



Review

EXPLORING THE DEVELOPMENT OF ADVANCED PRACTITIONER ROLES IN HEALTHCARE PROFESSIONS: A SCOPING REVIEW

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DOI: <https://doi.org/10.65241/wh.9.1.8>

For citation: Gibbins S, Lord E, Masterson-Algar P. Exploring the development of advanced practitioner roles in healthcare professions: A scoping review. *World of Health*. 2026;1(9):57-72. <https://doi.org/10.65241/wh.9.1.8>

Received: 12 November 2025 | Revised: 18 February 2026 | Accepted: 20 February 2026

ABSTRACT

Background: Advanced practice roles continue to evolve across healthcare professions in response to changing patient needs, workforce pressures, and service transformation. This scoping review maps existing literature on the development, implementation, and regulation of advanced practice roles to identify transferable insights that may support the development of emerging advanced roles in other professional contexts, such as veterinary nursing.

Methods: The review followed JBI methodology and included a structured search of five electronic databases (PubMed, CINAHL, Scopus, Web of Science, and Embase) in April 2025. Twenty-five articles met the inclusion criteria, with most focused on advanced practice nursing, alongside examples from physiotherapy, radiotherapy, and wider allied health.

Results: Across the literature, the most referenced title was 'Advanced Practice Nurse'. Four overarching themes were identified: (1) the importance of clear and consistent role definition; (2) the need for education and training that aligns with the intended scope of practice; (3) the role of regulation, governance, and professional credibility in supporting autonomy; and (4) the contribution of advanced practitioners to improved patient outcomes and service efficiency.

Conclusions: The review demonstrates that successful implementation of advanced roles depends on coherent professional identity, robust competency frameworks, and supportive organisational and regulatory environments. These insights offer guidance for healthcare professions currently developing or refining advanced roles and are particularly relevant where roles are newly emerging or undergoing

formalisation. No patients or members of the public were involved in this study.

Keywords: Advanced practice nursing, role development, competency frameworks, regulation, professional identity, workforce transformation.

INTRODUCTION

The introduction of an Advanced Veterinary Nurse Practitioner (AVNP) role in the UK has gained increasing attention (1), although there is limited literature related to this role development specifically in the sphere of veterinary nursing (VN). Fults et al (2) have identified a desire for role development in the US, but the research does not go so far as to suggest what the role could and should entail, how it should be developed, and how it could be implemented.

Human healthcare, and human nursing specifically, has a long history with the advanced practitioner role (3, 4). Veterinary nursing, considered by the European Specialist Nurses Organisation (5) as a specialism of nursing, has often looked to human healthcare for development and progression (6, 7, 8, 9). With the potential development of advanced practitioner on the horizon, the allied health professions offer an opportunity to demonstrate insights into the integral steps required.

This review therefore aims to examine the policy, professional, and regulatory considerations relevant to the potential introduction of an AVNP role in the UK, drawing on lessons from nursing and allied health contexts.

BACKGROUND

The role of the registered veterinary nurse (RVN) in the United Kingdom (UK) is regulated by the Royal College of Veterinary Surgeons (RCVS). RVNs are afforded specific allowances under Schedule 3 of the Veterinary Surgeons Act 1966 (10) which prescribes a scope of practice of sorts. RVNs must adhere to the Code of Professional Conduct for Veterinary Nurses (11), whilst maintaining their continuing professional development (CPD) requirements each year. CPD is expected to be role specific, with a mandatory reflective component. However, whilst CPD is classically considered as an opportunity for role development and career progression (12), this is a restricted consideration in the VN profession due to the current legislative constraints; RVNs can only undertake tasks deemed to be within the confines of Schedule 3 if delegated to do so by a veterinary surgeon (10).

Nonetheless, the current status quo is not diminishing the RVN's desire for progression; the recent VN Vision report: 'The future of team-based veterinary healthcare' (1) clearly identified key themes relating to the development of advanced practitioner type roles. Specifically, the theme 'Enhancing the VN role' included considerations such as contributing to improved patient outcomes, promoting accessibility of veterinary healthcare, and better utilisation of the skills available within the veterinary team.

As a first effort to try and enhance recognition of the RVN role, in 1989 the RCVS created the Diploma in Advanced Veterinary Nursing (DipAVN), a level 5, 120 credit pathway focusing on surgical or medical nursing. Uptake of the DipAVN remained low over the 30 years it was available, with only 572 RVNs achieving the qualification over that period (13). However, it must be noted that the DipAVN was never intended as a career progression pathway, but an opportunity for RVNs to 'increase their knowledge base with a formal qualification'. Following the creation of the VN Futures Project in 2016, a team comprised of RCVS and British Veterinary Nursing Association (BVNA) personnel, a specific action was identified to 'Develop advanced practitioner qualifications and/ or status' (14). The desire for enhanced professionalism, improved recognition and advanced skill allowance was clear from the research, and thus the Certificate in Advanced Veterinary Nursing (CertAVN) was created in 2019 (15). In recognition of the challenges that the DipAVN had faced, the updated pathway was a smaller, 60 credit, graduate level or postgraduate level qualification, designed to offer subject specific development in clinical and non-clinical areas and promote opportunities for further study, with graduates having achieved a level 6 or level 7 qualification. Nonetheless, whilst uptake has been better than the DipAVN, with 204 Certificates having been awarded in the first five years of delivery, this still equates to fewer than 1% of RVNs on the Register holding this qualification (13). This lack of engagement, or even perhaps awareness of the CertAVN option, is reflected in the 2024 Survey of the Veterinary Nursing Profession, where lack of recognition and

poor career progression opportunities are still amongst the top concerns noted by respondents (16).

This point has not gone unnoticed by the Competition and Markets Authority (CMA), which is currently undertaking a wide-ranging review of the veterinary sector (17). The CMA has specifically stated that the current regulations are out of date and has recommended that more effective use of the VN role can help to improve veterinary care and goes on to suggest expansion of the VN role (18). Whilst the CMA has delayed its final publication date, which will indicate the actions which must be taken by the veterinary sector, the regulator, and potentially government, it is likely that new legislation will be recommended (19).

