Abstract

## *Aim*

To synthesise available data on current educational provision related to preparation for the advanced clinical practice role.

## *Design*

A mixed methods rapid review of th literature.

## *Data Sources*

A search of Ovid Medline and Ovid EMBASE for English language papers published 2006-2018 resulted in 38 publications, which met the criteria for inclusion.

*Review Methods*

Using Tricco’s seven-stage process, following identification of relevant papers and data extraction, a data-based convergent synthesis was used to convert quantitative papers into qualitative data prior to completing a narrative synthesis.

## *Results*

The four themes identified from data synthesis were consolidation; theory practice gap; competency and mentoring. A lack of preparedness for new advanced clinical practitioners completing an educational programme was noted with a need identified for a clinically focussed consolidation period to enable practitioners to develop their skills under supervision in the clinical environment.

## *Conclusion*

As the needs for different models of healthcare evolves with the expansion of advanced practice; appropriate education and clinical supervision are important aspects in the delivery of programmes that allow individuals to be competent and confident practitioners providing safe and effective healthcare.

*Impact*

* There is a paucity of papers on educational preparedness of advanced clinical practitioners.
* Our findings demonstrate a lack of preparedness and the need for a clinically focussed consolidation period with good role models and mentors following completion of a Master’s programme.
* Employers and higher education institutions need to ensure a protected period of time is available for newly qualified advanced clinical practitioners to allow consolidation of clinical practice.

# *Keywords*

Advanced clinical practice, nursing, healthcare professionals, education, clinical preparedness, training, role transition, mentoring, specialist.INTRODUCTION

In many first-world countries, there is increased demand for advanced practice (AP) roles in healthcare. Roles such as nurse practitioners (NP) and clinical nurse specialists have developed to address unmet population health needs and to provide more sustainable healthcare services (Bryant-Lukosius *et al.,* 2004; Lee and Fitzgerald, 2008). A recent trend in the United Kingdom (UK) is to employ allied health professionals (such as paramedics and physiotherapists) in advanced clinical practice (ACP) roles to meet the need for more healthcare professionals to undertake diagnostic and decision-making roles, traditionally performed by physicians (Department of Health, 2014; Health Education England (HEE), 2015; Imison *et al.* 2016). Nuffield Health’s report on reshaping the workforce highlighted the need to train, recruit and upskill the workforce to ensure the National Health Service (NHS) evolves to meet the health needs of the population (Imison *et al*., 2016). ACP roles offer opportunities to address shortages within the medical workforce, to improve clinical continuity and to provide new opportunities for non-medical healthcare professionals.

## BACKGROUND

The challenge for workforce employers in the UK is that the ACP role was, until recently, ill-defined and unregulated, leading to confusion about role titles and expectations. Based on the Dreyfus model of skill acquisition, Benner’s ‘From Novice to Expert’ model describes the professional progression of nurses’ skill acquisition (Benner, 2001). According to this model, nurses move through the five levels of proficiency: novice, advanced beginner, competent, proficient, and expert (Benner, 2001). However, despite its use for developing advanced practice, significant heterogeneity in curricula preparation, role deployment, competence development and role regulation remains across Higher Education Institutions in England (HEE, 2015).

There is currently no international consensus on the definition of an ACP. A recent UK study highlighted the large number of varying job titles that included ‘advanced practitioner’ across different departments and healthcare providers both nationally and internationally (Leary *et al.,* 2017). Furthermore, a meta-summary of fifty papers, which identified seven domains of advanced practice (Hutchinson *et al.,* 2014) was unable to define AP due to inconsistencies in its definition, measurement, function and scope across Australia, the USA and the UK. Unlike in the US and Australia where it is a legally protected, the lack of a protected title for the ‘Advanced Practitioner’ role in England and Wales has enabled individual specialities and hospital trusts to employ ‘advanced nurse practitioners’ with no legislative restriction (Jokiniemi *et al.,* 2013; Leary *et al.* 2017).

The Royal College of Nursing (RCN) defines advanced nursing practice “*as a level of practice rather than a role or job title.* (RCN, 2012) arguing that it *“both builds on, and adds to, the set of competences common to all registered nurses*” (RCN, 2012). In 2017, HEE developed a new definition for ACP describing its scope, standardising the role functions, educational preparation, practice capabilities, and role development. HEE states that:

*'Advanced Clinical Practice is delivered by experienced registered healthcare practitioners. It is a level of practice characterised by a high level of autonomy and complex decision-making. This is underpinned by a Masters level award or equivalent that encompasses the pillars of clinical practice, management and leadership, education and research, with demonstration of core and area specific clinical competence*.’ (HEE, 2017).

