survey table. Miles and Huberman (1994) support the use of matrices or similar displays to amass organized data into immediately accessible and manageable forms so that the analyst may draw conclusions or see "what is happening" with the data (p. 11).

The third stream of the analysis process, according to Miles and Huberman (1994), is conclusion drawing and verification. During this study's analysis, the meanings of data were examined, and patterns and possible configurations were discovered during this phase. "Early" conclusions were drawn when patterns surfaced across cases, or the different Mid-Atlantic states of study. The three streams of data analysis, occurring concurrently during the data collection period, blended to aid the investigator in completing the analysis and drawing the cross-case conclusions.

Psychometric Issues and Qualitative Evaluative Process

Research Tools

The interview guide and survey were developed by the investigator. The preexisting interview guides from the investigator-conducted 2012 and 2013 pilot studies served as a template for the dissertation interview guide. The first pilot study, conducted in April and May 2012, and the second pilot, conducted in March and April 2013, were performed to test the interview guide with stakeholders fitting the participant-stakeholder criteria. Prior to conducting pilot study interviews, the interview guide was proofread and approved for use by a qualitative nursing research professor and the dissertation committee chair, both doctorally-prepared nurse educators and scientists. The pilot

testing of the interview guide assisted the researcher by assessing the phrasing of the interview questions and ensuring that the questions elicited the same types of answers from interview participants.

The 21-item electronic survey, using a Likert scale, requested participants to rate their perceptions of both use and effectiveness of various Consensus Model implementation strategies. Prior to conducting the research, the study survey was reviewed and critiqued by a panel of five experts for its validity of content and overall clarity. Experts included academicians with an expertise in survey design and individuals knowledgeable of the APRN Consensus Model. After the initial panel review, the electronic survey was tested with 10 members of the Delaware Advanced Practice Committee (APC) of the Delaware Board of Nursing for additional feedback.

Qualitative Evaluative Process: Lincoln and Guba

According to Lincoln and Guba (1985), the trustworthiness of a research study is critical to assessing the study's worth. In order to establish a study's trustworthiness, credibility, transferability, dependability, and confirmability of the study's findings must be established. Lincoln and Guba described credibility as the confidence that findings are factual. Several techniques exist for establishing credibility, according to Lincoln and Guba, including but not limited to prolonged engagement, persistent observation, peer debriefing, triangulation, and member-checking. Member-checks, whereby data, analytic categories, interpretations, and conclusions are presented and discussed with participants from whom the data were originally collected, is the most critical technique for establishing credibility (Lincoln & Guba, 1985). Member-checking practices were

performed by the investigator. Each participant was supplied with original transcripts and a separate summary document that contained concepts and themes. Participants were also encouraged to comment on the documents, and to add, delete, and correct any information from their individual interview sessions.

Triangulation, or the process of using multiple data sources to enhance the understanding of a study's findings, is another technique for establishing credibility used by the investigator. Methods triangulation was demonstrated in this study by employing interviews, surveys, field notes, and document reviews. Triangulation of sources was exhibited by gathering data from different stakeholder types, including clinicians, educators, regulatory staff, and legislative staff.

Transferability, according to Lincoln and Guba (1985) may be defined as a process of demonstrating that a study's findings are applicable in other contexts. Establishing transferability in the naturalistic paradigm stands in stark contrast to establishing external validity by the "conventional" paradigm. The "naturalist" can only provide "the thick description necessary to enable someone interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a possibility" (p. 316). The researcher practicing in a naturalistic paradigm is charged with providing the broadest possible range of data for inclusion in the thick, rich description. Information detailing member-checking and triangulation techniques to confirm data will support the transferability of findings to other states attempting to implement the Consensus Model.

Potential biases and personal perspectives are a concern with any naturalistic inquiry, and the process of confirmability establishes how researcher neutrality was maintained and the extent to which a study's finding are reflective of the participants. The confirmability audit, discussed by Lincoln and Guba (1985), is a key technique for verifying confirmability. The audit trail for confirmability includes an examination of raw data, data reduction and analysis products, data reconstruction and synthesis products, process notes, materials relating to intentions and dispositions, and instrument development information. The data collection and analysis processes, including the steps of conducting stakeholder interviews, transcribing audio-recordings, uncovering meaningful words and phrases, and ultimately forming concepts, codes, and themes, were covered in detail earlier in this chapter. The overall description concisely detailed the synthesis process, from original raw data to reconstructed final product.

Dependability, defined as the process of showing that a study's findings are consistent and could be repeated, may be demonstrated through an inquiry, or external audit. External audits, according to Lincoln and Guba (1985), encompass having a researcher not involved with the original research process scrutinize both the research study process and findings. An outside researcher was not employed to conduct an independent external audit for this dissertation research. The research process was thoroughly described by the researcher; therefore, replication of the research process would be possible. However, due to the complex and dynamic nature of the APRN Consensus Model topic, including multiple stakeholders participating in frequent state

meetings and lobbying for various related bills, it is unlikely that exact replication of the research findings would occur.

Qualitative Evaluative Process: Yin

Yin (2014) described several design tests to assess the quality of case study research designs. According to Yin, the design tests, including construct validity, internal validity, and external validity, have been frequently used in social science research. However, these design tests also serve as a framework to evaluate case studies in other fields. Yin emphasized that different case study tactics should be applied throughout the conduct of the case study process, not exclusively at the beginning.

Construct validity is defined by Yin (2014) as "the accuracy with which a case study's measures reflect the concepts being studied" (p. 238). Using multiple sources of evidence, including interviews and various types of documentation (minutes from meetings, announcements, and agendas), is one tactic. Yin also recommended having study participants review drafts of the case study reports, akin to the member-checking process described by Lincoln and Guba (1985). Multiple sources of evidence were used in this study, including interviews, surveys, and document reviews. Each participant was sent his or her original interview transcript for review and comment.

According to Yin (2014), internal validity, or the strength of a case study's cause and effect relationship, is not applicable to exploratory, descriptive case study research because the primary purpose of this research is to describe the phenomenon (or case) in its real-world context. In contrast, external validity is the extent to which a case study's findings can be analytically generalized to other scenarios or settings that were not part of

the original research. The use of replication logic in multiple-case study design is the primary tactic to confirm external validity. Yin stated that replication logic for multiple-case studies is comparable to a researcher seeking to replicate significant findings from a single experiment by conducting several subsequent experiments. With literal replication, according to Yin, the researcher deliberately selects several cases within a multiple-case study design that are anticipated to yield similar results. The investigator selected the bordering Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania, hypothesizing that states close in proximity may have similar barriers, challenges, or implementation strategies pertaining to the Consensus Model implementation process. Results of this study are discussed in the next chapter.

Ethical Considerations

Permission to conduct this study was obtained from the Institutional Review Board (IRB) at the University of Delaware. The study submission was approved under expedited review (category 6, 7). This approval was based upon a predetermined appropriate risk-benefit ratio and study design wherein risks for participants have been minimized (Appendix G). To ensure ample time for data collection and content analysis, the appropriate extension application was filed with the IRB. The request for this study extension was approved by the IRB (Appendix H). Prior to gaining informed consent from participants, the research purpose and procedures were reviewed with each participant. Participants were informed that there were known risks to participating, and their participation would be kept confidential. A unique number was assigned to each participant, and this number appeared on all study documents. The principal investigator

disclosed that the individual interviews would be audiotaped by the investigator and transcribed by an independent transcriptionist. A list of participant names and unique assigned numbers was stored separately from all of study documents in a locked file cabinet that was only accessible to the principal investigator. The interview session notes only contained the unique number as an identifier. All research documents, including electronic and paper records, will be retained and securely stored for three years. Paper documents will be stored in a locked file cabinet, and electronic documents will be stored in a password-protected computer. Both the locked file cabinet and computer will only be accessible to the principal investigator. After the three-year period, all paper documents will be shredded, and all electronic information will be permanently deleted. All participants were informed that they may withdraw from the study without consequences during any time. Each participant received an informed consent document that included study background and researcher contact information. Participants who agreed to participate were asked to sign the informed consent document (Appendix D).

Chapter 4

STUDY RESULTS

This chapter is composed of the case study findings for each Mid-Atlantic state examined: Delaware, Maryland, New Jersey, and Pennsylvania. Building upon the Clemens model of healthcare as a complex adaptive system, Chaffee and McNeill's (2007) "exploded view" of the metaparadigm of nursing guided the understanding of the study results. The global "healthcare system" is viewed as the most complex CAS under the Clemens model, and the formation of the healthcare system involves individual subsystems that interact dynamically. In addition to this dynamic action, the various involved CASs exhibit the characteristics of self-organization, forming different hierarchical levels, chaos, homeostasis, and emergence.

A complex adaptive system process may be bidirectional, including the CAS formation process and decomposition process into smaller subsystems. This bidirectional process is similar to the qualitative data analysis process, whereby data are broken down by the investigator into smaller pieces or data bits. These data bits were analyzed and reprocessed to present a final product or study results, including two major themes. These two overriding themes, "Roadblocks to APRN Consensus Model Implementation" and "Model Implementation Attractors and Adaptable Elements" are present in each state case study.

Under each major theme, subthemes with corresponding subsystems are presented. Beneath the nursing profession's metaparadigm concepts of human being,

environment, health, and nursing, Chaffee and McNeill (2007) listed numerous subsystems. These complexity science subsystems provide structure and organization to the various subthemes of the major overriding themes. Under each subtheme and subsystem, relevant quotes, contexts, and examples from the data are incorporated to clearly illustrate the findings through rich narratives and details. To preserve the confidentiality of all participants, meaningful quotes presented were not labeled by participant type. A discussion of the shared and different subthemes under the first theme of "Roadblocks to APRN Consensus Model Implementation," along with a comparison of the shared and different types within the common subthemes under the second theme of "Model Implementation Attractors and Adaptable Elements" are covered in Chapter 5.

Delaware Case Study

Four Delaware participants were interviewed, including one individual representing nursing regulation, one APRN clinician, one APRN educator, and a legislator conversant with APRN practice and healthcare legislation. The representative from nursing regulation, doctorally-prepared, has been actively involved with nursing regulation for over 25 years. The APRN clinician, also doctorally-prepared, currently serves in multiple nursing leadership positions and is a member of an advanced practice nursing committee that addresses APRN Consensus Model activity in the state. The APRN educator, also doctorally-prepared, has been a graduate nursing program educator for over 20 years. The legislator participant holds multiple professional degrees,

including one at the doctoral level, and has over three years of experience addressing and examining nursing legislation in this policymaker capacity.

Theme analysis uncovered the two major themes of "Roadblocks to Implementation" and "Implementation Attractors and Adaptable Elements." Under the first theme, three subthemes were uncovered, including (a) Model opposition, (b) deficient Consensus Model understanding, and (c) inadequate relationships with change agents. Under the second theme, two subthemes emerged, including (a) Model facilitators and (b) preferred strategies.

Theme 1: **Roadblocks to Implementation/Consensus**

Subtheme 1: Model opposition (Subsystem: Professional associations). As previously noted in Chapter 1, "advanced practice nurse" or "APN" is the current wording and title used in Delaware. During the interviews, most participants referred to themselves or other APNs as "APRNs." Like many states throughout the country, a collaborative agreement is currently required in order for APNs to practice in Delaware. The collaborative agreement is a written practice statement that delineates the joint practice of an APN and physician in a collaborative working relationship (Herman & Ziel, 1999). In Delaware, the collaborative agreement is regulated, with an outside health discipline requirement for the APN to provide patient care. The Delaware written agreement delineates the consultation and referral process between the APN and a "licensed physician, dentist, podiatrist, or licensed Delaware health care delivery system" (Delaware Administrative Code, 2014). The APRN Consensus Model supports APRN full practice authority, including evaluating patients, diagnosing, ordering, and

interpreting diagnostic tests, initiating and managing treatments, and prescribing medications exclusively under the authority of the individual state board of nursing. Under the full practice model, the APRN would continue to consult with other healthcare professionals, including physicians and other non-physician specialists as necessary. However, a formal state-regulated agreement requiring collaboration, supervision, or direction would no longer be mandated (APRN Joint Dialogue Group Report, 2008).

The content analysis revealed several roadblocks to implementing the Consensus Model in Delaware. Elimination of the state-regulated collaborative agreement was discussed by all four Delaware participants. One participant commented:

> Here in Delaware, the biggest barrier with physicians is eliminating the collaborative agreement. I'm getting the sense that the physicians feel that if we eliminated the collaborative agreement, then they would feel a loss of control in essence, and they also would feel that nurses might be taking over their practice. Delaware is a very political state. The physicians have a lot of political clout, and I think that we need to get them on board, in an effort to ensure that this Consensus Model bill passes.

The second main research question of this study addressed what issues are related to the 2015 APRN Consensus Model implementation deadline. The complexities of meeting the 2015 deadline were expressed by one participant:

> The 2015 deadline…it's going to be close. It's going to be really close because we talked to our preferred senator to sponsor our Consensus Model bill, and she recommended that we wait until January 2015 to introduce the bill. Now, I think,

> personally, if we can speak with the physicians, if we can try to break that barrier of the physicians…if we can break that barrier from now until the legislation is introduced, then the bill will have no problem. If we can get them to understand what the bill is, that we're not trying to take over their business. In particular, one thing to remove is the words "independent practice" from our bill, because that is a major bugaboo for the physicians.

Several participants discussed non-physician opponents to implementing the Model in Delaware, including a small subset of APNs. The reasons APNs may oppose Model implementation included comfort with their current clinical practice arrangement, perception that the state-regulated collaborative agreement provides extra protection against litigation, and fear that a change to the current regulation may impact current practice. One participant stated:

> I think I probably see it or hear it more commonly amongst APRNs that have been practicing for many years…the belief or the assumption that the collaborative agreement protects them in some way. And I hear it less frequently from my colleagues, I'd say that have become APRNs in the last 10 years. But it's more from those perhaps that have been practicing, for 20 to 30 years…that the collaborative agreement protects them in some way, and perhaps with litigation.

As it pertains to the 2015 deadline, one participant discussed that well-intentioned APNs may be the rate-limiting factor when it comes to passing Consensus Model legislation in a timely manner. This participant commented:

> You have to make a target date for people because, if you don't, people are just going to sit there and discuss it to death. The 2015 deadline is not so unrealistic, but I think it's going to take another three or four years, or even five years to be able to transition everything in the Model. There's no legislative body holding our feet to the fire. We have to hold our own feet to the fire, and keep doing it.

Subtheme 2: **Deficient consensus model understanding (Subsystems: Education and Communication).** The APRN Consensus Model document was released in 2008 after approximately 15 years of meetings and discussions with 48 nursing organization stakeholders. The document, addressing APRN licensure, accreditation, certification, and education requirements also describes the four APRN roles, population foci, and titling. Each participant discussed the numerous components to the Model, and some participants expressed uncertainty with certain Model facts, stating that it would have been helpful to have a summary sheet or guide to which to refer during the interviews.

One participant discussed "town hall" meetings that occurred throughout Delaware. The purpose of these meetings was to educate APNs about the Consensus Model, including the basic components of the Model and the actions of the Delaware Advanced Practice Committee (APC). This participant stated:

> I think that there is a gap there, certainly here in Delaware, in terms of the understanding amongst nurses, about what the Model is and what it means for APRNs. We need to move forward with introducing the legislation to adopt the Consensus Model. It really comes down to educating everyone. And I know we've

had the Town Hall educational meetings, and have gone specifically to different healthcare systems across the state, provided education for nurses around the Consensus Model as well as the three Town Halls in each of the counties…and I think part of the challenge is really to simplify the message. Or, it's too much information sometimes, which perpetuates, or even increases the level of confusion out there. So, I think that's really critical, how you simplify it, the "elevator speech," so that it makes sense for everyone regardless of whether you're a practicing nurse, or you're a legislator, or a committee member. I think that there needs to be a focus on education and increasing awareness.

In the same vein, another participant commented:

I think that we have made great strides in the last 3 years in getting APRNs more educated and on target. I still feel there are some out there who have misconceptions about the Model and what it's going to do as far as their license and current practice is concerned. They're worried about their licenses being renewed and all of that, and being grandfathered.

Another participant commented on the confusion or lack of education regarding population foci component of the Consensus Model:

I know of adult-gerontology nurse practitioners who see kids and family in a walk-in care center, and I also know of a pediatric nurse practitioner who did the opposite. It's like they're putting their licenses on the line if they're doing that because they're seeing patients outside the population foci that they're supposed to see. They don't get it, they don't understand that…and somebody else who's

> not knowledgeable about the population foci, such as a physician who they might work under saying, "Oh, don't worry about it. You're okay. You're under my malpractice." Well, yeah, do you really want to put yourself at risk? Especially, yeah you might be under that malpractice for that entity, but you still must abide by your scope of practice.

It stands to reason that if groups of APRNs do not fully comprehend the Model or they find the Model complex or confusing, then non-APRNs are likely to feel equally, if not more, confused or deficient in their understanding of the content. Each Delaware participant discussed the need to educate non-APRN stakeholders, especially physicians and policymakers, regarding the Model. A participant commented that physician-opponents are chiefly interested and concerned about the collaborative agreement piece. From this legislator's experience, physician-opponents were not knowledgeable about the majority of the Model's content, including licensure, accreditation, certification, and education (LACE) and title components. However, any Model content pertaining to independent practice, including no longer requiring a state-regulated collaborative agreement, elicited a negative reaction. The following comment captured this sentiment:

> With educating physician groups, in order to get the buy-in, or to address their concerns, it might be something where it's a two-step process. You'll do half, and then the other half. Kind of like a few years ago, when APRNs weren't allowed to prescribe. But through the collaborative agreement piece, certain increases in autonomy occurred. It's like a step-by-step process sometimes, instead of the adopting the whole change at once.

Several participants discussed concerns regarding physicians misinterpreting components of the Model. Specifically, one participant raised concerns that some physicians may be confused or fearful regarding a perceived expansion of current APN roles and perhaps the elimination of certain physician roles. The participant commented:

> It's a lack of understanding of the interprofessional roles. Between the professions. In our roles, there's a big overlap in skills with APRNs and physicians. There's overlapping knowledge bases, but in terms of complex cases, the physician may have a better knowledge base than I do.

Patients are also Model stakeholders and a CAS. Although most of the Model education discussion revolved around APRNs, physicians, and legislators, some participants discussed educating the public and what implementing the Model means for patients, as expressed by this participant:

> I think other stakeholders don't understand the Model. Again, it goes back to the education piece. Why should we do this? The biggest communication I think needs to say, "We're standardizing terminology. We're making it understandable. That in this state, an APRN is the same thing as an APRN there, and in that state too.

