Scottish School of Primary Care

Evaluation of New Models of Primary Care in Scotland

Advanced Nurse Practitioner Case Study

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Disclaimer

The views, information, and opinions expressed in this report are solely those of the authors and do not necessarily represent those of the University of Stirling or the study funder, the Scottish Government. They are based on the information provided by the identified key informants who participated in this case study and may not necessarily represent potential key informants who were either not identified by the study recruitment strategy or who declined the invitation to participate in the case study.

KEY MESSAGES
Advanced Nurse Practitioner Case Study

Key Findings: The number of ANPs in Scotland could not be established. ANPs were undertaking elements of the GPs role including: assessment; differential diagnosis; investigations; treatments including prescribing; discharge or referral. They undertook these tasks across all age groups for minor illness and injuries, and across a range of primary care services. In rural areas, ANPs managed more complex cases and multiple nursing roles.

Reported key facilitators to successful ANP role implementation were: the national ANP definition and criteria; professional leadership from government and health boards; collaboration between health boards and GPs, and funding to enable GPs with training expertise to provide a high standard of supervision and work based learning.

Reported key challenges included: resistance from some GPs and nursing colleagues, possibly arising from insufficient understanding of ANP roles and fear of own role erosion; shortage of GP and ANP clinical supervisors; age profile and local availability of potential trainees and inadequate study leave for ANPs. These findings resonate with the international literature review of 54 peer reviewed research studies.

Health boards rarely measured ANP impact although some small-scale evaluations implied a positive patient experience and improved patient access to primary care services.

Scaling up was viewed as dependent on funding and service capacity for study leave and clinical supervision from experienced ANP and GP supervisors.

Sustainability issues included: skill maintenance, governance concerns, and succession planning concerns as the recruitment pool were mainly community and practice nurses over 45 years of age.

Key Recommendations:

- ANP **role definition and planning** for new models of care should be used as an opportunity for primary care team members to reflect on current service redesign, establish a shared vision for the multidisciplinary primary care team taking into account local patient needs and consider how best to support patients in accessing the most appropriate healthcare professional for their needs.

- In order to reduce role overlaps, 'role erosion' and to help with ANP **succession planning**, new career pathways for all nurses in primary care and community settings should be developed to support and reflect their changing roles within the multidisciplinary teams and their advanced skills.

- Transparent **governance arrangements** for ANPs should be developed across primary care to address perceived concerns regarding standards of practice and education.

- Those charged with funding the development of ANP roles should recognise and provide adequate **resources** to those providing **clinical supervision**.

- Those charged with funding the development of ANP roles should recognise and provide adequate resources for nurse trainee **study leave** and other learning opportunities.

- A structured competency-based education approach should extend to **continuous professional development** to ensure **maintenance of competencies**.

- **Outcome measures** relating specifically to the ANPs role require development to facilitate meaningful **evaluation** of ANP impact.

Abbreviations

ANP	Advanced Nurse Practitioner
CMO	Context, Mechanism and Outcomes
CPD	Continuous Professional Development
D&G	Dumfries and Galloway
GG&C	Greater Glasgow and Clyde
GP	General Practitioner
ISD	Information Services Division
NES	NHS Education Scotland
NHS	National Health Service
NMC	Nursing and Midwifery Council
NP	Nurse Practitioner
OOH	Out of Hours
PCTF	Primary Care Transformation Fund
PgD	Post Graduate Diploma
PN	Practice Nurse
RCGP	Royal College of General Practitioners
RCN	Royal College of Nursing
SG	Scottish Government
SSPC	Scottish School of Primary Care
TNR	Transforming Nursing Roles
TNMaHPR	Transforming Nursing, Midwifery and Health Professions' Roles
WTE	Whole Time Equivalent

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EXECUTIVE SUMMARY

Background

In July 2016, the Scottish Government (SG) awarded Primary Care Transformation Funds (PCTF) and Primary Care Funds for Mental Health to National Health Service (NHS) Health Boards in Scotland to test new models of care. Ahead of these awards, the SG commissioned the Scottish School of Primary Care (SSPC) to undertake a national evaluation of primary care tests of change in Scotland, irrespective of funding source. This report concerns one of 7 case studies contributing to the SSPC national evaluation. It focuses on the implementation of Advanced Nurse Practitioner (ANP) roles.

Aim

The overall aim of this case study was to determine, in relation to the implementation of ANP role in primary care in Scotland, what works, for whom, why and in what circumstances.

The specific objectives were to explore different stakeholders' perspectives of the:
1. development and implementation of pre-existing and newly-introduced ANP roles,
2. anticipated impact of ANP roles, and the theories of change underpinning these
3. actual impacts of ANP roles, and how these were measured
4. facilitators and challenges to the development, implementation and evaluation of ANP roles across different primary care contexts
5. likely sustainability and potential spread/roll out of ANP roles in different primary care contexts.

Methods

The case study was conducted over 15-months (March 2017 - May 2018). A systematic scoping review of the international literature of facilitators and challenges to ANP role implementation was undertaken. The case study itself involved two complementary phases based on the SSPC Evaluation Framework (Appendix A).

- Phase 1 comprised a scoping survey to ascertain the extent of ANP role development and implementation across Scotland, which involved interviews with key informants from 15 health boards across Scotland (14 territorial and NHS24) and a review of local documentation. The findings informed the purposeful selection of a sample of health boards for the next phase.
- Phase 2 comprised a more in-depth exploration (the 'deep dives') of a sample of health boards in order to gain a deeper understanding of the development and implementation of ANP roles and to determine their actual impacts and likely spread and sustainability. Findings were synthesised to identify patterns across challenges and facilitators for ANP role implementation in primary care and identify recommendations.

Key Findings

The literature review identified 54 relevant peer-reviewed research publications. Two key facilitators to the implementation of ANPs were identified:

- team factors: specifically support for, and awareness and understanding of the ANP role from doctors and other health professionals
- individual factors: the skills, knowledge base, personal qualities and experience that ANPs brought to the role and prior experience of other health professionals working with ANPs in primary care.

The two main challenges to implementation of the ANP role related to:

- team factors: specifically lack of acceptance of the ANP role from both within nursing and from medical professionals (GPs and consultants)
- lines of responsibility: specifically restrictions being placed on the ANPs responsibility and the scope of practice of ANPs.

Phase 1

In total, 68 documents and websites relevant to the implementation of ANPs in Scotland were reviewed (20 national and 48 local), and 44 key informants were interviewed from 15 health boards.