This definition has now been adopted across England and Wales to standardise the role and allow consistent practice across disciplines for ACP roles (HEE, 2017), with the aim to meet HEE’s objective to develop a flexible workforce, which is competent to respond to changing healthcare needs (DH, 2015).

A Master’s level programme of education is the common minimum requirement for AP in the UK, USA, Australia and Finland (Driscoll *et al.,* 2012), a concept first described by Elliott (1995). In the authors’ higher education institution, an MSc Advanced Practice programme has been in place for some years. The programme curriculum was recently redesigned to address the four areas of AP identified in the NHS England ACP Framework: clinical practice, leadership and management, education and research with core and area-specific clinical competencies (HEE, 2017).

## Aim

The aim of this review was to synthesise available data on current educational provision related to preparation for the ACP role. The review questions were: (i) What factors affect transition for the newly qualified ACP and (ii) how are these factors integrated into current educational curricula?

## Design

We used a mixed methods rapid review to provide timely information for decision-making, a recognised benefit compared with systematic reviews (Haby *et al*., 2016). The field of ACP is rapidly changing. Rapid reviews can provide a snapshot of current research to inform changes in clinical practice in a cost and time pressured environment. Although they do not fulfil all the requirements of a systematic review, they follow a systematic and transparent process and a team of researchers work collaboratively with experts within the field to minimise limitations (O’Leary *et al.,* 2016). This mixed methods rapid review followed the seven-stage process outlined by Tricco *et al.* (2017) (see table 1). A data-based convergent synthesis approach, using data transformation allowed for qualitative and quantitative evidence to be synthesised (Hong *et al*., 2017).

*Insert TABLE 1 here*

Search Methods

In accordance with acceptedrapid review methodology (O’Leary *et al.,* 2016), we searched two databases: Ovid Medline and OVID EMBASE based on a Population, Exposure and Outcome table (refer to Supplementary Table 1). Key search terms included ‘Advanced Practice’, ‘Training’ and ‘Competence’ (refer to Supplementary Table 2). The Boolean operator ‘and’ was used to combine search terms and the search limited to English language papers published between 2006-2018. Inclusion criteria were any study design; for example, Randomized Controlled Trials, cohort and case studies as well as evaluations and observational studies, addressing current educational provision related to preparation for the ACP role.

Search Outcomes

Two researchers reviewed the full text version of 99 retrieved citations, from which a final 38 publications were included based on a consensus approach (See Figure 1- PRISMA diagram). Twenty three publications were from the USA, two from Australia, five from Canada, two from Sweden, six from the UK and one from the Netherlands. The majority of included papers were qualitative (*n*=33) and reported findings from studies involving NPs (see supplementary table 4).

*Insert Figure 1 here*

Data Abstraction

A single researcher extracted data addressing the review questions, with accuracy checked by a second member of the team. Extracted data included author, country of origin, study/paper design, quantitative results, qualitative findings and key study limitations identified by the authors.

Data Synthesis

Using data-based convergent synthesis (Hong *et al*., 2017), data transformation was performed to qualitise the six quantitative papers (Kurz *et al.,* 2009; Doerksen 2010; Hallas *et al.,* 2012; Curtis *et al.,* 2013; Hutchinson *et al.,* 2014; Jarrell, 2016) prior to completing a narrative synthesis. The robustness of the synthesis product was examined by discussing findings in a wider context to test the extent to which conclusions are generalisable.

**Results**

An initial eight themes (see Supplementary Table 3) were collapsed into a final four focused on the educational preparedness of ACPs: consolidation, the theory-practice gap, competency and mentoring (refer to Supplementary Table 4).

Consolidation

The literature on consolidation and role transition into the NP role is mostly from North America where NPs are well established. Most studies are single-site using convenience samples with small numbers of participants. The transitioning timescale was disputed in several studies. All agreed that the newly graduated NP requires a period to transition and consolidate AP, best achieved by a structured clinical internship with supportive mentorship for up to one-year post training (Brown & Olshansky, 1997; Sullivan-Bentz *et al.,* 2010; Rugen *et al.,* 2018). All the papers identified that establishing NP roles was challenging and where NP roles were poorly defined or were an innovation in the service (Jangland *et al.,* 2016), some assumed an ‘imposter role’.

Specific barriers and facilitators were identified related to NP role transition to practice. Support from nursing and medical colleagues was regarded as the most important facilitator to successful role transition (Cusson & Nelson Strange, 2008). Barriers included returning to work environments where previously employed (Cusson & Nelson Strange, 2008; Sullivan-Bentz, 2010), and lack of definition of role expectations and outcomes by service providers (Brown & Olshansky, 1997; Sullivan -Bentz, 2010). For the most part, the most challenging barrier was time to consolidate skills across a range of clinical settings and support from mentors. When the above were not in place, it took longer to transition and work independently (Rugen *et al.,* 2018). Structured mentorship schemes where NPs were supervised on a 1-to-1 basis by medical practitioners, or where they had opportunities to rotate to different clinical specialities (Lee & Fitzgerald, 2008; Brooks & Niederhauser, 2009) improved role transitioning significantly (Brown & Olshansky, 1997; Ruston and Tavable, 2011; Maten-Speksnijder, 2015).