Subtheme 3: Inadequate relationships with change agents (Legislators) (Subsystem: Political forces). The period during which a state legislature remains in session varies, from a matter of several months to all year. Therefore, if a group would like to propose a bill for consideration, a narrow window of opportunity may exist to have it considered by the legislature. Furthermore, in most states, a new state legislature

assembles in January of the odd-numbered year after the election of members to the larger chamber ("State legislature," n.d.). The time and resources required to implement various strategies to move a bill forward may span years, and the "coming and going" of various legislators at election time exacerbates the challenges of educating key policymakers. The failure to forge strong relationships with legislators was voiced by several participants, along with the challenges of communicating with all policymakers regarding Consensus Model legislation. One participant stated:

> The 2015 deadline is going to be tough. There are some things we can do to improve the likelihood of success, certainly. But, I would have loved to see the Model pass in 2014. Because, the concern I have is that a lot of our legislators, with the election…those that we've engaged, may change. And, that may be some more work for us. It is kind of rolling the dice.

The same participant discussed concerns that physician-opponents may have more clout with policymakers due to larger financial resources and perceived superiority. She stated:

> When I approach legislators to consider cosponsoring Model legislation, I often note some discomfort. They fear the impact on their reputation. It's disappointing to me that I feel our legislators unfortunately tend to cater to our physician colleagues. In spite of the evidence they hear, the stories, the literature…I sense the reluctance to support a bill because of the physician opposition.

With a follow-up question clarifying her views regarding physician-legislator relationships, the participant continued:

> I think it has to do with power and money. As legislators, their job is to represent and advocate for the public. Yet, many of their decisions are driven by those who have the greatest power or money. If they don't follow where the power and money is, their role may be threatened. So, if I want to make sure I get elected year next, I'm not going to touch an issue that may counter that from my constituents or ones backing financial support.

When asked what information APRNs have communicated to the legislators, one participant replied, "very little." At the time of the interview, this participant commented that, in order for APRNs to be successful in passing Model legislation, a consistent, concise message with the vital Model components must be clearly articulated to every legislator.

> One-on-one conversations are the best way to make sure they're getting the information from you, the way you want it delivered. But, you can schedule meetings with small groups of legislators. You can do them in groups…so you can plant the bug in their ears and answer any questions, so that they have the correct information. And they need to know how many nurses are out there. They know the physician lobbyists are very strong, and, unless they're told of the impact from nurse, then they don't know. And, nurses don't usually participate.

Theme 2: Implementation/Model Attractors and Adaptable Elements

According to Zimmerman et al. (1998), CASs naturally seek the momentum of other systems. Instead of resisting change, CASs will use the attractors from other systems to enact positive changes or goals. Attractors are change catalysts that permit

new ideas, behaviors, and actions to emerge (Chaffee & McNeill, 2007). Rather than focusing on larger-scale change initiatives, the attractors of complexity science may choose smaller change initiatives that attract people and still move the CAS in a positive direction. These change initiatives or strategies constitute various adaptable elements, which possess to ability to acclimate or adjust to the needs of the stakeholders.

Subtheme 1: **Model facilitators (Subsystem: Professional associations).** In addition to the numerous barriers to APRN Consensus Model implementation in the Mid-Atlantic states, several stakeholder attractor groups exist. These stakeholder groups are supportive Model implementation. Research participants reported overwhelming support of the Model by most APRNs and nursing groups.

One participant in a leadership role offered these comments regarding support:

> I am wholeheartedly in support of this Model. …I think it will greatly improve the licensure process…if we [Delaware] get the bill [Consensus Model] passed…we can eliminate the Joint Practice Committee and the Board of Medical Licensure and Discipline approval…in my mind, the nursing license will be issued very quickly compared to what the process is now. And, it should be issued with prescriptive authority already attached, because everyone will have the 3 Ps and also meet the requirements for prescriptive authority. …In the Consensus Model, we would have all authority under the Board of Nursing for issuing licenses for advanced practice nurses.

Another participant shared her beliefs regarding the nursing profession's support of Model implementation:

> I think it's [Consensus Model implementation] a great move forward, that we [APRNs] need to have consistency, that we [APRNs] need to be cohesive all across the country. …It [Model] has moved forward in quite a number of states, and it hopefully that momentum continues.

Another participant spoke to how the Consensus Model aids the public by providing assurance that all APRNs meet specific high, consistent standards, and the title of "APRN" denotes a certain level of quality and safety. She added:

> The Model came about as a result of multiple nursing organizations coming together…with a desire to standardize the licensing, accreditation, certification, and education of advanced practice nurses across the United States. The main intent [of the Model] is the standardization piece and protection of the public. …The consumer can be assured what [LACE elements] their care provider has as an APRN.

All Delaware participants commented on the need to have non-nurse support for APRN Consensus Model implementation. Participants mentioned that ideally, overwhelming physician support would be most beneficial. Recognizing that having majority physician support of Model implementation was not probable, participants commented that some physicians would be supportive. However, participants shared their skepticism as to whether supportive physicians would actually testify in support of such a bill. One participant commented:

> I have spoken to some [physicians] who tell me they're in favor of it [the Model]. But, I'm a little skeptical. I fear that when it really boils down to it, and

> somebody's sticking their neck out there in support of it, this person [the physician supporter] will prefer to be quietly in the background in favor of it.

When asking about physician testimony is support of the Consensus Model, another participant stated:

> I think it [physicians willing to testify in support] is possible. I really do think it's possible because some of the physicians are very pro-APRN. You look at some of the groups that use them. When you look at cardiology, they use APRNs, and you can say, "You can still require a collaborative agreement. That's not going to change. We're just taking it out of the regs."

One participant discussed the AARP, and its role in the successes of other states implementing the Model. This participant added:

> Each state has an AARP representative, with boots on the ground, interacting in the State Capitol…addressing all issues that could impact their members. Several states across the country have utilized AARP lobbyists, to help move their Consensus Model legislation forward. The benefit of that is their face is already familiar…to the legislators.

Subtheme 2: Preferred strategies (Subsystems: Professional associations, Communication, and Education). Various Model implementation strategies were discussed by all of the participants. The most "preferred strategies" by participants were face-to-face meetings (APRN leaders with both physician opponents and legislators), grassroots actions by individual APRN constituents, and presentation of evidence,

including how the Consensus Model will benefit patients, and studies pertaining to the quality and cost-effectiveness of APRN healthcare services.

While participants discussed different Model attractors or facilitators (APRNs, physicians, the AARP), most implementation strategies revolved around APRN leadership activities. While participants reported that support from the Board of Nursing was critical, the Board alone was not capable of implementing change. Action from individual APRN leaders or leadership groups, like the Advanced Practice Committee (APC) was found to be crucial, especially "active" strategies, like face-to-face meetings with other stakeholders, including physicians and legislators. One participant described the importance of keeping physician-opponents informed:

> Personally, I think physicians…that's my main target. I think face-to-face meetings. We've [APRN leaders] got to get on face-to-face ground with them. …What they [legislators] recommended we [APRN leaders] do is get more physician support behind us so that when we do get the bill introduced, it does go through smoothly.

Another participant discussed APRN leader face-to-face lobbying of legislators:

> I think we [APRN leaders] need to keep talking to the legislators…We've got to keep the Consensus Model in their brains so that when it [Model bill] does get introduced, they are familiar with it. I just don't think we can stop. I think it's vitally important.

Grassroots activities, including APRN leaders encouraging individual APRN clinicians to meet with legislators face-to-face, were regularly identified as instrumental

Model strategies. However, the importance of having the APRN be a constituent of the legislator was stressed. The effectiveness of face-to-face interaction with legislators diminished when the APRN was not a constituent, or the interaction took place at a fundraiser or reception, rather than in the legislator state office, as captured by one participant:

> With constituents…that legislator sees you as a vote. …[With fundraisers], that's definitely different than having a constituent [talk one-on-one]. I guess it's effective, but it almost seems kind of unethical in a way. It's like buying their vote…but that's the reality, I know.

The effectiveness and variety of different APRN grassroots efforts were described by one participant:

> I think our best bet [to implement the Model] is to push grassroots efforts as much as possible. …I have a nurse practitioner colleague…as she always says to her colleagues, "Give me your time, talent, or treasure." "If you don't have treasure to give, then give me your time or your talent." Talent can take a variety of different forms. It may be things like you have a connection with a particular legislator.

The presentation of evidence, including facts pertaining to how Consensus Model implementation would benefits patients, was recommended by all participants. Participants reported that both written communications and verbal messaging must be clear and concise, with a primary focus on the benefits for Delawareans. Individual patient stories were deemed to be especially effective when presented to policymakers.

> Unfortunately, with the introduction of a lot of [healthcare] legislation, very rarely does it even mention the role of the patients. I think that's a powerful tool that APRNs could use to really bring the conversation full circle. …You have to have the data in and around the issue. For example, the lack of access to care, and the quality of APRN practice. The numbers of APRNs, the safety of the practice. That data needs to be a key piece…but the other piece has to be the patient's story. …The "Triple Aim"…reducing costs, improving health outcomes, and [improving] patient access to care.

Table 3

Delaware Case Study APRN Consensus Model Implementation Major Themes and Subthemes

Theme 1 **Roadblocks to Implementation/Consensus**	**Theme 2** **Implementation/Model Attractors and Adaptable Elements**
Subtheme 1: Model Opposition	Subtheme 1: Model Facilitators
Subtheme 2: Deficient Consensus Model Understanding	Subtheme 2: Preferred Strategies
Subtheme 3: Inadequate Relationships with Change Agents (Legislators)	

Maryland Case Study

Four Maryland participants were interviewed, including one individual representing nursing regulation, one APRN clinician, one APRN educator, and a lobbyist conversant with APRN practice and healthcare legislation. The representative from

nursing regulation, doctorally-prepared, has been employed in nursing regulation for more than 10 years. The APRN clinician, also doctorally-prepared, currently serves in multiple nursing leadership positions and has authored and co-authored multiple publications in peer-reviewed journals addressing advanced practice nursing quality and practice topics. The APRN educator, possessing a master's degree, has been both a clinician and educator in a graduate nursing program educator for over 15 years. The lobbyist participant, possessing a doctoral degree, has at least five years of experience addressing and examining nursing legislation.

Two major themes were identified. Under the first theme, four subthemes developed, including (a) Model opposition, (b) APRN apathy or unconcern, (c) deficient Consensus Model understanding, and (d) inadequate relationships with change agents. Under the second theme, two subthemes emerged, including (a) Model facilitators and (b) preferred strategies.

Theme 1: **Roadblocks to Implementation/Consensus**

Subtheme 1: Model opposition (Subsystem: Professional associations). In Maryland, certified registered nurse anesthetists (this is all capped here…not consistent) (CRNAs) are required to have a collaborative agreement. Collaboration is defined as "the development and implementation of an agreement between a nurse anesthetist and an anesthesiologist, licensed physician, or dentist concerning the practice of nurse anesthesia" (Code of Maryland Regulations, 2015b, para. 2). Certified nurse practitioners (CNPs) are required to complete a Maryland Board of Nursing-approved written attestation statement. This attestation is an agreement between the CNP and a physician

for “collaborating and consulting” (Code of Maryland Regulations, 2015c, para. 1). On an as needed basis, the CNP is required to refer to and consult with physician and other healthcare providers. Certified nurse-midwives may independently manage clients “appropriate to the skill and educational preparation of the certified nurse-midwife and the nurse-midwife’s clinical practice guidelines” (Code of Maryland Regulations, 2015a, para. 2). CNM scope of practice includes consulting or collaborating with a physician or other healthcare provider “as needed” and referring clients “with complications beyond the scope of practice of the certified nurse-midwife to a licensed physician” (Code of Maryland Regulations, 2015a, para. 3). Maryland participants each mentioned physician opposition to removing both collaboration and attestation. One participant stated:

> It’s organized medicine that is, they’re protecting turf. They’re afraid. They’re very afraid. And logic and data will never make any difference to them. We’ve got plenty of logic. We’ve got plenty of data. We’ve got years of evidence, you know, if you look at the national practitioner data bank, the number of complaints and actions taken against health care providers…. Many physicians have no idea how we’re educated and, they have no idea what we do too. And so, it’s fear of the unknown, first of all. Second of all, they have invested a lot of time and energy and money in their education and, I think many people have gone into medicine thinking that they’re going to make a lot of money, and many do. But, there are a lot of people in primary care practice, and they’re not making a lot of money. They’re just barely getting by and the world is changing and, I think

> they're concerned for their bottom line, but they're also concerned for who's in charge, and they ought to be in charge.

A second participant commented:

> It's like every other turf battle, between different practitioners in Maryland, whether its nurse practitioners and physicians, or CRNAs and anesthesiologists…they [physicians] want to protect their turf. In a perfect world for most anesthesiologists, I think they'd like to require direct supervision. That's just not the case. And I don't think they're [anesthesiologists] willing to battle us [CRNAs] on that, just like we're [CRNAs] not willing to battle them [anesthesiologists].

Subtheme 2: APRN apathy or unconcern (Subsystems: Beliefs and Relationships). During the inductive data analysis period, it became apparent to the investigator that evidence was present regarding APRN apathy or unconcern toward advanced practice nursing healthcare policies and legislation. While data exist suggesting inadequate or insufficient understanding of the Consensus Model, there are also data indicating APRN apathy toward understanding or appreciating how healthcare policy impacts APRN practice. One participant commented:

> The word "apathy" is probably right on the money. It's the lack of appreciation of how policy affects your practice. There is nothing in the Consensus Model that would prevent anyone from working in a very collaborative practice model…combined with general apathy…the folks who prefer to function in that kind of perceived role, I don't think that they are going to rise up.

In 2010, the collaborative agreement requirement for CNPs was eliminated (currently, CNPs must have an attestation statement instead). When asked if CNPs participated in the 2010 removal of the collaborative agreement requirement, the same participant responded: "A small few. Not as many as I would have liked, but there were a devoted few who have been at this for years to try and make this happen."

A second participant described that apathy or indifference to healthcare policy, as it pertains to the Consensus Model, may differ by APRN type. She commented:

> I think nurse practitioners are more aware of the Consensus Model than CRNAs…there's more NPs here…I'd venture to say they [nurse practitioners] are move involved because their collaborative agreement changed, so people would have to be aware of that. …Their [nurse practitioners'] collaborative agreement was very complex, and now they've eliminated it…they just do some attestation. …It seems like the Consensus Model tends to be more driven by NPs, that's my perception.

A participant discussed that some APRNs may simply not be concerned with Consensus Model legislation because they are content with their current practice arrangements. These APRNs are not opposed to the Model; however, they are not concerned with changing the current nurse practice act or regulations. This participant commented:

> I think that most people [CRNAs] are comfortable with their current practice models…in order to change it [scope of practice], it would be a major battle. It

would be an incredible battle between us [CRNAs] and the anesthesiologists, and I don't think that anyone currently believes that it's worth doing at this point.

Subtheme 3: **Deficient consensus model understanding (Subsystems**: **Education and Communication).** One participant commented on her attendance at a recent national APRN conference. When discussing an APRN policy topic, she inquired how many attendees were knowledgeable of the Consensus Model. The participant stated that only a handful of attendees raised their hands signifying that they knew about the Model.

> You're in a big plenary session and, the speaker is talking about some of the great things that have happened in the APRN policy world…and it's like you look around and you go, "Oh my gosh, holy cow, these people don't know about this." So then you go, wait, it's good that they're here because they're learning about it now. So that's good. This is a clinical conference. People that go to policy conferences, they are all over this. They know about it. They've been working in their state legislatures. They're working on other kinds of initiatives as well related to policy. That's old news to them. But you think about folks going to big regional or national meetings, and they're going there to get their continuing education. They're interested in clinical information about how to manage patients, how to do a better job, how to, for CNSs, how to demonstrate their value to the organization, what are the hot things that they need to be dealing with, with patients that have cardiovascular disease or what's this transitional care stuff about. Or, whatever it is. It's all, "I want to do a better job of taking care of

> patients," and they're kind of tolerating that plenary session that's talking about policy. And, it's like, good, I'm glad you're hearing about it now because you need to, you need to know about it.

When asked about APRN knowledge of the Consensus Model, another participant similarly commented:

> No. Most of them [APRNs] don't get into regulation. They are, I think, assuming that because they're in an approved program that's recognized by a national certifying body that we [Maryland Board of Nursing] recognize, that they're okay, and they don't really care about the regulation. They just want their ticket to pass go.

One participant acknowledged her lack of understanding of the Consensus Model. While she was very conversant with individual components of LACE and current Maryland APRN regulatory language, she was less aware of how those components related to the overall Consensus Model.

> I think it's [communication's] severely lacking. I think if you went and talked, I mean, look at me in my role…I'm supposed to be well-informed, right? And, I know people are on it [Consensus Model], but I can guarantee that many advanced practice nurses in the state probably know nothing about it [Consensus Model].

Subtheme 4: **Inadequate relationships with change agents (Legislators)** (**Subsystem**: **Political forces).** Research participants in Maryland were hopeful that remaining legislative and regulatory language that restricts APRN scope of practice will be eliminated in 2015. However, concerns surrounding inadequate relationships with policymakers were reported.

> What we need to do is start with the legislature again. It's going to be difficult in the House, because we are losing a third of those legislators. There will be new members, so we're going to have to start educating them all over again for what this means.

Theme 2: **Implementation/Model Attractors and Adaptable Elements**

According to Chaffee and McNeill (2007), attractors are change catalysts that permit new ideas, behaviors, and actions to emerge. Consensus Model attractors identified in the Maryland case study include both Model stakeholders groups, like APRN leaders, legislators, and physicians. Various adaptable elements constitute promising implementation strategies.

Subtheme 1: Model facilitators (Subsystem: Professional associations). Despite the numerous barriers to APRN Consensus Model implementation in Maryland, several stakeholder attractor groups exist. These stakeholder groups are supportive of Model implementation. Research participants reported overwhelming support of the Model by most APRNs and nursing groups. One participant discussed a nurse legislator who was a significant attractor:

> [Maryland has] one [nurse legislator] that we're losing on our House Health Committee because she ran for Senate…but, she was a nurse, and she supported us [nursing profession] to the max. Whatever bill we [nursing] had, she sponsored.

As for non-nurse Model support, one participant commented:

> When we [Maryland APRN leaders] did our last big legislative initiative [changing CNP written collaborative agreement requirement]…we had some standard [form] letters, and we asked physician colleagues to sign, and we actually had some physician colleagues who came and testified. …They [those physicians] closed their practices and came down to Annapolis and testified in favor of the bill. You don't get much better support from a physician colleague than that.

Subtheme 2: Preferred strategies (Subsystems: Professional associations, Communication, and Education). Various Model implementation strategies were discussed by all of the participants. The most "preferred strategies" by participants were face-to-face meetings (APRN leaders with both physician opponents and legislators), grassroots actions by individual APRN constituents, and presentation of evidence, including how the Consensus Model will benefit patients, and studies pertaining to the quality and cost-effectiveness of APRN healthcare services.

