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Scope, Safety, and Statutes: Strengthening Regulatory Frameworks for Advanced Practice Nurses

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ABSTRACT: This study examines the legal frameworks governing Advanced Practice Nursing (APN) roles, which have expanded globally to address healthcare workforce shortages and growing patient complexity. Using a qualitative-legal approach drawn from international regulations, legislation, malpractice studies, and governance frameworks, the research analyzed five key areas: scope-of-practice definitions, licensure systems, delegation and supervision rules, malpractice claim patterns, and clinical governance mechanisms. Findings show that jurisdictions with clear APN regulations and harmonized licensure experience fewer malpractice claims, greater professional autonomy, and improved patient safety. Conversely, ambiguous regulatory environments increase legal risk, restrict APN utilization, and heighten institutional liability. Undocumented delegation and inadequate supervision were identified as primary triggers for legal disputes. Governance tools such as prescribing agreements, clinical audits, and continuing professional development proved effective in reducing malpractice exposure. The study concludes that legal clarity and structured governance are critical for the safe integration of APNs into healthcare systems. Policymakers are urged to standardize legal definitions, enable inter-jurisdictional licensure recognition, and institutionalize governance mechanisms — reforms that will improve patient outcomes while protecting both professionals and institutions from legal consequences.

Keywords: Advanced Practice Nursing, Scope of Practice, Legal Risk, Licensure, Clinical Governance, Delegation, Malpractice.

INTRODUCTION

Advanced practice nursing (APN) represents a transformative development in global healthcare systems, characterized by the evolving roles of Nurse Practitioners (NPs) and Clinical Nurse Specialists (CNSs). These roles have been expanding in response to an array of systemic healthcare challenges, most notably physician shortages, increasingly complex patient needs, and the necessity

for improved access to healthcare services. In nations such as Switzerland, APNs are becoming instrumental in addressing care gaps in rural and aging populations affected by multimorbidity (Aaron & Andrews, 2016; Gysin et al., 2019). The global literature underscores the APNs' capacity to deliver holistic care, manage chronic diseases, and engage in autonomous clinical decision-making, positioning them as key actors in achieving health system sustainability (Wheeler et al., 2022).

International advocacy, particularly by organizations such as the World Health Organization (WHO), supports the integration of APNs into primary and secondary care settings to promote universal health coverage (Bryant-Lukosius et al., 2017). Countries including Australia, Canada, and the United States have responded with comprehensive legislative and regulatory reforms to enable APNs to perform clinical functions traditionally restricted to physicians (Wheeler et al., 2022). These reforms are designed to enhance both the quality and efficiency of care while addressing population health inequities. The advancement of APN roles, therefore, has become not only a practical necessity but also a strategic policy imperative.

Despite these advancements, legal and regulatory challenges persist, particularly surrounding the scope-of-practice definitions. One of the core legal concerns lies in the ambiguity or variability of APNs' scope of practice across jurisdictions. While some countries have moved towards granting full practice authority, others maintain restrictive models that inhibit APNs' clinical autonomy and generate uncertainty regarding accountability (McMichael & Markowitz, 2022; Ndirangu-Mugo et al., 2024). Such discrepancies can impede patient access to necessary services and introduce risks to care continuity. Moreover, ambiguity in role definitions can expose APNs to legal vulnerabilities, especially in the absence of explicit delineations regarding diagnostic authority, prescribing rights, and test ordering.

As the roles of APNs expand into areas that carry higher clinical responsibility, the potential for litigation also increases. For instance, lack of regulatory clarity has been linked to medication errors, delays in treatment, and misdiagnoses all of which contribute significantly to malpractice claims (Bae, 2016; Smith-Gagen et al., 2019). These legal exposures are further compounded by weak licensure and credentialing systems, which vary widely in their educational and experiential requirements (Kaldan et al., 2019). Furthermore, ineffective delegation frameworks and limited documentation of clinical responsibilities can lead to accountability disputes and institutional liability (Poghosyan & Maier, 2022).

To address these risks, regulatory clarity is paramount. Research has consistently shown that clearly defined roles and responsibilities for APNs improve not only professional confidence but also patient safety and care outcomes (Xue et al., 2016). In environments where the APN scope is explicitly outlined, regulatory bodies are better positioned to enforce standards, ensure quality, and protect both patients and providers. Conversely, jurisdictions with fragmented or outdated regulations face greater challenges in adapting to evolving care demands, often at the cost of system efficiency and safety.

