The advanced practice nurse role's development and identity: an international review

ABSTRACT

Healthcare is changing; the physician shortage continues to grow and the complexity of health care continues to increase in relation to aging populations, lower reimbursement rates, and increased documentation requirements; an alternative has to be addressed. Globally, the advanced practice nurse (APN) role has grown enormously. Despite the growing use of APN practitioners worldwide, many facilitators and barriers exist to role implementation. Many countries face similar issues, including a lack of clarity and regulation regarding the APN role. Despite these barriers, APNs continue to make headway. This narrative will review barriers and challenges to role advancement across countries and offer opportunities to facilitate APN role development.

Key words

advanced nursing practice, advanced practice nurse, advanced practice role, facilitators and barriers, global nurse practitioner practice

he World Health Organization (WHO) estimates that over half the countries in the world are experiencing a physician shortage, especially in primary care (Association of American Medical Colleges (AAMC), 2021). The physician shortage is expected to continue, with the US Health Resources and Services Administration (HRSA) estimating that the US national domestic primary care physician deficit could reach between 17800 and 48000 in the next 10 years (AAMC, 2021).

The global deficit of primary care physicians has created a need for alternative providers. While advanced practice nurses (APNs) and nurse practitioners (NPs) have been historically underutilised across the worldwide health environment (Rosa et al, 2020), their influence and importance are growing. APNs have become the foundation of primary care in the US (Poghosyan and Maier, 2022) and have been shown to demonstrate greater adherence to recommended targets and practical guidelines, and provided enhanced patient care (Htay and Whitehead, 2021). Patients have also expressed high levels of satisfaction with the care provided by APNs (Hackey et al, 2018).

In 2020, the International Council of Nurses (ICN) produced guidelines on advanced nursing practice. This document defines an APN role as a 'registered nurse who has acquired the expert knowledge base, complex decision-making skills, and clinical competencies for expanded practice, the characteristics of which are shaped by the context and/or country in which s/he is credentialed to practice' (ICN, 2020). This definition, while popular, is not utilised by all; some countries, such as the UK, have a wide variety of advance practice titles, such as 'advanced nurse practitioners' and 'advanced clinical practitioners' (Leary et al, 2017).

This article explores the APN's role and the differing ways it has been implemented worldwide. It discusses

the benefits and challenges associated with the role in a general sense, before examining its implementation in the US, UK, Netherlands, Republic of Ireland, Australia, France and Japan. Specific focus is placed on the regulatory framework used in each country, the facilitators and barriers to role implementation, and whether similar APN-related roles have developed under different names/specialities. The titles and terms used in this narrative will reflect the titles of the respective countries discussed.

Role implementation

Benefits

Pressures on the healthcare system are greater than ever. This can be attributed to a variety of factors, including a lack of primary care providers, an increasingly aging population and the increasing prevalence of chronic diseases, especially in rural areas. APNs are a constructive asset in addressing the increasing needs, as they can:

- Provide safe, high-quality, comprehensive care for common and chronic diseases
- Prescribe medication
- Order diagnostic testing
- Promote health and wellness
- Generate health outcomes similar to that of physicians
- Conduct services and speciality consultations (similar to that of physicians)
- Be embedded in rural communities to address gaps in services (Barnes et al, 2018; Adams and Carryer, 2019; Lee et al, 2020; Liu et al, 2020; Kilpatrick et al, 2023).
 In addition, APNs are a cost-effective solution to financially overburdened healthcare services. Abraham

financially overburdened healthcare services. Abraham et al (2019) systematically reviewed the cost-effectiveness of APN care and found that APNs provided economical medication management and were reimbursed at a lower rate than physicians.

Strong professional organisations, such the American Association of Nurse Practitioners and their international special interest groups, the Canadian Nurses Association and WHO, can facilitate the advancement of the APN role globally. The nursing organisations focus on policy changes, regulations, education and training standards. A unified APN voice helps support the profession's education and the public. Professional nursing organisations are dedicated to raising the standards of education and practice (Matthews, 2012).

Challenges

Ambiguity

Despite the growing use of APN practitioners worldwide, there is a lack of clarity regarding regulations for the APN, the title to be used and the scope of specialisation/practice the role should cover (Poghosyan and Maier, 2022). Inconsistencies in the titles and scope of practice

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confuse practitioners as to what APNs can and cannot do, and the lack of a clear definition of the APN role can create misunderstandings and dissatisfaction (El Hussein and Ha, 2023) (Box 1). This can, in part, be attributed to the variety of country-specific contexts the role operates in, as well as how the role is usually implemented in response to unique and specific healthcare national/regional needs (Lee et al, 2020; Unsworth et al, 2022; Kilpatrick et al, 2023).

Countries can also face a variety of issues regarding role implementation, which can range from of a lack of clarity as to the purpose of the role, to a lack of formal role regulation. This lack of clarity and transparency within and across countries further inhibits the development of a fixed professional 'APN identity' and can lead to APNs being underutilised (Thompson and McNamara, 2022). In their recent review that examined the APN's role across 26 countries, Wheeler et al (2022) found that only 45% of APNs reported formal recognition by the government of their host country. Internationally, it is noted that the APN role is generally ill-defined and without formal regulation (Fothergill et al, 2022).

Education and training

Practitioners often require extensive training and education to obtain the APN title. The ICN (2020) guidelines for APNs recommend that they obtain an MSc degree before entering advanced practice. These qualifications can take 18 months to 5 years to achieve, depending on the type of programme or the degree to be obtained (Wheeler et al. 2022), and the required clinical hours can range from 500 to 1500 hours of practice. Alternatively, the American Association of Colleges of Nursing (AACN) and the National Organization of Nurse Practitioner Faculties (NONPF) have endorsed the Doctor of Nursing Practice (DNP) qualification, the practice equivalent of a research doctorate, as an entry-level for NPs in the US (NONPF, 2018; American Association of Nurse Practitioners, 2022). DNPs can make complex decisions, function as leaders of healthcare teams, and make critical decisions about a patient's care plan. While useful in providing alternative avenues for professionals to pursue, such inconsistency can contribute to further confusion.

