
The Role of Advanced Practice Nurses in Shaping Global Health Administration

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Abstract:

Advanced practice nurses (APNs) play a pivotal role in shaping global health administration by bridging the gaps in healthcare access, quality, and delivery. These highly trained professionals, which include nurse practitioners, clinical nurse specialists, nurse anesthetists, and nurse midwives, bring a wealth of clinical expertise and a holistic approach to patient care. In many countries, APNs are essential in addressing global health challenges such as infectious diseases, maternal and child health, and chronic conditions. Their ability to function autonomously or as part of interdisciplinary teams enables them to influence health policy, improve care systems, and contribute to the development of more sustainable healthcare models. By advocating for evidence-based practices and health equity, APNs are uniquely positioned to impact health outcomes on a global scale. The involvement of advanced practice nurses in global health administration is further emphasized through their leadership roles in initiatives aimed at improving healthcare infrastructure and environmental health. APNs are increasingly engaged in health governance, providing insight into community needs while aligning local health strategies with global health objectives set by organizations such as the World Health Organization (WHO). Their expertise in education and training helps elevate the nursing profession within various healthcare systems, promoting the importance of nursing leadership in health decision-making processes. As healthcare continues to evolve in response to emerging global challenges, the contributions of advanced practice nurses are crucial in ensuring that health systems are not only responsive but also resilient in the face of adversity.

Keywords: Advanced Practice Nurses, Global Health Administration, Healthcare Access, Interdisciplinary Teams, Health Policy

Introduction:

As the landscape of global health continuously evolves, the pressing need for innovative and effective healthcare solutions becomes paramount. The rise of chronic diseases, the escalation of healthcare costs, and the ongoing disparities in health access highlight the complexities of modern health systems. Within this intricate framework, Advanced Practice Nurses (APNs) have emerged as pivotal stakeholders in healthcare delivery and administration, significantly influencing international public health policies, healthcare practices, and patient outcomes [1]. Advanced Practice Nursing comprises specialized roles, including Nurse Practitioners, Clinical Nurse Specialists, Nurse Midwives, and Nurse Anesthetists, which together embody a high level of expertise and clinical competence that transcends traditional nursing practices [2].

The contemporary global health environment is marked by unique challenges that necessitate multifaceted interventions. The World Health Organization (WHO) estimates that by 2030, chronic diseases will account for over 70% of deaths worldwide, significantly stressing existing healthcare systems. Concurrently, the COVID-19 pandemic has exposed critical weaknesses in health infrastructures and uneven healthcare access across different populations. In light of these challenges, global health administration must adapt to rapidly changing dynamics and prioritize comprehensive care strategies that address both immediate health needs and long-term sustainability. Advanced Practice Nurses are well-positioned to lead these initiatives due to their extensive clinical knowledge, patient-centered approach, and ability to integrate care across various health settings [3].

One of the crucial roles that Advanced Practice Nurses play in shaping global health administration lies in their engagement with healthcare policy. Historically, nursing has often been relegated to a support role; however, as the need for effective leadership and advocacy grows, APNs are increasingly finding themselves at the forefront of policy discussions. They actively participate in shaping legislation related to health services, funding distribution, and the regulation of healthcare practices. By collaborating with policymakers and health organizations, APNs leverage their clinical

insights to advocate for reforms that promote equity and access to quality care [4].

For example, in the context of primary care, studies have demonstrated that APNs can significantly enhance healthcare delivery, particularly in underserved areas. Their involvement in policy decisions can lead to the expansion of their authority to practice independently, which is crucial in regions facing healthcare provider shortages. By impacting legislation that governs nursing practice, APNs strengthen health systems' resilience, thereby contributing to the overall efficacy of global health administration [3].

Access to care remains a critical issue in the global health domain, where millions of individuals lack the necessary resources to receive adequate healthcare. Advanced Practice Nurses play an instrumental role in bridging these gaps. With their capability to provide high-quality, cost-effective care, APNs can address health disparities by working in various settings, including rural and underserved communities. Their unique training allows them to assess, diagnose, and manage patient conditions, reducing the burden on physicians and enhancing service delivery [1].