While participants discussed different "Model facilitators" (APRNs, physicians, nurse legislator), most implementation strategies revolved around APRN leadership activities. While participants reported that support from the Board of Nursing was

critical, the Board alone was not capable of implementing change. Action from individual APRN leaders or leadership groups, like the Maryland Nurses Association, was found to be crucial, especially "active" strategies, like face-to-face meetings with legislators. One participant discussed APRN leader and lobbyist face-to-face meetings with legislators:

> You're talking about a relatively small group of people you're trying to reach…the legislators…the most effective way [for APRNs to communicate] is face-to-face meetings. …I [as a lobbyist] typically don't let my clients come in and do meetings with legislators one-on-one without being present. …I don't want something bad to occur where I can't straighten it out or at least know what happened… Frankly, it's foolish not to have somebody there that does this on a daily basis.

Grassroots activities, including APRN leaders encouraging individual APRN clinicians to meet with legislators face-to-face, were regularly identified as instrumental Model strategies. However, the importance of having the APRN be a constituent of the legislator was stressed. The effectiveness of face-to-face interaction with legislators diminished when the APRN was not a constituent, or the interaction took place at a fundraiser or reception, rather than in the legislator state office.

> I think the face-to-face [interaction with legislator] from the constituent who is an APRN who goes down there and talks to them about what the problem is…yes, that's effective. …You [APRN constituent] go down there with a good story. This is a problem for my patients, and this is why. And this is all the horrible stuff that happens as a result of this problem. And I'm a voter.

The effectiveness and variety of different APRN grassroots efforts was described by one participant:

> I think grassroots is probably our [Maryland APRNs] strength. We have definitely used [grassroots initiatives] in Maryland. Advanced practice nurses doing face-to-face meetings, leaving materials behind, and going and participating in MNA [Maryland Nurses Association] lobby day. …We have had nurse practitioners do sweat equity on campaigns, literally go door-to-door for candidates, do phone calls for candidates, and also make political contributions. …And when you make a contribution at a fundraiser, you make sure that you send a member with or without your lobbyist, so that you have a chance to literally talk to a candidate or legislator.

The presentation of evidence, including facts pertaining to how Consensus Model implementation would benefits patients, was frequently recommended by participants. Participants reported that both written communications and verbal messaging must be clear and concise, with a primary focus on the benefits for Marylanders. Individual patient stories were deemed to be especially effective when presented to policymakers.

> When a nurse comes into [a legislator's office] to ask for something, they come in and they say, "You know, there's a problem. I can't provide care to my patient. My patient is suffering because I can't find this piece of paper [collaborative agreement] for them, and now I have to send my patient over to another office, and that's additional time for them. And it's travel, and it costs my patient more

> money." That [approach from a patient perspective] is not lost on the Hill. And I think that's because we're nurses.

The presentation of peer-reviewed research demonstrating the quality and cost-effectiveness of APRN healthcare services to key policymakers was also discussed for several participants. Despite the strength of high-quality research, one participant shared concerns that the best research may not supersede one's allegiance to an opposing stakeholder group. One participant shared:

> Presenting APRN research is important…it's not going to substitute for someone who already has a close relationship with a physician or physician group…you've got to get them on your side. You can use the data and research results to try to appeal to their logic. And, for some people that will work…for other people, they stick with their own bias.

In addition to presenting APRN quality and cost-effectiveness research to legislators, another participant added the importance of sharing this research with leaders in state departments of health and other health-related state departments.

> That's [presenting ARPN research] vitally important. You can make all the personal arguments you want to, but you've got to have some sort of data to support the legislation, and there are policymakers that are going to be interested in that. I think the other part of the equation…the dealing with the folks at the Department of Health and Mental Hygiene. Legislators are going to rely upon the opinions of the secretary and the other folks that are representing different boards.

Table 4

Maryland Case Study APRN Consensus Model Implementation Major Themes and Subthemes

Theme 1 **Roadblocks to Implementation/Consensus**	**Theme 2** **Implementation/Model Attractors and Adaptable Elements**
Subtheme 1: Model Opposition	Subtheme 1: Model Facilitators
Subtheme 2: APRN Apathy or Unconcern	Subtheme 2: Preferred Strategies
Subtheme 3: Deficient Consensus Model Understanding	
Subtheme 4: Inadequate Relationships with Change Agents (Legislators)	

New Jersey Case Study

Four New Jersey participants were interviewed, including one individual representing nursing regulation, one APRN clinician, one APRN educator, and a legislator conversant with APRN practice and healthcare legislation. The representative from nursing regulation, doctorally-prepared, has been employed in nursing regulation for over 10 years. The APRN clinician, possessing a master's degree, currently serves in multiple nursing leadership positions and is a member of an advanced practice nursing committee that addresses APRN Consensus Model activity in the state. The APRN educator, doctorally-prepared, has been a graduate nursing program educator for over 30 years and has authored multiple books on professional nursing practice. The legislator participant holds multiple professional degrees, including one at the master's level, and has over five years of experience addressing and examining nursing legislation.

Two major themes were identified. Under the first theme, four subthemes were uncovered, including (a) Model opposition, (b) APRN apathy or unconcern, (c) deficient Consensus Model understanding, and (d) inadequate relationships with change agents. Under the second theme, two subthemes emerged, including (a) Model facilitators and (b) preferred strategies.

Theme 1: Roadblocks to Implementation/Consensus

Subtheme 1: Model opposition (Subsystem: Professional associations). In New Jersey, advanced practice nurses (APN specifically in New Jersey) include CRNAs, CNPs, and CNSs solely. CNMs are not regulated under the Board of Nursing in New Jersey. Licenses are granted to CNMs through the State Board of Medical Examiners, Midwifery Liaison Committee. Advanced practice nurses in New Jersey currently must maintain joint protocols with collaborating physicians. Collaboration is defined as "the ongoing process by which an advanced practice nurse and a physician engage in practice, consistent with agreed upon parameters of their respective practices" (New Jersey Administrative Code, 2012, p. 49). "Joint protocol" is defined as "an agreement or contract between an advanced practice nurse and a collaborating physician which conforms to the standards established by the Director of the Division of Consumer Affairs pursuant to this rule" (New Jersey Administrative Code, 2012, p. 50). Some APNs pay physicians for their joint protocols and the potential loss of this revenue was mentioned by several interviewees as one reason why physicians would oppose Model legislation.

Each participant discussed the joint protocol requirement. In addition to the concerns regarding the practicality and worth behind the protocol, the issue of cost to the APN was discussed. One participant commented:

> I think what we've seen happen in New Jersey is that APNs have been required to collaborate with physicians on these joint protocols. I'm hearing, again anecdotally, the stories of advanced practice nurses having a monthly fee or annual fees to maintain that collaborative status, without ever having an opportunity or need to interact with the physician. So, the question is: "What is the purpose of the joint protocol if they're not using it to collaborate with the physician?" Certainly, it tends to be an income…I don't know how lucrative it is for physicians. But, it tends to be an income for physicians. I'm not sure what the helpful side is for nursing, of them paying a physician to be there at least in name….the Consensus Model is looking at enabling nurses to practice to the full extent of their education. I think my experience certainly with nurses is…nurses tend to be very careful and, I think…that nursing is usually done very responsibly and people know their limitations.

Another participant corroborated the comments from the prior participant:

> The number one issue is that some of the physicians are requiring the nurses to pay a certain percentage of their income for the privilege…that's my word…of signing a joint protocol. So, the doctors are actually asking for a percentage of the nurse's income. So, that's a problem, because physician to physician, you would not be able to do this…that's my belief… that it's a Federal Trade Commission

violation because one profession cannot restrict another profession from practicing that profession.

The following comments were also offered pertaining to physician group opposition to removing the joint protocol:

> The Medical Society. They have come out very strongly against it [removal of joint protocol]. And they have said that the reason is, that the nurse, the advanced practice nurses, which I have always argued is only 5% of the nurses. We're not talking about every nurse, only 5% of them, highly educated and trained nurses, that they [Medical Society] say do not have the education and training to write prescriptions etcetera, and I disagree. So it's the Medical Society…I disagree with them. I say that these 5% of nurses are ready. They're educated. They're trained and they know the limits of their ability. If it's a very complex, complicated patient, they would refer that patient for a particular issue to a colleague, and that colleague may be a physician. The same way a dermatologist, who has no ability to manage other medical diseases, let's say diabetes. He would never manage that patient's diabetes. He would refer the diabetes patient to an endocrinologist. An endocrinologist would not manage that patient's basal cell. He would refer back. So, the same way within the medical subspecialties. They refer amongst each other. If an advanced practice nurse were to get a very difficult case, she would refer that patient to one of her colleagues, which in this case would be a physician.

Another participant commented on legislation that passed both the Senate and Assembly regarding APNs' ability to determine the cause of a patient's death and complete death certification of the patient if the APN is the patient's primary caregiver. However, the bill earned a "pocket veto" from the governor (Health Care Association of New Jersey, 2014). In addition to this patient death issue, the participant commented on the influence of "organized medicine" in the state regarding other legislative activities.

> A piece of legislation to allow advanced practice nurses…to enter death certificates or the cause of death…this was passed in the legislature. Both the State and the Assembly went to the governor, and he pocket vetoed. …In general, the governor has not been sympathetic to advanced practice nurses, and it's all due to the pressure of organized medicine in the state.

Another participant corroborated the previous participant's statement:

> The latest bill to try to put through was being able to…advanced practice nurses…to sign death certificates…to claim that a patient expired or died. …It was passed, except it was pocket vetoed by the governor. …I think at this point, he is getting ready for a Presidential run, so he wants to keep the docs happy, and I don't think it's actually going to be a really good opportunity for us [APNs] until he in fact leaves for that endeavor.

A third participant added:

> If you're working with a patient base, and one of your patients die, who better than the nurse practitioner to be able to sign the death certificate? He [the governor] blocked that. He would not sign it, despite the fact that it went through

> the legislature. So, what that tells me…in my own mind…that there's more than likely a very hefty physician lobby behind that, because, who else would oppose something as helpful as that?

Finally, the fourth participant added:

> I think, unfortunately, in America, money talks. And I think…those six people [minority vote] who voted "no" against the death certificate bill all get money from the Medical Society. …So, money, unfortunately, in the United States in politics is very important.

Participants mentioned APRN opposition to adopting the Consensus Model in New Jersey as well as captured by one participant:

> Right now, one of our biggest sources of resistance is the APNs themselves. They don't want autonomous prescriptive authority. Many of them. There are some who feel this will open up APNs to more liability. They hold fast because they have a physician backing them up. They feel like they're being taken care of…and because of that, they're safe. They also feel, because they're in a second class status, and that's what I'll call it, they have the option to refuse to make hospital rounds, to refuse to work weekends, to refuse to cover…this is one of our really serious problems, that APNs themselves resist.

Subtheme 2: APRN apathy or unconcern (Subsystems: Beliefs and Relationships). Both lack of interest and lack of effectual planning by APRN groups were uncovered during data analysis. When asked how APNs in New Jersey could become more engaged in the Consensus Model implementation process, one participant commented:

> I think it's got to be more than just a collection of interested APNs talking about this. It's got to be somebody that's going to be able to develop a plan and implement it. …And it can't be the Board of Nursing, because the role of the Board is not to lobby, it's not to effect statutory change. It's got to come from within the profession. So, what's it's going to require is that we have a group of advanced practice nurses who take this on as a serious responsibility and speak with all of the different communities of nursing that ultimately have an interest in making sure that this [Consensus Model] works.

Subtheme 3: Deficient consensus model understanding (Subsystems: Education and Communication). Another barrier identified to Consensus Model implementation in New Jersey is poor understanding of the core Model components in the APN community. A participant discussed:

> Everyplace I go, I've always mentioned the Consensus Model, and it astounds me to see the APNs in the audiences really not being familiar with the concept. This is 2014, and if the [nursing] community would've been behind it in 2008, you think in 2014 we'd be sitting in the same position? I don't think so. So, somebody dropped the ball. I can only do what I can do in terms of heightening awareness,

> but somebody within the community has to own this as a nursing issue, and has to make it an issue and pursue it.

Similarly, a second participant commented:

> There is never enough education, in general. They've [APN leaders] attempted to make all nurses aware of this [Consensus Model] and localize our network to get every senator and assemblyman. …There are not a lot [of APNs] who are very conversant in it, or the pieces yet, and the pieces are very simple, really.

Subtheme 4: Inadequate relationships with change agents (Legislators) (Subsystem: Political Forces). Research participants in New Jersey were not hopeful that remaining legislative and regulatory language that restricts APRN scope of practice would be eliminated by 2015. Concerns surrounding inadequate relationships with policymakers were reported. One participant commented:

> I'm asked to speak at nursing symposiums, and I always speak about this [nurses interacting with their legislators]. There's always enthusiasm when I'm there, but…if you come up with a way that we can get the nurses engaged, then God bless you. Because, that's what we really need to do. Again, when you think about it, there's 25,000 physicians in the State of New Jersey. There's 110,000 RNs. That's four times more, more than four times the number. You know, you can't compete financially, but you can compete with numbers. …I think it [Consensus Model] will happen because New Jersey will end up being a follower, not a leader. I wish they'd be a leader…because we're a leader in other things.

A second participant offered:

> I'm hoping it's [APNs contacting their legislators] happening regularly. My sense is that it probably isn't because, if this [Consensus Model] was initiated in 2008, and we're in 2014, and we still haven't seen it go anywhere…let's say, the legislation has been proposed, but there's not been any [legislative] activity…that tells me somebody's not pressuring someone to have it reviewed [by legislators]."

Theme 2: Implementation/Model Attractors and Adaptable Elements

Consensus Model attractors identified in the New Jersey case study include Model stakeholders groups, like APNs, the AARP, and retail pharmacy leaders. Various adaptable elements constitute promising implementation strategies.

Subtheme 1: Model facilitators (Subsystems: Professional associations). Despite the numerous barriers to APRN Consensus Model implementation in New Jersey, several stakeholder attractor groups exist. These stakeholder groups are supportive of Model implementation. Research participants reported overwhelming support of the Model by most APRNs and nursing groups. One participant discussed a nurse legislator who was a significant attractor:

> For us [CRNAs] to actually unite with the other advanced practice nurses in the state, and actually have an assemblywoman who is a nurse sponsor our bill…and get support from both sides of the aisle…in the State of New Jersey…for us that is a major accomplishment.

As for non-nurse Model support, several participants mentioned the AARP, along with major retail pharmacies, as strong Consensus Model allies. One participant commented:

> The AARP is a huge voice for seniors in this state. …If the AARP or some other very influential group were able to financially counter the influences of the Medical Society, I think that would be amazing. …I've talked to the AARP, and they are strongly in support of the bill to eliminate the joint protocol. …If you're going to look for an organized group who will be your advocate, I think it's going to be AARP. Walgreens and CVS, they strongly support this legislation because they see the value of the advanced practice nurse in delivering the three parts of care: quality care, access to care, and cost-efficient care.

Another participant added:

> We [APNs] have been doing a lot of work up at the Capitol, talking to legislators, and getting a lot more supports outside of us [APNs], like the AARP. …We're [APNs] working on the hospital associations and different insurers, so we're trying to do all of those things that will set us up for success.

Subtheme 2: Preferred strategies (Subsystems: Professional associations, Communication, and Education). Various Model implementation strategies were discussed by all of the participants. The most "preferred strategies" by participants were face-to-face meetings (APRN leaders and constituents with legislators), grassroots actions by individual APRN constituents, and presentation of evidence, including how

the Consensus Model will benefit patients, and studies pertaining to the quality and cost-effectiveness of APRN healthcare services.

While participants discussed different "Model facilitators," most implementation strategies revolved around APRN leadership activities. While participants reported that support from the Board of Nursing was critical, it alone was not effectual as an implementation strategy. Action from individual APRNs or leadership groups, like state nursing associations, was found to be crucial, especially "active" strategies, like face-to-face meetings with legislators. The untapped potential of the nursing community at large was discussed by one participant:

> You [a legislator] have to be reelected. If the nurses…there's 110,000 RNs in the State of New Jersey, but if people show up…when people start showing up and you're afraid you're not going to get reelected, then people [legislators] start to listen.

One participant discussed lobbyist face-to-face meetings with legislators: "We have registered lobbyists [New Jersey State Nurses Association]. We have lobbyists in Trenton who are very conversant in this [Consensus Model]. Politics is driven by your constituency."

Grassroots activities, including APRN leaders encouraging individual APRN clinicians to meet with legislators face-to-face, were regularly identified as instrumental Model strategies. However, the importance of having the APRN be a constituent of the legislator was stressed. The effectiveness of face-to-face interaction with legislators

diminished when the APRN was not a constituent or when opponent groups donated significant amounts of money to legislator campaign funds.

> Those six people [legislators] who voted "no" against the death certificate bill all get money from the Medical Society. …If the numbers [of nurse constituents] were large enough, if constituents showed up in legislator offices, I think they might hear that.

The effectiveness and variety of different APRN grassroots efforts was described by one participant:

> Constituents [individual APNs] contacting their legislators…it's dramatically increased due to some software that one of our [APN association] board members researched…we paid for it, but shared it with other grassroots organizations. …I don't have specific numbers, but I know it [increased APN constituent activity] was pretty overwhelming, as far as the death certificate bill that went out…getting it through both the House and the Senate.

The presentation of evidence, including facts pertaining to how Consensus Model implementation would benefits patients, was frequently recommended by participants. Participants reported that both written communications and verbal messaging must be clear and concise, with a primary focus on the benefits for New Jersey citizens. Individual patient stories were deemed to be especially effective when presented to policymakers. One participant described the potentially powerful impact an APRN practicing in hospice care could have with legislators:

> Now think about this [patient story]. You [an APN] have a hospice patient. Your patient dies in the home, and the person who's been taking of that patient is the APN. The nurse practitioner, in New Jersey, is not allowed to sign the death certificate. Even if that nurse is an advanced practice nurse. A physician, who the APN may not know at all, can walk into the home and sign it [death certificate].

Table 5

New Jersey Case Study APRN Consensus Model Implementation Major Themes and Subthemes

Theme 1 **Roadblocks to Implementation/Consensus**	**Theme 2** **Implementation/Model Attractors and Adaptable Elements**
Subtheme 1: Model Opposition	Subtheme 1: Model Facilitators
Subtheme 2: APRN Apathy or Unconcern	Subtheme 2: Preferred Strategies
Subtheme 3: Deficient Consensus Model Understanding	
Subtheme 4: Inadequate Relationships with Change Agents (Legislators)	

Pennsylvania Case Study

Four Pennsylvania participants were interviewed, including one individual representing nursing regulation, one APRN clinician, one APRN educator, and a lobbyist conversant with APRN practice and healthcare legislation. The representative from nursing regulation, also a doctorally-prepared clinician, has been active in the nursing regulation role for two years. The APRN clinician, possessing a master's degree, currently serves in multiple leadership positions and has been a graduate nursing educator

for over 10 years. The APRN educator, doctorally-prepared, has been a graduate nursing program educator for over 15 years and a clinician for over 25 years. The lobbyist participant possesses a master's degree and has over four years of experience addressing and examining nursing legislation.