The exact number of ANPs could not be determined as until recently there was no obligation for independent general practices to supply this workforce data to the Information Systems Division (ISD). This has now changed; as from 1 April 2018 general practices are contractually obliged to supply workforce data, including ANP numbers. Additionally, not all nurses with the title ANP met the new national criteria as the national ANP definition and criteria had only been agreed in 2016. The ANP role was aligned to level 7 of the NHS career framework and band 7 pay grade of agenda for change. The implementation of ANP roles took place across all health boards in Scotland, all primary care settings (OOH, general practice, nursing and care homes, and prisons), for all patient age groups. ANPs were undertaking elements of the GPs role but most informants believed that ANPs were not simply filling a workforce gap as GP substitutes, but rather were taking on what was considered as appropriate for nurses. In remote and rural areas, ANPs were reported to be dealing with more complex patients and undertaking multiple nursing roles.

The national criteria for ANPs involved Master's level academic preparation, clinical competency development and effective supervision, takes 2-3 years to achieve. Approaches to education in higher education institutions and health boards varied but overall consistency with the national competencies had improved recently. Some health boards appointed a specific ANP lead who liaised closely with GPs to deliver work based learning, while others remained distinct local tests of change. Levels of clinical supervision and study leave varied considerably; some ANP trainees were supernumerary, others received between 1 day and 2.5 days study leave per week and continued to manage a patient caseload. This variability appeared to be due to funding, capacity and employer rather than ANP training needs.

Arrangements for funding the employment and education of ANPs and ANP trainees varied. Some health boards directly employed ANPs who were allocated to GP practices or clusters, whilst others were employed by GPs. Funding of ANP education covered some or all of: salaries, university fees, GP supervision and/or study leave. A few health boards funded all these components, with some of this funding derived from additional Scottish Government sources[1]. ANP salaries differed, health boards paying the nationally recommended band 7, whereas some GP practices paid salaries at higher bands to attract applicants with appropriate primary care experience from the limited pool of ANPs. Three health boards recruited ANP trainees from the local Practice Nurse (PN) population only, while other health boards also recruited trainees from community or acute settings. Most informants recognised the importance of ANP having previous primary care experience or additional primary care training.

The recent establishment of the West of Scotland ANP Academy (now Advanced Practice Academy), had contributed to progress in the recruitment and education of ANP trainees though leadership, sharing of good practice and peer networks. The 'Academy' model has since been embraced by a

number of health boards in the north of Scotland to address the specific challenges of ANP role implementation in remote, rural and island settings.

Some key informants expressed concerns regarding lack of transparency of governance arrangement in primary care. Governance frameworks existed and the Academies proposed to undertake a role in monitoring governance. However, despite close collaboration with general practices, health board informants perceived they had limited ability influence the implementation of these frameworks or to monitor adherence.

Reported key facilitators to successful ANP role implementation were: professional leadership from Scottish Government Chief Nursing Officer Directorate and NHS Board Nurse Directors; the national ANP definition and criteria, which supported the development and consistency of ANP education and roles; collaboration between health boards and GPs; and funding GPs with training experience to provide clinical supervision and work based learning. Reported key challenges included: resistance from some GPs and nursing colleagues, a shortage of GP and ANP clinical supervisors; and inadequate study leave for ANPs.

Phase 2

Phase 2 involved 'deep dives' in five health boards involving 24 key informants from a wide range of stakeholders including GPs, education staff, ANPs and ANP trainees, and documentary analysis of evaluations where available. The challenges and facilitators observed across deep dives provided greater insight into what works, for whom and why.

Key to addressing the primary care workload and workforce challenges was the development of multidisciplinary teams. There are no professional or legal barriers to nurses increasing their scope of practice or prescribing medication. The national transforming nursing roles (TNR) programme, led by Scottish Government's Chief Nursing Officers Directorate, improved the general understanding of ANPs roles, and subsequently developed into roles substituting for elements of the GP role. Whilst some of the roles previously undertaken by GPs were deemed suitable for an ANP, some ANPs felt inadequately supported where there was no access to virtual or actual GP advice. On islands without doctors these extra roles were often in addition to multiple nursing roles i.e. practice and community nurse, creating concerns regarding maintenance of competencies for such a wide scope of practice. There was a perception that there could be challenges for patients navigating appropriate access to the right professional as triage method varied across practices (i.e. receptionist, ANP or Doctor). Examples of new ANPs roles using advanced nursing competencies and advanced clinical decision-making to enhance patient care were ANPs in nursing homes and community services developing anticipatory care plans and diagnosing and treating minor illness, which potentially improved both the timeliness and coordination of care. However, there was some resistance reported from GPs and nursing colleagues, particularly when ANP roles had been developed in isolation from other team members, resulting in concerns about the possible erosion of other team members' roles.

The shortage of ANPs with appropriate primary care experience had led to some health boards setting up Advanced Practice Academies and education initiatives that built on existing ANP or nurse practitioner programmes. Concurrently, national and senior health board leadership and the national definition had improved consistency and appropriateness of academic education, clinical competency

development and effective supervision and assessment arrangements. Primarily due to funding issues, level of study leave provided and the availability of clinical supervision varied. Clinical supervision was noteworthy in health boards that had collaborated as part of the academy model, promoting greater collaboration with experienced GP trainers and providing funding for clinical supervision. In these cases the ANP trainee's work-based learning experience was very positive. The academy employed an ANP lead to engage with GPs and coordinate implementation, which aided GP understanding of ANP roles and educational preparation. Implementation took an exploratory approach; as GPs gained experience and confidence of working with ANPs their willingness to implement ANP roles increased.   In terms of scaling up and sustainability of ANP role implementation, this was challenged by a shortage of clinical supervisors, (GP or nursing supervisors), as well as concerns over funding for training. Recruitment, retention and succession planning were also a concern specifically the age profile and local availability of potential trainees

Whilst the anticipated and perceived impact of ANP roles corresponded with the primary care vision, the actual impact was rarely measured aside from small scale surveys and audits. Still, there were indications that ANPs improved patient access to primary care, provided a positive patient experience and could take on between 30% and 40% of workload in certain aspects, such as home visits and out of hours care.

Conclusion

ANP roles and models of care that focus on the combination of advanced nursing and clinical decision-making competencies to improve quality of care, can enable transformation of primary care services rather than just shifting workload from GPs. ANP role implementation in primary care in Scotland was in the early stages. It will take time to train ANPs and to change the primary care culture from one where the GP is the first point of contact. The mechanisms that facilitated ANP role implementation included leadership at all levels, enabling collaboration across health boards, general practice, and within practice teams. The development of these roles requires significant investment in resources and effort from GPs, nurse leaders and ANPs themselves to ensure high standards of education and positive learning experiences. Likewise ANP role development requires a focus on how the whole team can utilise their competencies to enhance patient care. The primary care vision of an expanded multidisciplinary work force should recognise the opportunities that new ANPs roles have to enhance integration and coordination between primary care and community care. The anticipated and perceived impact of ANP roles correspond with the primary care vision, however more research is required to identify how to measure the impact of the ANP within a multidisciplinary primary care team on patient outcomes and service delivery.