The limitations of structured clinical internships schemes were that the prime focus was on development of clinical competence, mainly in the medical domain (Maten-Speksnijder *et al.,* 2015; Jangland *et al.,* 2016). Rugen *et al.* (2018) noted that there was minimal emphasis on developing other components of the NP role, such as leadership and service improvement. Reasons stated were that there was a greater need for NP clinical competence to provide direct patient care related to service deficits (Spoelstra & Robbins, 2010) and NP educational preparation prioritised clinical skills development above professional preparation (Rugen *et al.,* 2018).

Theory practice gap

Building on Benner’s ‘Novice to Expert’ model, Faraz described how novice NPs transitioning to practice navigate through similar stages of professional skill performance (Faraz, 2016). The expertise develops when the NPs apply the general theory principles in the clinical setting with the goal of providing comprehensive holistic patient care. Although the adaptation of this model to the NPs’ practice can be inferred, the fit between the aspects of each proficiency level and NPs’ professional progression has not been studied nor described in detail in the literature.

Novice NPs may undergo a “reality shock” or “transition shock” when entering the workforce due to a gap of what was learned as an NP student and the expertise needed to be successful in practice (Duchscher, 2007; Fitzpatrick & Gripshover, 2016). In a qualitative evidence synthesis, Master’s level education was identified as a key theme in addressing issues of transition (Moran & Nairn, 2018). As Master’s level award or equivalent is now supported by Health Education England (HEE) (2018) for ACP, simulation can serve as a vehicle in reducing the theory to practice gap. In one systematic review on the effectiveness of simulation-based education in NP programmes on learners’ knowledge, skill performance, confidence and attitudes, high-fidelity simulation led to an increase in the students’ knowledge, confidence and satisfaction (Warren *et al.,* 2016). Nevertheless, there is a lack of evidence to support the replacement of clinical hours with simulation in NP education (Rutherford-Hemming *et al.,* 2015). All of the studies included in both of the systematic reviews were performed in the US. As ACP education continues to develop, there is a need to further this type of research in the UK.

Other theories have emerged and/or been adapted over the years to address the process of the NPs’ transition to clinical practice. Meleis’s Transitions Theory has been adapted as a framework to define personal and community conditions that help to either promote or inhibit NPs’ transition to practice (Meleis *et al.,* 2000)*.* Based on this theory, Barnes (2015) conducted a descriptive cross-sectional survey investigating the relationships between prior nursing experience, formal orientation and NP role transition and reported that only a formal orientation led to a positive NP role transition. This finding supports other papers, where formal orientation programmes were found to help novice NPs to gain confidence and competence and to feel more satisfied in their new roles (Goodwin-Escola *et al.,* 2009; Sorce *et al.,* 2010; Flinter, 2012; Sargent & Olmedo, 2013).

Fellowships or residencies for new NP graduates or those wishing to change specialties are another way of reducing the theory to practice gap. Novice NPs in specialty areas request more educational content and clinical experiences in the form of residencies or mentoring options (Jones *et al*., 2015). However, the approaches to NP fellowships or residencies vary greatly and remain inconsistent as to the standard of the didactics, clinical competencies, and duration (MacDonald *et al*., 2006; Rudy & Wilbeck, 2017). As ACP education continues to develop at a Master’s or equivalent level in the UK, standardisation of such fellowships/residencies and associated competencies in specialty areas will provide the novice NPs with consistent preparation to ensure a successful professional transition.

Competency

Competency assessment is an important part of ACP, and there are different ways of assessing these and using theoretical frameworks to demonstrate skills acquisition. Avadhani (2017) described how a simulation programme was introduced to assess invasive procedure skills. The skills acquisition framework by Barraclough was used in the study, which reported significant improvement in NP students’ acute care knowledge, skills and attitudes.