By establishing community-based health programs, APNs educate patients, promote preventive care, and reduce unnecessary hospitalizations, thereby improving health outcomes for disenfranchised populations. Their holistic approach to care not only addresses immediate health concerns but also empowers communities through education and resource management. In this capacity, APNs contribute to the formulation of global health strategies that prioritize equity, accessibility, and sustainability [2].

Empirical evidence supports the effectiveness of Advanced Practice Nurses in improving health outcomes across various populations. Research illustrates that APNs can reduce hospital readmission rates, enhance patient satisfaction, and improve chronic disease management. Their expertise in geriatric care, mental health, and pediatrics positions them to deliver specialized services that align with the diverse needs of global populations [3].

Moreover, APNs are often involved in interdisciplinary teams, facilitating coordinated care that optimizes treatment plans for complex

conditions. Their ability to communicate effectively with patients and various healthcare professionals fosters collaboration, ensuring that patients receive comprehensive care throughout their health journeys. As global health administration increasingly recognizes the benefits of team-based care and integrated service delivery models, the contributions of APNs become indispensable [4].

The Impact of Advanced Practice Nurses (APNs) on Healthcare Access and Equity

Advanced Practice Nursing encompasses a range of nursing roles that require advanced education, typically at the master's or doctoral level. APNs are equipped with the skills necessary to perform comprehensive assessments, diagnose illnesses, interpret diagnostic tests, and initiate treatment plans. With the ability to prescribe medications in many jurisdictions, APNs function at a level that allows them to provide care comparable to that of physicians. This advanced training positions them as critical providers in areas where healthcare resources may be scarce [5].

One of the most significant contributions of APNs is their ability to enhance healthcare access, particularly in underserved or rural areas where physician shortages are often pronounced. The U.S. is experiencing a growing shortage of primary care physicians, exacerbated by factors such as an aging population, increasing prevalence of chronic diseases, and a workforce that is aging and retiring faster than new professionals can be trained. APNs have emerged as vital substitutes, offering similar services while alleviating some of the burden on existing healthcare setups [6].

Studies show that areas with higher concentrations of APNs are associated with improved health outcomes, particularly in primary care settings. For instance, a systematic review indicated that patient outcomes related to chronic disease management, preventative care, and overall satisfaction significantly improve when APNs are integrated into healthcare teams. This is particularly impactful in rural and underserved urban areas, where access to healthcare facilities may be limited due to distance, transportation barriers, or lack of financial resources [1].

Health disparities refer to the significant differences in health outcomes that exist among different populations, often influenced by factors such as

socioeconomic status, race, ethnicity, and geographic location. APNs play a pivotal role in addressing these disparities through a variety of models and strategies [3].

One approach is through the establishment of community health clinics led by APNs, which provide essential healthcare services to marginalized populations. These clinics often focus on preventative care and chronic disease management, addressing the social determinants of health that contribute to disparities. Many APNs have committed their practice to improving health outcomes among specific populations, such as Medicaid recipients, immigrants, and low-income families [5].

APNs also engage in culturally competent care, understanding the unique needs of diverse populations. Their training often includes frameworks on health literacy, cultural sensitivity, and community engagement strategies, which enhance their ability to connect with patients and provide tailored interventions. In doing so, APNs empower patients by facilitating better understanding and management of their health conditions, promoting greater equity in healthcare delivery [6].

Furthermore, APNs frequently advocate for policy changes that address systemic barriers to healthcare access. This may include lobbying for expanded insurance coverage, advocating for telehealth services, or participating in initiatives that promote health education in underserved communities. By using their voices and expertise, APNs not only advocate for their patients but also foster a more equitable healthcare environment [7].

The integration of APNs into collaborative care models has shown to enhance patient care and outcomes while supporting healthcare access. Collaborative models include interdisciplinary teams where APNs work alongside physicians, social workers, pharmacists, and other healthcare professionals. This teamwork ensures that patients receive comprehensive care that addresses various aspects of their health, particularly for those with complex or comorbid conditions [8].

Research suggests that collaborative care models in which APNs are key members lead to better clinical outcomes, higher patient satisfaction, and reduced costs. By pooling their knowledge and resources,

healthcare teams can identify and address barriers to care more effectively. APNs are often at the forefront of coordinating these efforts, managing patient care plans, and facilitating communication among team members [7].

