The Tenth Amendment of the U.S. Constitution maintains that each state has a right to protect their citizens through the regulation of health care providers (Hudspeth, 2009, Russell, 2012). The mission of the North Carolina Board of Nursing (NCBON) is to protect the public by regulating the practice of nursing (NCBON (c), 2016). While there is national consistency in the regulation of entry-level nurses, wide variation exists in how and by whom advanced practice registered nurses (APRNs) are regulated. This regulatory incongruence creates onerous and confusing regulation of APRN practice. As noted in Exhibit 1, the purpose of this article is to assist APRNs in understanding regulation governing APRN practice in North Carolina (NC). This article will discuss the concept of regulatory intelligence using the acronym KACE, Knowledge, Application, Compliance, Education, as defined in Exhibit 2.

**Regulatory Intelligence**

Decades of research has demonstrated that APRNs provide safe, effective healthcare comparable to or better than that of Interprofessional colleagues with similar focus (Lowery, B., Scott, E. & Swanson, M., 2015). However, while APRNs have demonstrable clinical expertise, there is often a gap in knowledge regarding regulation, its correct application and compliance with regulation governing APRN practice in disparate states or jurisdictions. Regulatory intelligence is a new and important concept for APRNs to understand the evidence-based, safe parameters that guide APRN practice. APRNs have a professional responsibility to maintain current knowledge of all laws and rules governing their practice, understand the provisions of their Nurse Practice Act, and comply with its regulations. Furthermore, APRNs must be able to educate the public and Interprofessional team members regarding the laws and rules governing their practice.

**APRN History in NC**

The North Carolina Board of Nursing (NCBON) has a rich history of innovative leadership in protecting the public through the regulation of nursing practice. As the first state to establish a Board of Nursing in 1903, NC was also the first state to require licensure and registration of nurses, implement the first Nursing Practice Act (NPA), the only state to elect its
nurse board members and the first state to provide prescriptive authority for nurse practitioners (NPs) (Russell, K., 2012; Toney, S. 2013).

Nurses are the largest segment of the healthcare workforce in NC with more than 150,000 licensees. The NC Administrative Code, 21 NCAC 36 .0120 (5), defines APRN as an umbrella title for RNs who meet the education and certification requirements of one of four roles; Nurse Practitioner, Nurse Anesthetist, Nurse-Midwife or Clinical Nurse Specialist. (NCBON (a), 2016). Exhibit 3 reflects six requirements to qualify for one of the four APRN roles. NC has a strong and growing cadre of nurses who are educated at the advanced practice level, accounting for 6.1% of the total nursing workforce.

**Regulatory Knowledge**

Each of the four APRN roles make unique contributions to safe, effective healthcare for the citizens of NC. Likewise, each of the four APRN roles have differing regulations. Specific regulatory rules for each APRN role can be found in Table 1. The APRN role is an expansion of the basic nursing role through accredited graduate education and certification. An understanding of the regulation of all APRN roles and their contributions to healthcare is essential in optimizing the APRN’s regulatory intelligence and for functioning as a leader on Interprofessional teams (NCSBN, 2012).

The APRN role is an expanded nursing role. Therefore, it is essential to understand how APRN regulation builds on the nursing practice act which governs all nursing practice. The most current, consolidated administrative codes governing all nursing practice can be found in chapter 36 of the NC administrative code (NC Office of Administrative Hearings, 2016).

**Nurse Practitioner**

Nurse practitioners comprise the largest segment of the APRN workforce in NC, comprising 64.3% of the total APRN workforce (Lowery, 2016). The

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**EXHIBIT 2: Regulatory Intelligence**

- **Knowledge**: Knowledge of laws and regulation governing practice
- **Application**: Correct application of regulation to APRN practice in clinical practice
- **Compliance**: Compliance with regulations governing practice to protect public
- **Education**: Synthesis of regulatory knowledge from graduate education and evolving regulatory Board resources

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**EXHIBIT 3: APRN Definition**

An Advanced Practice Registered Nurse (APRN) is a nurse:

1. Who has completed an accredited graduate-level education program preparing him/her for one of the four recognized APRN roles;
2. Who has passed a national certification examination that measures APRN, role and population-focused competencies and who maintains continued competence as evidenced by recertification in the role and population through the national certification program;
3. Who has acquired advanced clinical knowledge and skills preparing him/her to provide direct care to patients, as well as a component of indirect care; however, the defining factor for all APRNs is that a significant component of the education and practice focuses on direct care of individuals;
4. Whose practice builds on the competencies of registered nurses (RNs) by demonstrating a greater depth and breadth of knowledge, a greater synthesis of data, increased complexity of skills and interventions, and greater role autonomy;
5. Who is educationally prepared to assume responsibility and accountability for health promotion and/or maintenance as well as the assessment, diagnosis, and management of patient problems, which includes the use and prescription of pharmacologic and non-pharmacologic interventions;
6. Who has clinical experience of sufficient depth and breadth to reflect the advanced practice role. (NCBON. (2016).)
first NP educational program was piloted at the University of Colorado in 1965 by a physician, Dr. Henry Silver, and a nurse, Dr. Loretta Ford to meet the primary health care needs of vulnerable pediatric populations. NPs provide a broad range of primary and specialty care in diverse practice settings consistent with their education from a nationally accredited NP program, license, certification and maintained competence. NC was a leader in the inception and regulation of the NP role. The current joint regulatory process wherein nurse practitioners are regulated by both the NC Board of Nursing and the NC Medical board was implemented in the spring of 1970 (Johnson, 2011; Toney, S, 2013). The dual regulation is carried out via the NP Joint Subcommittee which is composed of members of the Board of Nursing and members of the Medical Board to whom responsibility is given by G.S. 90-8.2 and G.S. 90-171.23(b)(14) to develop rules to govern the practice of nurse practitioners in North Carolina. Although the rule codification is maintained separately by the NCBON and NCMB, the NP practice requirements and scope are exactly the same in each set of rules (NCBON, 2017).

**Nurse Anesthetist**
Certified nurse anesthetists (CRNAs) comprise the second largest segment of the APRN workforce in NC, comprising 31.4% of the total APRN workforce (Lowery, 2016). Nurses led the way as the first official group of professionals to deliver anesthesia (Toney, S. 2013). The first nurse anesthesia educational program was established in 1909 in Portland, Oregon. Duke University established the first nurse anesthesia program in NC in 1931. The NCBON regulates CRNA practice. In July, 1993, the legal scope of practice for the CRNA was legally defined (Toney, S, 2013). CRNAs collaborate with anesthesiologists, physicians, dentists, and/or podiatrists to provide anesthesia care in a wide variety of ambulatory and surgical settings consistent with their education, license, certification and maintained competence. Moreover, CRNAs are the primary providers of anesthesia care in rural America, providing in nearly 100 percent of the rural hospitals in many areas of NC (AANA, 2016).

**Nurse-Midwife**
Certified nurse midwives (CNMs) comprise 2.9% of the APRN workforce in NC, (Lowery, 2016). The nurse midwifery practice act was ratified in 1983 in NC; limiting the lawful practice of mid-
TABLE 1: APRN Roles

<table>
<thead>
<tr>
<th>APRN Role</th>
<th>Nurse Practitioner</th>
<th>Nurse Anesthetist</th>
<th>Nurse-Midwife</th>
<th>Clinical Nurse Specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulated by</td>
<td>JSC</td>
<td>NCBON</td>
<td>MJC</td>
<td>NCBON</td>
</tr>
<tr>
<td>Method of Recognition</td>
<td>Registration &amp; Approval to Practice</td>
<td>Recognition</td>
<td>Registration &amp; Approval to Practice</td>
<td>Recognition</td>
</tr>
<tr>
<td>Education</td>
<td>Nationally Accredited Graduate Education</td>
<td>Nationally Accredited Graduate Education</td>
<td>Nationally Accredited Graduate Education</td>
<td>Nationally Accredited Graduate Education</td>
</tr>
<tr>
<td>Requirement for National Certification?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Requirement for Physician Supervision?</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Required Collaboration?</td>
<td>Yes—Collaborative Practice Agreement (21 NCAC 36 .0810 (2) )</td>
<td>Yes—Collaboration with a physician, dentist, podiatrist, or lawfully qualified other health care provider (21 NCAC 36 .0226 (2) )</td>
<td>Yes—Clinical practice guidelines (21 NCAC 3.0104 (1) )</td>
<td>No</td>
</tr>
<tr>
<td>Prescriptive Authority?</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Employment</td>
<td>Salaried or self-employed</td>
<td>Salaried or self-employed</td>
<td>Salaried or self-employed</td>
<td>Salaried or self-employed</td>
</tr>
</tbody>
</table>