This regulatory review is being undertaken in a climate of unprecedented workforce pressures and retention concerns (20). At the RCVS Workforce Summit, it was noted that 40% of RVNs stated lack of career progression as a driving factor for wanting to leave the profession (20). Furthermore, fewer than half of RVNs who responded to the 2024 RCVS Survey of the Professions felt that veterinary nursing offered opportunities for career progression (21). Based on this data, and the significant period for which the VSA has not been thoroughly reviewed and updated, the RCVS is continuing to push for updated legislation, with an intention for that to encompass enhancements to the RVN role (20).

Nonetheless, knowing that there is a desire for the development of advanced practice roles does not equate to knowing what that could and should look like. The veterinary nursing profession has an opportunity to learn lessons from allied healthcare colleagues in this regard. Advanced practice in human healthcare is often cited as having developed due to workforce challenges and a desire to promote effective skill utilisation (22, 23) – the same issues currently being highlighted in veterinary nursing.

Keeling and Cockerham (24) discuss the history and development of the advanced practitioner role in the United States, noting that some form of specialism has been evident since the late 19th century, such as in the case of anaesthesia nursing. The training of nurses in specific clinical areas, for example midwifery and psychiatric nursing, then proliferated, leading to the more generic term of advanced practice in the 1960s. In the United Kingdom, Leary and MacLaine (25) trace the formal role establishment to the 1990s – and yet decades later there is still confusion over terms, role clarity, and training requirements (26, 27). The Nursing and Midwifery Council (NMC) is now actively reviewing the advanced practitioner role, aiming to address this confusion and specifically with a view to regulate the role (28).

There is, arguably, a tried and tested veterinary pathway that the veterinary nursing profession could follow: the Certificate in Advanced Veterinary Practice, or perhaps the Advanced Practitioner Status. Yet here also confusion abounds: members of the profession do not understand the different pathways, or what the Advanced Practitioner Status denotes (20). And so,

whilst the veterinary profession is battling with these issues, copying the same approach will likely only lead to the same challenges for veterinary nursing in the future.

Whilst recent research suggests the desire for the development of an advanced practitioner role in veterinary nursing (1), the first step in the process must be a thorough review of the literature to ascertain why and how advanced practitioner roles have been created. This approach will afford an opportunity to determine a robust evidence base to support the role development, avoid the challenges faced in other healthcare settings, and identify a clear pathway for the role development. To date, there is only one peer-reviewed, research article relating to the development of the advanced practitioner role in veterinary nursing (2), which is not going to provide the robust evidence base required. Review of the nursing evidence as a foundation offers a solid opportunity to determine the next steps, however, as detailed above, the current approaches also offer flaws and challenges. Thus, a wider ranging review must be undertaken: a scoping review of allied healthcare settings and their approaches to the development of the advanced practitioner roles, which can ascertain the current body of literature and identify the key concepts for role development (29). This scoping review will aim to map existing literature regarding the development, implementation, and regulation of advanced practice roles in healthcare and identify insights applicable to the development of an Advanced Veterinary Nurse Practitioner (AVNP) role in the UK. The objectives cover four key areas:

1. Identify the drivers behind the introduction of advanced practice roles in healthcare.
2. Explore how these roles are defined, implemented, and regulated across professions.
3. Examine the educational pathways and competency frameworks developed for these roles.
4. Assess the impact and challenges associated with advanced practice role implementation.

METHODS

A scoping review was conducted following the Joanna Briggs Institute (JBI) scoping review protocol (30). The JBI approach offers systematic processes for researchers to follow, whilst encouraging reporting transparency (31). The scoping review as a concept lends itself well to the research aim, allowing for a broad question with smaller subcategories incorporated into it: scoping reviews, by nature, offer researchers an opportunity to better define a topic that is yet undiscovered (32).

In accordance with the JBI methodology, a protocol was developed a priori and followed the same approach as other published protocols (31). The protocol is available at Appendix A for reference.

IDENTIFYING THE RELEVANT STUDIES

The JBI methodology indicates the necessity for a clear population, concept, and context (PCC) to be included in the search, which then informs the inclusion and exclusion criteria. The population element details the specific group of people the research will focus on, whilst the concept can help to explain the sub-elements of the research questions. The context will demonstrate the locations that the research included in the scoping review will cover. For this scoping review, the PCC is as follows:

Population	Any healthcare profession with an advanced practice role (e.g., nursing, physiotherapy).
Concept	Development, implementation, and regulation of advanced practice roles.
Context	Human healthcare settings.

Table 1: Inclusion and Exclusion Criteria

Category	Inclusion Criteria	Exclusion Criteria
Population / Focus	Advanced practice roles in human healthcare professions	Veterinary-specific literature (to avoid focus on veterinary surgeons)
Study Types	Peer-reviewed, empirical research (quantitative, qualitative, or mixed methods); systematic reviews; meta-analyses	Non-empirical literature (e.g., opinion pieces, commentaries, editorials), grey literature
Content / Topics	Research on role development, definition, regulation, competency frameworks, educational pathways; studies on the origins, purpose, and impact of advanced practice roles	Literature that only references 'clinical nurse specialist' or 'specialist' without reference to advanced practice
Publication Type	Published in peer-reviewed journals	Not available in full text
Language	English	Non-English publications
Date Range	Published 2000 onwards	Published prior to 2000

Table 1 provides the inclusion and exclusion criteria used for the search strategy. The inclusion criteria were designed to focus on empirical, peer-reviewed research examining advanced practice

roles within human healthcare professions. This scope enables consideration of role development, definition, regulation, competency frameworks, and educational pathways, as well as the origins, purpose, and impact of advanced practice. By contrast, veterinary-specific literature was excluded due to the lack of research in this area and the likelihood that available studies would focus on veterinary surgeons, whose training and role structures are not comparable to veterinary nursing. Restricting the evidence base to English-language publications from 2000 onwards allows for inclusion of research conducted during a significant period of development in advanced practice roles, while ensuring relevance and accessibility.