In addition to direct patient care, APNs contribute significantly to healthcare policy development and quality improvement initiatives within organizations. Their insights into patient needs and healthcare delivery challenges provide valuable perspectives that can lead to systemic changes aimed at improving equity [3].

The advent of telehealth has revolutionized healthcare delivery, particularly in the context of increasing access and equity. APNs have embraced telehealth technologies to provide healthcare services remotely, bridging geographical gaps that may exist in traditional in-person care. Through telehealth, APNs can reach patients in rural areas, those without reliable transportation, and individuals with limitations that inhibit their ability to access traditional healthcare facilities [8].

Research has demonstrated that telehealth services offered by APNs are as effective as those provided by physicians, particularly in managing chronic conditions, conducting mental health evaluations, and providing follow-up care. By leveraging technology, APNs can offer timely intervention, educate patients about their health, and monitor treatment adherence, all of which are critical in managing health disparities [9].

Moreover, the pandemic accelerated the adoption of telehealth, highlighting its potential to deliver care in unprecedented situations. As healthcare systems continue to adapt, APNs will be essential in sustaining and expanding telehealth services, ensuring that access remains equitable in the future [4].

Advanced Practice Nurses in Interdisciplinary Healthcare Teams:

APNs encompass several roles, including Nurse Practitioners (NPs), Clinical Nurse Specialists (CNSs), Certified Nurse Midwives (CNMs), and Nurse Anesthetists (CRNAs). Each of these roles embodies advanced clinical competencies, clinical leadership, and a deep understanding of healthcare systems. APNs are uniquely trained to evaluate, diagnose, and manage patient care independently or

in conjunction with other healthcare professionals. They not only provide primary and specialized care but also play crucial educational and consultative roles within healthcare teams [8].

Interdisciplinary teams are groups consisting of members from various healthcare disciplines, collaborating to optimize patient outcomes through shared knowledge, skills, and responsibilities. These teams are designed to address the complexities and nuances of patient care, particularly in environments where patients often present with multifactorial health issues requiring a comprehensive approach. Collaborative practices within these teams are rooted in effective communication, mutual respect, and a unified commitment to patient well-being. By combining the expertise of various healthcare professionals—including physicians, pharmacists, social workers, therapists, and APNs—teams enhance their ability to deliver holistic care that is often more responsive to patient needs than conventional, siloed care models [9].

APNs serve as catalysts for collaboration within interdisciplinary healthcare teams. Their roles position them at the intersection of clinical care and patient advocacy, ensuring that patient perspectives are integrated into the decision-making process. Several practices exemplify the contribution of APNs to team-based care [7].

1. **Coordination of Care:** APNs take an essential role in coordinating multi-faceted care plans. Their training prepares them to assess patients holistically, considering not only physical health but also mental, emotional, and social factors. This comprehensive assessment allows APNs to communicate effectively with other team members about patient needs and tailor interventions accordingly. For instance, in managing chronic conditions like diabetes or hypertension, APNs can work seamlessly with dietitians, pharmacists, and social workers to create interconnected care plans that address various aspects of the patient's life, fostering better adherence and outcomes [10].

2. **Patient Education and Engagement:** Education is vital in promoting patient engagement and adherence to treatment plans. APNs excel in providing education tailored to the patient's level of understanding, preferences, and cultural background. By equipping patients with knowledge about their conditions and treatment options, APNs

facilitate a shared decision-making model. This empowerment is essential for successful healthcare outcomes, as engaged patients are more likely to adhere to medical advice and participate in their care actively [11].

3. **Leadership and Advocacy:** APNs often take on leadership roles within interdisciplinary teams, guiding discussions and advocating for patient-centered policies and practices. Their advanced education equips them with the skills necessary to analyze clinical outcomes, implement quality improvement initiatives, and engage in health policy advocacy. By representing the nursing perspective within interdisciplinary discussions, APNs ensure that nursing contributions are recognized and valued, ultimately enhancing team cohesion and functioning [12].

4. **Research and Evidence-Based Practice:** Integrating evidence-based practice into patient care is vital for improving outcomes. APNs are equipped with research skills that allow them to critically evaluate studies, translate evidence into practice, and educate colleagues about best practices. Their ability to contribute to the development of clinical protocols or pathways ensures that the healthcare team operates on a foundation of the latest and most relevant research. Furthermore, APNs often engage in conducting research within their practice settings, contributing further to the knowledge base that informs team practices [13].