A qualitative interpretative single-embedded case study of 22 participants examining physical assessment skills education reported that these skills were used in practice successfully by community advanced NPs (Raleigh & Allen, 2016). The authors did not formally assess competencies; instead, they asked the students about what they learnt. Students reported feeling competent with their physical assessment skills education. Other papers have examined specific aspects of practice such as communication but do not specifically mention competencies (Curtis *et al.,* 2013), while some have linked a specified number of hours to development of core clinical competencies (Hallas *et al*., 2012). Hallas *et al*. (2012) report that 500 clinical hours correlates to populations, skills performed, required levels of decision making, and expected diagnoses but concede that they could not establish if these clinical hour requirements translate to exposure to all core competencies for entry into practice. The authors suggest that more performance-related assessments could be used such as case-based evaluations, simulations, or objective structured clinical examinations (OSCEs) to evaluate clinical competencies. Melnyk *et al.* (2014) developed 13 evidence-based practice competencies for practicing registered nurses and 11 additional competencies for Advanced Practice Nurses with seven evidence-based practice leaders in the US. The paper, however, did not report whether these competencies were successfully implemented into practice.

Hutchinson *et al.* (2014) presented practice domains that pre-date the HEE definition of ACP but included common elements, such as autonomous clinical practice, developing the practice of others, improving systems of care, developing and delivering educational programmes, research and scholarship. Paton *et al.* (2013) describe a case study involving a competency-based preparation course for ACPs. The three-month programme involved ongoing professional development that included journal clubs and conference attendance specific to their role. Intensive mentorship was put in place to support the ACPs with role transition. The main focus of the orientation programme was on skills, knowledge and making decisions under pressure as the ACPs transitioned from being a care giver to a care director. Of note, 23% of ACPs did not pass this programme. Payne *et al.* (2016) describe educational preparation as one of the essential learning outcomes and as role-specific competencies for ACPs working in elderly care. These studies clearly show some commonality in their programmes but also highlight the complexity of the role requirements in terms of clinical knowledge and skills. Overall, there is a paucity of literature on competencies in ACP and of the studies identified; the majority were small-scale single-centred studies.

Objective Structured Clinical Examinations (OSCEs) are commonly used in AP education and the literature search revealed three papers on the topic. Barrett (2010) investigated if recording simulated OSCEs was beneficial for NP students in the UK. The results showed simulated OSCE video-recordings to be an effective method for supporting NP educational development. Another study by Kurz *et al.* (2009) compared two different assessment methods: OSCEs and standardized patients (SP- where Faculty-trained laypersons act as the patient), to a traditional Health Assessment course. Of the 37 students who participated, those who undertook OSCEs and SPs had statistically significant higher scores than those in the traditional group for the final practical examination grades, clinical preceptor evaluations, satisfaction scores, and self-evaluations of skills. The authors recommended that educators incorporate SPs and OSCE to improve clinical competency scores and student satisfaction. Aronowitz *et al.*’s (2017) article is an opinion piece advocating simulated patient encounters and OSCEs but no empirical data are reported to support this. In summary, although a common assessment method within ACP programmes, the use of OSCEs in AP is poorly studied.

Mentoring

The literature on mentoring was, once again, predominantly from North America and focused on the process in relation to five areas of AP using the Strong model- direct comprehensive care, education, research, support of systems and publication and professional leadership. Pop (2017) undertook a grounded theory study to develop a theory of mentoring and identified three categories: forming the relationship, developing it and mentoring outcomes. The needs of NPs are also discussed by others (Doerksen, 2010; Brand *et al.*, 2016; Jarrell, 2016), in terms of identifying specific areas such as clinical skills, leadership and research and highlights the novice to expert NP journey. Mentorship is cited as reducing anxieties in novice NPs as they transition but no studies measured psychological well-being specifically (Hill & Sawatzky, 2011). However, the transition from novice to expert was seen as stressful and the authors endorsed the use of experienced NPs as mentors.

What becomes clear is that mentoring is seen as valuable but there are no formalised validated programmes and most work has been done on small numbers of NPs from single sources. The US and Canadian programmes identified mentors as experienced NPs (Brand *et al.,* 2016; Jarrell, 2016), whereas other countries do not. Leggat *et al.* (2015), for example studied the benefits of mentorship in Australia, with mentors who were predominantly in executive nursing roles and mentorship only for leadership development with only four of the 16 mentors being NPs. Only one paper identified physicians acting as mentors (Barton, 2006). This UK based paper undertook a qualitative study of physicians and their experiences as mentors. The paper highlights the challenges related to one professional body mentoring another and how scope of practice differs between the two. This has always been a contentious area, but Barton (2006) acknowledges that medical benchmarking is an efficient method of providing direction for physicians in this mentoring role. The paper also highlights how students’ clinical authority changes as they transition from novice to expert. Clearly more work is needed in this area as NPs develop and expand their clinical skills and the benefits of working with experienced physicians needs further exploration. The key to successful mentorship was the duration of programme and whether it was formal or informal (Doerksen, 2010; Hill & Sawatzy, 2011). All agreed that NPs’ confidence increases throughout NP programmes as they gain experience and develop professionally.