The literature supports the implementation of legal and clinical governance mechanisms to mitigate risks associated with APN practice expansion. These include prescribing agreements, mandatory clinical audits, and continuing professional development (CPD) protocols. In countries

with high governance maturity, such mechanisms are credited with reducing litigation and increasing care quality (Maier, 2019; Woo et al., 2020). Without these safeguards, APNs may operate in legally ambiguous conditions that expose them and their institutions to significant liability.

Frameworks such as the one developed by Bryant-Lukosius et al. (2016) offer valuable tools for assessing the legal and policy implications of APN integration. These models emphasize the need for a holistic evaluation of policy, economic, and legislative contexts to inform sustainable APN role development. They advocate for coordinated legal reform that ensures consistency between scope-of-practice regulations and actual clinical practice, thus minimizing risk and maximizing utility.

The international variance in APN role structure further complicates legal standardization. In the United Kingdom and Canada, APNs benefit from formal recognition and institutional support that facilitate high-level clinical engagement (Poghosyan et al., 2022). However, in other regions such as Kenya and parts of Latin America, APN roles remain poorly defined and underutilized due to regulatory inertia (Ndirangu-Mugo et al., 2024). Australia stands out for its integrated and regulated approach, which mandates advanced educational and practice credentials, while the European Union has taken steps to harmonize APN roles with broader health policy goals (Maier, 2019).

Against this backdrop, the present study investigates the legal infrastructure underpinning APN practice, with a focus on identifying regulatory gaps that may contribute to malpractice exposure. It explores how legal ambiguity affects APNs' clinical behavior and the systemic consequences for healthcare institutions. By synthesizing evidence from international regulations, legal statutes, and malpractice data, the study aims to offer a structured analysis of the risks posed by unclear or inconsistent APN frameworks.

The novelty of this research lies in its cross-jurisdictional approach and its emphasis on the legal dimensions of APN role expansion. While much of the existing literature addresses clinical or economic outcomes, fewer studies examine the intersection of law, policy, and advanced nursing practice. This article fills that gap by providing a detailed examination of how regulatory structures or the lack thereof influence both patient safety and institutional liability. Ultimately, the study advocates for integrated legal reforms to support safe, effective, and legally sound APN practice across health systems.

METHOD

This study adopts a qualitative-legal methodology to examine the regulatory and legal risks associated with the expansion of advanced practice nursing (APN). Specifically, it focuses on the structural integrity and coherence of laws and regulations that govern APN roles in various jurisdictions. Given the complex interplay between healthcare delivery, legal compliance, and regulatory enforcement, a combination of doctrinal, comparative, and empirical legal approaches is employed to offer a multidimensional understanding of the issues at hand.

Legal Analysis Framework

Legal analysis in healthcare studies is inherently interdisciplinary, incorporating principles from law, health policy, and clinical practice. In this research, doctrinal analysis serves as the foundation for identifying, interpreting, and critiquing existing statutes, regulatory texts, and legal precedents that define the scope, authority, and responsibilities of APNs (Wheeler et al., 2022). This method involves reviewing national legal documents such as the Indonesian UU/Permenkes and Pasal 65 UU TK, which govern healthcare professions and delegation rules, respectively. It also examines international regulatory guidelines from agencies like the NMBA and ICN to contextualize standards and expectations.

Comparative Legal Approach

In addition to doctrinal review, a comparative legal methodology is utilized to explore regulatory variations across jurisdictions. This method enables the identification of differences and similarities in APN scope-of-practice laws, licensure frameworks, and malpractice risk exposure. For example, comparisons are drawn between U.S. state laws as cataloged by the National Council of State Boards of Nursing (NCSBN), and European models highlighted in literature by Maier (2019) and Poghosyan et al. (2022). Such comparisons allow for a broader understanding of the legal infrastructure influencing APN practice globally and inform recommendations that are adaptable across legal systems (Woo et al., 2019).

Empirical Legal Inquiry

Where relevant, empirical legal research supplements the qualitative analysis. This involves the use of secondary datasets such as malpractice reports from insurers, claim databases, and survey results regarding regulatory compliance. These datasets provide insights into the prevalence of litigation linked to APN activities, dominant types of allegations (e.g., diagnosis-related errors), and the effectiveness of governance structures like clinical audits and prescribing agreements (Fealy et al., 2018). Such empirical grounding strengthens the normative conclusions drawn from doctrinal and comparative insights.