5. **Crisis Intervention and Support:** APNs are trained to manage acute situations and provide psychological support, making them invaluable during crises. Their ability to conduct rapid assessments and intervene appropriately in high-pressure situations—such as in emergency rooms or during hospital admissions—enhances team responsiveness and effectiveness. Their skills in navigating complex emotional landscapes also assist in supporting other team members during particularly challenging cases, thereby fostering a collaborative and supportive team environment [11].

Research consistently demonstrates that the inclusion of APNs in interdisciplinary teams correlates with enhanced patient outcomes. Studies have indicated improvements in patient satisfaction, reductions in hospital readmission rates, and better disease management when APNs are part of the care team. Their focus on preventive care, education, and

chronic disease management addresses the continuity of care that is often lacking in fragmented healthcare systems. Moreover, APNs contribute to efficient healthcare delivery, alleviating physicians' workloads by managing routine care and allowing doctors to concentrate on complex cases and surgical interventions [12].

Despite the evident benefits of APNs in interdisciplinary teams, several challenges persist. Role ambiguity, variations in scope of practice, and interprofessional stereotypes can hinder effective collaboration. Furthermore, differences in clinical training and perspectives may lead to conflicts, highlighting the importance of fostering an environment of mutual respect and understanding [9].

Opportunities exist to overcome these challenges through enhanced interprofessional education (IPE) initiatives, where APNs and other healthcare professionals train together. Building relationships and developing shared values and communication techniques during the education process can lead to improved team dynamics in clinical settings. Moreover, policy reforms that standardize the practice of APNs and clarify their roles within interdisciplinary teams can further promote their integration [12].

Policy Advocacy and Healthcare Reform:

Advanced Practice Nurses comprise a diverse group of professionals, including Nurse Practitioners (NPs), Clinical Nurse Specialists (CNSs), Nurse Anesthetists (CRNAs), and Nurse Midwives (CNMs). Each of these roles encompasses advanced clinical training, education, and often prescriptive authority, enabling APNs to deliver high-quality care autonomously or in collaboration with other healthcare providers. Their extensive training equips them not only with clinical expertise but also with a comprehensive understanding of the healthcare system, patient needs, and the complex interplay of social determinants of health. This unique combination positions APNs as key players in policy advocacy, allowing them to influence healthcare reform efforts effectively [13].

Healthcare policy advocacy is essential in addressing systemic problems such as healthcare access, quality of care, and healthcare costs. With the rapid changes introduced by technological advancements, demographic shifts, and public

health crises like the COVID-19 pandemic, there is an urgent need for effective policy measures that ensure equitable access to care and optimal health outcomes. The National Organization of Nurse Practitioner Faculties emphasizes that APNs are equipped to advocate for policies that enhance healthcare services, improve patient outcomes, and address the needs of underserved populations. Their involvement in advocacy efforts not only benefits patients but also promotes the nursing profession as a whole [14].

APNs engage in policy advocacy through various avenues, including grassroots efforts, professional organizations, and direct participation in legislative processes. Their roles can be summarized in the following key areas:

1. **Educators and Informants:** APNs often serve as educators, raising awareness about critical health issues within their communities and among policymakers. By disseminating evidence-based information, they highlight the importance of specific healthcare reforms, such as expanded access to primary care or improved mental health services [15].
2. **Collaborators in Legislative Processes:** Many APNs participate in the legislative process by collaborating with lawmakers, providing testimony during hearings, and contributing to workgroups focused on crafting health policies. Their clinical insights serve to inform legislative agendas, ensuring that policies are developed grounded in real-world healthcare challenges [12].
3. **Advocates for the Underserved:** APNs frequently work in underserved or vulnerable populations, enabling them to advocate for policies that address health disparities. Their first-hand experiences with patients facing barriers to care allow them to articulate the urgent need for reforms that can enhance access and equity within the healthcare system.
4. **Leaders within Professional Organizations:** APNs are active members of professional organizations such as the American Association of Nurse Practitioners (AANP) and others that promote legislative agendas relevant to nursing and healthcare. Through these platforms, APNs can engage in collective advocacy efforts, driving policy changes at local, state, and national levels [16].