## *Discussion*

In summary, the majority of the literature reviewed refers specifically to NPs rather than ACPs and most of the papers only examined one aspect of education preparedness in small, single centred studies. Although ACPs have not been specifically examined in the reviewed papers, the findings remain relevant to ACP education and curriculum development. It is clear from this review of available literature that there needs to be both clinical and theoretical components in the ACP curriculum supported in clinical practice by having appropriate ACP role models and mentors. In relation to educational preparedness, the ACP curriculum needs to recognise the often-complex diagnostic and clinical decision-making elements of the role as described by Jokiniemi *et al.* (2013). This review highlights the importance of facilitating placements and internships for ACP trainees, as advocated by others (Lee & Fitzgerald, 2008).

For role transition to be managed well, it appears there needs to be an unspecified time period where the newly qualified ACP is mentored within the clinical setting as they commence on the novice to expert journey. They need to operate in an environment where all members of the team understand and are supportive of the ACP role, although there is a paucity of literature to support this statement.

The UK Royal College of Emergency Medicine and the Faculty of Intensive care medicine have created curricula for ACPs working in these clinical settings with specific competencies (Faculty of Intensive Care Medicine, 2015; Royal College of Emergency Medicine, 2017). With the changing healthcare needs of patients across a variety of settings (acute and community based), ACPs need to be able to demonstrate complex-decision making to assess, manage and treat patients using their extensive knowledge and skills. University curricula need to ensure ACPs have the appropriate skills and knowledge and be able to integrate theory and practice. This can be achieved using a validated clinical competency assessment tool, a process already been instigated by some Higher Education Institutions following collaborative development between the clinical stakeholders and the universities (Health Education South London, 2016, Bench *et al.*, 2018).

Finally, it is important to note that although much has been written about advanced practice, few have examined educational preparation and preparedness for the ACP.

# *Limitations*

There are some limitations that need to be acknowledged. A rapid review design was selected as information was required within a short timeframe to inform decisions relating to a new curriculum under development for ACP training at the authors’ educational institution. We acknowledge that a rapid review is not as rigorous as a systematic review. In particular, due to time and resource issues, quality appraisal of included studies was not performed. However, our review is strengthened by following the systematic seven-stage approach outlined by Tricco *et al*. (2017).

# RECOMMENDATIONS FOR PRACTICE AND RESEARCH

There is a paucity of original research articles with a robust methodology regarding educational preparation of ACPs. Research into the most effective models of educational preparedness for ACPs is required to ensure future curricula adequately prepare people for the role they are expected to fulfil in clinical practice. It is also clear that current ACPs need to understand their importance as good role models and mentoring, not just for trainee ACPs but also for the wider healthcare workforce. Studies need to be undertaken to evaluate the various ACP programmes and provide evidence on their effectiveness and benefits to patient care.

# CONCLUSION

Significant fiscal investment and personnel are required to train an ACP. The number of ACPs in training is increasing and it is important that an effective model of education preparation is available. The ACP qualification is fundamental to safe delivery of patient care across healthcare sectors within the UK and more widely. Ensuring adequate educational preparedness will reassure the ACP profession and lead to role acceptance by fellow clinicians and the public. Effective support to transitioning from novice to expert is vital to ensure safe healthcare and a suitably qualified workforce. Thus, adequate educational preparation to take on and succeed in an ACP role is essential.

This rapid review has highlighted the need for further research which aims to identify the specific educational preparedness required for the ACP role. Identification and dissemination of good educational practice will ensure that transition into the ACP role is as smooth as possible, resulting in the ACP being prepared, and most importantly being competent and confident to embrace and flourish their new ACP role.

REFERENCES

Avadhani, A. (2017). Should procedural skills be a part of the Acute Care Nurse Practitioner Curriculum, *Nurse Education Today* 50, 11-118.

Barnes, H. (2015). Nurse Practitioner Role Transition: A Concept Analysis. *Nursing Forum*, 50, 137-214.

Barrett, J. (2010). A focus group study of the use of video-recorded objective structured clinical examinations in nurse practitioner examination. *Nurse Education in Practice*, 10, 170-175.

Barton, T.D. (2006). Clinical mentoring of nurse practitioners: the doctors’ experience. *British Journal of Nursing*, 15, 820-824.

Bench, S., Baker, B., Dover, N., Garry, B., Nwosu, W., Peacock, S., Trenchard-Turner, N., Whaley, S., Worth, T., & Lee G. (2018). The education and training needs of advanced clinical practitioners; an exploratory, qualitative study. *Journal of Nursing Education and Practice* 8, 66-74.

Benner, P. (2001)*. From novice to expert: Excellence and power in clinical nursing practice*. Upper Saddle River, NJ: Prentice Hall.