Two major themes were identified. Under the first theme, five subthemes were uncovered, including (a) Model opposition, (b) preexisting lack of all-inclusive APRN legislation, (c) APRN apathy or unconcern, (d) deficient Consensus Model understanding, and (e) inadequate relationships with change agents. Under the second theme, two subthemes emerged, including (a) Model facilitators and (b) preferred strategies.

Theme 1: Roadblocks to Implementation/Consensus

Subtheme 1: Model opposition (Subsystem: Professional associations). Currently in Pennsylvania, only CNP and CNS roles are recognized. However, only CNP, referred officially as certified registered nurse practitioner (CRNP), is currently considered an advanced practice role. A CRNP in Pennsylvania is required to hold an RN license from the Board of Nursing with certification as an advanced practice nurse. A CNS may hold two licenses: one as an RN and one as a CNS. Certified nurse-midwives are required to hold RN licenses from the Board of Nursing, but they are not recognized as APNs or APRNs. The Board of Medicine licenses CNMs for midwifery. Certified registered nurse anesthetists are required to hold RN licenses, but they also are not recognized as APNs or APRNs. Unlike CNMs who are licensed for midwifery by the

Board of Medicine, CRNAs do not possess additional licenses outside of their RN licenses (The Hospital & Healthsystem Association of Pennsylvania, 2013).

Pennsylvania requires CRNPs to have a collaborative agreement. Collaboration is defined as "a process in which a CRNP works with one or more physicians to deliver health care services within the scope of practice of the CRNP's expertise" (Pennsylvania Administrative Code, 2010, para. 6). The definition of collaboration expounds to include additional process details, including physician immediate availability via "radio, telephone, or telecommunication," a "predetermined plan for emergency services," and regularly scheduled times for the CRNP and physician to review charts and related protocols (Pennsylvania Administrative Code, 2010, para. 6).

All Pennsylvania participants commented on physician opposition to APRN independent practice or full scope of practice. One participant commented:

> I understand that anesthesiologists are very worried that they will lose their economic prowess if CRNAs become independent. …I don't think they're [anesthesiologists] opposing the Consensus Model. I think they're opposing what they see as one aspect of the Model that will influence their financial wherewithal. I don't think they ever even mention the Consensus Model by name. In Pennsylvania, I haven't seen anybody, other than the Pennsylvania Medical Society as a spokesperson for the American Medical Society, say anything. But the American Academy of Pediatrics and the American Family Group have come out against independent practice and then they've weakened somewhat in the

more recent years when you look at all the journal articles reporting safe APRN care.

Another participant stated:

> The anesthesiologists always have had an extremely large stronghold in Pennsylvania. They have a lot of money they can spend every year, between $120,000 and $187,000 for lobbying purposes. And, every time our nurse anesthetists are attached to a piece of legislation, they vehemently oppose it, no matter what it is. So, we find that other advanced nurse practice practitioners in this state are able to advance some things by leaving the CRNAs off the proposed bill. And I'm not necessarily sure about other states, but if it's happening here, I can promise you that it's probably happening in other places, because there's national anesthesiologist society money being funneled into our state and that there's national money being funneled into other states as well. And that's just considering the anesthesiologists.

A third participant commented:

> Pennsylvania has always been a conservative state, from the State Board of Medicine, and has always been physician-dominated. …Pennsylvania is one of the biggest CRNA states…but, we're opposed by equally robust anesthesiologists. ...I think both anesthesiologists and other physicians now are listening to the American Medical Association, and they are still for Scope of Practice Partnership, which is asking for opposition to all APRN initiatives…to expand scopes of practice, or even to practice to the full extent of their education,

> training, and licensure. …Pennsylvania is a target state, and the AMA has pledged $10 million into Pennsylvania…for upcoming campaigns…to stop any such efforts.

This same participant also commented on the 2015 implementation deadline:

> It's never going to happen. It is not happening in Pennsylvania by 2015. …We will continue to work on that, but, one of the issues in the Consensus Model is that idea of independent practice…that's really a hot button phrase. That's where we get a huge reaction.

When asked why Consensus Model legislation has not passed in Pennsylvania, one participant commented:

> One, they [physicians] have the advantage of being the doctor…two, the anesthesiologists are very vocal in their communities and to their local legislators. And, three, politics…they [physicians] have a lot of money in their PACs [political action committees], which they [physicians] can then donate to the appropriate legislators.

Furthermore, APRN opposition to Model implementation was discussed by participants. One participant said:

> I could see nurse practitioners opposing it [Model], and here's why. Many of the nurse practitioners have not had all the elements that would be within this LACE educational model. That's a gigantic problem for them. Because, many nurse practitioners are currently working, for example, as acute care nurse practitioners, and they were educated as family nurse practitioners. …Their [CNPs] educational

> programs were never homogenous from the standpoint of the core courses that they needed. They were very specialized…and now what's being asked in this LACE model is…a generic core set of courses. And, I think that's an issue, and we are seeing opposition to that.

In a follow-up discussion regarding potential opposition from some CNPs in Pennsylvania regarding implementation of the Model, one participant expounded: "I think fear is a gigantic motivator, and I also think people get done with their educational programs, and then a lot of people just don't want to do that [return to school] anymore."

In addition to physician and APRN opposition, legislator opposition to pass Consensus Model legislation was also discussed. One participant offered:

> My concerns [about passing Consensus Model legislation] come from the legislative perspective because…in dealing with the legislature, you have a lot of folks who are very hesitant to expand any sort of scope of practice, prescriptive authority, or anything like that. …There's concerns that a nurse is not a doctor, and, I think that is a big fear among many legislators here in Pennsylvania, that, a nurse shouldn't be doing the same things as a doctor, and that's where they get concerned about the expanded scope. …The baseline is simply just for [lobbyists] to explain who or what a nurse anesthetist is…they're [CRNAs], not just folks who check you in and take your weight when you go to your regular doctor's appointment…I also think it's certainly an innate thought process, a lot of legislators have that mindset…the nurse versus the doctor…they [those legislators] are older.

Subtheme 2: Preexisting lack of all-inclusive APRN legislation (Subsystems: Professional associations, Collaboration, and Communication). Some participants voiced concerns about preexisting legislative disjointing or division of APRN types. Some states have not approached implementation of Consensus Model legislative language by concisely addressing all four types of APRNs in one bill simultaneously. Participants echoed concerns that there was an "every man for himself" mentality, with each APRN group focusing on their "type" individually. In Pennsylvania, CRNAs, CNMs, and CNSs are not recognized as advanced practice roles. Due to individual APRN-type exclusions in current nursing statute or regulations, participants expressed doubts that full Model implementation would be adopted by 2015. One participant commented:

> It's going to be very difficult to get it…Consensus Model, the national model, implemented in our particular state. It's going to be a very tough fight. What I mean by a "tough fight" is that, unfortunately, it [Consensus Model implementation] is up to the individual states. The problem is that we [APRNs] aren't all unified as far our as [nursing] practice standards go. And what's happening is that we [CRNAs] are getting fractionated in the state, as the Consensus Model is moving forward with some positive things for the nurse practitioners. The nurse practitioners were able to advance some of their particular issues by leaving the nurse anesthetists off [a particular bill or bills]. Some groups [of APRNs] are fighting an easier fight than others…it's easier to leave the nurse anesthetists off [a bill] because…the anesthesiologists…every time nurse

anesthetists are attached to something, they [anesthesiologists] vehemently oppose it, no matter what it is.

An individual expressed the perceived lack of unity from a historical perspective:

I think that it is pretty clear that we [nursing] haven't been able to reconcile the various advanced practice nursing groups within the state. …For example, back in 1996…there was a bill that would have given prescriptive authority and title recognition to nurse anesthetists, nurse practitioners, and to nurse-midwives. And, through some political maneuvering at the last minute, the nurse practitioners gained prescriptive authority. The Chairman of the House Professional Licensure Committee removed our [CRNA] name from the bill, and they negotiated a settlement with the nurse practitioners.

When discussing active APRN bills in Pennsylvania, another participant added:

So, each of them [APRN types] have gone forward…the CNSs have a bill in committee. The CRNAs have a bill in committee, and the NPs have a bill…the nurse-midwives did not want to come under the Board of Nursing. …It was ultimately the recommendation of the legislature that it would be more successful going forward with each APRN type having a bill of its own. …I think that the staff… the House of Representatives felt like some of the bills were less controversial than others, and I think the CNS and NP bills are less controversial than the CRNA bill, and the nurse-midwives don't currently have a bill.

Subtheme 3: APRN apathy or unconcern (Subsystems: Beliefs and Relationships). One participant described the complexities of the different healthcare-related hierarchical levels in Pennsylvania. These intricacies related to one participant's explanation of both APRN complacency with current practice and apathy towards changing current nursing legislative language.

> Pennsylvania is a bit complicated because we [nursing] are recognized in regulation by the State Board of Nursing. However, within the Department of Health regs, for hospitals, there is a section that speaks to CRNAs…which state that we need to be supervised by a physician. So, even if we [board of nursing] have gotten that [CRNA independent practice], one of our problems is that we are regulated by the Department of Health as well. …The Board of Nursing exists within and under the umbrella of the overall Department of Health, and therefore the final authority…the controlling reg…is going to be the Department of Health reg. …CRNAs are able to practice relatively independently [now] if they're not working in hospitals. …If they are working in hospitals, we're [CRNAs] subject to whatever the hospital guidelines are…obviously, there's a physician that must be involved, but it doesn't have to be an anesthesiologist. …There's a paradox…[CRNA] lives are fine. They have jobs. They're practicing pretty well. They get to do a lot of things, and it's hard to describe [to CRNAs] why you need to do something [legislatively].

Another participant further elaborated:

> How do we generate that sense of urgency, or that sense that it [Consensus Model] needs to happen, if in fact, it doesn't seem like anything's wrong to them

> [APRNs] now? …To complicate it further, the nurse-midwives in Pennsylvania are dually regulated, by the Board of Nursing and by the Board of Medicine. …I think nurse-midwives…aren't really unhappy with what they do and how they practice in many cases, and it's kind of like the nurse anesthetists. If it doesn't seem broken, why do you want me [individual APRN] to go out and create a big disturbance and try to fix it? …I don't think they [CNMs] work against us. I just think they're not that interested.

Subtheme 4: Deficient consensus model understanding (Subsystems: Education and Communication). When the topic of Consensus Model education was discussed by participants, both an individual and system-wide lack of understanding surfaced. When discussing her perception of the Model, one participant commented:

> I think it's [the Model's] long overdue. I think sadly, because it was so slow in coming, that there's a very large job with regard to the reeducation of the nation, because they [APRNs] were used to the old way of being able to expand your scope of practice with either on-the-job or continuing education. Whereas now, the Consensus Model says you can only expand your scope with formal graduate education.

Another participant elaborated:

> There is the failure of clear messaging. If it hasn't been clearly conveyed as to exactly what's going to happen [pertaining to the Model]. …If you look at Pennsylvania…there's so many anesthesia schools. There's so many nurse practitioner programs. And, if each one has a different footprint, and they don't

> have the 3 P courses [advanced pathophysiology, advanced pharmacology, advanced physical health assessment] or some other elements that we need, then you could see why a lot of nurse practitioners here in this state might be worried.

One study participant described her attendance at nursing forums regarding Pennsylvania Senate Bill 1063, a bill that would allow CNPs to practice as licensed independent practitioners within the scope of practice of their particular specialty and population focus. "I've been to two of those four forums [regarding Senate Bill 1063], and there's total ignorance in the audience. And some of its burying your head in the sand, and some of it is confusion."

Subtheme 5: Inadequate relationships with change agents (Legislators) (Subsystem: Political forces). One participant representing lobbying discussed the challenges of establishing relationships with legislators in Pennsylvania, especially when there are 205 members in the House, plus an additional 50 members in the Senate.

> You can't spend a ton of time to fully educate every single person in the legislature. So, you target the chairs, of the relevant committees, and the members who sit on those committees as well. And you try to work with them…get the information to them and hope that the others kind of fall in line behind them. They [other legislators] really defer to committee members and committee chair people.

Theme 2: Implementation/Model Attractors and Adaptable Elements

Consensus Model attractors identified in the Pennsylvania case study include Model stakeholders groups, like APRN leaders and physicians. Various adaptable elements constitute Model implementation strategies.

Subtheme 1: Model facilitators (Subsystem: Professional associations). In addition to the numerous barriers to APRN Consensus Model implementation in the Mid-Atlantic states, several stakeholder attractor groups exist. These stakeholder groups are supportive Model implementation. Research participants reported overwhelming support of the Model by most APRNs and nursing groups. One participant offered these comments regarding APRN support:

> We [CRNA leadership] meet with an APRN group that consists of a lobbyist and the head leaders of the different APRN groups about once a month, and we often talk about the Consensus Model. But each of the [APRN] groups is at different places [legislatively], and it's hard to really all get on the same page. We've tried to do things as a solid group before, and usually we've seen more success if we all try to do our own thing…you know, with different bills rather than trying all to jump on one initiative…that usually is not as successful. But we certainly are all in touch with each other, and we all support each other when necessary…if we need to make extra calls or if we need to sign on to a support letter for an initiative for the CRNPs and vice versa…we do that. But, I wouldn't say we are all on one bill saying, for example, prescriptive authority for everybody, because we've seen poor success in the past with that method.

All Pennsylvania participants commented on the need to have non-nurse support for APRN Consensus Model implementation. Participants mentioned that ideally, overwhelming physician support would be most beneficial. Recognizing that having majority physician support of Model implementation was not probable, participants commented that some physicians would be supportive. However, participants shared their skepticism as to whether supportive physicians would actually testify in support of such a bill. One participant commented:

> There are always many physicians who work closely with various APRN groups, who are within their practices, where they'd like them to do more or have more autonomy. Whenever we have one of these kinds of issues [an APRN bill], there are always physicians who support our [APRN] perspective. We have plenty of physicians…surgeons, internal medicine people, anesthesiologists…who certainly support our position, and, they do it because they know the quality, or they do it because they've seen the outcomes of care, or they do it because it's part of their practice, and they can see the advantages to them from a business model. So yeah, we've had plenty of support. …The one [bill] was [against] supervision…we asked for testimony. We didn't get it. We had physicians write letters of support and so forth. But, I don't know physicians who have testified on our behalf. I can't speak to that.

Several participants discussed legislator support of Consensus Model implementation. However, due to concerns with opposition from other policymakers and

physician-opponents, a step-by-step, one item at a time approach was recommended, as captured by one participant:

> Our biggest supporters in the legislature will say, "you know what, you may be asking for too much in this bill. Why don't you just go for the low hanging fruit first?" And that's from people who stand behind us 100%, and by us I mean APRNs.

One participant discussed the AARP and other professional associations and groups, including the Federal Trade Commission (FTC). These groups often played a crucial role in the successes of other states implementing the Model. This participant added:

> I get all of the Federal Trade Commission communications…they do talk about independent licensure, which is what the Consensus Model says. And, AARP and all of my professional nurse practitioner organizations…the American Academy of Nurse Practitioners…and the American Nurses Association. I think I've gotten a communication from just about everybody.

Subtheme 2: Preferred strategies (Subsystems: Professional associations, Communication, and Education). Various Model implementation strategies were discussed by all of the participants. The most "preferred strategies" by participants were face-to-face meetings (APRN leaders with legislators), grassroots actions by individual APRN constituents, and presentation of evidence, including how the Consensus Model will benefit patients, and studies pertaining to the quality and cost-effectiveness of APRN healthcare services.

While participants discussed different "Model facilitators" (APRNs, physicians, the AARP), most implementation strategies revolved around APRN leadership activities. While participants reported that support from the Board of Nursing was critical, it alone was not effectual as an implementation strategy. Action from individual APRN leaders or leadership groups was found to be crucial, especially "active" strategies, like face-to-face meetings with other stakeholders, including other APRNs and legislators. One participant discussed APRN leaders and the importance of educating other APRNs first, prior to meeting with legislators:

> But, PANA [CRNA association], nurse practitioners, CNSs, nurse-midwives…we all need to have a clear, concise, and congruent message around this APRN issue. And, right now that doesn't exist, and the reason for that is, because we [all APRNs] haven't yet agreed on how we're going to approach it. The first step is to come up to an agreement with those groups, and the next step would be, okay, here's the simple, clear bullet points of what we're going to say to legislators every single time we go meet with them. And, from that point, you can move from your own constituents, through whatever mechanism, to then the legislators.

Grassroots activities, including APRN leaders encouraging individual APRN clinicians to meet with legislators face-to-face, were regularly identified as instrumental Model strategies. However, the importance of having the APRN be a constituent of the legislator was stressed. The effectiveness of face-to-face interaction with legislators diminished when the APRN was not a constituent, or the interaction took place at a

fundraiser or reception, rather than in the legislator state office, as captured by one participant:

> PANA [state CRNA association] actually within the last year hired a communications firm to try and increase the grassroots involvement and to come up with these nice little one-page responses to put on their website for advocacy…for individual CRNAs to bring to meetings with their own legislators and leave behind and say, "Hey, here's a brief one-page bulletin, easy to read, rundown of who we are, you know, what we want," that sort of thing. They [PANA] have stepped up in that initiative this past year.

One participant discussed non-APRN communication with legislators. He stated that legislators might feel that commentary or perspective from a "neutral" party would be perceived as more effective. "Legislators don't pay much attention to nurse anesthetists that come and talk about nurse anesthetist issues. But if a plumber comes and talks about a nurse anesthetist issue, they pay attention to that."

The presentation of evidence, including facts pertaining to how Consensus Model implementation would benefits patients, was frequently recommended by participants. Participants reported that both written communications and verbal messaging must be clear and concise, with a primary focus on the benefits for Pennsylvanians. Individual patient stories were deemed to be especially effective when presented to policymakers.

> With one nurse practitioner, when the physician left that town, she had a very hard time getting two collaborating physicians to sign on so that she could maintain her CRNP license, which is a requirement in the State of Pennsylvania.

And so, the Nurse Practitioners Coalition had to really work very hard to find people in [town name deleted to protect confidentiality] and other places, who even though they're hundreds of miles away from her, would be willing to be the collaborating physician. Whereas, when we go independent and have an independent license, she wouldn't need two collaborating physicians to be able to maintain her practice of about 3000 clients in [town name deleted to protect confidentiality]. So, I think it's those kinds of things [impactful patient stories].