SEARCH STRATEGY

The search strategy was refined following a preliminary search, undertaken in April 2025, in PubMed and CINAHL to ascertain the relevant keywords and medical subject heading (MESH) terms. This process demonstrated that “advanced practice” needed to be included as an AND operator for all search elements, to focus the literature on this role and avoid spurious results relating to finance or pollution, for example. As an indication, not including “advanced practice” within the search terms for [“regulation” OR “licensure” OR “governance”] returned 773,325 results on PubMed, versus 235 results with the inclusion. During this process it was also ascertained that the terms “nurse specialist” and “clinical nurse specialist” would be excluded unless mentioned in proximity to “advanced practitioner” terms. This would allow for articles which include both terms, potentially in a comparative context, but exclude articles which solely focus on clinical specialisms, which is not relevant to approaches in veterinary practices. And to further refine the search process, “role definition” OR “role development” OR “role evolution” OR “role transition” OR “professional identity” OR “scope of practice” would also be used with all focal areas indicated in Table 2.

Table 2: Search Arms and Associated Terms.

Search Arm	Associated Terms
Implementation	“policy implementation” OR “workforce integration” OR “service delivery” OR “barriers and facilitators” OR “role uptake” OR “organizational change”
Regulation	“regulation” OR “licensure” OR “governance” OR “competency framework” OR “core competencies” OR “professional standards”
Impact	“role effectiveness” OR “workforce impact” OR “healthcare service impact” OR “professional development” OR “service outcomes”

In order to elicit all relevant articles, three separate search arms were generated, each addressing a distinct aspect of advanced practice: implementation, regulation, and impact. The corresponding terms for each stream were combined with “advanced practice” in the search strategy. The full search terms for each database are available at Appendix B. The final search arms were applied across PubMed, CINAHL, Scopus, Web of Science, and Embase, yielding 1,234 results in April 2025.

STUDY SELECTION

The study selection process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR). Ensuring that the specific steps are followed promotes confidence in the standard of the review (30).

Of the generated results, 281 were removed as duplicates, leaving 952 for screening. This first screen followed a broad title and abstract review process, ascertaining which articles were most relevant and which were irrelevant. This resulted in 181 articles, although two articles were not accessible and were excluded. A second screen was undertaken at this point, to further refine the articles included in the full text review process. Reasons for exclusion at this point included a lack of role focus or reference to unrelated concepts such as the administrative burden of nurse recruitment.

The full text review process was undertaken for 44 articles, determining inclusion of the relevant themes, transferable population, applicable contexts, and ultimately offering insight into the development of the advanced practitioner role. This process excluded 27 articles. Backwards and forward citation searching was then performed on the remaining 17 articles, generating a further 17 for full text review, following the same process as above. Nine articles were then removed, leaving a total of 25 papers for full data analysis. All search processes and results were tracked in spreadsheets.

DATA CHARTING

A data charting spreadsheet was created by the reviewer to capture the demographic details of each source of evidence, as well as the key findings identified in accordance with the PCC (33). The data was charted independently, covering eight key areas:

1. Study identification (author, year, country, profession studied).
2. Study characteristics (design, setting, sample size, population).
3. Study objectives (aims, research questions).
4. Advanced practice role focus (roles included reference to specialism(s), stage of role development).
5. Key findings (role definition, regulation, frameworks, education and training pathways, development, and impact).

6. Quality and methodology consideration (i.e., validity of findings).
7. Relevance to research questions (rationalisation of role development, implementation of role(s), suggestions for implementation).
8. Notes and additional comments (key quotations, limitations).

Sub-headings were included in these eight areas, to ensure a detailed analysis could be undertaken following data extraction. After the first five papers were reviewed, section four (advanced practice role focus), was expanded to include all the aspects included above, as opposed to the more generic 'role definition and scope' that had previously been included. The first five papers were then reviewed again against the updated criteria.

DATA ANALYSIS

The data extracted from the 25 included articles offered two distinct opportunities for analysis. First, the study characteristics, such as year, country, profession, methodology, and focus of the research, were synthesised using descriptive statistics to provide an overview of the evidence base. Second, the key findings and associated elements were subjected to qualitative analysis to identify patterns across the literature.

Thematic analysis was selected as the most appropriate method to integrate the findings into an overview that addressed the research questions (34). Braun and Clarke's six-step framework (35) was followed to ensure a systematic and transparent process, while allowing for the flexibility often required in qualitative synthesis (36).

1. Familiarisation: All included articles were read in full, with key findings and relevant data extracts recorded in the data charting table.
2. Generating initial codes: Data extracts were coded inductively, with codes capturing elements related to role development, regulation, competency frameworks, implementation processes, and reported outcomes.
3. Searching for themes: Codes were then grouped into broader categories to begin identifying potential themes that recurred across studies.
4. Reviewing themes: Themes were checked against both the coded extracts and the entire dataset to ensure consistency and relevance.
5. Defining and naming themes: Final themes were refined, clearly defined, and labelled in line with their scope and content, ensuring they aligned with the overall research questions.
6. Producing the report: Themes were synthesised into a narrative that integrates the findings across studies, highlighting areas of convergence and divergence, and drawing implications for the veterinary nursing profession.

This process ensured that both the descriptive and interpretive strands of the analysis were robust, systematic, and transparent, producing a comprehensive synthesis of the evidence base.

RESULTS

A total of 25 articles met the inclusion criteria and were included in this review (Figure 1.). The findings are presented in two parts. First, the study characteristics are summarised to provide an overview of the evidence base, including geographical distribution, healthcare profession, methodological design, and publication trends. Second, the key findings from across the studies are synthesised using thematic analysis, organised into themes that reflect the development, regulation, implementation, and impact of advanced practice roles. This structure enables both a descriptive understanding of the available literature and an interpretive synthesis of its contributions to the research questions.