In terms of training, the APN role has been described as hybrid, encompassing elements of holistic assessment and clinical assessment (Jones et al, 2023). While traditional assessments developed for medical staff will not necessarily fit different professional groups, internationally, some 'medic' assessments can be applied to APNs (Stirling and Henderson, 2021).

Resistance from healthcare providers

Physician resistance or scepticism can undermine the expansion and authority of the APN role (Schirle et al, 2020). Such resistance could potentially come from a lack of understanding of the role and a lack of APN/NP recognition (Kleinpell et al, 2022; Thompson and McNamara, 2022). There can also be administrative resistance to the integration of the role in facilities such as hospitals and community clinics (Kleinpell et al, 2022; Thompson and MacNamara, 2022).

Funding

Available funding for the APN role can vary between countries and determined by policy, healthcare systems and professional organisations. States with reduced or restricted practice must have collaborative agreements

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BOX 1. CURRENT TITLES IDENTIFIED

Advanced clinical practitioner	Senior nurse practitioner
Nurse practitioner	Advanced nurse practitioner
Registered nurse practitioner	Association nurse practitioner
Clinical nurse practitioner	Clinical nurse specialist

in the US, which can be costly. Collaborative agreements are written statements indicating joint practice between a physician and an APN. It is a statement of supervision of practice. The agreement fees in APN-run clinics can range between \$6000 (£4925) and \$50000 (£41049) USD annually (Martin and Alexander, 2019; Kleinpell et al, 2023).

A study by Myers et al (2022) reviewed the economic impact of removing practice restrictions. APNs were found to have contributed significantly to the state's economy (Myers et al, 2012). Healthcare is facing challenges in meeting the public demand for services. Reducing or eliminating barriers to full APN practice can help fulfil healthcare providers' needs.

The countries highlighted in this review are considered high-income related to healthcare by The Commonwealth Fund Research (2021), except Japan, which has a high life expectancy yet poor self-rated health (Schneider et al, 2021). Despite the difference in size, healthcare expenditures, insurance and universal health coverage between countries, they share many of the same healthcare disparities. *Table 1* identifies similarities related to health disparities of the countries listed in this review.

The advanced practice nurse role globally United States

As of 2022, there are approximately 340 000 NPs operating in the US (AANP, 2022). The primary barriers to the APN practice role are regulatory, institutional and financial. Each individual state regulates APN

practice and imposes its own restrictions on the scope of practice and physician oversight required; these measures can limit the APN from using the full range of their education/training (American Nurse Association, 2023).

There are ongoing efforts to change legislative policy to reduce state restrictions on the APN scope of practice. State-level nursing organisations are actively lobbying in favor of full-practice authority. While it has been noted that the states with the less restrictive APN scope of practice show improved access to care (Patel et al, 2019), some physician groups, such as the American Medical Association (AMA), are actively lobbying to prevent full practice authority, citing public safety concerns and less medical education (AMA, 2023). There are also organisational barriers related to credentialing policies and admitting privileges. Some facilities require physician co-signatures on orders.

The Centers for Medicare and Medicaid Services (CMS), a federal regulatory agency, also limits the services that an APN can provide. APN reimbursement is lower than that of the physician for the same services. APNs cannot perform physical examinations unless they are employed by an outside entity. This complexity in care provision processes exacerbates confusion around role identity. Other barriers to practice include organisational bylaws, insurance and reimbursement issues, and required practice agreements. State barriers are primarily related to full, restricted and reduced practice authority.

United Kingdom

Since initial role importation, the UK has adopted a unique approach to advanced practice development, moving towards multidisciplinary advanced practice (Department of Health (DoH), 2016; Scottish Government (SG) 2017a; Health Education England (HEE), 2017; DoH, 2019; Welsh Government (WG), 2020; SG, 2021). While exact classifications may vary slightly, advanced practice is defined as a level of practice delivered by MSc-level prepared, experienced and registered healthcare practitioners, who can demonstrate capability across the four pillars of practice (clinical practice, leadership and management, education and research).

These advanced practice roles are largely clinically focused, where practitioners are responsible for providing 'complete episodes of care' (SG, 2017b). To underpin this advanced level of practice, MSc-level programmes are required to teach anatomy and pathophysiology, holistic assessment and clinical examination, clinical reasoning, clinical decision-

making and prescribing (DoH, 2016; HEE, 2017; DoH, 2019; WG, 2020).

Ruiz (2020) assessed multidisciplinary teams' attitudes toward APNs in emergency departments in UK hospitals and found several important findings. The extent to which existing staff understood the role of the APN was a key factor in the extent to which the team could collaborate effectively. Physicians who worked with APNs provided positive responses to their involvement, citing their cost-effectiveness and appropriate decision-making. Those participants who had not worked with APNs provided negative responses, citing patient safety potentially being at risk due to the APNs' education and knowledge level. Overall, APNs were shown to improve patient care. and few respondents considered APNs to be a threat to traditional doctors. The study also identified the need for relevant standardised regulations for the emergency room's scope of practice.

Strachan et al (2022) sought to evaluate the implementation of the APN's role in primary care specifically in Scotland, where the shortage of GPs are driving a change in the multidisciplinary team approach and ANPs to carry out the tasks initially done by physicians.