Table 6

Pennsylvania Case Study APRN Consensus Model Implementation Major Themes and Subthemes

Theme 1 **Roadblocks to Implementation/Consensus**	**Theme 2** **Implementation/Model Attractors and Adaptable Elements**
Subtheme 1: Model Opposition	Subtheme 1: Model Facilitators
Subtheme 2: Preexisting Lack of All-Inclusive APRN Legislation	Subtheme 2: Preferred Strategies
Subtheme 3: APRN Apathy or Unconcern	
Subtheme 4: Deficient Consensus Model Understanding	
Subtheme 5: Inadequate Relationships with Change Agents (Legislators)	

Survey Results

The purpose of conducting the survey on stakeholder perceptions of both the use and effectiveness of various Model implementation strategies was to employ a different study method to either confirm or refute data uncovered from the primary data collection method of participant interviews. Triangulation of methods helped to establish credibility

of the study results. Triangulation of sources was exhibited by gathering data from different stakeholder types, including clinicians, educators, regulatory staff, and legislative staff. All interview participants in Delaware, Maryland, and Pennsylvania completed the electronic survey. In New Jersey, two of the four interview participants completed the electronic survey. An in-depth discussion comparing interview responses regarding implementation strategies with survey results in each state is included in Chapter 5 under "Case Conclusions and Cross-Case Analysis."

The mean scores for each Model implementation strategy by state and the overall means are included in Table 7. In the first block of survey questions, participants were asked to rate their perceptions of the frequency of use of each Model implementation strategy using a Likert scale. A score of 1 denoted "never used," a score of 2 denoted "seldom used," a score of 3 denoted "used an average amount," a score of 4 denoted "used frequently," and a score of 5 denoted "most frequently used." In the second block of survey questions, participants were asked to rate their perception of the "effectiveness" of the same implementation strategies using the same scale. For perceived effectiveness, a score of 1 denoted "never effective," a score of 2 denoted "seldom effective," a score of 3 denoted "average effectiveness," a score of 4 denoted "frequently effective," and a score of 5 denoted "most effective." The survey results from each state's participants are presented below.

Table 7

Survey of Individual State Means and Overall Means of Perceived Frequency of Use and Effectiveness of Selected Model Implementation Strategies

	Overall Mean	**Delaware Mean**	**Maryland Mean**	**New Jersey Mean**	**Pennsylvania Mean**
Perceived Frequency of Use					
Conventional Media	2.43	2.50	1.75	3.50	2.50
Electronic Media	3.43	3.75	3.25	4.50	2.75
Grassroots Lobbying	4.07	4.25	4.25	4.50	3.50
Presenting APRN Research	3.93	3.75	4.25	4.50	3.50
State Action Coalitions	3.57	3.75	3.50	4.50	3.00
Sending Communications	2.93	4.25	2.25	4.00	1.75
Constituents Contact Legislators	4.14	3.75	4.25	5.00	4.00
Engage with Legislators at Receptions	3.57	3.00	3.50	4.50	3.75
Financial Contributions to Campaigns	3.36	2.75	2.75	4.00	4.25
Draft Model Legislation Language	3.92	3.75	3.75	4.50	4.00
Perceived Effectiveness					
Conventional Media	2.93	3.50	1.75	4.00	3.00
Electronic Media	3.50	4.25	2.50	4.50	3.25
Grassroots Lobbying	4.36	4.50	4.75	4.00	4.00
Presenting APRN Research	3.64	4.25	3.50	4.00	3.00
State Action Coalitions	3.57	3.75	3.25	4.50	3.25
Sending Communications	3.29	3.75	3.00	4.00	2.75
Constituents Contact Legislators	3.93	3.50	4.25	4.50	3.75
Engage with Legislators at Receptions	3.71	3.25	3.75	4.50	3.75
Financial Contributions to Campaigns	3.43	3.50	3.00	4.00	3.50
Draft Model Legislation Language	3.86	3.75	4.00	4.00	3.75

Delaware Survey Results

All four interview participants completed the entire electronic survey. When assessing perceptions of frequency of use of different Model implementation strategies, sending communication, either paper or electronic, to state APRNs regarding the Model implementation process *(M* = 4.25) tied with grassroots lobbying efforts as the most perceived frequently used implementation strategy. There was a 5-way tie for the second place perceived frequency of use implementation strategy. Use of electronic media, presenting APRN research relating to quality, access, and/or cost-effectiveness to policy decision-makers, formation of state action coalitions, having constituents contact their legislators, and helping to draft Model legislation at the state level all ranked second (*M* = 3.75). On the survey, a score of 2 denoted "seldom used," and only two Model implementation strategies scored mean values less than 3. Making financial contributions to electoral campaigns or political action committees scored a mean value of 2.75. The use of conventional media as a Model implementation strategy, like radio, television, and billboard advertising, was least perceived to be used (*M* = 2.50).

There were similarities with Delaware participants' perceived effectiveness of the same Model implementation strategies. Grassroots lobbying efforts as a strategy was perceived to be the most effective (*M* = 4.50). The use of electronic media was tied with presenting APRN research relating to quality, access, and/or cost-effectiveness (*M* = 4.25). State action coalitions, sending communications to state APRNs, and helping to draft Model legislation each averaged 3.75 on the Likert scale. It is important to note that a score of 3 on the survey denoted "average effectiveness," and all Model implementation

strategies achieved a mean score of at least 3.25. Both the effectiveness of conventional media and constituents contacting their legislators averaged a mean of 3.50. Engaging with legislators at fundraisers or receptions achieved the lowest mean score (*M* = 3.25).

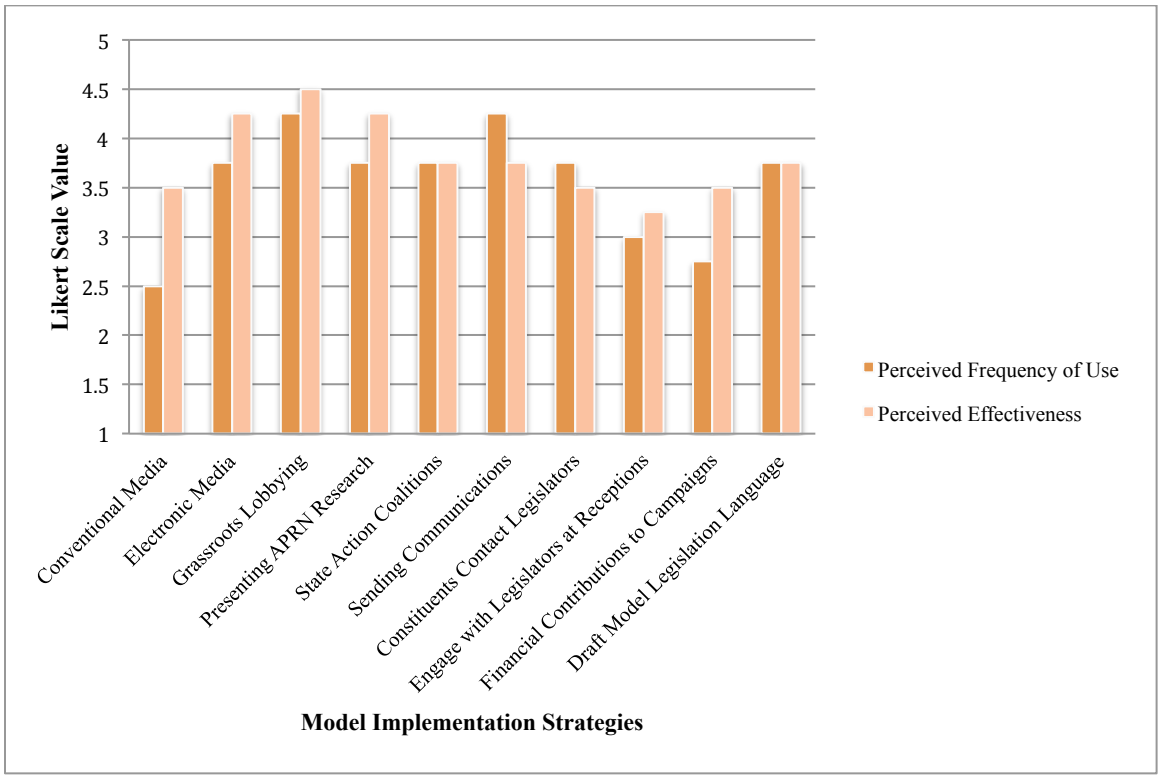


Figure 6. Delaware comparison of perceived use and effectiveness.

Maryland Survey Results

All four interview participants completed the entire electronic survey. When assessing perceptions of frequency of use of different Model implementation strategies, presenting APRN research relating to quality, access, and/or cost-effectiveness to policy decision-makers and having constituents contact their legislators (*M* = 4.25) tied with grassroots lobbying efforts as the most perceived frequently used implementation

strategy. The second most perceived "frequency of use" implementation strategy was helping to draft Model legislation at the state level (*M* = 3.75). Use of electronic media (*M* = 3.25), formation of state action coalitions (*M* = 3.50), and engaging with legislators at fundraisers or receptions (*M* = 3.50) all had mean scores greater than 3, denoting strategies that were at least "used an average amount." On the survey, a score of 2 denoted "seldom used," and three Model implementation strategies scored mean values less than 3. Making financial contributions to electoral campaigns or political actions committees (*M* = 2.75) and sending communications to state APRNs regarding the Model implementation process (*M* = 2.25) were strategies perceived as occurring less often. The use of conventional media as a Model implementation strategy, like radio, television, and billboard advertising, was least perceived to be used (*M* = 1.75).

There were similarities with Maryland participants' perceived effectiveness of the same Model implementation strategies. Grassroots lobbying efforts as a strategy was perceived to be the most effective (*M* = 4.75). Both constituents contacting their legislators (*M* = 4.25) and helping to draft Model legislation at the state level (*M* = 4.00) were perceived as being frequently effective. A score of 3 on the survey denoted "average effectiveness," and the Model implementation strategies of engaging with legislators at fundraisers or receptions (*M* = 3.75), presenting APRN research relating to quality, access, and/or cost-effectiveness to policy decision-makers (*M* = 3.50), formation of state action coalitions (*M* = 3.25), making financial contributions to electoral campaigns or political action committees (*M* = 3.0), and sending communications to state APRNs regarding the Model implementation process (*M* = 3.0) each achieved a mean

score of at least 3. Least effective strategies, as perceived by the Maryland participants, were the use of electronic media (*M* = 2.50) and conventional media (*M* = 1.75).

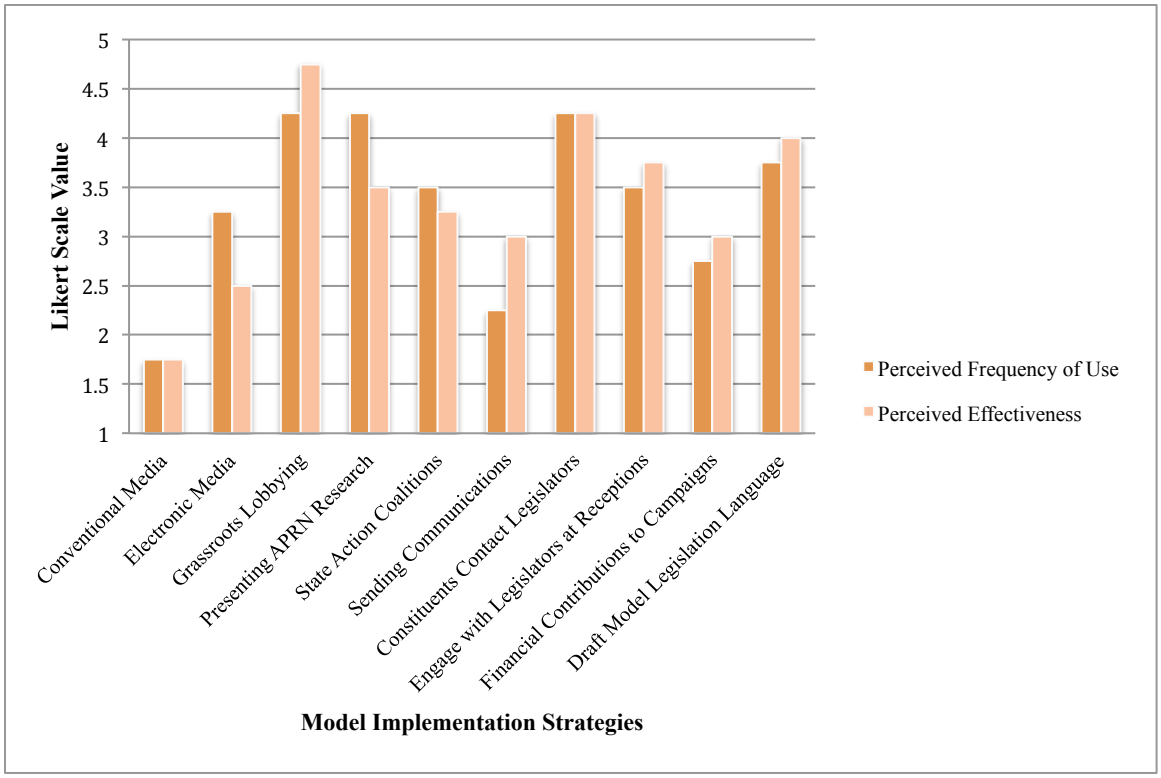


Figure 7. Maryland comparison of perceived use and effectiveness.

New Jersey Survey Results

Two of the four participants completed the entire electronic survey. When assessing perceptions of frequency of use of different Model implementation strategies, constituents contacting their legislators was perceived as the most frequently used implementation strategy (*M* = 5.00). Presenting APRN research relating to quality, access, and/or cost-effectiveness to policy decision-makers, grassroots lobbying efforts, use of electronic media, formation of state action coalitions, engaging with legislators at

fundraisers or receptions, and helping to draft Model legislation at the state level all achieved mean perceived frequency of use scores of 4.50. All Model implementation strategies achieved a mean score of at least 3.50. Therefore, New Jersey survey participants perceived that all mentioned Model implementation strategies were being used at least an average amount. The use of conventional media as an implementation strategy was ranked last ($M = 3.50$).

For perceived effectiveness of Model implementation strategies, all strategies achieved mean scores of either 4.00 or 4.50. The most effective strategies ($M = 4.50$) included use of electronic media, formation of state action coalitions, constituents contacting their legislators, and engaging with legislators at fundraisers and/or receptions. It is important to note that two of the four interview participants successfully completed the electronic survey, therefore, survey data from only two New Jersey participants were included in both the perceived frequency of use and perceived effectiveness values.

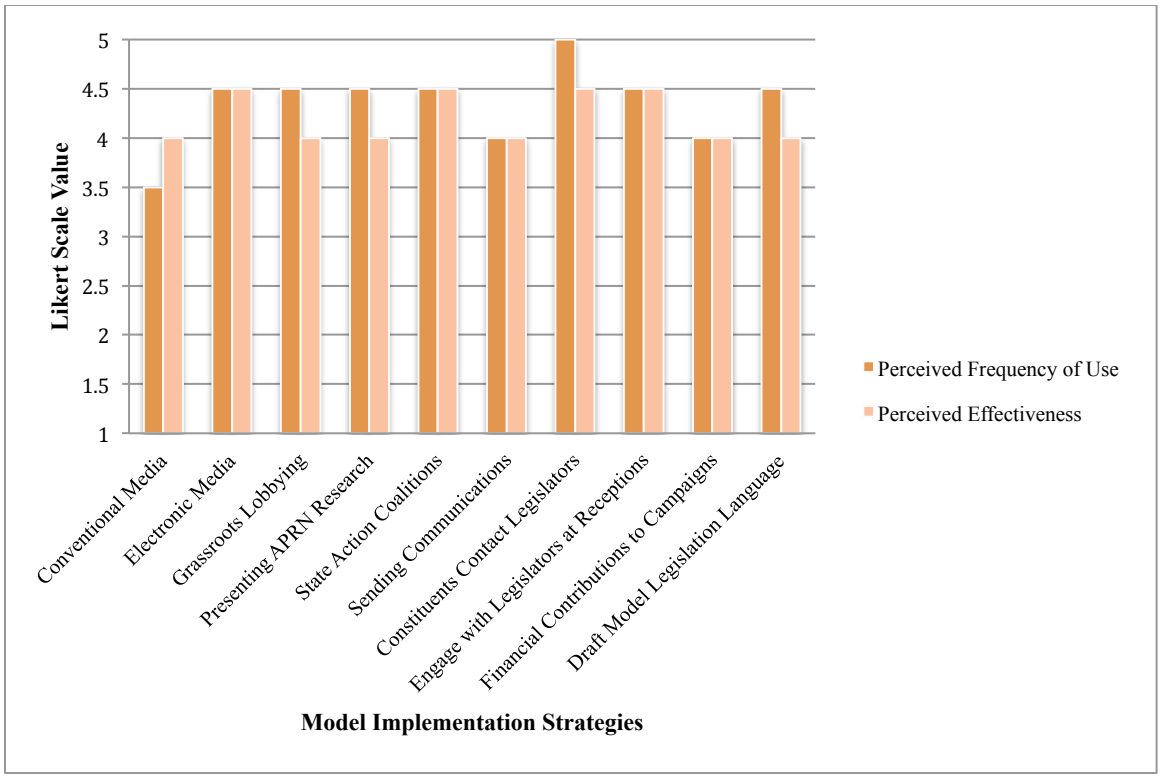


Figure 8. New Jersey comparison of perceived use and effectiveness.

Pennsylvania Survey Results

All four interview participants completed the entire electronic survey. When assessing perceptions of frequency of use of different Model implementation strategies, making financial contributions to campaigns ($M = 4.25$) was reported as occurring most frequently. Constituents contacting their legislations ($M = 4.00$) and helping to draft Model legislation at the state level ($M = 4.00$) tied for the second place strategy. Engaging with legislators at receptions or fundraisers ($M = 3.75$), grassroots lobbying efforts ($M = 3.50$), presenting APRN research relating to quality, access, and/or cost-effectiveness to policy decision-makers ($M = 3.50$), and formation of state action

coalitions (*M* = 3.00) each were perceived to be used at least an average amount. Only the use of conventional (*M* = 2.50) and electronic media (*M* = 2.75) scored below 3.00.

When assessing "perceived effectiveness" of different Model implementation strategies, grassroots lobbying efforts (*M* = 4.00) was the most effective strategy reported. Constituents contacting their legislators tied with engaging legislators at receptions or fundraisers and helping to draft Model legislation at the state level (*M* = 3.75). Effectiveness of conventional media (*M* = 3.00), electronic media (*M* = 3.25), and presenting APRN research relating to quality, access, and cost-effectiveness (*M* = 3.25) all achieved effectiveness scores greater than 3.00. Sending communications to state APRNs regarding the Model implementation process (*M* = 2.75) was perceived as the least effective strategy by Pennsylvania participants.