Brand, M.C., Cesario, S.K., Symes, L., & Montgomery D. (2016). Journey to Becoming a Neonatal Nurse Practitioner. Making the Decision to Enter Graduate School. *Advances in Neonatal Care*, 16, E3-E11.

# Brooks, M. V., & Niederhauser, V. (2009). Preceptor expectations and issues with nurse practitioner clinical rotations. *Journal of the American Academy of Nurse Practitioners*, 22, 573-9. doi: 10.1111/j.1745-7599.2010.00560.

## Brown, M-A., & Olshansky, E.F. (1997). From limbo to legitimacy: A theoretical model of the transition to the primary care nurse practitioner role. *Nursing Research*, 46, 46-51.

Bryant-Lukosius, D., Dicenso, A., Browne, G. & Pinelli, J. (2004) Advanced practice nursing roles. *Journal of Advanced Nursing*, 48, 519–529.

Curtis, J.R., Black, A.L., Ford, D.W., Downey, L., Shannon, S.E., Doorenbos, A.Z., Kross, E.K., Rienke, L.F., Feemster, L.C., Edlund, B., Arnold, R.W., O’Connor, K., & Engelberg, R. (2013). Effect of communication skills training for residents and nurse practitioners on quality of communication with patients with serious illness: a randomised trial. *JAMA.* 310, 2271–2281. doi:10.1001/jama.2013.282081.

Cusson, R.M., & Nelson Strange, S. (2008). Neonatal nurse practitioner role transition, the process of retaining expert status. *J Perinat Neonational Nursing*, 22, 329–337.

Department for Health (2014). *The NHS five year forward view*, The King' s Fund. October NHS England.

[https://www.kingsfund.org.uk/projects/nhs-five-year-](https://www.kingsfund.org.uk/projects/nhs-five-year-Kross)view (last accessed 17.01.19)

Department for Health (2015). *Mandate from Department of Health to Health Education England.* https://.gov.uk/government/uploads/system/uploads/attachment\_data/file/386221/NHS\_England\_.Mandate.pdf (last accessed 28.03.18)

Doerksen, K. (2010). What are the professional and mentorship needs of advanced practice nurses? *Journal of Professional Nursing*, 26, 141–151.

Driscoll, A., Harvey, C., Green, A., Wetherby, R., Liew, D., Lord, J., Lee, G., Crellin, D., Dubroff, N., & Heland, M. (2012) National nursing registration in Australia: A way forward for nurse practitioner endorsement. *Journal of the American Academy of Nurse Practitioners*, 24, 143-148.

Duchscher, J.E.B. (2009) Transition shock: the initial stage of role adaptation for newly graduated Registered Nurses. *Journal of Advanced Nursing* 65, 1103– 1113. doi: 10.1111/j.1365-2648.2008.04898.x.

Elliott, P.A. (1995) The development of advanced nursing practice:1, *British Journal of Nursing* 4, 633-636.

Faculty of Intensive Care Medicine (2015). *Curriculum for training Advanced Critical Care Practitioners.* <https://www.ficm.ac.uk/sites/default/files/ACCP%20Curriculum%20v1.0%20%282015%29%20COMPLETE_0.pdf> last accessed 21.01.19.

Faraz, A. (2017). Novice nurse practitioner workforce transition and turnover intention in primary care. *Journal of the American Association of Nurse Practitioners*, 29, 1-57. doi.org/10.1002/2327-6924.12381.

Fitzpatrick, S., & Gripshover, J. (2016). Expert nurse to novice nurse practitioner: the journey and how to improve the process. *The Journal for Nurse Practitioners*, 12, e419–e421. <https://doi.org/10.1016/j.nurpra.2016.05.012>.

Flinter, M. (2011). From new nurse practitioner to primary care provider: bridging the transition through FQHC-based residency training. *Online J Issues Nurse,* 28, 17, 6.

Goodwin-Esola, M., Deely, M., & Powell, N. (2009). Progress meetings: facilitating role transition of the new graduate. *Journal of Continuing Education for Nurses*, 40, 411-5. doi: 10.3928/00220124-20090824-04.

Haby, MM., Chapman, E., Clark, R., Barreto, J., Reveiz, L. & Lavis, JN. (2016) What are the best methodologies for rapid reviews of the research evidence for evidence-informed decision making in health policy and practice: a rapid review. *Health Research Policy and Systems* 14, 83. DOI 10.1186/s12961-016-0155-7.

Hallas, D., Biesecker, B., Brennan, M., Newland, J.A., & Haber J. (2012) Evaluation of the clinical hour requirement and attainment of core clinical competencies by nurse practitioner students. *Journal of the American Academy of Nurse Practitioners*, 24, 544-553. doi: 10.1111/j.1745-7599.2012.00730.x.