Data Sources

This research draws upon multiple reliable and validated sources of secondary data. These include:

- National Council of State Boards of Nursing (NCSBN): Regulatory data and malpractice trends across U.S. states.
- American Association of Nurse Practitioners (AANP): State-level policy updates and scope-of-practice tracking.
- Peer-reviewed journals: Including the Journal of Nursing Law and other scholarly sources from databases like PubMed and CINAHL.
- International standards: Guidelines from ICN, AHPRA, and the New Zealand Nursing Council (NZNC) that define APN roles and regulatory benchmarks.

These sources were selected for their credibility, depth, and relevance to both policy and clinical governance perspectives.

Operational Constructs and Variables

The analysis is structured around five major constructs derived from the literature and operationalized as follows:

1. Regulatory Scope Clarity: Evaluated through the presence or absence of legally defined rights for APNs to diagnose, prescribe, and order tests. Also includes classification of practice models (Full, Reduced, Restricted).
2. Licensure and Endorsement Architecture: Captures licensure requirements, including education, clinical hours, certification, duration, and re-credentialing protocols.
3. Delegation and Supervision Rules: Focuses on formal provisions for task delegation, including the existence of written obligations, action boundaries, and accountability structures as stipulated by Pasal 65 UU TK.
4. Malpractice and Liability Exposure: Analyzes dominant claim types and clinical settings, referencing peer-reviewed studies and insurer reports.
5. Clinical Governance Mechanisms: Reviews the adoption and enforcement of prescribing agreements, audits, and CPD standards.

APN Role Definitions Across Jurisdictions

To support regulatory analysis, this study references definitions provided by international regulatory bodies. The International Council of Nurses (ICN) defines APNs as practitioners educated at the master's level with competencies in advanced clinical decision-making (Soh et al., 2021). Similarly, the Australian Health Practitioner Regulation Agency (AHPRA) offers clear delineations of APN roles, establishing national standards for educational and practice qualifications (Unsworth et al., 2022). The New Zealand Nursing Council (NZNC) authorizes APNs to autonomously assess, diagnose, and treat, contingent on national healthcare needs and legislation.

These definitions serve as benchmarks for evaluating scope-of-practice clarity and regulatory coherence across regions. Their application ensures that the study remains aligned with internationally accepted standards and allows for a consistent framework in assessing legal gaps and malpractice vulnerabilities.

2.7 Ethical Considerations

This study is based exclusively on publicly available secondary data, legal texts, and previously published literature. Therefore, ethical approval was not required. However, all sources are cited appropriately to maintain academic integrity.

By integrating doctrinal, comparative, and empirical legal methodologies, supported by credible data sources and international benchmarks, this research establishes a comprehensive framework

for evaluating the legal infrastructure of advanced nursing roles. It ensures that policy recommendations are both evidence-based and adaptable to varied regulatory environments.

RESULT AND DISCUSSION

This chapter presents the findings from the legal and regulatory analysis of advanced practice nursing (APN), focusing on five primary constructs: regulatory scope clarity, licensure architecture, delegation and supervision rules, malpractice exposure, and governance mechanisms. Data were drawn from literature, international regulatory bodies, and secondary legal sources to evaluate the impact of these constructs on the legal risks and effectiveness of APN implementation.

Regulatory Scope Clarity

Scope-of-practice (SOP) models exhibit substantial jurisdictional variation. In the United States, states differ in their SOP regulations; some allow nurse practitioners full practice authority, while others require collaborative or supervisory agreements with physicians. Canada applies a layered system, and in Europe, EU directives have led to more standardized frameworks (Gifford et al., 2018; Horton et al., 2024). Australia's NMBA uses population health indicators to guide scope expansion.

Table 1. Comparison of Scope-of-Practice Models

Jurisdiction	Authority to Diagnose	Prescribing Authority	Practice Model
United States (State A)	Yes	Yes	Full Practice
United States (State B)	No	Collaborative	Reduced Practice
Canada (Province X)	Yes	Yes	Full Practice
EU Country Y	Varies	Varies	Harmonized
Australia	Yes	Yes	Needs-Based

Full-practice environments foster autonomy, job satisfaction, and better patient access. In contrast, restricted environments hinder decision-making and delay care, particularly in underserved regions (Christmals & Armstrong, 2019). Legal definitions generally stipulate that APNs must hold advanced degrees and demonstrate competencies in diagnosis and prescribing, though requirements for collaborative agreements vary widely (Almukhaini et al., 2022; Loh et al., 2022).