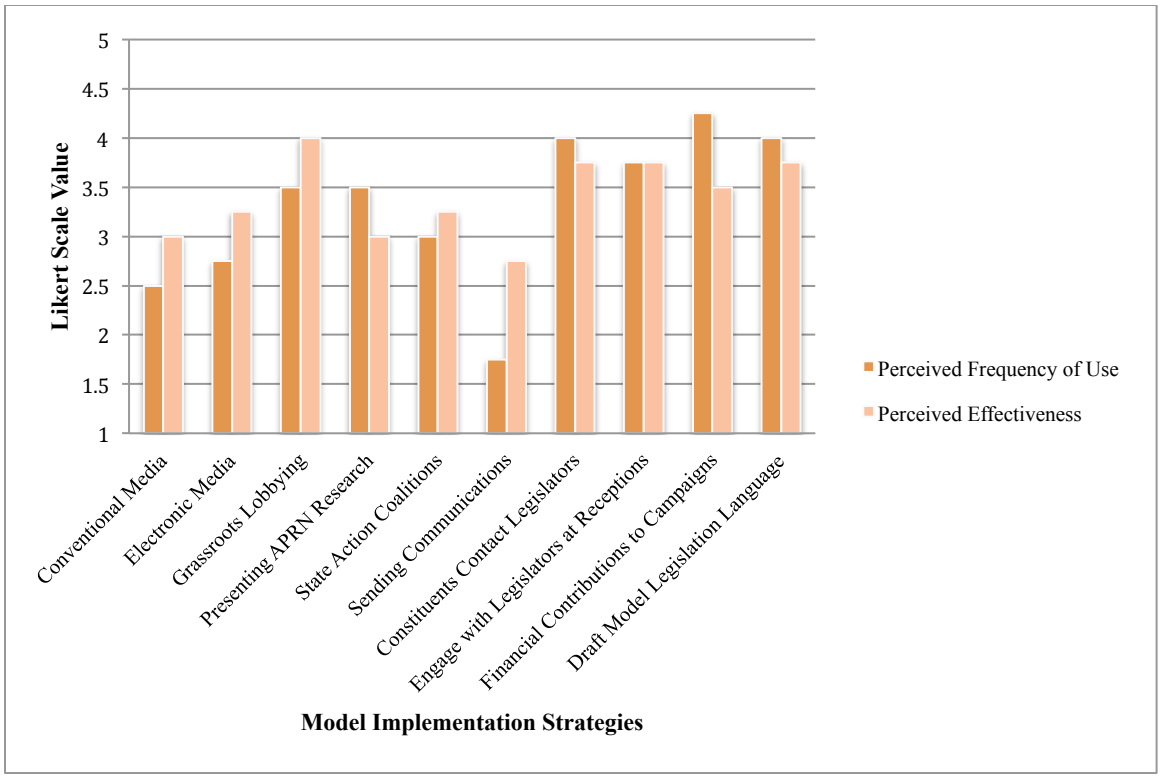


Figure 9. Pennsylvania comparison of perceived use and effectiveness.

Summary of Results

Several similarities exist among the four selected Mid-Altantic states, including sharing concerns regarding Consensus Model opposition, the need for additional Model education of all stakeholders, and the need for stronger relationship with policymakers or legislators. Stakeholders from each state discussed physician opposition and restrictive regulatory practice requirements, including collaborative agreements, attestations, and/or joint protocols. When discussing physician opposition, concepts like “fear,” “control,” “power,” and “money” were frequently brought up by stakeholders in all states. To a lesser extent, Model opposition from individual APRNs surfaced during interviews in Delaware, New Jersey, and Pennsylvania. Reasons that some APRNs may be opposed to

Model implementation included perceived increased liability if practicing independently; comfort with current clinical practice arrangements; concerns regarding increased workload, including hospital rounds and "on-call" responsibilities; and concerns that additional education would be required to continue practicing in current APRN roles. Apathy by APRNs, not to be confused with opposition, surfaced during interviews in Maryland, New Jersey, and Pennsylvania. Some APRNs are not opposed to the Model, but they may be unwilling to jeopardize their current practice arrangements by "opening up" the nurse practice acts in their states. Furthermore, participants voiced that "apathetic" APRNs may not become actively engaged in nursing legislation processes, like Model implementation, unless they perceive their practices being negatively impacted in some way. Pennsylvania was unique in that all participants discussed a pre-existing lack of all-inclusive APRN legislation, and that separate APRN bills only advance one APRN group at a time. A more in-depth discussion of case conclusions and cross-case analysis is provided in the next chapter.

Each state shared the two subthemes of "Model facilitators" and "preferred strategies" under the second theme of "Implementation Attractors and Adaptable Elements." A comparison of the shared and different types within the common subthemes under this second theme, along with study conclusions and implications, are also provided in the next chapter.

Chapter 5

DISCUSSION

The purpose of this exploratory, descriptive case study research was to identify and compare similarities and differences in stakeholder perceptions of the APRN Consensus Model implementation processes in the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania. The final chapter of this dissertation reviews the research problem and the major methods used in this study. Complexity science theory guided this study, including the organizing and development of data collection tools and the content analysis process. This chapter includes an expanded summary of the research findings and implications for future research and the nursing profession.

Limited research has been published that addresses the specific concerns or issues relating to the implementation process of the APRN Consensus Model. Furthermore, to the investigator's knowledge, there is no research that examines stakeholder perceptions of the Model's implementation. The two research questions that directed the study were: (1) How do APRN Consensus Model stakeholders perceive the implementation process of the Model? and (2) What issues are related to the 2015 APRN Consensus Model implementation deadline? The stakeholders who provided input in each of the four states were experts in the fields of APRN nursing, education, regulation, and/or healthcare policy. One APRN clinician, one APRN director or coordinator of an APRN education program and/or professor teaching in an APRN program, one representative from state nursing regulation, and either one legislator or lobbyist conversant with APRN practice

and legislative issues were purposively selected in each state, for a total of 16 participants. The primary source of data was from stakeholder interviews (n = 16), using a semi-structured format guided by complexity science theory. Fourteen participants completed a survey regarding their perceptions of both the effectiveness and use of various Model implementation strategies. Public documents and field notes were also used as secondary sources of data. Two pilot studies of the investigator-developed interview guide were performed. Prior to pilot testing, the interview guide was critiqued and approved by both a qualitative nursing research professor and the dissertation committee chair. A panel of experts, academicians with expertise in survey design, reviewed and critiqued the survey for its content validity and overall clarity prior to pilot testing with a group of APRN leaders. Furthermore, the content analysis processes and investigator-deduced findings were reviewed and approved by the dissertation committee chair.

This investigation was the first exploration of various stakeholders' perceptions of the Consensus Model implementation process in the Mid-Atlantic region. The use of replication logic in this multiple-case study design supports the external validity of this investigation. Similar results across cases were obtained; however, important, individual differences were also noted. Statistical generalizations are not appropriate or feasible due to the relatively small convenience sample size and the logical consistency of case study methodology. Therefore, the investigator's conclusions cannot be generalized to the population of APRNs or other Consensus Model stakeholders. However, analytic generalizations were formed based on the findings from each Mid-Atlantic state case as

well as the theoretical framework and study proposition that structured the design of this multiple-case study approach.

Case Conclusions and Cross-Case Analysis

According to Yin (2014), multiple-case study designs may be preferred to single case studies. Single-case studies have been criticized for their uniqueness or "artifactual" conditions, such as having exclusive access to a special or uncommon key informant (p. 64). Analytic conclusions that surface independently from four cases will be more powerful or compelling than those coming from a single case. In each case study, three common subthemes emerged under the first theme of "Roadblocks to Implementing the Model," including (1) Model opposition, (2) deficient Model understanding, and (3) inadequate relationships with change agents (see Table 8).

Table 8

Cross-Case Analysis of Selected Mid-Atlantic States with Study Themes

Theme 1: Subthemes	**Delaware**	**Maryland**	**New Jersey**	**Pennsylvania**
Model Opposition	X	X	X	X
Deficient Model Understanding	X	X	X	X
Inadequate Relationships – Change Agents	X	X	X	X
APRN Apathy		X	X	X
Preexisting Lack All-Inclusive APRN Legislation				X
Theme 2: Subthemes				
Model Facilitators	X	X	X	X
Preferred Strategies	X	X	X	X

Each case study revealed Model opposition, including primarily physician-opponents and also some APRN-opposition. Opposition to certified nurse practitioner (CNP) independent practice initiatives was uncovered in the retrospective, descriptive, qualitative research conducted by Rigolosi and Salmond (2014). Rigolosi and Salmond described study participants reporting both physician ("state medical societies") and APRN ("minority opposition from NPs") opposition to achieving independent nurse

practitioner practice at the state level (p. 652). Investigator-anticipated explanations for why APRNs would oppose the Model included perceived beliefs that physician collaboration agreements would somehow protect APRNs from patient lawsuits or resistance of APRNs to return to school for additional education relating to their population focus practice or competencies. For example, a CNP who was educated in an adult-gerontology program but providing care in an urgent care center that treats toddlers, children, and adults should not provide care to pediatric patients. Some participants reported that an APRN in the aforementioned scenario might resist returning to school to be properly educated in the "family/individual across lifespan" population focus, because the "adult-gerontology" population focus does not prepare APRNs to provide healthcare services to infants or young children. Similarly, a CNP educated with acute care competencies may resist returning back to school to focus on primary care competencies if that CNP is currently working in a primary care center. Currently, CNPs are educationally prepared with acute care and/or primary care competencies, and these competencies apply to only the adult-gerontology and pediatrics population foci (APRN Joint Dialogue Group Report, 2008). Certified nurse practitioners may provide care for any one of the six population foci, assuming their education and training prepares them for that focus or foci.

While both physician and APRN opposition to Consensus Model implementation was not surprising to the investigator, some of the reasons reported by interviewees for why APRNs would oppose implementation were unexpected. Investigator-unexpected responses to why APRNs would oppose the Model included increased workload

expectations, including making hospital patient rounds and taking mandatory call shifts that involve working nights, weekends, and holidays. Removing restrictions or barriers to full scope of practice may increase workloads or responsibilities for many APRNs, and some APRNs may not want to accept these additional duties.

Participants in each state revealed inadequate understanding of Model content by numerous stakeholders, including APRN clinicians, APRN educators, legislators, and physicians. Redmond et al. (2012) uncovered knowledge deficits among CNPs in Vermont after APRN Consensus Model language was adopted in 2011. The researchers conducted a cross-sectional study to assess Vermont CNPs' self-perceived knowledge of the 2011 administrative rules change. A total of 41 CNPs participated in this study's survey regarding the rules change that incorporated Model language, and participants only averaged a score of 62% correct. Although the study by Rigolosi and Salmond (2014) did not specifically reveal insufficient knowledge of Consensus Model content, they included various process strategies that were used by state leaders in moving CNP independent practice legislation forward. Some process strategies centered around educating different stakeholders on a routine basis, with consistent and clear messaging.

Several participants in this multiple-case study research revealed a lack of complete understanding the Model. Some non-APRN participants were very familiar with APRN legislative actions or bills that pertained to the Consensus Model, but they were not familiar with the "Consensus Model" label. Participants who lacked familiarity with the Consensus Model title competently discussed those important topics that fall under the Consensus Model "umbrella," including APRN independent practice and

independent prescriptive authority. When asked to describe perceptions of the Model, one non-APRN participant responded by stating, “You mean removing the joint protocol?” This non-APRN participant provided very rich data concerning the joint protocol or collaborative agreement component of Consensus Model implementation process. In a different state, an APRN educator admitted limited knowledge about the content of the Model. However, during the interview, it was apparent that this educator was very informed about certain Model implementation strategies and Model components. These strategies and components were not linked to the Consensus Model title, but to “independent practice” initiatives. “Independent practice” and “independent prescriptive authority” are components of the Model, however, other components exist pertaining to licensure, titling, certification, and education. The overwhelming majority of comments from participants who voiced a lack of understanding of Model content related to Model opposition, more specifically physician opposition to APRN independent practice and removing collaborative agreement requirements.

Finally, stakeholders in each of the four states expressed concerns over the lack of strong relationships with key change agents or policymakers that could spearhead positive change. Participants in each state noted that registered nurses, including APRNs, outnumber many other healthcare provider groups, including physicians. However, despite the large numbers of nurses, participants perceived very low nurse participation or engagement in healthcare policy and politics. Although no participant could offer a specific plan to stimulate nurse interest in healthcare policy topics, participants who discussed lack of nurse involvement in political processes agreed nurses could compete

with Model-opponents via the sheer number of nurses instead of through financial strategies, like political campaign contributions or donations to PACs that support the cause. The large number of policymakers, especially in larger states, like Pennsylvania, and regular turnover of policymakers made establishing meaningful relationships with change agents a challenge for Model supporters in each state.

In the 2012 pilot study that focused on Delaware Model stakeholders, educator participants voiced concerns regarding some APRN programs not being aligned to Consensus Model educational standards. The current dissertation research took place approximately two years after this pilot study, and many of those prior APRN educational program concerns have since been addressed by faculty members at those schools. Participants in 2012 voiced concerns that some APRN programs did not include some or all of the "3P" courses (advanced pathophysiology, advanced pharmacology, and advanced physical health assessment) required for prescriptive authority. Concerns surfaced relating to schools graduating APRNs who would not be eligible to sit for certain certification examinations due to "outdated" curricula. For example, students who completed an "Adult" nurse practitioner curriculum instead of an "Adult-Gerontology" curriculum may not be eligible to take a particular national certification examination due to the absence of the official "gerontology" component on both student transcripts and graduate program course syllabi and other institutional documents. At the time of this dissertation data collection in 2014, educator participants from each state emphatically stated that these types of educational concerns have either been or are currently being addressed.

The Delaware case study solely contained the three subthemes of Model opposition, deficient Consensus Model understanding, and inadequate relationships with changes agents under the first theme of "Roadblocks to Implementation" (see Table 8). Both the Maryland and New Jersey case studies contained the same four subthemes under this first theme. In addition to the common first three subthemes, both Maryland and New Jersey participants conveyed APRN apathy or unconcern regarding the Model's implementation. This lack of concern was an important finding because Consensus Model champions must realize that all APRNs are not motivated to participate or support changes to their current practice arrangements due to individual or different reasons.

Perceived unwillingness to support change to current APRN practice must not be confused with opposition to the Model. These "apathetic" APRNs may be supportive of full practice authority and the other core tenets of the Model, but their current practice may not be perceived as restrictive despite the laws and regulations that govern the practice in their state. Therefore, even though their current practice may not be personally considered restrictive, regardless of requirements for physician collaboration or supervision, some APRNs may not be willing to engage in the Model implementation process. Interviewees who discussed APRN apathy commented that those APRNs who are currently pleased with their practice arrangements would not be willing to jeopardize their current arrangements by "opening up the nurse practice act" or attempting to change existing rules and regulations.

In addition to a fourth subtheme of apathy, the Pennsylvania case study revealed a fifth subtheme of preexisting lack of all-inclusive APRN legislation. Participants

expressed concern that the disjointed nature of current and proposed APRN legislation served as a significant roadblock to advancing Model legislation. During the 2014 Pennsylvania Legislative Session, separate APRN bills associated with scope of practice or other Model components were active, including Senate Bill 959, "Recognition of Certified Registered Nurse Anesthetists," Senate Bill 1063, "Certified Registered Nurse Practitioners (CRNP) Removal of Barriers to Practice," and House Bill 1457, "Clinical Nurse Specialists (CNS) Removal of Barriers to Practice" (Pennsylvania State Nurses Association, 2015). A historical review exposed attempts to include all APRN groups in advanced practice nursing legislation, but bill modifications or amendments separated out different APRN types. Changes to the original "all-inclusive" bill ultimately fractionated APRN groups, leading to complex laws and regulations pertaining to each group. Instead of the synergy that may help to bolster a legislative change involving all four types of APRNs, separate bills addressing CRNA, CRNP, and CNS recognition or barriers to practice have been introduced. Although the different groups may support one another, the "individual type" approach was perceived to be less effective by the stakeholders interviewed.

As seen in Table 8 all four state case studies revealed the same two subthemes of "Model facilitators" and "preferred strategies" under the second theme of "Implementation Attractors and Adaptable Elements." Table 9 outlines a comparison of the various types of "Model facilitators" and "preferred strategies" mentioned by participants from each state.

Table 9

Comparison of Types Within Subthemes of Theme 2 "Model Implementation Attractors and Adaptable Elements"

Subtheme 1: Model Facilitators	**Delaware**	**Maryland**	**New Jersey**	**Pennsylvania**
Individual APRNs	X	X	X	X
Nursing Groups (advanced practice, state action coalitions, BONs)	X	X	X	X
AARP	X		X	X
Legislators		X	X	X
Physicians	X	X		X
Federal Trade Commission				X
Major Retail Pharmacies			X	
Subtheme 2: Preferred Strategies				
Grassroots Lobbying	X	X	X	X
Face-to-face Meetings with Physician Opponents	X			
Face-to-face Meetings with Legislators	X	X	X	X
Presenting APRN Research (Quality, Access, Cost-effectiveness)	X	X	X	X
Use of Professional Lobbyist	X	X	X	X
Hiring of Professional Communications Firm				X
Educating APRNs Regarding Model	X	X	X	X
Educating Public Regarding Model				X

In each state, individual APRNs and nursing groups, like state advanced practice committees, action coalitions, and boards of nursing, are consistent "Model facilitators" and supporters. The American Association of Retired Persons (AARP) was discussed by participants in Delaware, New Jersey, and Pennsylvania. Participants in Maryland, New Jersey, and Pennsylvania mentioned specific legislator supporters and champions of advanced practice nursing and the Model. Marginal support for the Model from physicians was discussed by participants in Delaware, Maryland, and Pennsylvania. One participant from Pennsylvania reflected on the role of the Federal Trade Commission in support APRN independent practice, and one participant from New Jersey discussed the changing landscape of APRN employment settings, including major retail pharmacies.

As for "preferred strategies," participants from each state overwhelmingly highlighted the usefulness and effectiveness of grassroots lobbying efforts by APRNs. Overlapping of some "preferred strategies" existed, with educating APRNs on the Model and face-to-face communications with legislators or policymakers frequently being categorized under grassroots efforts. Face-to-face meetings with legislators and the need to establish stronger relationships with legislators were mentioned by every participant in each state. Two participants in Delaware also mentioned face-to-face meetings with physician-opponents as an effective Model implementation strategy. These Delaware participants expressed that keeping Model opponents informed on Model implementation legislation language, including draft bills, would increase the likelihood of APRN Consensus Model language being adopted in the state. Direct lobbying (the use of professional lobbyists) was also mentioned as an important Model implementation

strategy by the majority of study participants. However, concerns over the expenses related to hiring professional lobbyists were expressed by some participants in Delaware.

Survey data corroborated interviewee comments pertaining to the use of different Model implementation strategies. (See Table 7) Overall, participants perceived that constituents contacting their legislators was occurring most frequently (*M* = 4.14), followed by grassroots lobbying (*M* = 4.07), presenting APRN research (*M* = 3.93), drafting proposed Model legislation (*M* = 3.92), and engaging with legislators and state action coalitions (*M* = 3.57 for both strategies). Implementation strategies perceived as occurring less often included use of electronic media (*M* = 3.43) and financial contributions to campaigns (*M* = 3.36). Least used implementation strategies included sending communications to stakeholders regarding Model implementation progress (*M* = 2.93) and use of conventional media (*M* = 2.43).