The involvement of APNs in healthcare policy advocacy has led to significant outcomes in several areas:

1. **Legislation Expanding Practice Authority:** Advocacy efforts by APNs have been instrumental in passing legislation that expands their scope of practice. Many states have moved towards granting full practice status to NPs, allowing them to operate independently without physician oversight. This legislative change enhances access to care, particularly in rural areas where healthcare providers are scarce [17].
2. **Influencing Health Care Payment Models:** Through advocacy, APNs have contributed to the development of healthcare payment models that prioritize value over volume. Their insights into patient-centered care have supported initiatives that incentivize healthcare systems to improve quality and outcomes, thereby aligning financial structures with the needs of patients [14].
3. **Addressing Social Determinants of Health:** APNs are at the forefront of advocating for policies that recognize and address social determinants of health, including housing, nutrition, and education. By bringing attention to these factors, they are influencing comprehensive approaches that seek to improve overall public health outcomes [15].
4. **Promoting Mental Health Legislation:** With the rising incidence of mental health issues, APNs have played a critical role in advocating for policies that expand mental health services. They have supported legislation aimed at integrating mental health care into primary care settings, reducing stigma and enhancing access [18].

Despite the significant impact of APNs in policy advocacy, challenges remain. Many APNs face obstacles related to a lack of recognition from policymakers regarding their expertise, as well as systemic barriers that limit their full participation in advocacy efforts. Additionally, the political landscape can be contentious, making it difficult to achieve consensus on healthcare reforms [19].

However, these challenges also present opportunities for growth. By forging alliances with other healthcare stakeholders, engaging in interdisciplinary collaborations, and increasing public awareness of their roles, APNs can amplify their voices in advocacy. Training programs focused

on policy and advocacy can also equip APNs with the necessary skills to navigate the complex legislative environment, empowering them to become even more effective advocates [20].

Leadership and Governance in Global Health:

Advanced Practice Nurses encompass several roles, including Nurse Practitioners, Clinical Nurse Specialists, Nurse Anesthetists, and Nurse Midwives. They possess advanced clinical training, knowledge, and skills, enabling them to provide high-quality, evidence-based care. Beyond their clinical competencies, APNs are increasingly recognized for their leadership abilities in various settings, particularly in health governance and policy-making arenas. Their contributions derive from their unique vantage point at the intersection of healthcare delivery and patient advocacy, positioning them as vital stakeholders in shaping health policy [21].

Leadership is fundamental to global health governance, which entails overseeing health systems, shaping policies, and ensuring equitable health access. Effective leaders champion innovative solutions to health challenges, mobilize resources, and foster collaboration among diverse stakeholders, including government entities, non-government organizations (NGOs), and community groups. In the rapidly changing public health environment, where crises such as pandemics can arise unexpectedly, the need for responsive and adaptive leadership is paramount [22].

1. Clinical Expertise in Policy Development

APNs bring essential clinical insights to health policy discussions. Their direct experience in patient care equips them with a nuanced understanding of the healthcare needs and challenges faced by various populations. As policymakers, APNs can advocate for policies that address gaps in healthcare access and quality. For instance, they are well-versed in the implications of health policies on patient outcomes, enabling them to inform legislation and regulations that prioritize patient-centered care. By advocating for evidence-based practices, APNs contribute to the creation of effective health policies that are grounded in the realities of clinical practice [23].

2. Advocacy and Representation

APNs serve as strong advocates for vulnerable populations often marginalized in health

discussions. Their grassroots engagement allows them to amplify the voices of those facing healthcare disparities, thereby pushing for policies that promote health equity. For example, APNs have played crucial roles in initiatives aimed at improving maternal and child health, addressing chronic diseases in underserved communities, and promoting mental health services. By representing the needs and concerns of their communities, APNs influence the direction of health governance and ensure that policy decisions are inclusive and equitable [24].

3. Stewardship of Resources

Effective governance requires judicious management of health resources. APNs are well-equipped to understand the financial and logistical aspects of healthcare delivery, allowing them to advocate effectively for resource allocation that meets the needs of the populations they serve. In their roles, they often take part in budget discussions and resource management at institutional or governmental levels, ensuring that funds are directed toward impactful health programs. Their ability to assess the cost-effectiveness of interventions further strengthens their contributions to health governance [25].