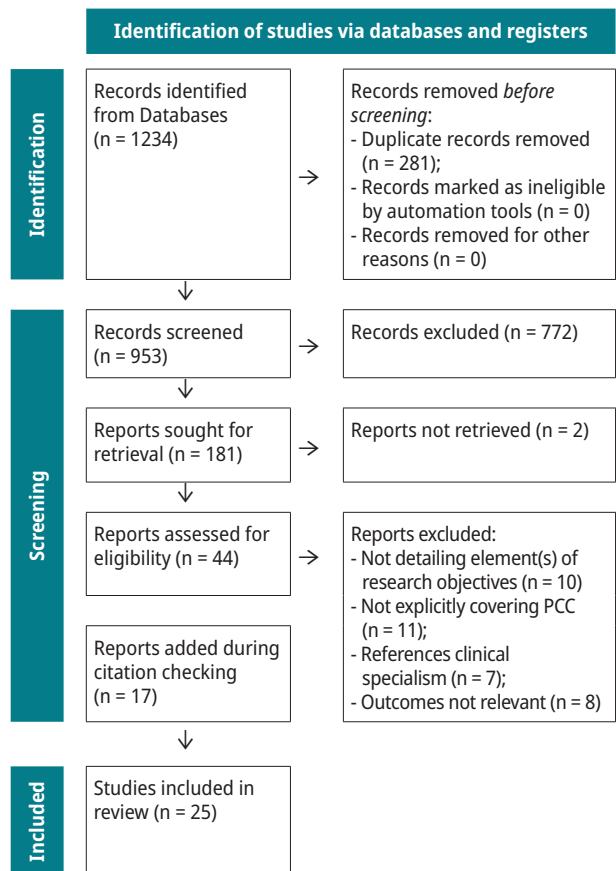


Figure 1. Flow chart of studies included following the PRISMA-Scr approach.

As shown in Table 3, most studies were published within the last five years (17/25), with smaller proportions published between five and ten years ago (5/25) and between ten and twenty years ago (3/25). Qualitative designs predominated (12/25), alongside review articles (7/25) and mixed-methods studies (6/25). Most research was global in scope (8/25), with smaller numbers of studies focused on Europe, the UK, and a range of individual countries. Nursing accounted for almost two-thirds of the professional focus (16/25), with physiotherapy, radiotherapy, and broader healthcare studies also represented. The primary participants were advanced practitioners (18/25), followed by educators and experts or associations. Role terminology was most aligned to the advanced practice nurse (16/25), although variation was evident, and 9 articles referred to the clinical nurse specialist within the context of advanced practice. Just over half of the studies (13/25) described advanced practice as established, while the remainder focused on newly implemented or evolving roles. Definitions varied, with 9 articles adopting the International Council of Nurses (ICN) definition, 4 using a country-specific version, and 12 proposing or applying author-generated definitions. Regulation was often absent or limited, with 8 articles reporting roles as unregulated and 7 describing partial regulation. More than half of the articles (14/25) identified a master's degree as a prerequisite for advanced practice roles, while 9 articles highlighted the need for a competency framework.

Table 3. Descriptive Characteristics of Included Studies (N = 25).

Characteristic	Categories	n (%)
Publication Year	0–5 years	17 (68%)
	5–10 years	5 (20%)
	10–20 years	3 (12%)
Study Design	Qualitative	12 (48%)
	Mixed methods	6 (24%)
	Review articles	7 (28%)
Geographical Focus	Global	8 (32%)
	Europe	3 (12%)
	UK	3 (12%)
	Switzerland	1 (4%)
	Saudi Arabia	1 (4%)
	New Zealand & Australia	1 (4%)
	Asia	1 (4%)
	South America	1 (4%)
	North America (exclusive)	0 (0%)

Characteristic	Categories	n (%)
Setting	Multi-location	14 (56%)
	Practice	7 (28%)
	Education	4 (16%)
Professional Focus	Nursing	16 (64%)
	Physiotherapy	3 (12%)
	Radiotherapy	2 (8%)
	Healthcare overall	4 (16%)
Participants	Advanced practitioners	18 (72%)
	Educators	3 (12%)
	Experts/associations	4 (16%)
Role Title Used	Advanced Practice Nurse	16 (64%)
	Advanced Practice Physiotherapist	3 (12%)
	Advanced Practice Radiotherapist	2 (8%)
	Advanced Healthcare Practitioner	4 (16%)
Clinical Nurse Specialist Mention	Yes (within AP context)	9 (36%)
	No	16 (64%)
Stage of Role Development	Established	13 (52%)
	Newly implemented	6 (24%)
	Evolving	6 (24%)
Definition Used	ICN definition	9 (36%)
	Country-specific	4 (16%)
	Author's own/proposed	12 (48%)
Regulation	Unregulated	8 (32%)
	Limited regulation	7 (28%)
	Not addressed	6 (24%)
Educational Pathway	Master's-level prerequisite	14 (56%)
Competency Framework	Explicitly identified as required	9 (36%)

The full data charting is available in Appendix C, detailing the specifics of each study. The summary table for each study is available in Table 4.

Table 4: Summary of Included Studies.