The advanced practice allied health professional

The UK regions have developed different academic and educational routes with varied proposed credentialing models. However, all advanced practitioners require an MSc-level education and need to demonstrate support for the four pillars (National Leadership and Innovation Agency for Health Care, 2010; HEE, 2017; NHS Education for Scotland, 2017; Department of Health Northern Ireland, 2019). There is no standardised governance around claiming the advanced practice title and health boards have varied requirements; for example, some board areas require a portfolio submission with evidence of the practitioner's knowledge of the four pillars of practice, while others do not. This inconsistent approach makes identifying role recognition difficult, and varied governance requirements confuse who can claim the advanced practitioner title.

Despite recommendations and various strategic government policies that advocate for the development of a multi-professional advanced practice role, there has been limited and inconsistent uptake of the advanced practice role in some health professional groups. Allied health professionals and clinical scientists have a low uptake for advanced practice roles. Indeed, reports from the west of England show that,

in some regions, up to 81% of advanced practitioners were nurses or midwifery professionals, only 14% were allied health professionals, and the remainder were paramedics and clinical scientists (HEE, 2022). This may be due to the lack of clarity and definition of the advanced practitioner role, lack of protected title, inconsistent financial reimbursement, lack of regulation and title inconsistencies.

Limitations on the advanced practice role

Within the UK, there is no register of advanced practitioners or standardised national data collection model for recording advanced practitioner numbers or activity. This makes it difficult to measure the impact on patient care or service improvements. As a result, advanced practice roles cannot quantify their impact on health outcomes, which weakens the position and identity of the advanced practitioner role to the general public, and reduces service managers' will to integrate them into future workforce planning. These failures undermine the profile of advanced practice and the capacity for trusts to attract and maintain staff in practitioner roles (Evans et al, 2020).

In addition, advanced practice in the UK continues to be underregulated. There is disparity and lack of appetite for regulation within the different professional regulators, with the Health and Care Professional Council (HCPC) reporting the complexity of establishing regulation across broad and clinically diverse multi-professional roles (HCPC, 2021). Implementing a national regulation strategy across multiple professional bodies would also be challenging, as infrastructure, uptake of advanced practice roles, level of autonomy and scope of practice vary across the four home nations.

In clinical practice, advanced practitioners face daily challenges from a lack of awareness and clarity in identifying their roles in staff and patient groups (Contandriopoulos et al, 2015; Jakimowicz et al, 2017). Despite evidence supporting advanced practitioners achieving comparable outcomes to their medical colleagues (Laurant et al, 2018), patient satisfaction is still limited (Horrock et al, 2002; Laurant et al, 2018).

In addition, the years of engrained hierarchy, culture and traditional expectations within the health service may lead to resistance to the implementation of the APN role (Torrens et al, 2020). Expectations from staff and patients of practitioners to continue within their traditional professional role (Sangster-Gormley et al, 2015; Schadewaldt et al, 2016; Jakimowicz et al, 2017) or to work as a substitute doctor (Baily et al, 2006; Nasaif, 2012; Poghosyan et al, 2016), can lead to disagreements about which tasks and roles should be undertaken (Nasaif, 2012; Sangster-Gormley et al, 2015), role development suppression and a lack of opportunity for education, training and ongoing support between professional groups. In addition, ambiguity and a lack of perceived understanding from clinical, managerial staff and the public about advanced practitioners' roles and their clinical skills, training and capabilities, lead to practitioners often being undervalued (Lawler et al, 2022).

The uncertainty of accessing multi-professional or suitable educational support and continued professional development to maintain clinical competence has been reported as problematic (Taylor et al, 2020), which adds to the difficulty regarding role identity and the question of where advanced practitioners fit in.

New opportunities

There are opportunities with new frameworks, policies and strategies to promote advanced practitioner recruitment targets, multi-professional role development and the calls for expanding advanced practice in the UK. Building collaborative relationships within multidisciplinary teams is advocated and encouraged within the latest UK government strategies (NHS England, 2023). The new framework by Health Education and Improvement Wales (HEIW) (2023) clearly defines the levels of clinical practice required and provides clear pathways for progression from enhanced, advanced and consultant levels of practice. In addition, NHS England's long-term workforce plan (HEIW, 2023) clearly stipulates the expansion and recruitment of a multi-professional advanced practitioner workforce for the future.

The Netherlands

In the Netherlands, a 'certified nurse specialist' is a NP registered in the official Dutch registry for nurse specialists, who has completed a 2-year dual MSc programme—the Masters of Science in Advanced Nursing Practice (Venvn, 2022). NPs are highly trained and autonomous healthcare professionals who provide advanced nursing care and have an expanded scope of practice. They often work in primary care settings, hospitals, specialised clinics and community healthcare facilities.

NPs in the Netherlands have prescribing authority and, as of 2018, can independently prescribe medications within their area of expertise. They can prescribe both regular medications and controlled substances. It is important to note that specific details of an NP's practice may vary depending on the specialisation, healthcare organisation and local policies across the Netherlands.

Preventative care practitioners

The NP is a multidisciplinary team player who collaborates with multidisciplinary teams and leads in holistic care delivery. Currently, there are almost 4000 NPs in the Netherlands (Venvs, 2022). Within this 4000, approximately 2.5% (100) work in preventive care. Steps have been taken to further integrate the NP role into the preventative care field, primarily through improving/providing job descriptions, job evaluation and salary, and a working conference on the role of the NP in youth health care. These advancements have developed across other avenues in preventative care, such as in sexual health, where the legal accountability of the NP role has been recognised. Elsewhere in travel medicine, the job description of the NP has been submitted to the working group of the National Coordination Centre of Travel Medicine. Although progress has been gradual, the NP role is gaining traction as an established profession.

The road to these interventions has also been challenging. The lack of clarity about the role fostered doubts about NP competencies and legal abilities. Integration of the role was resisted by doctors and nurses. Doctors cited the apparent lack of long-term training, usually 2 years in contrast to the doctor's 6 years of study, as a major factor behind their initial unwillingness to work within the clinical area.