wifery to the CNM. The CNM is regulated by an independent Midwifery Joint Committee comprised of two CNMs, two obstetricians who have had working experience with midwives and representatives from the NCBON and the NC Medical Board. The CNM provides well-woman and gynecological care for women of all ages, obstetrical care including prenatal, postpartum, intra-parum, and newborn care (NCBON, 2017). The only midwifery educational program in NC was established in 1991 at East Carolina University (Toney, S, 2013).

Application
A historical overview of the evolution of APRN practice and regulation is a necessary foundation for correct application of regulation governing APRN practice. Increasing complexities in healthcare delivery require APRN leadership in evolving clinical scenarios. In addition to having a working knowledge of regulation, APRNs must demonstrate correct application of regulation in practice settings.

The APRN scope of practice (SOP) is established by formal graduate education in a nationally accredited nursing program, national certification and maintained competence (NCSBN, 2012 & Stanley, J., 2012). Furthermore, in NC the NP and CNM SOP is operationalized by the collaborative practice agreement between the primary supervising physician and the NP or CNM, respectively.

Consistent with the distribution of the APRN workforce, NPs utilize NCBON consultation resources at a higher level than any other APRN group regarding application of regulation in clinical settings. As noted in Exhibit 4, NPs participated in 750 consultations by call and/or email from September 2015 until November 2016, constituting roughly 49% of all consultations conducted during that time period. Moreover, APRNs across all four roles frequently have application questions with 43% of application of regulation questions relating to clinical practice and compliance with scope of practice as noted in Exhibit 5. Correct applica-
tion of regulatory knowledge in diverse scenarios protects the public by ensuring that APRNs are practicing safely and within the parameters of their established scope of practice. The following examples reflect selected consultative application of APRN regulation for each of the four APRN roles. The examples were selected based on frequency of occurrence.

Nurse Practitioner

Continuum of care, population focus age ranges, scope of practice and Collaborative Practice Agreement (CPA) for pediatric nurse practitioners (PNPs).

Based on 21 NCAC 36 .0803 NURSE PRACTITIONER REGISTRATION and 21 NCAC 36 .0804 PROCESS FOR APPROVAL TO PRACTICE a Pediatric Primary Care NP is credentialed to provide primary care for children from infancy to age 21 in primary care settings, the Certified Pediatric Nurse Practitioner in Acute Care (CPNP-AC) is qualified to provide family-centered and culturally respectful care for pediatric patients from birth to age 21 with acute, complex, critical, and chronic illness across a variety of care settings. There may be rare occasions for which it would be appropriate for a CPNP to provide care beyond the age of 21 for a limited/specifed period of time. For example, a PNP may choose to continue to provide care to an aging pediatric client with chronic, congenital conditions including but not limited to cystic fibrosis or congenital heart disease to ensure transitions in care to a clinician appropriately credentialed in the adult health population focus. This is within the scope of practice for the PNP as long as there is no violation of institutional policy or other laws, and this activity is documented in the Collaborative Practice Agreement (CPA).