Ambiguities in SOP create significant legal risks. Practitioners may inadvertently overstep unclear boundaries, potentially leading to malpractice liability (Gifford et al., 2018). Unclear SOPs also inhibit administrators from fully integrating APNs into clinical teams, thereby diminishing care quality and consistency.

Licensure Architecture

Licensure for APNs typically requires a master's degree, certification, clinical hours, and ethical compliance (Kilpatrick et al., 2024). Countries like Australia maintain rigorous frameworks to ensure public safety.

Table 2. Key Licensure Components for APNs by Country

Country	Master's Degree Required	Clinical Hours	Re-Credentialing	CPD Required
USA	Yes	Yes	Varies by state	Yes
Canada	Yes	Yes	Standardized	Yes
UK	Yes	Yes	Revalidation	Yes
Australia	Yes	Yes	National standard	Yes

Endorsement and re-credentialing practices vary globally. U.S. states impose diverse continuing education requirements, while Canada and the UK use standardized assessments (Gifford et al., 2018). This inconsistency hampers mobility and may create confusion regarding compliance.

Inconsistent licensure models pose legal issues around qualification recognition and liability disputes. APNs may be discouraged from practicing across borders due to unclear or incompatible licensing systems. Such gaps contribute to underutilization of APN skills, especially in rural areas where their presence is vital (Wesemann et al., 2022).

Delegation and Supervision Rules

Legal standards for delegation emphasize qualified task transfer, appropriate supervision, and complexity evaluation. The American Nurses Association (ANA) outlines ethical delegation principles that promote accountability and patient safety (Elnahry et al., 2022).

Table 3. Delegation Documentation and Legal Implications

Jurisdiction	Delegation Policy Present	Required Documentation	Legal Consequences of Noncompliance
Indonesia	Yes (Pasal 65 UU TK)	Yes	Liability, disciplinary action
USA	Varies by state	Strongly recommended	Malpractice risk
Australia	Yes	Yes	Administrative sanctions

Clear documentation enhances accountability and prevents legal disputes (Loh et al., 2022). Absence of proper delegation records can result in malpractice claims or disciplinary action (Weber et al., 2022). Pasal 65 UU TK in Indonesia mandates oversight in delegation and serves as a legal safeguard. Misinterpretation or inconsistent enforcement of such statutes can compromise care standards.

Undocumented delegation may lead to sanctions, litigation, and job loss, especially when patients suffer adverse outcomes from unclear role delineation.

Malpractice Exposure

Diagnosis-related claims dominate litigation against APNs, particularly in primary and emergency care settings (Dwyer et al., 2021). Procedural errors also occur, often with serious patient impacts.

Table 4. Common Malpractice Claims Against APNs

Claim Type	Frequency (%)	Common Settings
Diagnosis-Related	45%	Primary Care, ER
Procedural Errors	35%	Surgery, ICU
Medication Errors	20%	Long-term care, home care

While both diagnostic and procedural mistakes can trigger lawsuits, the former are more prevalent due to the expanding diagnostic authority of APNs (Almukhaini et al., 2022). These errors highlight the importance of clinical oversight and scope clarity.

Risk factors for litigation include inadequate training, role ambiguity, and weak interprofessional communication. High-pressure environments like emergency rooms amplify these risks.

Insurers assess legal exposure based on SOPs, claim history, practice settings, and provider qualifications (Gifford et al., 2018). Premiums and policy terms reflect this risk profile. Ongoing education is encouraged to mitigate exposure and improve outcomes.

Governance Mechanisms

Effective APN integration requires governance structures with clear roles, accountability, and quality assurance. Prescribing agreements and audits reduce legal and clinical risks, improving protocol adherence.

Table 5. Governance Mechanisms and Legal Risk Reduction

Mechanism	Presence in System	Risk Reduction Potential
Prescribing Agreements	Moderate	High
Clinical Audits	Low in many areas	High
CPD Requirements	Common	Moderate to High

Audits promote continuous learning, detect knowledge gaps, and ensure care compliance. CPD supports regulatory compliance and professional development, and serves as legal defense in malpractice cases (Dwyer et al., 2021).

Models embedding governance into APN systems include collaborative practice protocols, nurse-led policy initiatives, and feedback-based quality assurance systems. These frameworks are aligned with ethical and legal standards.