The Republic of Ireland

While the role of the ANP is relatively new in the Irish health system, it has rapidly evolved in recent years Despite mounting evidence regarding the positive impact of APNs on patient outcomes, there is still considerable resistance from GPs regarding their development, as well as an unwillingness of existing healthcare staff to train for the role. Casey et al (2022) explored a cohort of nurses' interest in becoming an ANP and found that over half of the study participants were not interested in the role. Participants cited a lack of understanding and lack of resources as key factors behind their lack of interest.

In addition, Thompson and McNamara (2022) studied the ANP interaction with the healthcare system, asking APNs and other related healthcare professionals about the APN role. APNs believed that a lack of trust and a limited scope of practice were reasons for the resistance they faced from peers. One APN stated that 'some days It feels like an uphill battle', which referred to how physicians in training were able to make decisions regarding patient care, while practicing APNs were not.

Some health professionals consider the APN a hybrid role that crosses professional boundaries by including medicine in nursing (Thompson and McNamara, 2022). When asked as to how the role could be developed further, APNs expressed the desire for more professional autonomy and independent practice. Regarding collaboration between ANPs and other healthcare staff, increased familiarity with the APN role has reportedly reduced reluctance of staff work alongside ANPs (Thompson and McNamara, 2022).

Australia

In Australia, advanced practice nursing has been well-established and recognised as a specialised and advanced role since 2000. There are over 2500 NPs in Australia (Australian College of Nurse Practitioners, 2023); they use the titles 'nurse practitioner' or 'clinical nurse consultants' (CNCs), depending on the state or territory. As recommended by the ICN, a MSc degree is required. Australian NPs have an expanded scope of practice that includes autonomous decision-making, advanced clinical skills and the ability to diagnose, treat and prescribe medications within their expertise. CNCs have similar expertise and provide advanced clinical care. Their role involves more of a consultative and leadership focus within healthcare teams.

Tudor et al (2020) examined the experiences of hospital wound management CNCs. They found that the CNC cohort was experiencing professional isolation, difficulty driving large-scale change and a lack of professional development opportunities (Tudor et al, 2020). To improve their situation, the CNC cohort formed a committee focused on improving collaboration, the sharing of resources and research, the development of product and equipment discussion forums, and professional development opportunities. The results showed that collaboration

provided professional support for sharing information and lessons learned, and reduced the feeling of role isolation

Rossiter et al (2023) also explored the Australian APN's role. While the role was initiated in response to rising healthcare costs and inequitable access to healthcare services, it was reported to have largely developed around specialised areas due to the lack of a strategic implementation planning. Although the greatest need for APNs is in rural areas, most of the workforce work in urban settings (Rossiter et al, 2023). Financial barriers to role development included a lack of recurrent funding and inadequate reimbursement under the Medicare benefits schedule (Rossiter et al, 2023). Increased access to healthcare in rural areas would also reportedly provide opportunities for APNs to develop and implement new models of care.

France

Advanced practice nursing is relatively new and still under development in France. The role of APNs (Infirmier(ère) en Pratique Avancée) has been recognised and regulated by law since 2018. France follows the ICN educational recommendations for an MSc degree as an essential requirement. French advanced practice nursing does not differentiate between NPs and CNCs. There is an organisational protocol between the physician and the APN outlining the APN role, and frequency of communication with the physician. The physicians determine which patients will be seen by the APN (Colson et al, 2021). France also uses the Participatory Evidence-Informed Patient-Centered Process (PEPPA) framework, developed by Bryant-Lukosius and DiCenso (2004), to guide APN role development. This framework uses an evidencebased approach focusing on role development based on patient needs, consistent with the role definitions and evaluation (Devictor et al, 2023).

The first cohort of 63 French APNs graduated from a 2-year MSc level programme in 2019; 1695 APNs were expected to have graduated by 2022 (OECD, 2021). APNs support care for the chronically ill, oncology and mental health patients. As in many countries, implementing the APN role aims to improve access while reducing costs and emphasise the need for disease prevention (Colson et al, 2021; Devictor et al, 2023). France is looking to expand the number of APNs to 5000 by 2024. While the French model is similar to the internationally recognised model, their APNs enjoy a prescription and diagnosis autonomy closer to that of the CNS model.

Barriers to the integration of role in primary care include physician oversight and inadequate income generation for freelance practitioners, especially in medically limited areas or areas that lack medical care and services. This title is usually determined by the number of primary care physicians, the percentage of the population with an income that is below the poverty level, and percentage of the population aged 65 years or older. (Devictor et al, 2023). Communicating their role to the community and the healthcare team is critical to accepting the evolution of the role. Assessing the role's effectiveness will be essential for further role advancement.

Japan

The Japanese Ministry of Health, Labour and Welfare regulates nursing and sets the standards for advanced practice nursing. APN education is in line with ICN

recommendations. It involves completing a MSc degree programme in nursing (that focuses on the desired specialisation area) and obtaining 5 years of experience. Japan does not have a primary care system, so most of the APNs in Japan practice in the hospital setting. Suzuki et al (2022) identified barriers to NP implementation that included fees for APN services, and a lack of recognition from the physicians, the public, politicians and organisations. Another key barrier is the lack of APN-specific regulation, which can hinder APN development and cause confusion related to the performance of the role. Clear standards and guidelines for practice are necessary.