The NP Scope of Practice are set forth and defined by the NP rules (21 NCAC 36 .0802 SCOPE OF PRACTICE) & operationalized by the Collaborative Practice Agreement (CPA). The CPA must clearly identify what drugs, devices, medical treatments, tests and procedures that may be prescribed, ordered and performed, would be appropriate for the diagnosis and treatment of the common medical problems seen in a NP practice sites. As long as the CPA includes transitional care activities and this is documented as part of the scope of care for the NP, there is documentation of education, and maintained competence for this activity AND this is not in violation of institutional policy, it would be within the scope of practice as established in the CPA. The continuum of care does not limit location of the NP care; rather, the care is within the normal scope and competence of the PNP.

EXHIBIT 5: Trends in application of APRN regulation
The NP Survival Guide to NCBON Compliance Review Audits provides additional information that is useful to practicing clinicians and administrators to ensure safe delivery of NP care. This document amplifies the regulatory requirements for the CPA as stipulated in 21 NCAC 36 .0804(4) and describes quality improvement processes and continuing education requirements for NP practice.

Nurse Anesthetist
Requirements for a Certified Nurse Anesthetist (CRNA) to administer anesthesia in a dental setting.

CRNAs are regulated under the authority of the NC Board of Nursing (NCBON). The NCBON interpretation of 21 NCAC 36 .0226 NURSE ANESTHESIA PRACTICE is that there are no statutory requirements for supervision of CRNA practice. When a CRNA chooses and implements a plan of care throughout the spectrum of anesthesia care as noted in 21 NCAC 36 .0226 (c) NURSE ANESTHESIA PRACTICE, this is the practice of advanced practice nursing.

CRNA practice includes ONLY the choice and implementation of a plan of care throughout the spectrum of anesthesia care as detailed in 21 NCAC 36 .0226 (c) NURSE ANESTHESIA PRACTICE. CRNAs may perform nurse anesthesia activities in COLLABORATION with a physician, dentist, podiatrist, or other lawfully qualified health care provider as noted in 21 NCAC 36 .0226 (b)(1) NURSE ANESTHESIA PRACTICE. CRNA practice does NOT include prescribing a medical treatment regimen or making a medical diagnosis as also noted in 21 NCAC 36 .0226 (b)(1) NURSE ANESTHESIA PRACTICE. For that reason, the supervision required in this part of the rule is not required for CRNA practice.

There are no rules addressing supervision as this is not a requirement for CRNA practice. Two issues, institutional policy and third party payer requirements may create scenarios that are not regulatory issues.

The NC Dental Board does have requirements for dentists to certify a dental practice for the administration of anesthesia as noted in § 90-30.1. Standards for general anesthesia and enteral and parenteral sedation; fees authorized.

A particular institution may choose a more stringent/restrictive requirement than is required by NC rules and regulation, however. If a particular institution requires additional physician supervision per their institutional policies, this may be defined as a designated professional accepting responsibility and oversight of practice. The means of oversight and method of accessibility must be defined regarding how the supervisor and supervisee will be continuously accessible to each other either electronically or face-to-face, if dictated by institutional policy. Furthermore, certain payers may require supervision based on their operational definitions as a requirement for reimbursement.

Nurse Midwife
Physician supervision requirements for certified nurse midwives (CNM) in NC.

Midwifery practice falls under the jurisdiction of the Midwifery Joint Committee (MJC). While the MJC pays for administrative support from the NCBON, the MJC is a discrete regulatory board empowered to promulgate the rules governing midwifery practice (Article 10A § 90-178.4.). Neither the laws nor the administrative rules require with specific interval for consultation, quality improvement meetings between the CNM and the supervising physician other than identified in 21 NCAC 33 .0104 (3).
The supervisory requirements of CNM practice are stipulated in 21 NCAC 33 .0104 PHYSICIAN SUPERVISION. The supervising physician must be actively engaged in the practice of obstetrics in North Carolina. The CNM’s practice parameters are operationalized through mutually agreed upon written clinical practice guidelines which define the individual and shared responsibilities of the midwife and the supervising physician(s) in the delivery of health care services and must include a plane for ongoing communication between the CNM and the supervising physician. Periodic and joint evaluation of services rendered, e.g. chart review, case review, patient evaluation, and review of outcome statistics; and periodic and joint review and updating of the written medical clinical practice guidelines are required.