Ref No.	Authors (Year)	Country / Region	Profession	Study Design
37	Schwendimann, R., et al. (2019)	Switzerland	Nursing	Mixed methods
	<p>Focus/aims: To strengthen and update the MScN curriculum</p> <p>Key findings: Learning outcomes should be characterised as target competences. ANP graduates will be change agents, and part of a supportive community.</p>			
38	Oliveira, C., et al. (2024)	Europe	Radiotherapy	Qualitative
	<p>Focus/aims: Investigate European radiotherapy stakeholders' perceptions regarding the implementation and evolution of AP, mapping the four pillars in current practice and education.</p> <p>Key findings: Disparity across Europe, recommendations for improvements suggested across 'governance and role development', 'workforce and organisation' 'practice across all pillars' and 'education and training'.</p>			
39	Josi, R., & Bianchi, M. (2019)	Switzerland	Nursing	Qualitative
	<p>Focus/aims: Explore the potential of new care models using APNs to meet changing healthcare needs.</p> <p>Key findings: Requires clearly defined scope of practice and competences.</p>			
40	De Raeve, P., et al. (2024)	Europe	Nursing	Qualitative
	<p>Focus/aims: To identify the state of APN development across national levels in Europe.</p> <p>Key findings: States that a more-aligned educational pathway is required, definitions and regulatory requirements also need to be better aligned but recognise this may be country specific.</p>			
41	Almukhaini, S., et al. (2022)	Eastern Med region	Nursing	Scoping review
	<p>Focus/aims: Map and summarise evidence regarding APN in Arab countries in the Eastern Med region.</p> <p>Key findings: Need a standardised title and definition, and a set educational pathway to promote awareness and recognition.</p>			
42	Wheeler, K. J., et al. (2022)	Global	Nursing	Qualitative
	<p>Focus/aims: Describe the global status of APN practice regarding scope of practice, education, regulation, and practice climate.</p> <p>Key findings: Inconsistencies in title, role and credentialing continues to impact the profession. Requires master's level education, and regulation needs to be addressed.</p>			
43	Stotter, G., McKinlay, E., & Darlow, B. (2024)	New Zealand	Physiotherapy	Qualitative
	<p>Focus/aims: Explore health professionals' perceptions of the APP scope of practice in NZ and how APPs could influence physiotherapy service delivery for people with musculoskeletal conditions in primary health care.</p> <p>Key findings: Needs to be clearly defined and distinct from other scopes of practice.</p>			
44	Desmeules, F., et al. (2012)	Global	Physiotherapy	Systematic review
	<p>Focus/aims: Update the evaluation of the expanding role of advanced practice/extended scope physiotherapists in the management of patients with musculoskeletal disorders.</p> <p>Key findings: APP care may be as beneficial (or more so) than usual care by physicians in terms of diagnostic accuracy, treatment effectiveness, use of healthcare resources, economic costs and patient satisfaction.</p>			
45	Oliveira, C., et al. (2023)	Europe	Radiotherapy	Qualitative
	<p>Focus/aims: Assess AP roles amongst Therapeutic Radiographers/Radiation Therapists (TR/RTTs) and identify educational gaps for this level across Europe.</p> <p>Key findings: Developing minimum educational and practice standards may facilitate the comparability and recognition of this level across countries.</p>			

Ref No.	Authors (Year)	Country / Region	Profession	Study Design
46	Hooks, C., & Walker, S. (2020)	UK	Nursing	Qualitative
	<p>Focus/aims: How ACP roles are used, and what facilitators or barriers exist.</p> <p>Key findings: Increased job satisfaction, improving retention and promoting career pathways. Enhancing the provision of medical teams.</p>			
47	Chair, S. Y., et al. (2023)	Hong Kong	Nursing	Mixed methods
	<p>Focus/aims: Evaluate an APN core competence scale (APN-CCS) in the Hong Kong context.</p> <p>Key findings: Core competencies need to be validated and incorporated into the education process.</p>			
48	Ljungbeck, B., et al. (2021)	Global	Nursing	Scoping review
	<p>Focus/aims: Identify what is known in research field on the content of NP education programmes.</p> <p>Key findings: Education needs to focus on development of the professional role and autonomous practice, specifically from a nursing perspective (as opposed to medical).</p>			
49	Tawiah, A. K., et al. (2024)	Global	Physiotherapy	Qualitative
	<p>Focus/aims: Gather in-depth feedback and suggestions for improvements from key participants regarding the framework developed to represent the core competencies and capabilities of APPs.</p> <p>Key findings: Need for globally accepted competency and capability framework; ensures consistency in training and promotes international mobility.</p>			
50	King, R., Tod, A., & Sanders, T. (2017)	UK	Nursing	Literature review
	<p>Focus/aims: Understand the current processes of regulation relating to the ANP role in the UK.</p> <p>Key findings: Alignment / clarification on role titles and scope of practice is required, with mandatory regulation.</p>			
51	Almotairy, M. M., et al. (2024)	Saudi Arabia	Nursing	Qualitative
	<p>Focus/aims: Establishing a consensus among APNs in Saudi Arabia on the advanced practice nursing core competencies necessary for academic, residency, and fellowship programs.</p> <p>Key findings: Core competencies are required, which should be integrated into a master's programme.</p>			
52	Kenyon, E., et al. (2025)	Global	Healthcare	Umbrella review
	<p>Focus/aims: To identify existing competencies across AHCP literature and examine how they relate to the four pillars of a multi-professional AHCP framework.</p> <p>Key findings: Essential competences need to be developed, and this needs to focus equally on the four pillars, not promote the clinical element as the key point. There should be profession specific frameworks.</p>			
53	Moafa, H., et al. (2025)	Saudi Arabia	Nursing	Qualitative
	<p>Focus/aims: Explore the perspectives on APN of academic nurse leaders in academic settings in Saudi Arabia.</p> <p>Key findings: Stakeholders (academics, nursing bodies, government) need to work together on the development of a competency framework, which needs to be embedded in education, and effectively regulated.</p>			
54	Fothergill, L. J., et al. (2022)	UK	Healthcare	Qualitative
	<p>Focus/aims: To provide information on the role of the advanced practitioner and to inform future work developing and improving advancing practice within the NHS in England. Also aiming to provide a baseline to evaluate these future developments of the role of advanced practitioners.</p> <p>Key findings: Lack of standardisation, even where role titles are used, and governance and regulation are also not standardised.</p>			