Discussion

Role development is a complex, dynamic process that can be influenced by several factors. The role must be established by collaborating with organisations, government regulatory bodies and key stakeholders. The role of the APN should be clearly defined to allow the individual the ability to function to the full extent of their education. Medical professionals and the public should be educated on the APN's role as a healthcare team member. A lack of awareness, understanding and clarity surrounding the APN role is prevalent in the literature from all countries presented in this paper (Sevilla-Guerra et al, 2020; Lockwood et al, 2022; Kleinpell et al 2022; Suzuki et al, 2022; Thompson and McNamara, 2022; Rossiter et al, 2023). The common facilitators and barriers to the implementation and integration of the APN role, both in domestic settings and on an international scale, are summarised in Table 2.

Creating opportunities to facilitate the further development of the role include:

- Educating the patients, physicians, stakeholders and organisations on the benefits of APNs
- Working with organisations to market the APN role and increase awareness
- Disseminating the success of the advanced practice role through publications and presentations
- Advocating for the role of the APN.

Conclusion

Globally, the APN role is growing to meet the aging population's needs and the prevalence of chronic and infectious diseases. APNs are uniquely poised to assist in addressing the physician shortage. APNs can function autonomously and as an integral part of the healthcare team.

The facilitators and barriers in APN role development had recurring themes. Supporting the APN role development and implementation requires greater harmonisation and informed global priorities through education, clinical and regulatory requirements (Kilpatrick et al, 2023). If the WHO's mandate of universal healthcare is to be realised, improved coordination of resources and interprofessional collaboration is essential.

The world has reached a critical point in health care; the physician shortage, the aging population, the COVID-19 pandemic, and complex health disparities in urban and rural areas have created an opportunity for APNs to demonstrate practical, safe, high-quality healthcare.

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TABLE 2. FACILITATORS AND BARRIERS TO ADVANCED PRACTICE NURSING

Facilitator Increased autonomy/independent practice Autonomy increased job satisfaction Positive relations with the physician Own panel of patients Clear role delineation Consistent terminology **Barriers** Organisational policies that limit autonomy/independent practice Inability to prescribe medications Need for physician co-signatures Lack of a job description Reimbursement restrictions on advanced practice nurse (APN) care, or reimbursing APN care at a lower rate than physician colleagues performing similar activities Limited resources or support Poor administration relationships and lack of support Lack of professional recognition Poor physician relations and a lack of physician support

KEY POINTS

 Globally, the advanced practice nurse role has grown enormously and patients have expressed high levels of satisfaction with the care advanced practice nurses (APNs) provide

Electronic health records that do not capture APN care

APN role not well understood

Confusing terminology

- Despite the growing use of APN practitioners worldwide to meet the ever-increasing healthcare needs, there still needs to be clarity regarding regulations, the title used and the scope of practice
- The APN role, including the nurse practitioner role, face both facilitators and barriers globally
- Many countries face similar issues with APN role implementation consisting of a lack of clarity as to the purpose of the role and formal regulation of the role.



CPD / Reflective Questions

- How do you understand your country's regulation requirements for advanced practice roles?
- What are the barriers to developing advanced practice roles?
- What would support advanced practice nurse role development in your country?

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Abraham CM, Norful AA, Stone PW, Poghosyan L. Costeffectiveness of advanced practice nurses compared to physician-led care for chronic diseases: a systematic review. Nurs Econ. 2019;37(6):293–305

Adams S, Carryer J. Establishing the nurse practitioner workforce in rural New Zealand: barriers and facilitators. J Prim Health Care. 2019;11(2):152–158. https://doi.

- Association of American Medical Colleges. AAMC report reinforces mounting physician shortage. 2021. https://www.aamc.org/news/press-releases/aamc-report-reinforces-mounting-physician-shortage (accessed 20 October 2023)
- American Association of Nurse Practitioners. NP fact sheet. 2022. https://tinyurl.com/5bdvyzfz (accessed 20 October 2023)
- American Medical Association. AMA successfully fights scope of practice expansions that threaten patient safety. 2023. https://www.ama-assn.org/practice-management/scope-practice/ama-successfully-fights-scope-practice-expansions-threaten (accessed 20 October 2023)
- American Nurses Association. APRN laws and states regulations asccessed. 2023. https://www.nursingworld.org/practice-policy/advocacy/state/aprn-state-law-and-regulation/ (accessed 10 December 2023)
- American Association of Nurse Practitioners. NP fact sheet. 2022. https://www.aanp.org/about/all-about-nps/np-fact-sheet#:~:text=There%20are%20more%20 than%20355%2C000,NPs)%20licensed%20in%20 the%20U.S.&text=More%20than%2036%2C000%20 new%20NPs,academic%20programs%20in%20 2020%2D2021.&text=88.0%25%20of%20NPs%20are%20 certified,all%20NPs%20deliver%20primary%20care (accessed 10 December 2023)
- Baily P, Jones L, Way D. Family physician/nurse practitioner: stories of collaboration. J Adv Nurs. 2006;53(4):381–391. http://doi.org/10.111/j.1365-2648.2006.03734.x
- Barnes H, Richards MR, McHugh MD, Martsolf G. Rural and nonrural primary care physician practices increasingly rely on nurse practitioners. Health Aff. 2018;37(6):908–914. https://doi.org/10.1377/hlthaff.2017.1158
- Bryant-Lukosius D, Dicenso A. A framework for the introduction and evaluation of advanced practice nursing roles. Journal of Advanced Nursing. 2004;48(5):530–540. https://doi.org/10.1111/j.1365-2648.2004.03235.x
- Casey M, O'Connor L, Rohde D, Twomey L, Cullen W, Carroll Á. Role dimensions of practice nurses and interest in introducing advanced nurse practitioners in general practice in Ireland. Health Science Reports. 2022;5(2):e555. https://doi.org/10.1002/hsr2.555
- Contandriopoulos D, Brousselle A, Dubois CA et al. A process-based framework to guide nurse practitioners integration into primary healthcare teams: results from a logic analysis. BMC Health Serv Res. 2015;15(1):78. https://doi.org/10.1186/s12913-015-0731-5
- Colson S, Schwingrouber J, Evans C et al. The creation and implementation of advanced practice nursing in France: experiences from the field. Int Nurs Rev. 2021;68(3):412–419. https://doi.org/10.1111/inr.12684
- Department of Health. Advanced nursing practice framework. 2016. https://www.health-ni.gov.uk/publications/ advanced-nursing-practice-framework (accessed 20 October 2023)
- Department of Health. Advanced AHP framework. 2019. http://www.health-ni.gov.uk (accessed 20 October 2023)
- Department of Health Northern Ireland. Advanced AHP practice framework. 2019. http://www.health-ni.gov.uk (accessed 20 October 2023)
- Devictor J, Burnet E, Henriot T et al. Implementing advanced practice nursing in France: a country-wide survey 2 years after its introduction. Nurs Open. 2023;10(3):1437–1448. https://doi.org/10.1002/nop2.1394
- Dover N, Lee GA, Raleigh M et al. A rapid review of educational preparedness of advanced clinical practitioners. J Adv Nurs. 2019;75(12):3210-3218. https:// doi.org/10.1111/jan.14105
- El Hussein MT, Ha C. Facilitators and barriers to the transition from registered nurse to nurse practitioner in Canada. J Am Assoc Nurse Pract. 2023;35(6):359–365. https://doi.org/10.1097/jxx.0000000000000868
- Evans C, Pearce R, Greaves S, Blake H. Advanced clinical practitioners in primary care in the UK: a qualitative