Clinical Nurse Specialist
Voluntary Clinical Nurse Specialist (CNS) recognition requirements.

Effective July 1, 2015, the new CNS Rules (21 NCAC 36.0228) require all Clinical Nurse Specialists to be recognized by the North Carolina Board of Nursing in order to practice as a CNS in North Carolina. Recognition as a CNS in NC requires you to meet the requirements for CNS practice as defined in 21 NCAC 36 .0228 CLINICAL NURSE SPECIALIST PRACTICE. The educational and certification requirements in law and rule protect the public. NC law and rule does not allow for CNS practice outside of these requirements. Please see the information for CNS recognition listed on the NCBON website at Clinical Nurse Specialist Documentation Requirements. An employer may choose to continue to allow a licensee to use the CNS title until such time that there is title protection for the CNS title.

Compliance

Regulation of professional practice is a dynamic process that is influenced by evolving healthcare delivery systems, increasing complexities in health care, professional advocacy groups, political will; all of which impact promulgation of revised or new regulation to ensure public protection. The dynamic nature of regulation can create challenges in the acquisition of regulatory knowledge, correct application of regulation in evolving healthcare delivery systems and compliance with the regulations governing APRN practice.

Practice drift is a common occurrence documented through behavioral research (Chastain & Burhans, 2016). Each of the four APRN roles have regulatory requirements for periodic quality-improvement evaluations and evaluation of compliance with current regulations. The public is protected by the standardized approach to NP Compliance Reviews by ensuring that the nurse practitioner is meeting the requirements of the Boards’ rules and regulations, for example. Compliance and quality improvement processes for each role can be found in the rules governing each of the four APRN roles listed in Exhibit 2.

The NCBON offers multiple resources under the Nursing Practice link on the NCBON website to assist APRNs, administrators and the public when uncertainty exists regarding compliance with APRN regulation.

Education

An essential component of graduate nursing education includes knowledge of the effect of legal and regulatory processes on nursing practice, healthcare delivery, and outcomes (AACN, 2011). The NCBON recognizes the importance of regulatory content in nursing education,
however, post-licensure nursing education is not regulated by the NCBON. Post-licensure nursing curricula are approved by national accreditation bodies (ANCC, 2011; Rounds, 2010).

While foundational knowledge of APRN regulation must be included in APRN curricula, the NCBON strives to ensure opportunities for licensees to update knowledge, application and compliance with APRN regulation. The NCBON offers multiple opportunities for APRNs to enhance regulatory intelligence through publications, posting of open meetings records, Board presentations, continuing education, service opportunities, posting regulatory news and announcements on the NCBON website and through direct communication with licensees. Timely communication is ensured when licensees maintain an updated email address, email and phone numbers with the NCBON. Per 21 NCAC 36 .0201 it shall be the duty of each registrant to keep the Board informed of a current mailing address. Name, address, phone number or email updates can be completed through the nursing gateway on the NCBON website.

Opportunities to Enhance Regulatory Intelligence

Every APRN must demonstrate basic legal and regulatory knowledge to meet the requirements of graduate nursing education; creating foundational regulatory knowledge. Building on the seminal 2010 report, Nursing Leadership from the Bedside to the Boardroom, (Robert Wood Johnson, 2010), APRNs may enhance regulatory intelligence through service and leadership on regulatory boards, professional advocacy groups and other board service related to the regulation of healthcare.

NC is the only state that elects the nurse majority of its Board. The Board is comprised of 11 nursing members; 3 public members. Regulatory intelligence can be enhanced by exercising your right to vote and consider applying your nursing leadership skills by running to serve as a board member with the NCBON. Moreover, numerous regulatory resources to enhance regulatory intelligence are available on the websites of the NCBON and the National Council of State Boards of Nursing. Information regarding Board membership, responsibilities and committee meetings can be found on the NCBON website under the governance link (NC BON (b) 2016).