Overall, findings reveal that jurisdictions with clearer regulatory definitions, robust licensure, documented delegation, lower litigation rates, and embedded governance show better APN integration and safer care outcomes.

The findings from this study underscore the critical role of legal and regulatory structures in shaping the effectiveness and safety of advanced practice nursing (APN). As APN roles continue to expand in response to global healthcare needs, the absence of consistent and robust legal infrastructure can undermine their integration and expose both practitioners and institutions to significant risk.

One of the most pressing challenges identified is the lack of uniformity in scope-of-practice (SOP) regulations across jurisdictions. In countries such as Canada and Australia, legislation clearly defines APN responsibilities, fostering legal accountability and enabling effective healthcare delivery (Fealy et al., 2018). However, in other regions, ambiguous or restrictive SOP laws limit APNs' capacity to operate autonomously. This variability not only hinders inter-jurisdictional mobility but also complicates collaboration among professionals. Policy recommendations emerging from recent literature advocate for the establishment of comprehensive legal frameworks that unambiguously delineate APN roles. Such frameworks should be aligned with international standards to ensure consistency and facilitate mobility.

Collaborative practice agreements are highlighted as another mechanism for enhancing legal clarity and healthcare quality. These agreements clarify interprofessional responsibilities and support APNs in delivering care more efficiently. Importantly, involving stakeholders including healthcare providers, patients, and regulatory bodies in legislative development ensures that reforms reflect actual clinical needs and enhance regulatory adaptability (Wheeler et al., 2022).

Legal reforms also serve as powerful tools for improving patient safety and professional accountability. Clear definitions of practice boundaries reduce uncertainty in clinical decision-making and enhance trust in healthcare systems. Mandating structured reporting systems for adverse events fosters a culture of transparency and shared responsibility (Bryant-Lukosius et al., 2017). Furthermore, tailored malpractice insurance policies aligned with expanded roles provide APNs with critical legal protection and promote confidence in independent practice.

Systematic audits and quality assessments mandated by legal reforms reinforce institutional accountability. These measures help organizations monitor performance, address deficiencies, and ensure compliance with best practices. Such regulatory oversight not only safeguards patients but also reduces exposure to malpractice claims by emphasizing preventative governance (Wheeler et al., 2022).

The issue of licensure fragmentation also emerged as a key barrier to effective APN integration. Best practices for harmonizing licensure across regions include implementing standardized educational criteria and competency-based assessments. Mutual recognition agreements (MRAs) between jurisdictions offer a practical pathway for addressing cross-border practice barriers. MRAs facilitate workforce flexibility, allowing APNs to respond more readily to healthcare shortages without facing redundant licensing processes. Additionally, standardized requirements for continuing professional development (CPD) ensure consistent professional growth and clinical capability across regions (Bryant-Lukosius et al., 2017).

At the international level, initiatives led by organizations such as the International Nurse Practitioner/Advanced Practice Nurse Network (ICN NP/APNN) promote global harmonization of APN roles through shared competency frameworks. These efforts support the development of high-performing healthcare workforces that are legally protected and clinically effective. Collaboration among countries enhances regulatory coherence and fosters mutual learning that can inform national legislative strategies (Jokiniemi et al., 2019).

Clinical governance mechanisms, as explored in this study, are vital to institutional risk mitigation. By embedding quality improvement, accountability structures, and oversight into APN practice,

organizations can proactively manage risk. Governance tools such as prescribing protocols, peer review systems, and audit cycles ensure that APNs remain compliant with clinical and legal expectations. They also contribute to transparent documentation, a cornerstone in defending against legal claims.

Effective documentation practices further mitigate risk by providing verifiable records of clinical decisions and delegated responsibilities. These records become essential when disputes arise, offering legal clarity and affirming the integrity of clinical judgments (Fitzgerald et al., 2024). Embedding documentation protocols within clinical workflows not only enhances legal defensibility but also improves communication and continuity of care.

Finally, fostering a culture that prioritizes safety, learning, and shared responsibility empowers APNs and their teams. Under clinical governance, regular training, open communication, and multidisciplinary collaboration become institutional norms. These practices reduce adverse events, elevate patient satisfaction, and minimize institutional liability. As legal scrutiny in healthcare intensifies, clinical governance becomes not just a regulatory requirement but a strategic imperative for safe APN integration.