- study of workforce transformation. International Journal of Environmental Research and Public Health. 2020;17(12):4500. https://doi.org/10.3390/ijerph17124500
- Fitzpatrick C, Javor J, Zywine C, Job M, Gram V. Advancing roles of healthcare professionals in palliative radiotherapy. Clinical Oncology. 2020;32(11):753-757. https://doi.org/10.1016/j.clon.2020.07.024
- Fothergill LJ, Al-Oraibi A, Houdmont J et al. Nationwide evaluation of the advanced clinical practitioner role in England: a cross-sectional survey. BMJ Open. 2022;12(1):e055475. https://doi.org/10.1136/ bmjopen-2021-055475
- Freund T, Everett C, Griffiths P, Hudon C, Naccarella L, Laurant M. Skill mix, roles and remuneration in the primary care workforce: who are the healthcare professionals in the primary care teams across the world? Int J Nurs Stud. 2015;52(3):727-743. https://doi.org/10.1016/j.ijnurstu.2014.11.014
- Gusmano MK, Weisz D, Rodwin VG et al. Disparities in access to health care in three French regions. Health Policy. 2014;114(1):31–40. https://doi.org/10.1016/j. healthpol.2013.07.011
- Hackey RB, Grasso V, LaRochelle M, Seaver K. Rethinking the shortage of primary care physicians. JAAPA. 2018;31(6):47– 50. https://doi.org/10.1097/01.jaa.0000533662.88073.15
- Health and Care Professional Council. Review of regulation of advanced practice—options analysis and recommendations. 2021. https://www.hcpc-uk.org/globalassets/meetings-attachments3/councilmeeting/2021/01-july-2021/enc-08---review-of-regulation-of-advanced-practice--options-analysis-and-recommendations.pdf (accessed 10 December 2023)
- Health Education England. Multiprofessional framework for advanced clinical practice in England. 2017. https://www. hee.nhs.uk/sites/default/files/documents/multi-professi onalframeworkforadvancedclinicalpracticeinengland.pdf (accessed 20 December 2023)
- Health Education England. An overview of the advanced clinical practice workforce in the North West. 2022. https://advanced-practice.hee.nhs.uk/wp-content/uploads/sites/28/2022/08/An-Overview-of-the-Advanced-Clinical-Practice-Workforce-in-the-North-West-March-22.pdf (accessed 20 December 2023)
- Horrock S, Anderson E, Saliabury C. Whether a nurse practitioner working in primary care can provide equivalent care to doctors. BMJ. 2002;324:819-823. https://doi.org/10.1136/bmj.324.7341.819
- Htay M, Whitehead D. The effectiveness of the role of advanced nurse practitioners compared to physician-led or usual care: a systematic review. INJS Adv. 2021;3(1):1-11. https://doi.org/10.1016/j.ijnsa.2021.100034.
- International Council of Nurses. Guidelines for advanced practice nursing. 2020. https://www.icn.ch/system/files/documents/2020-04/ICN_APN%20Report_EN_WEB.pdf (accessed 20 October 2023)
- Jakimowicz M, Williams D, Stankiewicz G. A systematic review of experiences of advanced practice nursing in general practice. BMC Nurs. 2017;16(1):6. https://doi. org/10.1186/s12912-016-0198-7
- Jones A, Haigh K, Maclaine K, Henderson C, Thomas J. UK advanced practice educator networks. International Journal for Advancing Practice. 2023;1:2
- Kilpatrick K, Savard I, Audet LA et al. A global perspective of advanced practice nursing research: a review of systematic reviews protocol. PLoS One. 2023;18(1):e0280726. https:// doi.org/10.1371/journal.pone.0280726
- Kleinpell R, Myers CR, Likes W, Schorn MN. Breaking down institutional barriers to advanced practice registered nurse practice. Nurs Adm Q. 2022;46(2):137–143. https://doi.org/10.1097/naq.000000000000518
- Kleinpell R, Myers CR, Schorn MN. Addressing barriers to APRN practice: policy and regulatory implications during COVID-19. J Nurs Regul. 2023;14(1):13–20. https://doi. org/10.1016/s2155-8256(23)00064-9
- Laurant M, van der Biezen M, Wijers N et al. Nurses