Ref No.	Authors (Year)	Country / Region	Profession	Study Design
55	Swan, M., et al. (2015)	Europe & US	Nursing	Systematic review
	Focus/aims: A systematic review of randomized controlled trials (RCTs) of the safety and effectiveness of primary care provided by advanced practice nurses (APNs) and evaluate the potential of their deployment to help alleviate primary care shortages.			
	Key findings: Suggests further research to continue to support and promote the value of APNs. Barriers needs to be removed for utilisation of full scope of practice.			
56	Mantzoukas, S., & Watkinson, S. (2007)	Global	Nursing	Systematic review
	Focus/aims: Review the nursing literature on the notion of advanced nursing practice (ANP) and consequently provide clarifications on the concept of advanced nurse practitioner by developing its' generic features.			
	Key findings: Need title and role standardisation, suggest using the generic features identified as the basis for a framework.			
57	Magnago, C., & Pierantoni, C. R. (2021)	Brazil	Nursing	Mixed methods
	Focus/aims: This study analyses the practices of Brazilian nurses based on three components—regulation, practice, and education—to identify and compare the nature of authorised practices, practices developed in PHC, and practices taught in undergraduate nursing programs.			
	Key findings: Steps and recommendations for operationalising the APN model.			
58	Timmons, S., et al. (2023)	UK	Healthcare	Qualitative
	Focus/aims: Explore the unique concept of ACP as a multiprofessional role.			
	Key findings: Dichotomies in the development of a new, 'multi-occupational' profession including clashes in professional identity, debates over whether ACP relates to a role or level of practice, and in general or specialist areas. The data also identified significant issues in regulation.			
59	Carrier, J., et al. (2007)	Australia & New Zealand	Nursing	Mixed methods
	Focus/aims: Describe the core role of NPs in Australia and New Zealand.			
	Key findings: NPs can enhance and advance practice, without encroaching on the medical domain, but whilst improving patient outcomes.			
60	Stewart-Lord, A., et al. (2020)	UK	Healthcare	Mixed methods
	Focus/aims: Investigate the profiles of advanced clinical practitioners (ACPs) in the allied health professions (AHPs) and their skills, attributes, experiences and involvement in new models of care.			
	Key findings: The effective use of AHPs could support integration, address variances in service quality and efficiency caused by historical service boundaries, duplication or fragmentation, and deliver evidence-based practice.			
61	Maier, C. B. (2015)	Global	Nursing	Mixed methods
	Focus/aims: To assess task-shifting governance models and implications on practice			
	Key findings: Governance and regulation can have significant impact on facilitation and implementation of the role.			

RESULTS FROM THE THEMATIC ANALYSIS

Each article was allocated a review number for the thematic analysis process, identified as 'Ref. No' in Table 4, generating 144 separate coding terms. These coded terms were then amalgamated into 14 broad concepts, which were refined into 13 sub-themes, with four key themes presenting themselves as demonstrated in Table 4.

Table 4: Key-themes and sub-themes identified following thematic analysis.

Key Theme	Sub-themes		
1. Defining the Advanced Practitioner role	1.1. Role definition	1.1.1. Title standardisation	1.1.2. Scope of practice
2. Developing the Advanced Practitioner through effective education and training	2.1. Education and Training processes	2.1.1. Competency Framework	
3. Effective regulation for Advanced Practice	3.1 Regulation and oversight	3.1.1 Standardised practice	
4. Improving healthcare outcomes with the Advanced Practitioner role	4.1. Improving healthcare outcomes	4.1.1. Addressing workforce shortages	4.1.2 Workforce Transformation
	4.2. Interprofessionalism		
	4.3. Role recognition and value	4.3.1. Job satisfaction	

THEME 1. DEFINING THE ADVANCED PRACTITIONER ROLE

1.1. Role definition – this concept was coded for independently in 14 of the articles (39, 41, 42, 43, 46, 50, 52, 53, 54, 56, 57, 58, 59, 60), as well as developing the broader overview to include 1.1.1. Title standardisation and 1.1.2 Scope of practice. Thus, the concept of a clear role definition was considered as a key requirement for effective implementation in 19 of the 25 articles.

1.1.1. Title standardisation – a clear need for a job title that can be referenced and understood by both practitioners and the public was discussed in six of the articles (41, 46, 50, 54, 56, 60).

1.1.2. Scope of practice – the requirement for a clear scope of practice was referenced in 14 of the research articles (39, 40, 42, 43, 45, 46, 51, 52, 53, 54, 55, 56, 57, 58).

All the articles included reference to some version of a

definition of the advanced practitioner role, however, there was disparity as to what this could and should look like. This theme is, therefore, primarily distinguished by the necessity to create a clear role definition (1.1), within which the need for a standardised title (1.1.1) and a clear scope of practice (1.1.2) are included. One of the articles (40) argued that variability and inconsistency is negatively impacting care outcomes. In order to promote clarity and standardisation of the advanced practitioner role, a scope of practice which is reflected by the job title must also be created (41). What the scope of practice looks like must be determined by the profession creating or developing the role (52). Leadership was identified as a theme within two of the research articles included in the review (46, 59), however, this did not appear to constitute a specific sub-theme, rather was incorporated into the scope of practice sub-theme.

THEME 2. DEVELOPING THE ADVANCED PRACTITIONER THROUGH EFFECTIVE EDUCATION AND TRAINING

2.1. Education and training processes – the expectation that education and training must be robust, effective, and fit for purpose was referenced in 16 of the articles (37, 40, 41, 42, 43, 45, 47, 48, 49, 51, 52, 54, 56, 57, 59, 60).

2.1.1. Competency framework – the need for a clear competency framework was referenced in seven of the articles (38, 47, 49, 51, 52, 53, 56).

Effective education and implementation provide the opportunity to improve healthcare outcomes (42), a clear link between Theme 4 and sub-theme 2.1. Following on from Theme 1, whilst education must reflect current and contemporary practice, it must also be delivered in accordance with, and fully aligned with, the scope of practice (45).

A suggested starting point is the determination of core competencies, identified as a sub-theme of effective education and training, theme 2.1.1., offering an opportunity to provide the essential framework for role development, education, and practice (47). One of the articles (52) takes this concept a step further, stating that advanced practice nursing competency definition can then be translated into specific clinical competency requirements for each specific advanced practice role, allowing advanced practitioners to work to the full scope of their roles.

One of the articles (49) offered some suggested areas for inclusion in these competency style frameworks: clinical skills, effective and refined communications, interprofessional collaborations, leadership and advocacy, and knowledge creation and dissemination. Each profession must consider the specific requirements it demands of its advanced practitioners, and this must be reflected in the education and training process which aligns with the scope of practice.