Recommendations

- ANP **role definition and planning** for new models of care should be used as an opportunity for primary care team members to reflect on current service redesign, establish a shared vision for the multidisciplinary primary care team taking into account local patient needs and consider how best to support patients in accessing the most appropriate healthcare professional for their needs.
- In order to reduce role overlaps, 'role erosion' and to help with ANP **succession planning**, new career pathways for all nurses in primary care and community settings should be developed to

support and reflect their changing roles within the multidisciplinary teams and their advanced skills.

- Transparent **governance arrangements** for ANP should be developed across primary care to address perceived concerns regarding standards of practice and education.
- Those charged with funding the development of ANP roles should recognise and provide adequate **resources** to those providing **clinical supervision**.
- Those charged with funding the development of ANP roles should recognise and provide adequate resources for nurse trainee **study leave** and other learning opportunities.
- A structured competency-based education approach should extend to **continuous professional development** to ensure **maintenance of competencies**.
- **Outcome measures** relating specifically to the ANPs role require development to facilitate meaningful **evaluation** of ANP impact.

1. INTRODUCTION

1.1   Background

On 29 July 2016, the Scottish Government (SG) awarded Scottish National Health Service (NHS) Health Boards dedicated Primary Care Transformation Funds (PCTF) and Primary Care Funds for Mental Health to test new models of care. Ahead of the release of these funds, the SG commissioned the Scottish School of Primary Care (SSPC) to undertake a national evaluation of all primary care tests, irrespective of the source of their funding. This report, one of 7 case studies contributing to the SSPC national evaluation, concerns the implementation of the Advanced Nurse Practitioner (ANP) role across Scotland.

1.2   Advanced Nurse Practitioner Definition

The 2015 report 'Pulling Together: Transforming Urgent Care for the people of Scotland: The report of the Independent review of Primary Care Out of hours Service', highlighted the need for consistency in defining ANPs in relation to role description competencies, education, and remuneration arrangements[2]. In response, Chief Nursing Officer of the SG convened a national advanced practice group, as a subgroup of the Transforming Nursing Roles (TNR) programme (now the Transforming Nursing, Midwifery and Health Professions' Roles Programme), to take forward these recommendations and build on previous work from the modernising nursing careers programme[3,4]. The aim was to achieve national agreement on a definition of the ANP role as [5]

> '…. experienced and highly educated registered nurses who manage the complete clinical care of their patients, not focusing on any sole condition. ANPs have advanced-level capability across the four pillars of practice: clinical practice facilitating learning leadership and evidence, research and development'.

It was agreed that ANPs should be educated to Master's degree level (minimum Postgraduate Diploma (PgD)); they should be aligned to level 7 of the NHS career framework and agenda for change band 7; they must be non-medical prescribers; and they must be assessed as competent in their area of practice. Advanced practice is not a title recordable by the Nursing and Midwifery Council (NMC) but responsibility for competence remains embedded within the NMC Code [5,6].

1.3   Aim of Case Study

The overall aim of the case study was to determine in relation to ANP implementation in primary care in Scotland, what works, for whom, why and in what circumstances.

The specific objectives were to explore, from different key stakeholders' perspectives, the:
- development and implementation of pre-existing and newly-introduced ANP roles,
- anticipated impact of ANP roles, and the theories of change underpinning these
- actual impacts of ANP roles, and how these were measured
- facilitators and challenges to the development, implementation and evaluation of ANP roles across different primary care contexts
- likely sustainability and potential spread/roll out of ANP roles in different primary care contexts.

2. METHODS

This case study was conducted over 15-months (March 2017 - May 2018) and concerned the 22 month period from the release of funding to Scottish Health Boards for pilot testing of new models of primary care to the end of the study (i.e. from July 2016 to May 2018). Thus, at the start of the study ANP roles were already being planned, developed or implemented across Scotland.

2.1 Study Design

A systematic scoping review of the international literature was conducted in conjunction with a two-phase case study. The case study, which included a separate background literature and documentary review, involved a qualitative mixed method, realist evaluation approach[7] based on the SSPC Evaluation Framework (Appendix A), over two distinct but complementary phases:

- **Phase 1** (from January 2017 to April 2018) comprised a scoping review of ANP role implementation in 15 Scottish NHS Health Boards)
- **Phase 2** (from January 2018 to May 2018) comprised a more in-depth exploration (the 'deep dives') of ANP role implementation in a purposively selected sample of Scottish Health Boards.

2.2 Systematic Scoping Review of the International Literature

The aim of the literature review was to explore the implementation of ANP roles in primary care contexts, to understand the associated facilitators and challenges to their implementation. As the ANP roles in this case study were potentially diverse in terms of remit and context, a broad view of the research literature was taken. Consequently, a systematic scoping review was conducted using the framework developed by Arksey & O'Malley (2005)[8] in order to identify relevant peer-reviewed publications concerned with the implementation of ANP roles. A detailed literature review protocol was produced (Appendix B).

2.2.1 Identification of published studies

Systematic searches were conducted of electronic databases concerned with health care delivery. These were chosen, in accordance with the recommendations of the Cochrane library, the York Centre and Campbell Collaboration, to identify potentially relevant publications for which full texts were available, and which were published in English between January 2002 (representing the period at the start of health policy/delivery change that prompted increasing interest in ANP roles) and July 2017.
A comprehensive search strategy was developed which combined key terms using a series of free text terms and MESH terms for Advanced Practice Nursing AND Primary Care. Boolean operators, and appropriate 'wild cards' were used to account for plurals, and variations in databases and spelling.

2.2.2 Screening of identified research publications

Identified publications were screened independently by two members of the research team against the review inclusion and exclusion criteria (Box 2.1), disagreements were addressed through discussion, a third reviewer was consulted where necessary.

Screening involved 3 stages:
    1. Titles of each publication were screened to remove duplicates and those which were not

relevant to the present study.
2. Abstracts of the remainder were then screened to remove those which were not relevant.
3. Full texts of the remainder were then screened for the same purpose, resulting in identification of relevant publications for the review.