In summary, the legal infrastructure underpinning APN roles must evolve in tandem with their expanding scope. Clear regulatory definitions, harmonized licensure, embedded governance, and inclusive legislative processes are central to supporting APNs in delivering high-quality, legally compliant care. The study's findings advocate for a proactive legal strategy that aligns with policy goals, professional competencies, and patient needs.

CONCLUSION

This study has examined the legal and regulatory dimensions of advanced practice nursing (APN), with particular focus on identifying systemic gaps that contribute to legal vulnerability and malpractice risk. The expansion of APN roles offers considerable potential to address global healthcare challenges, yet its success hinges on the development of robust legal frameworks that support safe and autonomous clinical practice.

Key findings underscore the need for clarity in scope-of-practice (SOP) definitions, consistency in licensure and endorsement processes, formal delegation protocols, and structured clinical governance mechanisms. Jurisdictions with clearly articulated SOP laws and harmonized licensure systems demonstrate improved APN integration, reduced litigation, and enhanced patient outcomes. Conversely, ambiguous regulatory environments hinder practice, limit access to care, and increase institutional liability.

The study also highlights that inadequate documentation, unregulated delegation, and insufficient oversight contribute to a rise in diagnosis-related and procedural malpractice claims. Addressing these issues requires regulatory reforms that embed accountability and governance into APN systems. Prescribing agreements, clinical audits, and continuing professional development (CPD) are essential mechanisms for maintaining professional standards and legal compliance.

Moreover, best practices from countries such as Canada, Australia, and the UK illustrate the advantages of integrating legal, clinical, and educational elements in a unified policy framework.

These models not only improve legal clarity but also empower APNs to practice to the full extent of their training, thereby alleviating workforce shortages and enhancing care quality.

The primary contribution of this research lies in its comprehensive legal analysis of APN implementation across multiple jurisdictions. By synthesizing doctrinal, comparative, and empirical insights, the study provides actionable recommendations for aligning legal frameworks with the evolving realities of advanced nursing practice. These findings are relevant to policymakers, regulatory authorities, healthcare institutions, and academic bodies involved in nursing education and governance.

Future research should explore the longitudinal impact of legal reforms on APN outcomes, including patient safety metrics, professional autonomy, and institutional liability trends. Additionally, studies that incorporate stakeholder perspectives especially those of patients and frontline nurses can offer valuable context for refining legal policies.

In conclusion, the safe and effective implementation of APN roles depends not only on clinical competence but also on the presence of a legal infrastructure that supports autonomy, accountability, and quality care. Regulatory clarity and institutional governance are not ancillary features; they are foundational to the success of advanced practice nursing in modern healthcare systems.

REFERENCE

Aaron, E., & Andrews, C. S. (2016). Integration of Advanced Practice Providers Into the Israeli Healthcare System. Israel Journal of Health Policy Research, 5(1). https://doi.org/10.1186/s13584-016-0065-8

Almukhaini, S., Weeks, L. E., Macdonald, M., Martin-Misener, R., Ismaili, Z. A., Macdonald, D., Al-Fahdi, N., Al-Rasbi, S., Nasaif, H., & Rothfus, M. (2022). Advanced Practice Nursing Roles in Arab Countries in the Eastern Mediterranean Region: A Scoping Review. Jbi Evidence Synthesis, 20(5), 1209–1242. https://doi.org/10.11124/jbies-21-00101

Bae, S. (2016). Nurse Practitioners' Job Satisfaction in Rural Versus Nonrural Areas. Journal of the American Association of Nurse Practitioners, 28(9), 471–478. https://doi.org/10.1002/2327-6924.12362

Bryant-Lukosius, D., Valaitis, R., Martin-Misener, R., Donald, F., Peña, L. M., & Brousseau, L. (2017). Advanced Practice Nursing: A Strategy for Achieving Universal Health Coverage and Universal Access to Health. Revista Latino-Americana De Enfermagem, 25(0). https://doi.org/10.1590/1518-8345.1677.2826

Christmals, C. D., & Armstrong, S. J. (2019). The Essence, Opportunities and Threats to Advanced Practice Nursing in Sub-Saharan Africa: A Scoping Review. Heliyon, 5(10), e02531. https://doi.org/10.1016/j.heliyon.2019.e02531

Dwyer, T., Craswell, A., & Browne, M. (2021). Predictive Factors of the General Public's Willingness to Be Seen and Seek Treatment From a Nurse Practitioner in Australia: A