Conclusion

Regulatory intelligence is an important concept for nurses to understand the evidence-based, safe parameters that guide nursing practice. The acronym K.A.C.E. is a simple acrostic for remembering the necessary components of regulatory intelligence. Graduate nursing education provides a foundational knowledge regarding APRN regulation. Regulatory knowledge of all APRN roles amplifies the leadership of each APRN in intra- and Interprofessional nursing leadership. Correct application of APRN regulation must be evaluated periodically to ensure safe delivery of APRN care and compliance with APRN regulation. The NCBON offers innovative leadership and resources to partner with APRNs, administrators and the public in optimizing regulatory intelligence. Utilization of Board resources and serving on the NCBON is an opportunity for APRNs to enhance regulatory intelligence while impacting current and evolving healthcare delivery systems.

References

INSTRUCTIONS
Read the article. There is not a test requirement, although reading for comprehension and self-assessment of knowledge is encouraged.

RECEIVE CONTACT HOUR CERTIFICATE
Read the article and the Chapter 36 (consolidated) Administrative Code Rules which guide the work of the NCBON and reflect on the following five questions. Chapter 36 (consolidated) is located at http://reports.oah.state.nc.us/ncac/title 21 - occupational licensing boards and commissions/chapter 36 - nursing/chapter 36 rules.pdf.

1. What is the purpose of regulation?
2. Describe the history of APRN practice in NC.
3. What are the overlapping points of regulation between entry-level nursing and the four APRN roles?
4. How is regulatory compliance assessed among the four APRN roles?
5. Describe opportunities to develop regulatory intelligence.

There is not a test requirement, although reading for comprehension and self-assessment of knowledge is encouraged.

RECEIVE CONTACT HOUR CERTIFICATE

Go to www.ncbon.com and scroll over “Nursing Education;” under “Continuing Education” select “Board Sponsored Bulletin Offerings,” scroll down to the link, “Regulatory Intelligence: A Necessary Competency for Advanced Practice Nursing.”

Register, be sure to write down your confirmation number, complete and submit the evaluation, and print your certificate immediately.

If you experience issues with printing your CE certificate, please email practice@ncbon.com. In the email, please provide your full name and the name of the CE offering (Regulatory Intelligence: A Necessary Competency for Advanced Practice Nursing).

Registration deadline is 11-01-2018.

PROVIDER ACCREDITATION
The North Carolina Board of Nursing will award 2 contact hours for this continuing nursing education activity.

The North Carolina Board of Nursing is an approved provider of continuing nursing education by the North Carolina Nurses Association, an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation.

NCBON CNE CONTACT HOUR ACTIVITY DISCLOSURE STATEMENT
The following disclosure applies to the NCBON continuing nursing education article entitled “Regulatory Intelligence: A Necessary Competency for Advanced Practice Nursing.”

Participants must read the CE article and additional reading(s) listed (if applicable) in order to be awarded CNE contact hours. Verification of participation will be noted by online registration. No financial relationships or commercial support have been disclosed by planners or writers which would influence the planning of learning outcomes and content of the article. There is no endorsement of any product by NCNA or ANCC associated with the article. No article information relates to products governed by the Food and Drug Administration.


6 Johnson, K. (2011). In Lowery B. (Ed.), Inception of the FNP program at UNC-CH


Celebrating the Accomplishments of the FOUNDATION FOR NURSING EXCELLENCE (FFNE)

Since its creation by NCBON in 2002, the Foundation has been focused on improving health outcomes for all North Carolinians by enhancing the practice of nursing. It is a great pleasure to share with all licensees our Foundation for Nursing Excellence Report 2002-2016 which provides an overview of our nursing workforce-related accomplishments over the past 15 years. Although FFNE took the lead in these initiatives, including preceptor role development, creating new pathways for educational progression toward a BSN through the RIBN project, and establishing the NC Future of Nursing Action Coalition, none of this could have been done without the support and involvement of many organizations and individuals across the state. As we complete our current grant work, it is time to review our accomplishments, celebrate the outcomes of our efforts, and thank each of you for your interest and support for this important work! You may access our report at http://www.ffne.org/library/library/documents/ffne-final-report-2016-final-web.pdfs. Please share this report with your colleagues.