Box 2.1 Literature Review Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Study design	**Study design**
• qualitative studies • cross-sectional studies • randomised controlled trials • non-randomised controlled trials • mixed methods studies • reviews in which the search strategy and selection criteria are clearly reported	• single case studies • PhD theses • editorials or commentaries • literature reviews that do not clearly report the search strategy and selection criteria
Study Population	**Study Population**
Nurse practitioners (NPs), advanced practice nurses (PNs), ANPs, advanced district nurses, advanced community nurses.	Other types of nurses working in primary care settings e.g. clinical nurse specialists, midwives, health visitors. Inability to clearly judge the population involved (i.e. where the professional group are not clearly described or involve mixed participants).

2.3   Background Literature Review

During Phase 1 of the case study, a background literature review of ANP roles in primary care settings was undertaken in order to understand the context in which they were being implemented, the mechanism used to enable implementation, and intended or actual impacts. The findings contributed to the identification of components for an ANP programme theory and informed data collection and analysis. In addition, local documents from health boards were reviewed.

2.3.1   Identification of documents

National documentation was identified following a meeting with key informants from the SG's Chief Nursing Office Directorate, Primary Care and Directors of Nursing involved in the national Transforming Nursing Roles programme (now the Transforming Nursing, Midwifery and Health Professions' Roles (TNMaHPR) programme) [5]. An internet search was also undertaken using Google and the terms 'Advanced Nurse Practitioners Scotland'.

Research literature was identified following searches conducted using CINAHL and MEDLINE bibliographic databases to identify potentially relevant publications for which full texts were available, and which were published in English between January 2002 and April 2017. The first search included the key words Advanced Nurse Practitioner OR Nurse Practitioner AND Primary Care AND Systematic review OR Literature Review. The second search included the key words Advanced Nurse Practitioner OR Nurse Practitioner AND Evaluation. Google was also searched using the terms 'Evaluation of implementation of Advanced Nurse Practitioners' to find appropriate grey literature.

Key informants invited to participate in a phase 1 interview were an additional source of documentation such as, service and training needs analyses, education curriculum role descriptions and governance frameworks.

2.4   Phase 1 Key Informant Interviews

The aims of these interviews were to:

- map the extent of the implementation of ANP roles in primary care across Scotland from an organisational perspective
- understand their expected impacts
- identify facilitators and challenges/challenges to their implementation
- test the identified ANP programme components
- identify health boards to be included in phase 2 of the case study.

2.4.1   Identifying and recruiting key informants

A snowball approach was used to identify potential key informants. Directors of Nursing and PCTF project leads were first emailed an invitation to participate in the study and/or nominate others who might be a key source of information. Roles included: primary care leads, Directors of Nursing, ANP leads, educational staff and clinical leads both medical and nursing. Nominated others were then emailed the study invitation. All non-responders were sent a second email invitation as a reminder. Those confirming an interest were sent the case study Participant Information Sheet (Appendix C) and a Consent Form (Appendix D). Those who agreed to be interviewed were asked to complete the consent form prior to interview.

An interview schedule (Appendix E) was developed based on the SSPC Evaluation Framework Phase 1 research questions (Appendix A) and the identified components of an ANP Programme. The former related to the intervention theory and expectations of change (Box 2.2). The latter related to context, mechanism and outcomes identified as potentially important (Box 2.3).

2.4.2   Data collection

Key informant interviews with the researcher were conducted either face-to-face or by telephone. Prior to data collection, permission was sought from key informants to audio record the interview. The interviews were subsequently transcribed verbatim and depersonalised.

Box 2.2 Research Questions based on Phase 1 of the SSPC Evaluation Framework

Intervention Theory and Expectations of Change
• What are the new projects and how do these build on previous work?
• Have the intervention/projects been designed, developed or adapted to the specific context of the local area? If so, how has this been done?
• What are the key components of the different interventions/projects?
• Are these likely to change over the life of the intervention?
• What are the expected impacts in the short, medium, and long-term? (If not raised ask specifically about reducing inequalities, dealing with multi-morbidity or ageing patients and effects of staff (including General Practitioner GP workload).
• How do the stakeholders think these impacts are going to be achieved?
• What is the evidence to support this?

Box 2.3 Research Questions Based on the ANP Programme Theory Components

Context	Mechanisms	Outcomes
What are the key drivers for implementing ANP roles in primary care?	What is the role of the ANP and who undertook this role previously?	What has been the impact on the primary care team?
What are the policies and legislation obligations?	What competencies do ANPs need and how are these developed?	What has been the impact on the ANPs?
What national and local leadership are available?	What funding is required to implement ANP roles?	What has been the impact on the service?
What is the primary care and General Practice culture?	What systems are in place to ensure quality governance?	What has been the impact on the organisation?
What are the needs of remote and rural or urban populations and models of primary care?	What indicators are used to evaluate impact?	What are the long-term goals/vision for primary care?
What are the associated challenges and facilitators?	What are the associated challenges and facilitators?	What are the associated challenges and facilitators?

2.5   Phase 2 Key Informant Interviews

The aim of these interviews was to explore in more-depth (the 'deep dives') a purposively selected sample of health boards, which was agreed with the SG. The selected sample of health boards was based on those at an early or more advanced stage of ANP implementation, across a range of urban, rural and island settings, and that had a range of key informants who were willing and available to participate in the second phase of the study. Interviews with key informants in these boards sought to ascertain the lessons learned and the impact of ANP role implementation.

The interview schedules for those key informants who had been interviewed in phase 1 specifically focused on the SSPC Evaluation Framework research questions (Appendix A):

- What impact(s) has the ANP role had in relation to the expected impacts?
- Has the ANP role and the expected impacts changed over time?
- Have there been any unintended negative consequences?
- What is the key learning that needs to be shared?

- Which ANP roles seem worth scaling up and spreading?
- How easily can these be implemented?
- How sustainable are these likely to be in the long-term?

The interview schedules for a sample of additional key informants from primary care teams covered the same topics as Phase 1 but the questions were rephrased to account for the roles of the key informants (Appendix E).

2.5.1 Identifying and recruiting key informants

A purposeful sample of the Phase 1 key informants were selected and invited to participate based on their demonstrated in-depth knowledge of ANP implementation from their organisation's perspective. Thereafter, a snowball approach was used to identify and recruit new key informants from primary care teams. Through a relevant member of each board an invitation was extended specifically to ANPs, GPs and education staff. The approach used to obtain informed consent was the same as the approach in Phase 1.

2.5.2 Data collection

Data were collected during telephone or face-to-face semi-structured interviews or focus group discussions. Subject to their agreement, interviews with key informants were audio recorded. The audio recordings were subsequently transcribed verbatim and depersonalised.