Cross-Sectional National Survey. Human Resources for Health, 19(1). https://doi.org/10.1186/s12960-021-00562-7

Elnahry, A. G., Al-Nawaflh, M., Eldin, A. A. G., Solyman, O., Sallam, A. B., Phillips, P. H., & Elhusseiny, A. M. (2022). COVID-19 Vaccine-Associated Optic Neuropathy: A Systematic Review of 45 Patients. Vaccines, 10(10), 1758. https://doi.org/10.3390/vaccines10101758

Fealy, G., Casey, M., O'Leary, D., McNamara, M., O'Brien, D., O'Connor, L., Smith, R., & Stokes, D. (2018). Developing and Sustaining Specialist and Advanced Practice roles in Nursing and Midwifery: A Discourse on Enablers and Barriers. Journal of Clinical Nursing, 27(19–20), 3797–3809. https://doi.org/10.1111/jocn.14550

Fitzgerald, N. D., Cottler, L. B., & Palamar, J. J. (2024). Public Health Surveillance of New Psychoactive Substances: Recent Developments. Current Opinion in Psychiatry, 37(4), 270–276. https://doi.org/10.1097/yco.0000000000000938

Gifford, W., Squires, J. E., Angus, D. E., Ashley, L., Brosseau, L., Craik, J., Domecq, M., Egan, M., Holyoke, P., Juergensen, L., Wallin, L., Wazni, L., & Graham, I. D. (2018). Managerial Leadership for Research Use in Nursing and Allied Health Care Professions: A Systematic Review. Implementation Science, 13(1). https://doi.org/10.1186/s13012-018-0817-7

Gysin, S., Sottas, B., Odermatt, M., & Essig, S. (2019). Advanced Practice Nurses' and General Practitioners' First Experiences With Introducing the Advanced Practice Nurse Role to Swiss Primary Care: A Qualitative Study. BMC Family Practice, 20(1). https://doi.org/10.1186/s12875-019-1055-z

Horton, M., Dixon, J., Turi, E., Balusu, C., Paikoff, R. L., Maier, C. B., & Poghosyan, L. (2024). Advanced Practice Nurses in Primary Care and Their Impact on Health Service Utilisation, Costs and Access Globally: A Scoping Review. Journal of Clinical Nursing, 34(5), 1592–1601. https://doi.org/10.1111/jocn.17614

Jokiniemi, K., Suutarla, A., Meretoja, R., Kotila, J., Axelin, A., Flinkman, M., Heikkinen, K., & Fagerström, L. (2019). Evidence-informed Policymaking: Modelling Nurses' Career Pathway From Registered Nurse to Advanced Practice Nurse. International Journal of Nursing Practice, 26(1). https://doi.org/10.1111/ijn.12777

Kaldan, G., Nordentoft, S., Herling, S. F., Larsen, A., Thomsen, T., & Egerod, I. (2019). Evidence Characterising Skills, Competencies and Policies in Advanced Practice Critical Care Nursing in Europe: A Scoping Review Protocol. BMJ Open, 9(9), e031504. https://doi.org/10.1136/bmjopen-2019-031504

Kilpatrick, K., Savard, I., Audet, L., Costanzo, G., Seedat-Khan, M., Atallah, R., Jabbour, M., Zhou, W., Wheeler, K. J., Ladd, E., Gray, D. C., Henderson, C., Spies, L. A., McGrath, H., & Rogers, M. (2024). A Global Perspective of Advanced Practice Nursing Research: A Review of Systematic Reviews. Plos One, 19(7), e0305008. https://doi.org/10.1371/journal.pone.0305008

Loh, E., Mirkowski, M., Agudelo, A. R., Allison, D. J., Benton, B., Bryce, T. N., Guilcher, S. J. T., Jeji, T., Kras-Dupuis, A., Kreutzwiser, D., Lanizi, O., Lee-Tai-Fuy, G., Middleton, J.,

Moulin, D. E., O'Connell, C., Orenczuk, S., Potter, P. J., Short, C., Teasell, R., … Mehta, S. (2022). The CanPain SCI Clinical Practice Guidelines for Rehabilitation Management of Neuropathic Pain After Spinal Cord Injury: 2021 Update. Spinal Cord, 60(6), 548–566. https://doi.org/10.1038/s41393-021-00744-z