THEME 3. EFFECTIVE REGULATION FOR ADVANCED PRACTICE

3.1. Regulation and oversight – the need for regulation of APN roles was clearly denoted in the literature, with 14 of the articles citing this need (40, 41, 42, 45, 46, 50, 52, 53, 54, 55, 57, 58, 59, 61).

3.1.1 Standardised practice – the concept of standardisation being a key requirement for effective role development and utilisation was referenced in 11 of the articles (40, 46, 47, 49, 50, 51, 53, 56, 57, 58, 59).

Theme 3 was referenced in more than half of the articles included in the review, demonstrating its relevance as a key theme, and the concept of effective regulation as the intended outcome. Whilst the regulatory process itself was not well covered, one article (50) posited that the process is less important than the outcome, ensuring that the demands of evolving healthcare needs can be met in a flexible way. This should also be reflected in any training and support developed for advanced practitioners (50), linking back into Theme 2; regulatory oversight should be a supportive mechanism, through which the role of advanced practitioner can adapt in a safe and effective way. Nonetheless, this role adaptation should not stray too far from the specified role intentions, thus the need for standardised practice (56, 57), representing sub-theme 3.1.1.

THEME 4. IMPROVING HEALTHCARE OUTCOMES WITH THE ADVANCED PRACTITIONER ROLE

4.1. Improving healthcare outcomes – a key concept in most of the articles, identified in 20 of the 25 articles (37, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 50, 51, 52, 53, 55, 56, 59, 60, 61)

4.1.1. Addressing workforce shortages – the opportunity for APNs to address workforce shortages was covered in 14 of the articles (38, 39, 40, 41, 43, 45, 46, 48, 49, 50, 51, 54, 58, 61).

4.1.2. Workforce transformation – whilst this concept was only included in one article (54), it is a key concept within the broader sub-theme of 4.1.1.

4.2. Interprofessionalism – the need for the role to be developed in an interprofessional context, with awareness of the value of the wider team and the skill mix available, was covered in 10 of the articles (37, 38, 39, 43, 46, 48, 52, 53, 55, 60).

4.3. Role recognition and value – the need for improvements to role recognition, and thus a better consideration of the value of the APN role was included in seven of the articles (40, 41, 42, 46, 52, 53, 59).

4.3.1. Job satisfaction – the concept of the APN role offering an opportunity to improve or increase job satisfaction was cited in two of the articles (46, 52). In article 46, this concept was very closely linked to the broader sub-theme of role recognition.

One of the intended outcomes of this scoping review was to determine why advanced practitioner roles had been created across healthcare professions: the data analysis has conclusively ascertained that the intention to improve healthcare outcomes is the driving factor. 24 of the 25 articles included in the review referenced this point, across the six additional sub-themes.

Sub-theme 4.1 was the most coded sub-theme across the entire review, demonstrating the strength of the evidence base for this role being a key option for improving healthcare outcomes. This, in turn, can support the current workforce challenges, and even offer an opportunity for workforce transformation (54), the two sub-themes identified within 4.1.

Nonetheless, this cannot happen in isolation (39), and the advanced practitioner role is not merely a tool to fill the gap created by workload pressures facing other healthcare professionals, but a valuable part of the wider healthcare eco-system (46), thus interprofessionalism is incorporated as a sub-theme here (4.2.).

Whilst sub-theme 4.3.1 was only referenced in two of the articles, the integration with the broader sub-theme of 4.3 was clear: the value perceived by the individuals in these roles, as well as the wider public consideration, must be addressed to improve job satisfaction (46, 52). The creation of this type of role offers a contemporary response to changing societal and cultural needs (58), which ultimately links back to the key theme.

DISCUSSION

This review identified four key themes reflecting policy, educational and regulatory considerations relevant to the development of an AVNP role. It is clear from the review that these themes are not standalone challenges that can be addressed sequentially; rather, they interlink, overlap, and draw on one another. Arguably, it is not steps along a pathway that has been demonstrated, rather one concept embedded into another. With the awareness that improving healthcare outcomes (Theme 4) has been identified as the key aim in advanced practitioner role creation and development, this could be best presented as per Figure 2. And yet trying to address the entire concept of improving healthcare outcomes offers an opportunity for the project to stumble before it has started; effective change will most likely be achieved with careful consideration and planning (62). As seen in Figure 2. and thoroughly demonstrated in the articles included in the scoping review, for advanced practitioner role development to be successful, the fundamentals need to be in place. There needs to be clear understanding of what the role is and what it looks like (1.1). The ICN provides the following definition for 'Advanced Practice Nurse':

'An Advanced Practice Nurse (APN) is a generalist or specialised nurse who has acquired, through additional graduate education

(minimum of a master's degree), the expert knowledge base, complex decision-making skills and clinical competencies for Advanced Nursing Practice, the characteristics of which are shaped by the context in which they are credentialed to practice (adapted from ICN, 2008). The two most identified APN roles are CNS and NP.' (63).

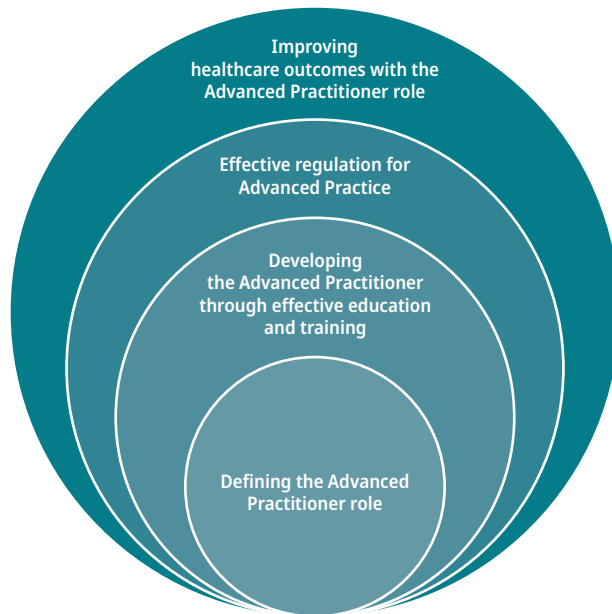


Figure 2. Key themes diagram

Arguably, there is more work to be done to disseminate the ICN's definition and encourage standardised usage, or the definition is not meeting the needs of those who are working in this area; only nine of the articles were using the ICN definition as the basis of the role. If a definition is already available, one must question why it is not being used in all areas where advanced practice is undertaken.