2.6 Data Analysis and Synthesis for Phase 1 and Phase 2

A background literature review enabled the development of the ANP programme theory statement and components (appendix G). Data were extracted deductively using the themes: *intervention, contexts, mechanisms and outcomes* as a framework using realist evaluation principles[7,9].

- *intervention* related to the ANP role and the model of primary care that they were delivering,
- *context* included the themes political, professional, and primary care
- *mechanism* related to the implementation of ANP roles from introduction, implementation, and evaluation
- *outcome* recognised that there will be different outcomes for different stakeholders e.g. the team, the patient, the ANP and the organisation.

Data from the phase 1 interviews were also subject to a qualitative descriptive approach [10]. Data were extracted using the SSPC Evaluation Framework (Appendix A) and the programme theory components described above as a framework. The local documentation obtained from key informants either added to or verified the interview data contributing to the qualitative descriptive summary of ANP role implementation in each health board. These data were then synthesised and presented as a series of descriptive summaries that outlined the local context, mechanisms and anticipated or actual outcome for ANP role implementation in each health board from an organisational perspective. To ensure accuracy, key informants were asked to review the descriptive summary to which they had contributed, and permission was requested to use any quotes. The results informed the context for, and interpretation of, the findings of the case study and contributed to the ongoing development of the programme theory of change.

In addition, the data from phase 1 documentation and interviews were tabulated and the reported 'status' of each identified ANP role implementation across the 15 Scottish Health Boards was assessed using a implementation staging system. Classification was as *implemented*; *in the planning stages/ not yet fully implemented*; or *not got off the ground/implementation had been stopped*.

This informed the selection of the 'deep dives' for phase 2 of the study.

All phase 1 and phase 2 interview transcriptions for the selected 'deep dives' were uploaded to NVIVO 11 and grouped together within each selected health board. A framework approach[11] was used to analyse these in relation to the SSPC Evaluation Framework (Appendix A) and the ANP programme components. For each 'deep dive', the analysis considered what context had helped or hindered implementation and impact. Each case was recorded as a detailed narrative. These narratives were then used to identify contextual factors that were common across the 'deep dives' and the associated mechanisms and outcomes. This cross-case comparison and synthesis allowed the final refinement of an ANP programme theory that might explain why implementation of ANP roles might work better in some contexts than others.

2.7   Ethical Approval

The University of Stirling General University Ethics Panel approved the study (06/06/17). Permission to approach staff to participate in the study was obtained from all 15-health boards in line with their governance arrangements.

3. LITERATURE REVIEW FINDINGS

This chapter summarises the findings from 54 international peer-reviewed research studies relevant to ANP roles on primary care.

3.1   Literature Search Results

A total of 3476 publications were identified after removal of duplicates, 2852 abstracts were screened, 122 full-texts were screened, and 54 published studies met the selection criteria [12-65] (Figure 3.1). Of these, 24 studies employed a qualitative design [12,15-7,19,20,23,29,31,34,36,37,40,42,45,46, 48,50,56,58,59,62,64,] ; 17 were quantitative non-randomised studies, 7 were literature reviews, 5 were mixed methods studies, and 1 was a quantitative descriptive study. Most studies were conducted in the USA (31%) [12,14,25,27,28,30,33-35,50,52,54,55,58,61,62,65], Canada (19%) [15,22-24,29,31,41,51,56,57] and the UK (13%) [18,37,40,45,48,49,59]. Others included Australia [17,42,53,60,66], Bahrain [43], New Zealand [19,20,38] and Sweden [13,36,64].

The included studies focused on exploring healthcare professionals, including nurse practitioners, and patients' experiences of the ANP role; identifying factors influencing implementation of the advanced practice role; defining the ANP role and governmental policy in relation to the ANP role including regulation, reimbursement and workforce management.

The advanced practice role mainly focused on Nurse Practitioners. The ANP role was diverse with nurses working directly with patients with both acute and chronic conditions in primary care. The scope of the ANP role was varied and included: assessment [17,19,28,39,41,57], diagnosis [19,24,39,41,47,51,52], prescribing [17,30,39,41,51,61] , ordering tests [19,24,39,41,52], health promotion and prevention [15,23,32,41,57], patient education [15,19,23,28,29,32,41,47,52,53,62], administrative and managerial activities [17,23,28,52,53,57,67], resource for colleagues (e.g. consultation) [13,37,51,52,67], and working with underserved or vulnerable populations [12,20,23,29,32,37,41,51,61,67].

Most of the nurses described within the included studies had a post-graduate qualification (Master's degree or higher) or had extensive experience or significant training beyond their undergraduate degree, which enabled them to practice in an extended role. ANPs were described as working at a level of independent practice in 14 studies [14,17,28,30,32,34,36,46,47,51-53,58,60], but also had an inter-professional collaborative role [13,15,17,25,29,31,34,41,47,51-53,57,60,62,67]. All ANPs were working in primary healthcare settings, including general practice [32,42, 59] and community care [12,19,37,46,60,66]. ANPs worked specifically in rural settings in 7 studies [12,15,17,19,20,29,41].

3.2   Facilitators to Implementing ANP Roles

The 54 papers were categorised as facilitators or challenges to implementation of the ANP role and then coded in relation to 19 predefined codes, based on the Yorkshire Contributory Factors Framework [68], (Appendix F). Any data identified that did not fit into any of the predefined codes were initially categorised using an additional code ('other'). We used inductive coding approach to develop themes and subthemes from these additional data. A total of 371 facilitators were extracted across 54 studies. Multiple facilitators were identified within each study, ranging from 1 - 27. These were mapped to 17 of the 19 of the predefined codes. No studies referred to active failures or design of equipment and supplies as facilitators to implementation of the ANP role (appendix F).

Figure 3.1 PRISMA diagram

Identification	Records identified through database searching (number = 5976)	
Screening	Records after duplicates removed (number = 3476) → Titles excluded (number = 624)	
	Abstracts screened (number= 2852) → Abstracts excluded (number = 2749)	
Eligibility	Records identified through reference lists (number= 19) → Full-text screened (number = 122) → Full-text excluded, with reasons (number = 46) Study Design, Mixed ANP/ other roles Mixed setting Barriers/ Facilitators not described	
Included	Eligible studies (number = 54, 76 publications)	

The most frequently reported factors that facilitated the implementation of the ANP role were:

- team factors in 31 studies [12,15,17,19,21-24,26,28,29,32,34,36,37,41,43,47-49,51-53,55,58,62,65-67]
- individual factors in 25 studies [12,15,17,19-24,28,32,34,37,41,43,45,48,51-53,55,56,60,66,67]

The frequency of identification of each of the pre-defined facilitators (including the code 'other') is summarised in Figure 3.2.