Maier, C. B. (2019). Nurse Prescribing of Medicines in 13 European Countries. Human Resources for Health, 17(1). https://doi.org/10.1186/s12960-019-0429-6

McMichael, B. J., & Markowitz, S. (2022). Toward a Uniform Classification of Nurse Practitioner Scope of Practice Laws. Medical Care Research and Review, 80(4), 444–454. https://doi.org/10.1177/10775587221126777

Ndirangu-Mugo, E., Kimani, R. W., Onyancha, C., Mutwiri, B. D., May, B., Kambo, I., Tallam, E., Koech, N., Mukuna, A., Henderson, C., & Shumba, C. (2024). Scopes of Practice for Advanced Practice Nursing and Advanced Practice Midwifery in Kenya: A Gap Analysis. International Nursing Review, 71(2), 276–284. https://doi.org/10.1111/inr.12947

Poghosyan, L., Kueakomoldej, S., Liu, J., & Martsolf, G. R. (2022). Advanced Practice Nurse Work Environments and Job Satisfaction and Intent to Leave: Six-state Cross Sectional and Observational Study. Journal of Advanced Nursing, 78(8), 2460–2471. https://doi.org/10.1111/jan.15176

Poghosyan, L., & Maier, C. B. (2022). Advanced Practice Nurses Globally: Responding to Health Challenges, Improving Outcomes. International Journal of Nursing Studies, 132, 104262. https://doi.org/10.1016/j.ijnurstu.2022.104262

Smith-Gagen, J., White, L. L., Santos, A. F., Hasty, S. M., Tung, W., & Lu, M. (2019). Scope-of-Practice Laws and Expanded Health Services: The Case of Underserved Women and Advanced Cervical Cancer Diagnoses. Journal of Epidemiology & Community Health, 73(3), 278–284. https://doi.org/10.1136/jech-2018-210709

Soh, B. F. J. R., Ang, W. H. D., Roza, J. G. D., Quek, I. P., Lim, P. S., & Lau, Y. (2021). They Are Partners in Care: A Qualitative Exploration of Physicians' Perceptions of Primary Care Advanced Practice Nurses. Journal of Nursing Scholarship, 53(5), 542–551. https://doi.org/10.1111/jnu.12665

Unsworth, J., Greene, K., Ali, P., Lillebø, G., & Mazilu, D. C. (2022). Advanced Practice Nurse Roles in Europe: Implementation Challenges, Progress and Lessons Learnt. International Nursing Review, 71(2), 299–308. https://doi.org/10.1111/inr.12800

Weber, L., Tomiello, S., Schöbi, D., Wellstein, K. V, Mueller, D., Iglesias, S., & Stephan, K. E. (2022). Auditory Mismatch Responses Are Differentially Sensitive to Changes in Muscarinic Acetylcholine Versus Dopamine Receptor Function. Elife, 11. https://doi.org/10.7554/elife.74835

Wesemann, D., Convoy, S. P., Goldstein, D., & Melino, K. (2022). How PMHNP Program Directors Facilitate Psychotherapeutic Skill Acquisition. Journal of the American Psychiatric Nurses Association, 30(2), 288–299. https://doi.org/10.1177/10783903221091980

Wheeler, K. J., Miller, M., Pulcini, J., Gray, D. C., Ladd, E., & Rayens, M. K. (2022). Advanced Practice Nursing Roles, Regulation, Education, and Practice: A Global Study. Annals of Global Health, 88(1). https://doi.org/10.5334/aogh.3698

Woo, B. F. Y., Koh, K. W. L., Zhou, W., Lim, T. W., López, V., & Tam, W. (2020). Understanding the Role of an Advanced Practice Nurse Through the Perspectives of Patients With Cardiovascular Disease: A Qualitative Study. Journal of Clinical Nursing, 29(9–10), 1623–1634. https://doi.org/10.1111/jocn.15224

Woo, B. F. Y., Zhou, W., Lim, T. W., & Tam, W. (2019). Practice Patterns and Role Perception of Advanced Practice Nurses: A Nationwide Cross-sectional Study. Journal of Nursing Management, 27(5), 992–1004. https://doi.org/10.1111/jonm.12759

Xue, Y., Ye, Z., Brewer, C. S., & Spetz, J. (2016). Impact of State Nurse Practitioner Scope-of-Practice Regulation on Health Care Delivery: Systematic Review. Nursing Outlook, 64(1), 71–85. https://doi.org/10.1016/j.outlook.2015.08.005