Perceived frequency of use scores mostly mirrored perceived effectiveness scores for many of the implementation strategies. Participants in each state reported perceived effectiveness of APRN grassroots efforts when attempting to implement legislative change. The Likert scale (1 denoting least effective, 5 denoting most effective) overall mean for grassroots lobbying was 4.36, the highest rating of all 10 different implementation strategies. Furthermore, the grassroots lobbying mean score for each state was above 4 and was the only implementation strategy to achieve this distinction. Other effective implementation strategies, as perceived by the participants, included constituent contact with legislators (*M* = 3.93), drafting proposed Model language (*M* = 3.86), engaging with legislators at fundraisers (*M* = 3.71), and presenting APRN quality

research (*M* = 3.64). Overall means for the perceived effectiveness of state action coalitions (*M* = 3.57) and use of electronic media (*M* = 3.50) fell into the middle as effective implementation strategies. Financial contributions to campaigns (*M* = 3.43), sending communications to stakeholders regarding Model implementation progress (*M* = 3.29), and use of conventional media (*M* = 2.93) were rated as the least effectiveness implementation strategies.

Both participant interviews and survey results revealed that certain Model implementation strategies are not as effective nor were used as often. Strategies, like use of conventional media (in all states) and sending communications to stakeholders (in Maryland and Pennsylvania), were reported as occurring less often. When considering the implementation strategy of conventional media, the lower perceived effectiveness scores may reflect the lower perceived frequency of use of the same strategy. On the other hand, a strategy, like sending communications to stakeholders, may have scored lower in perceived frequency of use but not because it was perceived as less effective.

When considering top scoring Model implementation strategies, both grassroots lobbying efforts and constituent contact with legislators were both viewed as relatively effective and the most utilized implementation strategies. Although some differences in implementation strategies rankings appeared in the different Mid-Atlantic states, no noteworthy differences were uncovered by both the participant interviews and survey data. Due to the small number of survey participants, statistical generalizations were not made. Furthermore, the purpose of using this survey was to gather additional data to

either confirm or refute participant responses. The investigator found no obvious contradictions in any one participant interview and survey set.

Case Study Generalizability

According to Yin (2014), case studies are generalizable but not to a larger population or universe. Instead, case studies are generalizable or transferable to theoretical propositions. Case studies strive for analytic generalizations or conclusions pertaining to the findings that extend to situations or settings outside of the original case study. The four cases in this multiple-case study design are too small in number to serve as a sufficiently large enough sample to represent any larger population. Equally important, as stated in Chapter 1, the four states studied are different from many other states in the country, including states that have fully adopted the APRN Consensus Model as of 2014. Some states that have adopted all Consensus Model elements, including Montana, North Dakota, Idaho, Utah, and New Mexico, include a noteworthy number of critical access hospitals (CAHs) (HRSA, 2014a). In addition to having a greater number of nonmetropolitan counties, states that have fully implemented the Model are more likely to contain CAHs that depend on APRNs, sometimes solely, for certain healthcare services. Of the four Mid-Atlantic states studied in this dissertation research, only Pennsylvania contains CAHs.

Therefore, an appropriate analytic generalization approach may be to generalize this multiple-case study's findings by suggesting that similar relationships may be both observed and discussed in other comparable groups. For example, optometrists, pharmacists, physical therapists, and psychologists, all non-physician healthcare

providers, like APRNs, may experience many of the same barriers and challenges with their attempts to change statutory and regulatory language to increase their scopes of practice. Other licensed non-MD/DO healthcare providers, who are attempting to change their scopes of practice to eliminate practice barriers, may encounter similar obstacles that APRNs do when attempting to remove restrictive practice policies. According to Isaacs and Jellinek (2012), of the 245 known scope of practice bills that had been either introduced or carried over in 2012, 31% pertained to licensure, 21% to nursing or advanced practice nursing, 13% to dentistry, 11% to physicians or physician assistants, 9% to prescriptive authority, 9% to physical therapy, and 6% to surgical authority or other non-MD/DO healthcare providers, including podiatrists, chiropractors, naturopaths, psychologists, pharmacists, nurse midwives, and paramedics or emergency medical technicians. Isaacs and Jellinek stated that in their discussions with both physicians and medical society executives, these stakeholders expressed concerns regarding their "ability to continue to hold the line in the coming years" as it pertains to non-physician scope of practice expansions throughout the United States (p. 4).

Limitations

This dissertation research explored a relatively new model in advanced practice registered nursing. Several factors related to the development and conducting of this multiple-case study influenced data collection, analysis, and interpretation. This exploratory and descriptive multiple-case study illustrated the complexities of implementing a complex nursing regulatory model, with many factors or CASs contributing to the phenomenon of interest (the implementation process of the Model).

Study limitations, including interview type, participant selection, survey design, and investigator bias warrant further exploration.

Information for this multiple-case study was obtained from multiple sources, including interviews, surveys, field notes, and document reviews. According to Yin (2014), multiple-case study designs often require more than one investigator due to the larger number of cases and other logistics, including travel to different geographical locations to interview participants. In turn, not all participants could be interviewed face-to-face, and as such, telephone interviews were substituted on occasion. It is possible that conducting some interviews over the telephone contributed to missing participant visual cues, like grimacing, smiling, head shaking, or other facial expressions, along with hand gestures and body orientation. Observing these forms of nonverbal visual cues during participant interviews may have led to a different line of questioning or additional questions.

Time and boundary elements for this dissertation research also provided challenges. Bounding the case, or identifying the time period, groups, individuals, and geographic location that fall within the case in each case study was critically important. The case boundaries for each case study were clearly identified, including the four participant types and the four Mid-Atlantic states of interest. The timeframe to conduct the case study research was structured around the Institutional Review Board approval process and the University doctoral program degree requirements. Setting a period of time to conduct the descriptive case study research, including time for conducting participant interviews and for studying the phenomenon of interest, is necessary for

bounding the case, and thus qualifying as a case. Therefore, the time period allotted to collect all of the data and to analyze it concurrently was limited. Ideally, conducting additional interviews with certified nurse midwives (CNMs) would have added further perspective, but CNMs typically represent the smallest number of APRNs in the four states. Each APRN type is unique, and each advanced practice role contains its own subspecialties or additional certification opportunities. The complexities contained in each APRN role ideally warrant at least one APRN participant in each of the four advanced practice roles. No CNMs were interviewed in this multiple-case study. The nurse-midwifery profession is distinctive, as evidenced by participant responses in both Pennsylvania and New Jersey. Certified nurse-midwives in the aforementioned states are in a unique situation in the Mid-Atlantic region due to either dual-board regulation or regulation exclusively by a non-nursing board. Acquiring information directly from CNM participants would have been preferred over receiving CNM information from non-CNM stakeholders, although these stakeholders possessed nurse-midwifery legislative knowledge. Only one APRN clinician was interviewed in each state due to case study bounding constraints, and information pertaining to other APRN types not represented by the interviewee was obtained second hand. In Delaware, the APRN clinician interviewed was a CNP. In Maryland, the APRN clinician interviewed was a CNS. In both New Jersey and Pennsylvania, the APRN clinicians were both CRNAs.

After establishing case boundaries, the study participant selection process posed minor challenges. The investigator personally was acquainted with several of the participants, and other potential participants were obtained through investigator research

and “snowballing.” Each participant’s educational credentials, years of experience in that role, and knowledge level of the Consensus Model were obtained prior to data collection. All participants signed the informed consent form indicating that they possessed knowledge of the APRN Consensus Model. However, one educator participant voiced concerns regarding her perceived lack of familiarity with the Model. After additional discussion, both the participant and investigator concluded that this participant possessed adequate knowledge of the core Consensus Model tenets, including APRN legislative activities at the state-level. Moreover, two lobbyist participants expressed similar doubts regarding their knowledge level of the Model. After conversations with both of these lobbyist participants, it was mutually concluded that they fit the participant selection criteria. Ultimately, the investigator concluded that all 16 interview participants were qualified to participate.

As briefly highlighted earlier, two lobbyist participants expressed concerns relating to their knowledge of the Consensus Model. Locating lobbyists and legislators who were both willing to participate in the study and who were sufficiently conversant with APRN legislative issues, practice, and the Model was challenging. Some potential lobbyist and legislator participants declined participation or were ruled out from participating due to insufficient knowledge of the dissertation topic. However, through the process of snowballing, additional participant names and contact information were obtained. Furthermore, many nursing associations do not employ a direct lobbyist or lobbying group, due in part to the cost of these services. Several nursing groups derive their financial reserves from membership dues, and several nursing groups, like Delaware

CNMs and CNSs, do not have active state chapters or associations. Therefore, a limited pool of potential lobbyist and legislator participants existed.

Another study limitation was the wording of some of the survey implementation strategies. For example, terms familiar to the investigator, like "grassroots lobbying," may have been confusing or not adequately defined for survey participants. According to Mosley (2010), legislative lobbying may be categorized as either direct or grassroots. When an organization or association uses staff members or hired lobbyists to contact legislators, direct lobbying occurs. Grassroots lobbying, according to Mosley, occurs when an organization or association asks its members or the general public to contact their legislators. However, according to the Center for Lobbying in the Public Interest (n.d.), contacting and urging organization or association members to contact their legislators is considered to be conducting direct lobbying, not grassroots lobbying. According to the Center for Lobbying in the Public Interest, grassroots lobbying occurs when the organization or association reaches beyond its membership to engage members of the general public to contact members of the legislature. Therefore, encouraging individual APRNs to meet with legislators to discuss Model implementation is not grassroots lobbying, when using the latter definition. Sources vary on what activities constitute direct and grassroots lobbying, and survey participants may have personally defined "grassroots lobbying" differently.

In the survey, "grassroots lobbying" as an implementation strategy included "email, letters, and face-to-face meetings with legislators" parenthetically. Grassroots activities may include actions, like encouraging APRN clinicians to write to their

legislators and meeting with legislators. However, grassroots activities may also include APRNs attending legislator fundraising events. Although no participants voiced concerns or confusion with the wording, a separate page or section of the survey tool with implementation strategy definitions may have provided additional clarification and structure. The survey tool also did not provide enough specificity with some of the implementation strategy categories. For example, the one category of "constituents contacting legislators" is more general than "presenting APRN research to legislators" and "engaging with legislators at fundraisers." One could easily assume that presenting research and communicating with legislators at fundraisers are both types of "contact" with legislators. The research presentation and attendance at fundraisers did not specify that a constituent was the one participating in those activities, but it could be a constituent carrying out those implementation strategies. Therefore, some overlap existed in the listed implementation strategies, and this limitation may have affected participant ratings.

A final consideration is investigator bias. To fully understand the perspectives and perceptions of the individual study participants, the investigator must take into account personal feelings, opinions, and beliefs. It is both logically consistent and expected for the nurse scientist to formulate study propositions and preconceived expectations as to what he or she expects to discover during the case study data collection and content analysis periods. The process of bracketing involves the investigator consciously placing preconceived ideas, assumptions, and hypotheses intentionally aside during the data collection process (Creswell, 2013). The practice of bracketing has its roots in phenomenological qualitative research; however, the practice is important in case study

research as well. The investigator conducted participant interviews with the primary goal of obtaining individual interviewee perceptions about the phenomenon of interest. Instead of leading a participant with a question that already contains a potential belief or thought, questions focused on generally asking for the participants' perceptions and thoughts. Follow-up queries often began with, "Please tell me more about your [comment]," in order to elicit additional data from the participants' voices, rather than from the investigator's interpretation.

Implications for Future Research

This exploration of stakeholder perceptions of the APRN Consensus Model implementation process produced areas for future research. Replication of findings was demonstrated through the multiple-case study approach. Each case, or Mid-Atlantic state of study, was selected in anticipation that it would predict similar results, or replication. Each individual state case study served as a whole study, in which convergent evidence emerged regarding facts for the case. Although the investigator anticipated and explored rival explanations, including APRN-opponents to Model implementation, future research should focus on different stakeholder types not included in this multiple-case study. Different stakeholder groups to include in future research are hospital administrators, health insurance payer plan leadership, different special interest groups, like the AARP or the U.S. Department of Veterans Affairs, and different physicians and physician association leadership. Participants in each state discussed physician-opponents at length. However, interviewing physicians themselves, especially physicians in state medical societies, will likely add new information on the topic.

Since the 2008 introduction of the APRN Consensus Model, states have moved forward at various paces to implement components of the Model. As of March 2015, Hawaii, New Mexico, Utah, Nevada, Idaho, Montana, North Dakota, Minnesota, Vermont, Connecticut, and Rhode Island have adopted all 28 points of the APRN Consensus Model. As previously mentioned, many of these states have large rural communities and CAHs. Some states are geographically large, but others are relatively small in size, like Hawaii, Vermont, Connecticut, and Rhode Island. Future Consensus Model studies should focus on other factors or variables in states where full Model implementation was achieved, like geographic location, state size, number of APRNs and physicians in state, number of non-critical access hospitals, and economic data relating to the general population and healthcare providers. Furthermore, policymaker and political climate data from these states could also present as other important variables. Data from this dissertation suggest that constituent contact with legislators is an important and effective implementation strategy. In some large states, constituents may be hundreds of miles away from their elected officials, while constituents in very small states may live close to the state capitals or to their elected officials. It stands to reason that knowledgeable constituents may be more likely to meet their elected officials in legislator offices or attend other events like legislator fundraisers when they reside relatively close to those settings.

Implications for the Nursing Profession

Findings from the multiple-case study research suggest that all stakeholder groups, including APRNs, do not possess adequate knowledge of the APRN Consensus

Model. Participants who were not familiar with the Consensus Model label were very familiar with the labels of "independent practice" and "independent prescriptive authority" when talking about APRN scope of practice concerns. The APRN Consensus Model document may be viewed as very complex by different CASs or stakeholder groups, and the problem lies in how to increase stakeholder knowledge and familiarity with the Model and its contents. Participant responses from all four states suggest that licensure, accreditation, certification, and education elements of the Model do not pose significant challenges or evoke vehement opposition from opponents. Model components that address APRN independent practice and independent prescriptive authority elicit a more visceral response from stakeholders, both APRNs and physicians alike. Therefore, future Consensus Model research and messaging to APRNs should focus predominantly on practice and prescriptive authority aspects of the Model. Email blasts to nursing associations or licensees, for example, should have "independent practice" and/or "prescriptive authority" in the subject line rather than "Consensus Model" to increase the likelihood that email recipients will read and comprehend the information. If APRNs perceive there is a threat to their current practice, especially when it impacts their ability to practice autonomously, they will hopefully be more likely to take action in addressing APRN healthcare policy.

The findings in this study also suggest that APRNs do not have strong enough relationships with policymakers and other key change agents. As one participant in New Jersey commented, registered nurses outnumber physicians almost 4:1. However, physician groups are successful in blocking APRN-friendly legislation from ultimately

being enacted. Nursing programs at both the undergraduate and graduate levels should implement class sessions or entire courses stressing the importance of being actively engaged in state and national healthcare policy topics and legislative efforts. Equally important, nursing students should be knowledgeable of their state nurse practice acts and nursing regulations. If nurses do not understand their scopes of practice, they will less likely be aware or concerned with potentially harmful legislative changes pertaining to their nursing practice.

It was important to include non-APRNs as well in this exploratory and descriptive pioneering research. Model stakeholders include groups other than APRNs, and the study would not have captured the valuable input and data from the non-APRN stakeholders if the boundaries excluded those groups. Lobbyists often communicate with other lobbyists representing groups that hold conflicting perspectives on an issue. Lobbyists representing APRN groups offered valuable insight on Consensus Model implementation processes in the Mid-Atlantic states in this study. Because most APRN clinicians and educators are not registered lobbyists, it is suggested from this study's findings that hiring a professional lobbyist to represent nursing groups is necessary to give APRNs a stronger voice with policymakers. A lobbyist, who maintains regular contact with policymakers, may act as a key ally who is knowledgeable of the political process. Instead of relying solely on grassroots lobbying efforts, such as APRN volunteers responding to an "action alert" to write their legislators regarding a bill, a professional lobbyist may use his or her expertise and preexisting rapport with legislators to directly deliver clear and concise messaging.

Conclusion

Complexity science theory offered a unique perspective to view the APRN Consensus Model implementation process through a "complexity science lens," one that offered a much broader interpretation of the various complex adaptive systems (CASs) involved in this healthcare policy topic. Using subsystems developed by Chaffee and McNeill (2007), the investigator identified and grouped numerous CASs involved in Model implementation. Complexity science not only offered a means to organize the review of literature by subsystems, but it showcased the numerous and diverse stakeholders and other complexities involved in implementing large political changes at the state level. When viewing this dissertation topic through a lens of complexity science, one may appreciate that Consensus Model changes at the state level may take several years or more to materialize.

Another large and complex political change that states continue to grapple with is the Patient Protection and Affordable Care Act (PPACA) of 2010. Under the PPACA, expanded insurance coverage for approximately 32 million Americans is anticipated. Due to many critical factors, including an aging population and the expanded insurance coverage under the PPACA, demand for primary care healthcare services alone is projected to increase sharply through at least 2020. According to the U.S. Department of Health and Human Services (2013), demand for primary care physicians will sharply outpace physician supply, thus resulting in an anticipated shortage of nearly 20,400 primary care physicians.

There are several reasons for states to relax restrictive advanced practice nursing regulations. Advanced practice registered nurses, like primary care CNPs, practicing to the full extent of their education and training, can help alleviate some shortages in primary care, thus expanding patient access to care. In addition to the data relating to APRN quality of care (Brooten et al., 2010; Dulisse & Cromwell, 2010; Mundinger et al., 2000; Rosenblatt et al., 1997; Stanik-Hutt et al., 2013), data addressing cost-effectiveness of APRN services have been established in various healthcare settings, including hospitals and retail clinics (Cunningham, 2010; Ettner et al., 2006; Hogan et al., 2010; Spetz et al., 2013). Broadening APRN scope of practice at the state level offers one key solution to both the current and ongoing physician shortage without compromising quality of care or increasing healthcare expenditures.

With each APRN Consensus Model implementation success or failure at the state level, lessons are to be learned. This dissertation presented stakeholder perceptions from the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania, all states that are in the process of implementing components of the Model. The new knowledge generated from this study will inform Model leaders of important considerations as they navigate the dynamic healthcare policy world. The findings from this study not only provide important insight for APRN clinicians, educators, and scientists; recommendations for promoting advanced practice nursing healthcare policy were also provided.

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Appendix A

REPRINT PERMISSION LETTER FOR FIGURE 1

From: Ron Castaldo [mailto:roncrna01@yahoo.com]
Sent: Tuesday, April 14, 2015 7:12 PM
To: Kathy Apple
Cc: Ron Castaldo
Subject: Reprint Permission Letter

Dear Ms. Apple,

My name is Ron Castaldo, and I am a PhD Candidate in Nursing Science at the University of Delaware. I am writing to request your permission to use Figure D-1 (APRN Regulatory Model), as it is appears in the July 7, 2008 Consensus Model for APRN Regulation document, in my dissertation.