Factors categorised as equipment and supplies [65], management of staff or staffing levels [23,42], scheduling or bed management [18,53] or support from central functions [23,47] were infrequently reported (Table 3.2).

Figure 3.2 Donut Chart Showing the Percentage of Codes Categorised as a Facilitator to the Implementation of ANP roles using the Yorkshire Contributory Factors Framework (54 studies)
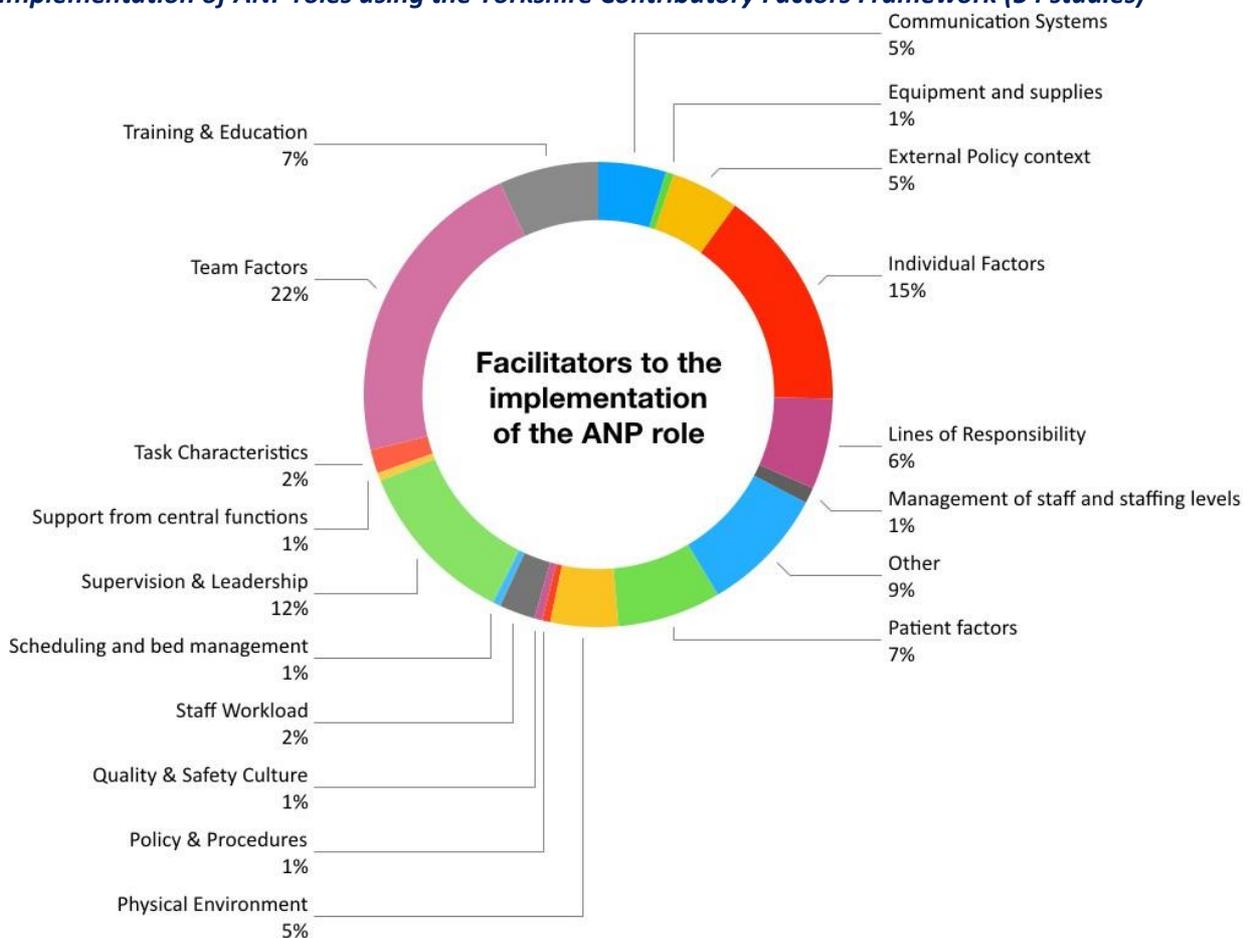
The ability to collaborate [12,15,21,22,26,29,52,53,58,65,67] and develop trust and have good relationships with doctors and other colleagues [17,19,22-24,32,47,51-53,55] were '*central to the success of the ANP role integration*' (Burgess, 2011, p300)[67]. Support of the role from doctors, nursing colleagues and other health professionals [12,21,23,24,32,34,40,41,43,47-49,51,52,62] was also a key facilitator. Doctors' positive beliefs and attitudes about ANP competence and the scope of practice were also indicated as facilitators to integration and implementation of the ANP role [18,28,36,37,52,55].

The main individual factors described by the studies were the strengths, in relation to skills and abilities which ANPs could bring to their role in primary care [17,21,24,28,32,34,37,41,45,51,56,67] including their knowledge-

base [17,23,34,66,67]. Individual qualities were highlighted such as 'adaptability, their ability to provide routine primary care with ease, and the benefits of their unique nursing approach to patient care.' (Kraus, 2017, p286) [34]. Previous experience that health professions had of working with ANPs in primary care [15,32,48,52,55] in addition to the experience ANPs brought to the role assisted implementation [34,56,60]. As ANPs developed experience in the role they gained confidence in their abilities to carry out tasks and collaborate with colleagues helping them to integrate into their role in primary care [17,37,52,59].

Those references coded as 'other' facilitators mainly referred to continued funding of the role in terms of salaries and financial reimbursement [12,23,24,31,42,46,52,54,60] in addition to planning for the role integration and role negotiation based on the needs of patients, colleagues and organisations [22,24,37,40,48,53].

3.3 Challenges to Implementing ANP Roles

Using the Yorkshire Contributory Factors Framework [68] challenges were mapped to the 19 predefined codes in relation to the reported challenges to implementing the ANP role (Table 3.2). Inductive coding was used to develop themes and subthemes from codes that were categorised as 'other'.

A total of 536 challenges were extracted across 54 studies. Multiple challenges were identified within each study, ranging from 3 - 41. These were mapped 16 of the 19 of the predefined codes. Active failures, scheduling and bed management or design of equipment and supplies were not reported as challenges to implementation of the ANP role. The frequency of identification of each of the pre-defined challenges (including 'other') is summarised in Figure 3.3.