Health Education England (2015). *Raising the Bar Shape of Caring: A Review of the Future Education and Training of Registered Nurses and Care Assistants.* <https://www.hee.nhs.uk/sites/default/files/documents/2348-Shape-of-caring-review-FINAL_0.pdf> (last accessed 12.12.17).

Health Education England (2017). <https://hee.nhs.uk/our-work/developing-our-workforce/advanced-clinical-practice/advanced-clinical-practice-definition> (last accessed 28.03.17).

Health Education South London. (2016). *HESL Advanced Practice Framework*. NHS: London. <http://aape.org.uk/wp-content/uploads/2015/02/HESL-AP-Framework-Final.pdf>. (last accessed 19.03.19).

Health Education England (2018). *Health Education England Advanced Clinical Practice Definition* <https://www.hee.nhs.uk/our-work/advanced-clinical-practice> (last accessed 13.01.19).

Hill, L.A., & Sawatzky, J.V. (2011). Transitioning into the nurse practitioner role  
through mentorship. *Journal of Professional Nursing*, 27, 161–167. doi:10.1016/j.profnurs.2011.02.004.

Hong, QN., Pluye, P., Bujold, M., Wasse, M. (2017). Convergent and sequential synthesis designs: implications for conducting and reporting systematic reviews of qualitative and quantitative evidence. *Systematic Reviews* 6:61. DOI 10.1186/s13643-017-0454-2.

Hutchinson, M., East, L., Stasa, H., Jackson. D. (2014). Deriving consensus on the characteristics of advanced practice nursing. Meta-summary of more than 2 decades of research. *Nursing Research*, 62, 116-128.

Imison, C., Castle-Clarke, S., & Watson, R. (2016). *Reshaping the workforce to deliver the care patients need*, Nuffield Trust: London.  [http://www.nuffieldtrust.org.uk/node/4651](%20http://www.nuffieldtrust.org.uk/node/4651%20%20%20%20%20%20(Last%20accessed%2025.06.17)  (Last accessed 25.06.17).

Jangland, E., Uhlin, P.Y., & Arakelian, E. (2016). Between two roles, Experiences of newly trained nurse practitioners in surgical care in Sweden: A qualitative study using repeated  
interviews. *Nurse Education in Practice*, 21, 93e99.

Jarrell, L. (2016). Professional Development and Mentorship Needs of Nurse Practitioners. *Journal for Nurses in Professional Development,* 32, 26-32. DOI: 10.1097/NND.0000000000000160.

Jokiniemi, K., Pietila, A., Kylma, J., & Haatainen, K. (2012). Advanced nursing roles: A systematic review. *Nursing Health and Sciences*, 14, 421-431.

Jokiniemi, K., Haatainen, K., & Pietila, A. (2013). From challenges to advanced practice registered nursing role development: Qualitative interview study. *International Journal of Nursing Practice*, 21, 896-903.

Jones, J., Kotthoff-Burrell, E., & Kass-Wolff, J. (2014). Nurse practitioner graduates “Speak Out” about the adequacy of their educational preparation to care for older adults: A qualitative study. *Journal of the American Association of Nurse Practitioners*, 27, 698–706.

Kurz, J.M., Mahoney, K., Martin-Plank, L., & Lidicker, J. (2009). Objective Structured Clinical Examination and advanced practice nursing students. *Journal of Professional Nursing*, 25, 186-91. doi: 10.1016/j.profnurs.2009.01.005.

Leary, A., Maclaine, K., Trevatt, P., Radford, M., & Punshon, G. (2017). Variation in job titles within the nursing workforce. *Journal of Clinical Nursing*, 26,494–4950. Doi: 10.1111/jocn.13985.

Lee, G., & Fitzgerald, L. (2008). A Clinical Internship Model for the Nurse Practitioner Programme. *Nursing Education in Practice*, 8, 397-404.

Leggat, S.G., Balding, C., & Schiftan, D. (2015). Developing clinical leaders: the impact of an action learning mentoring programme for advanced practice nurses. *Journal of Clinical Nursing,* 24, 1576–1584.

# MacDonald, J., Herbert, R., & Thibeault, C. (2006). Advanced Practice Nursing: Unification Through a Common Identity. *Journal of Professional Nursing* 22, 172-1799 <https://doi.org/10.1016/j.profnurs.2006.03.009>.

Maten-Speksnijder, A., Pool, A., Grypdonck Meurs, P., & Van Staa, A. (2015). Driven by ambitions: the nurse practitioner’s role transition in Dutch hospital care. *Journal of Nursing Scholarship*, 47, 544–554.

Meleis, A.I., Sawyer, L.M., Eun-Ok, I., Hilfinger, M.D.K., & Schumacher, K. (2000). Experiencing transitions: An emerging middle-range theory. *Advances in Nursing Science*, 23, 12-28.