- as substitutes for doctors in primary care. Cochran Database Systematic Review. 2018;7(7):21–25. https://doi.org/10.1002/14651858.cd001271.pub3
- Lawler J, Maxwell E, Radford M, Leary A. Advanced clinical practitioners' experience of establishing a workplace jurisdiction. Int J Healthc Manag. 2022;15(3):246–254. https://doi.org/10.1080/20479700.2020.1870368
- Leary A, Maclaine K, Trevatt P, Radford M, Punshon G. Variation in job titles within the nursing workforce. J Clin Nurs. 2017;26(23–24):4945–4950. http://doi.org/10.1111/ jocn.13985 Medline
- Lee G, Hendriks J, Deaton C. Advanced nursing practice across Europe: work in progress. Eur J Cardiovasc Nurs. 2020;19(7):561–563. https://doi.org/10.1177/1474515120917626
- Liu CF, Hebert PL, Douglas JH et al. Outcomes of primary care delivery by nurse practitioners: utilization, cost, and quality of care. Health Serv Res. 2020;55(2):178–189. https://doi.org/10.1111/1475-6773.13246
- Lockwood EB, Lehwaldt D, Sweeney MR, Matthews A. An exploration of the levels of clinical autonomy of advanced nurse practitioners: a narrative literature review. Int J Nurs Pract. 2022;28(1):e12978. https://doi.org/10.1111/ijn.12978
- MacKinnon NJ, Emery V, Waller J et al. Mapping health disparities in 11 high-income nations. JAMA Netw Open. 2023;6(7):e2322310-e2322310. https://doi.org/10.1001/jamanetworkopen.2023.22310
- McNamara S, Giguère V, St-Louis L, Boileau J. Development and implementation of the specialized nurse practitioner role: use of the PEPPA framework to achieve success. Nurs Health Sci. 2009;11(3):318–325. https://doi.org/10.1111/ j.1442-2018.2009.00467.x
- Martin B, Alexander M. The economic burden and practice restrictions associated with collaborative practice agreements: a national survey of advanced practice registered nurses. J Nurs Regul. 2019;9(4):22–30. https://doi.org/10.1016/S2155-8256(19)30012-2
- Matthews J. Role of professional organizations in advocating for the nursing profession. The Online Journal of Issues in Nursing. 2012;17(1):1–10. https://doi.org/10.3912/OJIN. Vol17Noo1Mano3
- Myers CR, Muñoz LR, Stansberry T, Schorn M, Kleinpell R, Likes W. COVID-19 effects on practice: perspectives of Tennessee APRNs. Nursing Forum (Hillsdale). 2022;57(4):593–602. https://doi.org/10.1111/nuf.12711
- Nasaif HA. Knowledge and attitudes of primary care physicians toward the nurse practitioner role in the Kingdom of Bahrain. J Am Acad Nurse Pract. 2012;24(3):124–131. https://doi.org/10.1111/j.1745-7599.2011.00710.x
- National Leadership and Innovation Agency for Health Care. Framework for advanced nursing, midwifery and allied health professionals in Wales. 2010. https://www.wales.nhs.uk/sitesplus/documents/829/NLIAH%20 Advanced%20Practice%20Framework.pdf (accessed 20 October 2023)
- National Organization of Nurse Practitioner Faculties. DNP: entry to nurse practitioner practice by 2025. 2018. https:// cdn.ymaws.com/www.nonpf.org/resource/resmgr/dnp/ NONPF_DNP_Statement__2018_.pdf (accessed 10 December 2023)
- NHS Long-term workforce plan. 2023. https://www.longtermplan.nhs.uk/ (accessed 20 October 2023)
- NHS Education for Scotland. NES NMAHP postregistration development framework. 2017. https://www. nmahpdevelopmentframework.nes.scot.nhs.uk/post-regframework/overview (accessed 20 December 2023)
- OECD/European Observatory on Health Systems and Policies. (2021), France: Country Health Profile 2021, State of Health in the EU, OECD Publishing, Paris, https://doi. org/10.1787/7d668926-en.
- Patel EY, Petermann V, Mark BA. Does state-level nurse practitioner scope-of-practice policy affect access to care? West J Nurs Res. 2019;41(4):488–518. https://doi.org/10.1177/0193945918795168