4. Facilitating Interprofessional Collaboration

Health challenges are rarely confined to a single discipline. APNs excel in fostering interdisciplinary collaboration, which is vital for holistic health governance. By working alongside physicians, social workers, public health officials, and other health professionals, APNs facilitate integrated care models that address the multifactorial nature of health issues. Their leadership in interdisciplinary team settings not only enhances patient outcomes but also promotes collective policy efforts aimed at broader health system improvements [13].

5. Education and Capacity Building

APNs are instrumental in educating healthcare professionals and communities about health policies and the implications of governance decisions. Through direct teaching, workshops, and community outreach, they disseminate vital information that empowers stakeholders to engage actively in health discussions. This educational role enhances the overall capacity for informed advocacy

and promotes a culture of accountability within the health system. By cultivating a well-informed public and a skilled workforce, APNs contribute significantly to sustainable health governance [26].

Despite the critical contributions of APNs to health leadership and governance, several challenges persist. Regulatory and institutional barriers often limit APNs' ability to fully engage in policy-making processes. In many regions, APNs face restrictions that inhibit their practice autonomy, preventing them from assuming leadership roles that reflect their capabilities. Additionally, there may be a lack of representation of APNs in key decision-making bodies, which can marginalize their clinical insights and advocacy efforts. To enhance their influence in health governance, it is essential to address these barriers and promote an inclusive approach to policy-making that incorporates the perspectives of diverse healthcare providers [27].

Conclusion

In conclusion, Advanced Practice Nurses hold a crucial role in shaping global health administration amid a backdrop of growing challenges and inequities in healthcare systems. Their involvement in policy advocacy, commitment to increasing access to care, and dedication to improving health outcomes position them as vital contributors to the evolution of global health strategies. To fully harness the potential of APNs, continued investment in their education, leadership, and practice autonomy is essential. As healthcare systems worldwide grapple with the complexities of modern health demands, embracing the expertise of Advanced Practice Nurses will not only enhance service delivery but will also pave the way for more sustainable, equitable health policies that ultimately benefit populations globally. The future of global health administration hinges upon recognizing and empowering the critical role played by these healthcare professionals, ensuring a more resilient and effective response to health challenges both now and in the years to come.

References:

1. Harkless G, Vece L. Systematic review addressing nurse practitioner reimbursement policy: Part one of a four-part series on critical topics identified by the 2015 nurse practitioner research agenda. *J Am Assoc Nurse Pract.* 2018 Dec;30(12):673-682.
2. McCauley LA, Broome ME, Frazier L, Hayes R, Kurth A, Musil CM, Norman LD, Rideout KH, Villarruel AM. Doctor of nursing practice (DNP) degree in the United States: Reflecting, readjusting, and getting back on track. *Nurs Outlook.* 2020 Jul-Aug;68(4):494-503.
3. Chan TE, Lockhart JS, Schreiber JB, Kronk R. Determining nurse practitioner core competencies using a Delphi approach. *J Am Assoc Nurse Pract.* 2020 Mar;32(3):200-217.
4. McClelland M, McCoy MA, Burson R. Clinical nurse specialists: then, now, and the future of the profession. *Clin Nurse Spec.* 2013 Mar-Apr;27(2):96-102.
5. Iwata E. [History of certified registered nurse anesthetists (CRNAs) in the United States and their contribution to anesthesia care: Implication of nursing role expansion to promote autonomous and collaborative professional nursing practice in Japan]. *Nihon Geka Gakkai Zasshi.* 2009 Sep;110(5):292-303.
6. Mayo AM, Ray MM, Chamblee TB, Urden LD, Moody R. The Advanced Practice Clinical Nurse Specialist. *Nurs Adm Q.* 2017 Jan/Mar;41(1):70-76.
7. Kleinpell R, Myers CR, Likes W, Schorn MN. Breaking Down Institutional Barriers to Advanced Practice Registered Nurse Practice. *Nurs Adm Q.* 2022 Apr-Jun;46(2):137-143.
8. Garde JF. The nurse anesthesia profession. A past, present, and future perspective. *Nurs Clin North Am.* 1996 Sep;31(3):567-80.
9. Jefferson E. How history shaped the modern day midwife. *Pract Midwife.* 2017 Jan;20(1):23-25.
10. Lawrence K, Motta G. Reimbursement Opportunities for WOC Nursing Services: Medicare Part B "Incident to" Services Policy: A Fact Sheet. *J Wound Ostomy Continence Nurs.* 2019 Jul/Aug;46(4):351-353.
11. McMullan SP, Thomas-Hawkins C, Shirey MR. Certified Registered Nurse Anesthetist Perceptions of Factors Impacting Patient Safety. *Nurs Adm Q.* 2017 Jan/Mar;41(1):56-69.
12. Park J, Athey E, Pericak A, Pulcini J, Greene J. To What Extent Are State Scope of Practice Laws Related to Nurse Practitioners' Day-to-Day