The most frequently reported challenges to the implementation of the ANP role were:
Team factors (i.e. the ability to collaborate and nature of relationships across different professional groups) in 39 studies [12,15,17,19,20,22-26,28,29,32,36-42,45-53,56,58-60,63,66,67].
Lines of responsibility (i.e. whether there were clear understanding of and boundaries regarding the professional role and associated responsibilities) in 31 studies [12,13,15,17,19-29,32,36-38,40,41,45,47,48,52,53,56-59,63,66]

Studies rarely referred to quality and safety culture [25,52] or equipment and supplies [12,24] as general challenges or as challenges to the implementation of the ANP role (appendix G).

There were a number of subthemes arising within the 'team factors' category. For example, several studies described challenges such as a lack of awareness of the role [20,22,32,38,52,56,66] and acceptance of the role from doctors and other health professionals [26,29,32,37,48,51,52]. One study described this as a *'constant battle to be recognised'* (Jakimowicz, 2017, p9) [32].

Difficulties or tensions in the collaborative relationship were identified across a range of studies. Resistance to the implementation of the ANP role arose from both inter-professional (e.g. general GPs; consultants) [23,24,29,32,36,37,39-41,50,52,53,55,60], and intra-professional groups (e.g. NP colleagues) [22,36,40]. Consequently, some studies reported that team members were reluctant or refused to work collaboratively with ANPs for example declining referrals or sharing information [12,17,23,29,32,40].

Themes arising within lines of responsibility described challenges such as restrictions being placed on the ANPs responsibilities and scope of practice including their ability to work autonomously and with accountability[13,21,24,28,29,32,37,40,41,45,48,52,53,56-59].

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Figure 3.3 Donut Chart Showing the Percentage of Codes Categorised as a Challenge to the Implementation of the ANP role using the Yorkshire Contributory Factors Framework (54 studies)
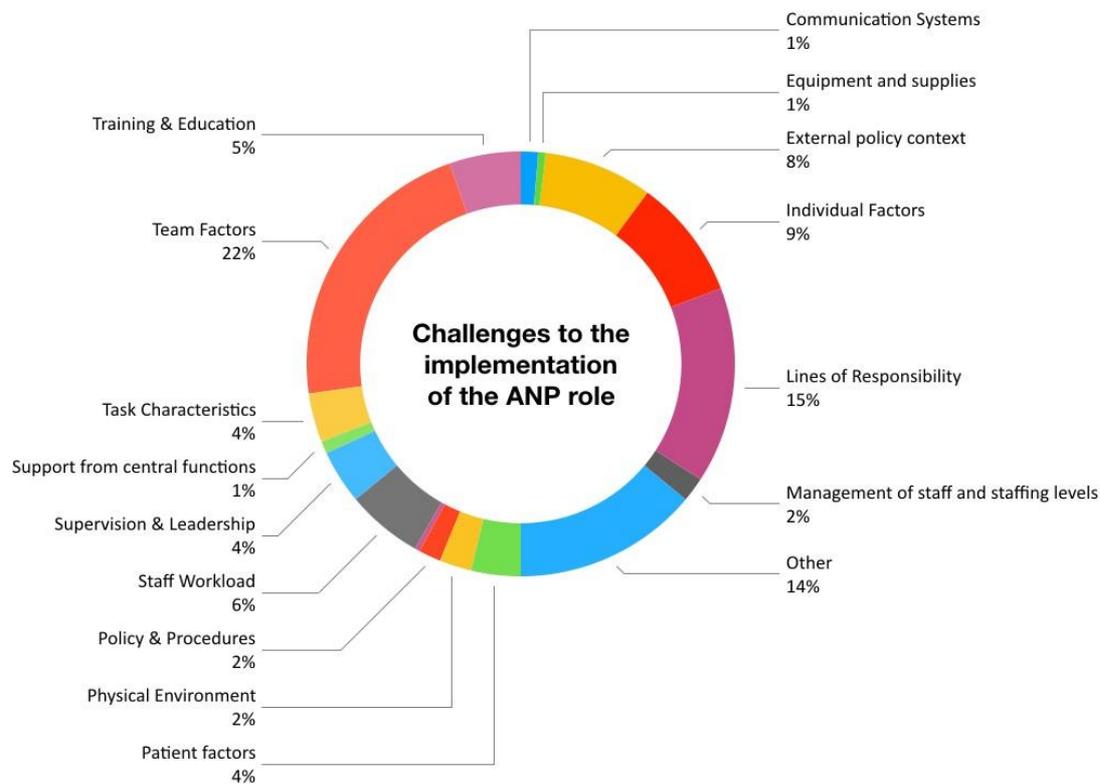
A lack of awareness and confusion existed around the scope of practice, professional boundaries and legal status of the ANP role. Ambiguity about the role in practice led to uncertainty from the perspective of employers, doctors, nurse colleagues and other health professionals [13,15,20,22-24,26-28,32,36,38,40,41,47,48,52,56-59,63,66].

Factors coded as 'other' primarily referred to challenges in relation to uncertainty about the continuation of funding for the role [17-20,23,24,38,40-42,56,57,59] and financial reimbursement, current arrangements for primary care practitioners had the ability to cause uncertainty about the financial sustainability of ANPs due to loss of income [22,24,47,52,53,56,59,60], in some cases creating financial competition between doctors and ANPs [17,21,24,39,58].

3.4   Summary

The review identified 54 studies which described a wide range of facilitators and challenges to the implementation of the ANP role. Over half of these studies (57%) were conducted in North America. The most commonly reported facilitators reported in these studies included:

- Team Factors – good relationships and the ability to collaborate with colleagues, in particular doctors, were paramount to implementation.
- Individual Factors – previous experience of health professions working with ANPs and the experience, confidence, skills and knowledge base the individual ANP brought to the role.

The most frequently reported challenges reported in these studies included:

- Team Factors – a lack of awareness and acceptance of the role from colleagues caused difficulties, as did significant resistance to implementation of the role mainly from doctors.
- Lines of responsibility – ambiguity about the role and scope of practice were related to a lack of understanding about the role from colleagues and had a negative impact on implementation. Specifically, ANPs were restricted in their role, and limited in their independence within their practice.

Additional ('other') themes that were frequently identified as both facilitators and challenges were focussed on appropriate funding and adequate resourcing. For example, certainty about continued funding facilitated implementation, whereas continuing problems with financial reimbursement proved difficult to overcome.

4. PHASE 1 FINDINGS

This chapter summarises the findings from the:
- background literature review of international literature and national documents
- combined review of 68 national and local documents and websites relevant to the implementation of ANPs in Scotland and 44 interviews with key informants across 15 Scottish heath boards.

A background literature review informed the development of programme theory of change and programme components and included: 7 systematic literature reviews of ANP role in primary care, 2 evaluations and 2 national documents related to ANP role implementation [32,72-82].