In order to determine the role definition (1.1.), determining the title definition (1.1.1.) and a scope of practice (1.1.2.) could provide a sensible first step. An overwhelm of job titles is confusing to the public (26), and avoiding this from the outset can only help with integration and implementation of the role. Scope of practice considerations must be considered by the professions to promote implementation and ensure the role can function within an interdisciplinary workforce (39). This will then determine whether leadership is a required key element for veterinary nursing. Whilst leadership is identified as one of the four pillars of nursing by the Royal College of Nursing (64), there is variation across the four UK nations as to what this looks like, and significant variation on the teaching processes covering the leadership requirements (27).

Once the scope of practice has been identified, these findings can then be incorporated into training pathways (2.1),

including a relevant competency framework (2.1.1.). This, in turn, could help the veterinary nursing profession avoid the issues identified by Palmer et al. (27) in their independent review of nursing and midwifery in the UK. Specifically, the review noted that without a specific scope of practice, which is adhered to, the risk of adverse outcomes increases (27). As detailed within the results section, a stepwise framework development could offer a process map for the role creation in veterinary nursing, starting with the consideration of a broad competency framework, which then embeds the relevant clinical competences (52).

With these in place, effective regulation can follow, with the clear understanding of what the role capability is, and what the limitations are. Considering the challenges currently facing advanced practice nursing in the UK (27), it is of no surprise that regulation was identified as a key theme from the review undertaken (Theme 3).

Indeed, the Nursing and Midwifery Council (NMC) has recently confirmed that the current lack of regulation in the UK presents a risk to the public, believing that addressing this lack of regulatory oversight is required to reduce this risk (28). Furthermore, the consideration of ensuring that regulation promotes standardised practice (3.1.1.) can only help to reduce that risk (27).

With all these safeguards in place, this role can ultimately provide the opportunity to improve patient outcomes (Theme 4), as desired by healthcare professionals, RVNs and the RCVS. The RCVS states that its aim is to 'enhance society through improved animal health and welfare' (65), which the development of advanced practitioner for veterinary nursing can only support.

One of the aims of this scoping review was to consider approaches for addressing workforce shortages, which has been identified as a sub-theme (4.1.1), along with Interprofessionalism (4.2) and role recognition and value (4.3). These areas were all noted by Macdonald and Dugmore (1) during their 'VN Vision' work: RVNs across the UK want progress in these areas for the development of the profession, and the findings of this scoping review support these intentions.

Theme 4 arguably presents a more cultural than practical standpoint: it offers an opportunity to consider the wider issues and implications of the role development, from the why to the wherefore. As noted by Macdonald and Dugmore (1): 'it all comes back to cultural reform'. However, developing vision into reality when discussing healthcare reform is no small task, as stated by Arnold et al (66) in their review of the NHS' 10 Year Health Plan for the Future (67). Nonetheless, change requires a starting point, and this scoping review has offered insights into the first steps this role creation may require.

And whilst the creation of a new role presents a huge challenge, Swan et al. (55) identify the approach to be 'safe, logical and effective', potentially reassuring the veterinary

professions that this role development is not only sensible, but achievable and desirable to improve patient outcomes.

Nonetheless, there is a critical step before the key role development work can be undertaken: stakeholder engagement. Without the support of the wider veterinary profession, the ability for RVNs to effect real change to patient outcomes via the advanced practitioner role will be impossible based on the current legislative restrictions, i.e., the legal requirement for veterinary surgeons to delegate tasks to RVNs (10). And so, whilst this scoping review has clearly demonstrated that the creation of the advanced practitioner can address some of the concerns raised by the VN profession, research must now be undertaken to confirm that the veterinary professions are in support of this role development.

LIMITATIONS

The scoping review process undertaken does include some limitations. Advanced practice in the field of healthcare encompasses an enormous body of literature, and it is possible that some key articles were missed during the article retrieval process. Although a set process was followed, the search terms may have inadvertently excluded a key concept, and the review was undertaken by a sole researcher, introducing a risk of bias as well as human error when reviewing the abstracts. This was mitigated, as far as possible, by a pilot search and a thorough review of the articles retrieved. Furthermore, the data extraction of the first five articles which were fully evaluated were also reviewed by the co-authors, to confirm agreement with the data extraction process. It is also accepted that the nature of this body of research is fast moving, and so the research findings are likely to only be fully relevant for a short period of time. Although, the review window did span 25 years and the findings were aligned across that period, so it is possible that the review findings will continue to be relevant. And finally, this review was specifically considering the concept of role development in the context of the veterinary nursing profession; whilst the reasons for considering human healthcare instead of veterinary have been explained, the two healthcare set-ups are not fully aligned, and it is possible that the transferral of the findings may be more complicated.

CONCLUSION

This scoping review aimed to determine how and why the advanced practitioner role has been created in human healthcare settings, with a view to follow these processes for the veterinary nursing role. This aim was supported by the profession's desire

for role development and enhancement, within the construct of the current workforce issues. The findings from this review have demonstrated a highly transferable concept, with key lessons that can be learned from the creation of the advanced practitioner role in the wider healthcare setting.

This review was able to ascertain that the creation of the advanced practitioner role can help to improve patient outcomes, a key aim for the RCVS, providing that there is effective regulation, which must oversee the training and education processes, which in turn are built upon a standardised role definition and a clear and effective scope of practice. Further research must now be undertaken to better understand the opportunities available to create this type of role in the veterinary sector, with due consideration of the barriers and facilitators, and ensure that the developmental process addresses the issues already identified in human healthcare role creation. A suggested first step is stakeholder engagement, with a view to use that feedback as a starting point for role definition leading into scope of practice development.

FUNDING INFORMATION

Nothing to declare.

CONFLICT OF INTEREST

There are no conflicts of interest to declare.

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