- Poghosyan L, Boyd DR, Clarke SP. Optimizing full scope of practice for nurse practitioners in primary care: a proposed conceptual model. Nurs Outlook. 2016;64(2):146–155. https://doi.org/10.1016/j.outlook.2015.11.015
- Poghosyan L, Maier CB. Advanced practice nurses globally: responding to health challenges, improving outcomes. Int J Nurs Stud. 2022;132:104262. https://doi.org/10.1016/j.ijnurstu.2022.104262
- Rosa WE, Fitzgerald M, Davis S et al. Leveraging nurse practitioner capacities to achieve global health for all: COVID-19 and beyond. Int Nurs Rev. 2020;67(4):554–559. https://doi.org/10.1111/inr.12632
- Rossiter R, Phillips R, Blanchard D, van Wissen K, Robinson T. Exploring nurse practitioner practice in Australian rural primary health care settings: a scoping review. Aust J Rural Health. 2023;31(4):617–630. https://doi.org/10.1111/ajr.13010
- Ruiz LM. Multidisciplinary team attitudes to an advanced nurse practitioner service in an emergency department. Emerg Nurse. 2020;28(1):33–42. https://doi.org/10.7748/ en.2018.e1793
- Sangster-Gormley E, Griffiths J, Schreiber R, Borycki E, Feddema A, Thompson J. Interprofessional collaboration: co=workers' perceptions of adding nurse practitioners to primary care teams. Qual Prim Care. 2015;23(3):122–126
- Schadewaldt V, McInnes E, Hiller JE, Gardner A. Experiences of nurse practitioners and medical practitioners working in collaborative practice models in primary healthcare in Australia a multiple case study using mixed methods. BMC Fam Pract. 2016;17(1):99. https://doi.org/10.1186/s12875-016-0503-2
- Schneider EC, Shah A, Doty MM, Tikkanen R, Fields K, Williams II RD. Mirror, mirror 2021 reflecting poorly: health care in the U.S. compared to other high-income countries. 2021. https://www.socialjustice.ie/content/policy-issues/health-inequalities-postcode-lottery (accessed 20 October 2023)
- Social Justice Ireland. Health inequities: the postalcode lottery. 2023. https://www.socialjustice.ie/content/policy-issues/health-inequalities-postcode-lottery (accessed 20 October 2023)
- Scottish Government. Transforming nursing midwifery and health professions' roles: paper 1 introduction. 2017a. https://www.gov.scot/publications/transforming-nursing-midwifery-health-professions-roles-introduction/(accessed 20 October 2023)
- Scottish Government. Transforming nursing midwifery and health professions' roles: paper 2 advanced nursing practice. 2017b. https://www.gov.scot/publications/transforming-nursing-midwifery-health-professions-roles-advance-nursing-practice/ (accessed 20 October 2023)
- Scottish Government. Transforming nursing midwifery and health professions' roles: paper 7. 2021. https://www.gov.scot/publications/transforming-nursing-midwifery-health-profession-nmahp-roles-review-clinical-nurse-specialist-nurse-practitioner-roles-within-scotland/(accessed 20 October 2023)
- Schirle L, Norful AA, Rudner N, Poghosyan L.
 Organizational facilitators and barriers to optimal APRN practice: an integrative review. Health Care Manage Rev. 2020;45(4):311–320. https://doi.org/10.1097/hmr.00000000000000229
- Schorn MN, Myers C, Barroso J, Hande K, Hudson T, Kim J, Kleinpell R. Results of a national survey: ongoing barriers to APRN practice in the United States. Policy Polit Nurs Pract. 2022;23(2):118-129. https://doi.org/10.1177/15271544221076524
- Sevilla-Guerra S, Jean E, Kilpatrick K, Zabalegui A, Martínez Gaitero C. Contextual factors of advanced practice nursing development: a network analysis. Int J Nurs Pract. 2023;29(4):e13114. https://doi.org/10.1111/ijn.13114
- Strachan H, Hoskins G, Wells M, Maxwell M. A realist evaluation case study of the implementation of advanced nurse practitioner roles in primary care in Scotland. Journal of Advanced Nursing. 2022;78(9):2916–2932. https://doi.org/10.1111/jan.15252

- Stirling K, Henderson C. The reliability and validity of the observed structured clinical examination as an assessment of capability within advanced nurse practitioner curricula. Br J Nurs. 2021;30:19. https://doi.org/10.12968/bjon.2021.30.19.1124
- Silver HK, Ford LC, Day LR. The pediatric nurse-practitioner program: expanding the role of the nurse to provide increased health care for children. JAMA. 1968;204(4):298–302. https://doi.org/10.1001/jama.204.4.298
- Suzuki M, Harada N, Honda K et al. Facilitators and barriers in implementing the nurse practitioner role in Japan: a cross-sectional descriptive study. Int Nurs Rev. 2022;inr.12790. https://doi.org/10.1111/inr.12790
- Tanaka H, Mackenbach JP, Kobayashi Y. Trends and socioeconomic inequalities in self-rated health in Japan, 1986–2016. BMC Public Health. 2021;21(1):1811. https://doi.org/10.1186/s12889-021-11708-6
- Taylor I, Bing-Jonsson P, Wangensteen S et al. The selfassessment of clinical competence and the need for further training: a cross-sectional survey of advanced practice nursing students. J Clin Nurs. 2020;29(3-4):545–555. https:// doi.org/10.1111/jocn.15095
- Thompson W, McNamara M. The advanced nurse practitioner in context: systemic processes. J Nurs Scholarsh. 2022;55(4):886-897. https://doi.org/10.1111/jnu.12868
- Torrens C, Campbell P, Hoskins G et al. Barriers and facilitators to the implementation of the advanced nurse

- practitioner role in primary care settings: a scoping review. Int J Nurs Stud. 2020;104:103443. https://doi.org/10.1016/j.ijnurstu.2019.103443
- Tudor H, Sage S, McGillion A. Beyond band-aid solutions: ANJ. Aust Nurs Midwifery J. 2020;26(10):28–29
- Unsworth J, Greene K, Ali P, Lillebø G, Mazilu DC. Advanced practice nurse roles in Europe: implementation challenges, progress and lessons learnt. Int Nurs Rev. 2022;inr.12800. https://doi.org/10.1111/inr.12800
- Venvn. Nurse practitioners in the Netherlands. 2022. https://www-venvn-nl.translate.goog/registers/verpleegkundig-specialisten-register/registratie/buitenslands-gediplomeerden/?_x_tr_sl=auto&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=wapp (accessed 20 October 2023)
- Wheeler KJ, Miller M, Pulcini J, Gray D, Ladd E, Rayens MK. Advanced practice nursing roles, regulation, education, and practice: a global study. Ann Glob Health. 2022;88(1):42. https://doi.org/10.5334/aogh.3698
- Welsh Government. Allied health professions framework for Wales. 2020. https://www.gov.wales/sites/default/ files/publications/2020-02/allied-health-professionsframwework-for-wales.pdf (accessed 20 October 2023)
- World Health Organization. The WHO global strategic directions for nursing and midwifery (2021–2025). 2021. https://www.who.int/publications/i/item/9789240033863 (accessed 10 December 2023)