My dissertation title is "Stakeholder Perceptions of APRN Consensus Model Implementation in Mid-Atlantic States."

I completed my research and successfully defended my dissertation. This figure (D-1), including the explanation below, provides a great visual. With your permission, I would like to include it in my dissertation (and your permission letter will be included as an appendix).

Thank you very much for your consideration and assistance.

Sincerely,

Ron Castaldo, CRNA

Subject:	RE: Reprint Permission Letter
From:	Kathy Apple (kapple@ncsbn.org)
To:	roncrna01@yahoo.com;
Cc:	roncrna@udel.edu; dkappel@ncsbn.org;
Date:	Wednesday, April 15, 2015 8:11 AM

Permission granted. Congratulations on your degree!

Kathy Apple

Kathy Apple, MS, RN, FAAN
Chief Executive Officer
Robert Wood Johnson Executive Nurse Alumni

National Council of State Boards of Nursing
111 E. Wacker Drive, Suite 2900
Chicago, Illinois 60601
Direct Line: 312.525.3610
Email: kapple@ncsbn.org
Web: www.ncsbn.org

Leading in Nursing Regulation

NCSBN Mission: NCSBN provides education, service, and research through collaborative leadership to promote regulatory excellence for patient safety and public protection.

Appendix B

REPRINT PERMISSION LETTER FOR FIGURE 3

From: Ron Castaldo <roncrna01@yahoo.com>
Reply-To: Ron Castaldo <roncrna01@yahoo.com>
Date: Tuesday, April 14, 2015 3:21 PM
To: Mary Chaffee <mwchaffee@aol.com>
Cc: Peggy McNeill <mcneillm@aol.com>
Subject: Re: Complex Adaptive Systems article

Dear Dr. Chaffee and Dr. McNeill,

Thank you for your reply (dated July 22, 2014). May I also have permission to use your Figure 7 for my dissertation?

I have referenced your work ("A model of nursing as a complex adaptive system," Nursing Outlook, 2007; 55:232-241) extensively throughout my dissertation, and I included this work in my References section. However, I want to make certain I have your permission to use the above-mentioned figure in my dissertation. I created my own model as well, and it was inspired from your publication. In the previous communication from July, you graciously allowed me to use your Figure 8.

Thank you again for your time and assistance.

Sincerely,

Ron Castaldo, CRNA

Subject:	Re: Complex Adaptive Systems article
From:	Mary Chaffee (mwchaffee@aol.com)
To:	roncrna01@yahoo.com;
Cc:	mcneillm@aol.com;
Date:	Thursday, April 16, 2015 7:26 AM

Ron-

Yes, it's fine as long as there is proper citation. Congratulations on your great work.

Best regards,
Mary

_____
Mary Chaffee

Appendix C

REPRINT PERMISSION LETTER FOR FIGURE 4

From: Ron Castaldo <roncrna01@yahoo.com>
Reply-To: Ron Castaldo <roncrna01@yahoo.com>
Date: Sun, 20 Jul 2014 16:09:12 -0700
To: Mary Chaffee <mwchaffee@aol.com>, Mary Chaffee <mary@marychaffee.com>
Subject: Complex Adaptive Systems article

Dear Dr. Chaffee,

My name is Ron Castaldo, and I am a PhD Candidate in Nursing Science at the University of Delaware. I am using complexity science theory as a framework to study stakeholder perceptions of the APRN Consensus Model implementation process in the Mid-Atlantic States of Delaware, Maryland, New Jersey, and Pennsylvania.

After extensively reviewing complexity science theory, I am linking my review of the literature with the theoretical framework. With your permission, I'd like to reference (and include the figure in my dissertation) your "exploded view of the metaparadigm of nursing as a complex adaptive system." This figure is labeled Figure 8 (p. 238) of your publication in Nursing Outlook, Volume 55, Number 5, 2007, pages 232-241.

I am organizing my literature review by complex adaptive system. For example, "access to care" is a type of CAS under the "human being" more complex system. Articles/studies related to "access to care," like patient access to APRN services, will be included under this section.

Thank you in advance for your assistance, support, and any feedback!

Sincerely,

Ron Castaldo, CRNA

Subject:	Complex Adaptive Systems article
From:	Mary Chaffee (mwchaffee@aol.com)
To:	roncrna01@yahoo.com;
Cc:	mcneillm@aol.com;
Date:	Tuesday, July 22, 2014 7:14 AM

Ron,

Congratulations of your impressive plan. Dr. Margaret McNeill and I have received a number of contacts like yours about this article. We are glad so many people have found it a valuable addition to their work.

We ask that you cite the source appropriately when you use it.

All the best to you in your work.

Mary

_____

Mary Chaffee

Appendix D

INFORMED CONSENT FORM

Stakeholder Perceptions of APRN Consensus Model Implementation in Mid-Atlantic States

Description of the research

This interview and survey are part of a dissertation research study on stakeholder views and perceptions of the Advanced Practice Registered Nurse (APRN) Consensus Model implementation process by the professionally mandated deadline of 2015. This study is being conducted by Ronald Castaldo, CRNA, MBA, MS, CCRN, a PhD Nursing Science Candidate at the University of Delaware, School of Nursing. Mr. Castaldo will be conducting the research throughout Delaware, Maryland, New Jersey, and Pennsylvania. Fifteen to 20 individuals will participate in interviews and surveys. The estimated time for both interview and survey completion is expected to be between 60 to 90 minutes. The interview will include questions about professionals' perceptions and/or views of the Model's content and implementation. The 21-item electronic survey will ask participants to rate their perceptions of the frequency of use and effectiveness of various APRN Consensus Model implementation strategies. Within 72 hours after the completion of the interview, participants will receive a link via email to the password-protected electronic survey.

Conditions of Subject Participation

Mr. Castaldo is interested in talking with individuals who have experience with or information they would like to share about the APRN Consensus Model. He will ask about participants' thoughts and ideas about the Model implementation process in Delaware, Maryland, New Jersey, and/or Pennsylvania. Participants are selected because they have been identified as a stakeholder in the implementation process of the Model. Participation in the interview and survey is voluntary. Interviews will be conducted at a place designated as convenient to each participant. One additional follow-up interview may be requested to confirm participant's responses and/or ask for clarification of prior responses. All information shared during the interview and survey will be confidential. Names of participants will be known to the principal investigator only. Participants may end an interview and/or survey at any point and there will be no negative consequences or penalties.

Risks and Benefits

There are no known risks to participating in this dissertation research. Participants may express discomfort in discussing some of the information and can stop at any time. Information gained from this dissertation research may contribute to statewide implementation of the APRN Consensus Model in the Mid-Atlantic States.

Financial Considerations

The cost to you is your time (approximately 60 to 90 minutes). There are no fees to participation, and no monetary compensation is provided for your participation.

Contacts

If you have any questions about the project, you may contact Ronald R. Castaldo, principal investigator, at the University of Delaware. I may be reached by telephone at 302-383-9625 or via electronic mail at roncrna@udel.edu. If you have any questions about your rights as a participant, you may contact the University of Delaware Institutional Review Board at 302-831-2137.

Subject's Awareness

Interviews will be recorded using a digital voice recorder. Mr. Castaldo will conduct all interviews. Recorded interviews will be electronically sent to a professional transcriptionist, and interviews will only be identified/labeled by a number. Interview recordings will be typed into a computer (transcribed) by the professional transcriptionist. The computer (electronic) documents will be saved with a pass-code to protect them, and any handwritten notes will be kept in a locked file at the University of Delaware so only the principal investigator can access them. All electronic and hard copy files will be kept for five years, after which they will be destroyed. Your personal information will not be shared with anyone.

****

The signature below gives permission for you to participate in an interview and survey. The original signed copy is kept by the principal investigator. You will be given a copy of the consent for your records and contact purposes.

Signature **Print Name**

_____

Date _____

Appendix E

APRN CONSENSUS MODEL INTERVIEW GUIDE

1. As you know the APRN Consensus Model was introduced in July 2008. Tell me what you know or understand about the Model.
   (a) Prompt: What are your views or perceptions of the Model?
   (b) Prompt: What have you read about the Model?
   (c) Prompt: Who has spoken to you about the Model?
      (1) What have your APRN colleagues told you about the Model?
   (d) Prompt: What have your professional associations communicated to you about the Model? (newsletters, email blasts, blogs, individual letters)
2. The APRN Consensus Model has a target date of 2015 for full implementation, including all embedded recommendations. What are your thoughts about this target date?
3. The APRN Consensus Model acknowledges 4 types of APRNs and specialization in 6 population foci. Tell me your understanding about the specializations and populations designated by this model.
   (a) Prompt: What considerations of these categories (specializations, populations) have you thought about in your current role?

Appendix F

APRN CONSENSUS MODEL IMPLEMENTATION STRATEGY SURVEY

APRN Consensus Model Implementation Perceptions

Dear APRN Consensus Model Study Participant,

Thank you for participating in this brief survey regarding stakeholder perceptions of the APRN Consensus Model implementation process in Mid-Atlantic States. Please take a few minutes to complete this survey and provide any additional comments, thoughts, or views of the Model's implementation process. This survey should take approximately 5 minutes to complete. In the first survey block, please rate your perception of the FREQUENCY OF USE of each Model implementation strategy from 1 (never used) to 5 (most frequently used). In the second survey block, please rate your perception of the EFFECTIVENESS of each Model implementation strategy from 1 (never effective) to 5 (most frequently effective). Your participation will remain confidential. Your identity will only be known to the investigator (Ron Castaldo). Thank you very much for your time and thoughtful participation.

Sincerely,

Ron Castaldo, CRNA PhD Candidate in Nursing Science, University of Delaware

Please type your first and last name in this text box. Your identity will be protected.

Q1 Please rate your perception of the FREQUENCY OF USE of the following implementation strategy on a scale from 1 (never used) to 5 (most frequently used).

	1 (never used)	2 (seldom used)	3 (used an average amount)	4 (used frequently)	5 (most frequently used)
Use of conventional media (radio, television, billboards advertising)	❍	❍	❍	❍	❍

Q2 Please rate your perception of the FREQUENCY OF USE of the following implementation strategy on a scale from 1 (never used) to 5 (most frequently used).

	1 (never used)	2 (seldom used)	3 (used an average amount)	4 (used frequently)	5 (most frequently used)
Use of electronic media (Internet, including websites or videos from "YouTube," etc.)	❍	❍	❍	❍	❍

Q3 Please rate your perception of the FREQUENCY OF USE of the following implementation strategy on a scale from 1 (never used) to 5 (most frequently used).

	1 (never used)	2 (seldom used)	3 (used an average amount)	4 (used frequently)	5 (most frequently used)
Grassroots lobbying efforts (email, letters, face-to-face meetings with legislators)	❍	❍	❍	❍	❍

Q4 Please rate your perception of the FREQUENCY OF USE of the following implementation strategy on a scale from 1 (never used) to 5 (most frequently used).

	1 (never used)	2 (seldom used)	3 (used an average amount)	4 (used frequently)	5 (most frequently used)
Presenting APRN research relating to quality, access, and/or cost-effectiveness to policy decision-makers	❍	❍	❍	❍	❍

Q5 Please rate your perception of the FREQUENCY OF USE of the following implementation strategy on a scale from 1 (never used) to 5 (most frequently used).

	1 (never used)	2 (seldom used)	3 (used an average amount)	4 (used frequently)	5 (most frequently used)
Formation of state action coalitions (advanced practice councils, committees charged with Model implementation strategies, etc.)	❍	❍	❍	❍	❍

Q6 Please rate your perception of the FREQUENCY OF USE of the following implementation strategy on a scale from 1 (never used) to 5 (most frequently used).

	1 (never used)	2 (seldom used)	3 (used an average amount)	4 (used frequently)	5 (most frequently used)
Sending communications (paper or electronic) to state APRNs regarding Model implementation process	❍	❍	❍	❍	❍

Q7 Please rate your perception of the FREQUENCY OF USE of the following implementation strategy on a scale from 1 (never used) to 5 (most frequently used).

	1 (never used)	2 (seldom used)	3 (used an average amount)	4 (used frequently)	5 (most frequently used)
Having constituents contact their legislators	❍	❍	❍	❍	❍

Q8 Please rate your perception of the FREQUENCY OF USE of the following implementation strategy on a scale from 1 (never used) to 5 (most frequently used).

	1 (never used)	2 (seldom used)	3 (used an average amount)	4 (used frequently)	5 (most frequently used)
Engaging with legislators at fundraisers and/or receptions	❍	❍	❍	❍	❍

Q9 Please rate your perception of the FREQUENCY OF USE of the following implementation strategy on a scale from 1 (never used) to 5 (most frequently used).

	1 (never used)	2 (seldom used)	3 (used an average amount)	4 (used frequently)	5 (most frequently used)
Making financial contributions to electoral campaigns or political action committees	❍	❍	❍	❍	❍

Q10 Please rate your perception of the FREQUENCY OF USE of the following implementation strategy on a scale from 1 (never used) to 5 (most frequently used).

	1 (never used)	2 (seldom used)	3 (used an average amount)	4 (used frequently)	5 (most frequently used)
Helping to draft Model legislation at the state level	❍	❍	❍	❍	❍

In the second block of survey questions, please rate your perception of the EFFECTIVENESS of each Model implementation strategy on a scale from 1 (never used) to 5 (most frequently used). Please continue by clicking on the "next page" icon.

Q11 Please rate your perception of the EFFECTIVENESS of the following implementation strategy on a scale from 1 (never effective) to 5 (most frequently effective).

	1 (never effective)	2 (seldom effective)	3 (average effectiveness)	4 (frequently effective)	5 (most effective)
Use of conventional media (radio, television, billboards advertising)	❍	❍	❍	❍	❍

Q12 Please rate your perception of the EFFECTIVENESS of the following implementation strategy on a scale from 1 (never effective) to 5 (most frequently effective).

	1 (never effective)	2 (seldom effective)	3 (average effectiveness)	4 (frequently effective)	5 (most effective)
Use of electronic media (Internet, including websites or videos from "YouTube," etc.)	❍	❍	❍	❍	❍

Q13 Please rate your perception of the EFFECTIVENESS of the following implementation strategy on a scale from 1 (never effective) to 5 (most frequently effective).

	1 (never effective)	2 (seldom effective)	3 (average effectiveness)	4 (frequently effective)	5 (most effective)
Grassroots lobbying efforts (email, letters, face-to-face meetings with legislators)	❍	❍	❍	❍	❍

Q14 Please rate your perception of the EFFECTIVENESS of the following implementation strategy on a scale from 1 (never effective) to 5 (most frequently effective).

	1 (never effective)	2 (seldom effective)	3 (average effectiveness)	4 (frequently effective)	5 (most effective)
Presenting APRN research relating to quality, access, and/or cost-effectiveness to policy decision-makers	❍	❍	❍	❍	❍

Q15 Please rate your perception of the EFFECTIVENESS of the following implementation strategy on a scale from 1 (never effective) to 5 (most frequently effective).

	1 (never effective)	2 (seldom effective)	3 (average effectiveness)	4 (frequently effective)	5 (most effective)
Formation of state action coalitions (advanced practice councils, committees charged with Model implementation strategies, etc.)	❍	❍	❍	❍	❍

Q16 Please rate your perception of the EFFECTIVENESS of the following implementation strategy on a scale from 1 (never effective) to 5 (most frequently effective).

	1 (never effective)	2 (seldom effective)	3 (average effectiveness)	4 (frequently effective)	5 (most effective)
Sending communications (paper or electronic) to state APRNs regarding Model implementation process	❍	❍	❍	❍	❍

Q17 Please rate your perception of the EFFECTIVENESS of the following implementation strategy on a scale from 1 (never effective) to 5 (most frequently effective).

	1 (never effective)	2 (seldom effective)	3 (average effectiveness)	4 (frequently effective)	5 (most effective)
Having constituents contact their legislators	❍	❍	❍	❍	❍

Q18 Please rate your perception of the EFFECTIVENESS of the following implementation strategy on a scale from 1 (never effective) to 5 (most frequently effective).

	1 (never effective)	2 (seldom effective)	3 (average effectiveness)	4 (frequently effective)	5 (most effective)
Engaging with legislators at fundraisers and/or receptions	❍	❍	❍	❍	❍

Q19 Please rate your perception of the EFFECTIVENESS of the following implementation strategy on a scale from 1 (never effective) to 5 (most frequently effective).

	1 (never effective)	2 (seldom effective)	3 (average effectiveness)	4 (frequently effective)	5 (most effective)
Making financial contributions to electoral campaigns or political action committees	❍	❍	❍	❍	❍

Q20 Please rate your perception of the EFFECTIVENESS of the following implementation strategy on a scale from 1 (never effective) to 5 (most frequently effective).

	1 (never effective)	2 (seldom effective)	3 (average effectiveness)	4 (frequently effective)	5 (most effective)
Helping to draft Model legislation at the state level	❍	❍	❍	❍	❍

Q21 Please provide any additional comments, perceptions, or views on the APRN Consensus Model implementation process in your state.

Appendix G

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

UNIVERSITY OF DELAWARE

RESEARCH OFFICE

210 Hullihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302-831-2136
Fax: 302-831-2828

DATE:	January 31, 2014
TO:	Ronald Castaldo, CRNA, MBA, MS, CCRN
FROM:	University of Delaware IRB
STUDY TITLE:	[556953-1] Stakeholder Perceptions of APRN Consensus Model Implementation in Mid-Atlantic States
SUBMISSION TYPE:	New Project
ACTION:	APPROVED
APPROVAL DATE:	January 31, 2014
EXPIRATION DATE:	January 30, 2015
REVIEW TYPE:	Expedited Review
REVIEW CATEGORY:	Expedited review category # *6, 7*

Thank you for your submission of New Project materials for this research study. The University of Delaware IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

- 1 -

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

If you have any questions, please contact Nicole Farnese-McFarlane at (302) 831-1119 or nicolefm@udel.edu. Please include your study title and reference number in all correspondence with this office.

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Appendix H

INSTITUTIONAL REVIEW BOARD
CONTINUING REVIEW APPROVAL LETTER

RESEARCH OFFICE

210 Hullihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302/831-2136
Fax: 302/831-2828

DATE:	December 8, 2014
TO:	Ronald Castaldo, CRNA, MBA, MS, CCRN
FROM:	University of Delaware IRB
STUDY TITLE:	[556953-3] Stakeholder Perceptions of APRN Consensus Model Implementation in Mid-Atlantic States
SUBMISSION TYPE:	Continuing Review/Progress Report
ACTION:	APPROVED
APPROVAL DATE:	December 8, 2014
EXPIRATION DATE:	December 7, 2015
REVIEW TYPE:	Expedited Review
REVIEW CATEGORY:	Expedited review category # *(6,7)*

Thank you for your submission of Continuing Review/Progress Report materials for this research study. The University of Delaware IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

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