Melnyk, B.M., Gallagher-Ford, L., Long, L.E., & Fineout-Overholt, E. (2014). The establishment of evidence-based competencies for practicing registered nurses and advanced practice Nurses in real-world clinical settings proficiencies to improve healthcare quality, reliability, patient outcomes and costs. *Worldviews on Evidence-Based Nursing*, 11, 5-15.

Moran, G. M., & Nairn, S. (2017). How does role transition affect the experience of trainee Advanced Clinical Practitioners: Qualitative evidence synthesis. *Journal of Advanced Nursing*, 74, 251-262.

O'Leary, D.F., Casey, M., O'Connor, L., Stokes, D., Fealy, G.M., O'Brien, D., Smith, R., McNamara, M.S., & Egan, C. (2016). Using rapid reviews: an example from a study conducted to inform policy-making. *Journal of Advanced Nursing*, 73, 742-752. Doi: 10.1111/jan.13231 (last accessed 13.01.19).

Paton, A., Stein, D.E., D’Agostino, R., Pastores, S.M., & Halpern, N.A. (2013). Critical care medicine advanced practice provider model at a comprehensive cancer center: successes and challenges. *American Journal of Critical Care*, 22, 439-443. doi: 10.4037/ajcc2013821.

Payne, C., Farrell, K., & Heye, M.L. (2016). Revitalising learning outcomes for adult gerontology advanced practice programmes. *Journal of Professional Nursing*, 32, 494-500.

Pop, R.S. (2017). Mentoring nurse practitioners in a hospital setting. *The Journal of Nursing Research*, 25, 304-309.

Raleigh, M., & Allan, H. (2016). A qualitative study of advanced nurse practitioners’ use of physical assessment skills in the community: shifting skills across political boundaries. *Journal of Clinical Nursing*, 26, 2025-2035.

Royal College of Emergency Medicine (2017). *The Royal College of Emergency Medicine, Emergency Care Advanced Clinical Practitioner Curriculum and Assessment.* <https://www.rcem.ac.uk/docs/Training/EM%20ACP%20curriculum%20V2%20Final.pdf> Last accessed 21.01.2019.

Ruston, A., & Tavable, A. (2011). An evaluation of a training placement in general practice for paramedic practitioner students: improving patient-centred care through greater interprofessional understanding and supporting the development of autonomous practitioners. *Quality in Primary Care*, 19, 167–73.

Rutherford-Hemming, T., Nye, C., & Coram, C. (2016). Using simulation for clinical practice hours in nurse practitioner education in the United States: A systematic review. *Nurse Education Today*. doi: 10.1016/j.nedt.2015.11.006.

Rugen, K. W., Harada, N., Harrington, F., Dolansky, M. A., & Bowen, J. L. (2018). Nurse Practitioner residents’ perceptions of competency development during a year-long immersion in Veterans Affairs primary care: A qualitative study. *Nursing Outlook*, 66, 352–364. doi: 10.1016/j.outlook.2018.05.002.

Sargent, L., & Olmedo, M. (2013). Meeting the needs of new-graduate nurse practitioners: a model to support transition. *J Nursing Administration*, 43, 603-10. doi: 10.1097/01.NNA.0000434506.77052.d2.

Source, L., Simone, S., & Madden, M. (2010). Educational preparation and postgraduate training curriculum for paediatric critical care nurse practitioners. *Paediatric Critical Care Med*, 11, 205-212.

Spoelstra, S.L., & Robbins, L.B. (2010). A Qualitative Study of Role Transition from RN to APN. *International Journal of Nursing Education and Scholarship*, 7. DOI: 10.2202/1548-923X.2020.

Sullivan-Bentz, M., Humbert, J., Cragg, B., Legault, F., Laﬂamme, C., Bailey, P.H., & Doucette, S. (2010). Supporting primary health care nurse practitioners’ transition to practice. *Canadian Family Physician*, 56, 1176-1182.

Tricco, A.C., Langlois, E.V., & Straus, S.E. (2017). *Rapid reviews to strengthen health policy and systems: a practical guide*. World Health Organization, Alliance for Health Policy and Systems Research ISBN: 978 92 4 151276 3.

Warren, J.N., Luctkar-Flude, M., Godfrey, C., & Lukewich, J. (2016) A systematic review of the effectiveness of simulation-based education on satisfaction and learning outcomes in nurse practitioner programs. *Nurse Education Today*, 46, 99-108. doi: 10.1016/j.nedt.2016.08.023.

Wilbeck, J., Roberts, E., & Rudy, S. (2017). Emergency nurse practitioner core educational content. *Advanced Emergency Nursing Journal*, 39, 141-151. doi: 10.1097/TME.0000000000000142.