- Practice Autonomy? *Med Care Res Rev.* 2018 Feb;75(1):66-87.
13. Brennan C. Tracing the History of the Nurse Practitioner Profession in 2020, the Year of the Nurse. *J Pediatr Health Care.* 2020 Mar-Apr;34(2):83-84.
14. Dawley K, Burst HV. The American College of Nurse-Midwives and its antecedents: a historic time line. *J Midwifery Womens Health.* 2005 Jan-Feb;50(1):16-22.
15. Kennedy HP, Myers-Ciecko JA, Carr KC, Breedlove G, Bailey T, Farrell MV, Lawlor M, Darragh I. United States Model Midwifery Legislation and Regulation: Development of a Consensus Document. *J Midwifery Womens Health.* 2018 Nov;63(6):652-659.
16. Hudspeth RS, Klein TA. Understanding nurse practitioner scope of practice: Regulatory, practice, and employment perspectives now and for the future. *J Am Assoc Nurse Pract.* 2019 Aug;31(8):468-473.
17. Dillon D, Gary F. Full Practice Authority for Nurse Practitioners. *Nurs Adm Q.* 2017 Jan/Mar;41(1):86-93.
18. Koch BE. Surgeon-nurse anesthetist collaboration advanced surgery between 1889 and 1950. *Anesth Analg.* 2015 Mar;120(3):653-662.
19. Kleinpell R, Myers CR, Schorn MN, Likes W. Impact of COVID-19 pandemic on APRN practice: Results from a national survey. *Nurs Outlook.* 2021 Sep-Oct;69(5):783-792.
20. Clarke V, Lehane E, Mulcahy H, Cotter P. Nurse Practitioners' Implementation of Evidence-Based Practice Into Routine Care: A Scoping Review. *Worldviews Evid Based Nurs.* 2021 Jun;18(3):180-189.
21. Reimbursement Task Force and APRN Work Group, of WOCN Society National Public Policy Committee, 2011. Reimbursement of Advanced Practice Registered Nurse Services: a fact sheet. *J Wound Ostomy Continence Nurs.* 2012 Mar-Apr;39(2 Suppl):S7-16.
22. DePriest K, D'Aoust R, Samuel L, Commodore-Mensah Y, Hanson G, Slade EP. Nurse practitioners' workforce outcomes under implementation of full practice authority. *Nurs Outlook.* 2020 Jul-Aug;68(4):459-467.
23. Matsusaki T, Sakai T. The role of Certified Registered Nurse Anesthetists in the United States. *J Anesth.* 2011 Oct;25(5):734-40.
24. Darmody JV, Coke LA. Becoming a Clinical Nurse Specialist in the United States. *Clin Nurse Spec.* 2019 Nov/Dec;33(6):284-286.
25. Garde JF. The nurse anesthesia profession. A past, present, and future perspective. *Nurs Clin North Am.* 1996 Sep;31(3):567-80.
26. Iwata E. [History of certified registered nurse anesthetists (CRNAs) in the United States and their contribution to anesthesia care: Implication of nursing role expansion to promote autonomous and collaborative professional nursing practice in Japan]. *Nihon Geka Gakkai Zasshi.* 2009 Sep;110(5):292-303.
27. McMullan SP, Thomas-Hawkins C, Shirey MR. Certified Registered Nurse Anesthetist Perceptions of Factors Impacting Patient Safety. *Nurs Adm Q.* 2017 Jan/Mar;41(1)