Of the national and local documents reviewed during this phase of the study, 20 were obtained from searches of websites and 48 from key informants. The documents reviewed included: correspondence from government to health boards; national reports; job descriptions; terms of references; competency frameworks; education curriculum; clinical supervision policies; assessment guidelines and governance frameworks.

The 44 key informants interviewed represented the SG, Royal College of Nursing (RCN), NHS Education Scotland (NES) and Scottish NHS Health Boards (Table 4.1). Seventeen of these interviews were conducted during face-to-face meetings and 27 interviews were conducted over the telephone. Table 4.2 shows the role of key informants interviewed. For the purpose of attributing quotes in reporting the study findings, each key informant was coded as P with a unique numerical identifier (e.g. P1).

Table 4.1 Number of Phase 1 Key Informant Interviews by Organisation

Organisation	Number of Key Informant Interviews
Government, National and Professional Organisations	6
NHS Ayrshire & Arran (A&A)	4
NHS Borders	2
NHS Dumfries and Galloway (D&G)	2
NHS Fife	1
NHS Forth Valley	2
NHS Grampian	3
NHS Greater Glasgow & Clyde (GG&C)	3
NHS Highland	4
NHS Lanarkshire	4
NHS Lothian	4
NHS Orkney	2
NHS Shetland	1
NHS Tayside	3
NHS Western Isles	1
NHS 24	2
TOTAL	**44**

Table 4.2 Role of Phase 1 Key Informants

Role of Key Informants	Number of Key Informants
Clinical Lead/Managers Nursing	11
Director of Nursing/Professional Advisor	6
ANP Lead	6
Associate Director of Nursing	5
Primary Care Medical Director/GP Lead	4
Education Lead	3
Primary Care Lead	3
Practice Nurse Lead	3
Clinical Lead/Managers Medical	2
General Practitioner	1
Total	**44**

The findings from the analysis thematically, then synthesised and presented as a qualitative descriptive summary, to 'tell the story' of ANP role implementation as required by the Scottish Government and to address objectives related to exploring ANP role development and implementation, their anticipated impact, facilitators and barriers. This provided an overview of:

- the key drivers to the introduction of ANP roles in the health board
- context i.e. location, population, numbers of ANPs in training
- focus of ANP practice including: settings, role in relation to the 4 pillars of practice, patient cohorts, those who had previously undertaken the role, if appropriate
- funding
- recruitment issues
- educational and development
- legislation, policies, accountability and governance
- facilitators and challenges to implementing these roles
- expected impact of ANP roles across range of stakeholders, health boards, primary care teams, patients and ANPs
- long-term goals and vision.

The key informants interviewed from each health board verified these qualitative descriptive summaries, which can be reviewed in the Annex to this report.

4.1   Programme Theory and Programme Components

The background literature review resulted in a programme theory statement and programme theory components, made of a high-level context, mechanism and outcomes (Appendix G). The high-level programme theory states:

> *'Scotland's national agenda aims to transform primary care services through multi-disciplinary teams that include Advanced Nurse Practitioners who have had necessary academic preparation, clinical competency development and effective supervision to enable them to become competent and confident Advanced Nurse Practitioners able to deliver sustainable, high quality primary care services and primary care vision.'*

4.2 Introduction of ANP Roles in Primary Care in Scotland set in context

4.2.1 Key drivers of the ANP role

ANP roles have existed since the 1980s initially in the USA, where they were known as NPs, and in the UK since the 1990s [83]. Consequently, some informants were aware of the large body of international evidence that suggests that nurses in primary care, including ANPs, NPs and PNs, can be effective and efficient substitutes for some elements of care traditionally delivered by a primary care doctor. This evidence was supported by our background literature review.

The literature indicated that ANPs provided care across a range of primary care services including provision of care at the first point of contact for patients with undifferentiated health problems, mostly minor illness, urgent care, and long-term conditions management. These reviews suggested that nurses provided:

- improved access and reduced waiting times [77]
- equally or possibly even better quality of care compared to primary care doctors [79]
- higher levels of patient satisfaction compared to primary care doctors [73,76,77,79,81]
- a higher probability of greater length of consultation [73,77,79,81]
- similar process of care [81]
- outcome results that were at least similar to physicians' for managing the course of disease when following structured protocols and validated instruments [75]
- equivalent or better patient outcomes [73,74,76,77,81]
- potential cost savings [74]
- similar utilisation of resources including number of prescriptions, investigations, referrals, admissions (with the exception of investigations, which were greater for nurses), and return visits [76,79,81].

In the USA, 78% of NPs work in a primary care setting [84]. In Scotland their development initially focused on roles within acute settings in response to the European Union's Working Time Directive (2003/88/EC), formerly 93/104/EC of 23 November 1993, which addressed reduced availability of junior doctors and the need for senior clinical decision makers [85].

One catalyst contributing to the development of ANP roles in primary care in Scotland was the NHS General Medical Services Contracts (Scotland) Regulations 2004, which allowed GPs to opt out of providing out of hours (OOH) care [86]. The resulting shortage of GPs delivering OOH care provided nurses with the opportunity to develop the advanced practice role in this area.

The 'Modernising Nursing Careers' initiative in 2005/06, led by the nurse leaders in all four UK countries, aimed to support nursing careers to enable healthcare reform and improvement [4]. This initiative led to the development of an 'Advanced Nurse Practitioner Toolkit' to support consistency and benchmarking of advanced practice roles [80].

A review of urgent and OOH care[2] reiterated the potential contribution of ANPs in primary care and recommended national consistency in relation to: a definition of ANPs role description competencies; education; and remuneration.

In 2015, the Chief Nursing Officer of the SG convened a National Advanced Practice group to take

forward these recommendations and to build on the work from the modernising nursing careers programme [4]. In June 2016 national agreement on what defines an ANP in Scotland was achieved [72]. This stipulated that ANPs should be: educated to master level (minimum PgD, attaining 120 credits at Scottish Credit and Qualifications Framework Level 11); aligned to level 7 of the NHS career framework and agenda for change band 7; non-medical prescribers; assessed as competent in their area of practice. The non-medical prescribing qualification was a recordable NMC qualification however; the title of ANP was not [87].

The national definition stated that ANPs should have advanced-level capability across the four pillars of practice:
• clinical practice
• facilitating of learning
• leadership
• evidence, research and development.

It was anticipated that: facilitating learning responsibilities would include education, mentorship and clinical supervision of other nurses and team members; leadership roles would encompass leading services or teams, whilst research related activity would involve delivering evidence-based care, recruiting research participants, or leading research.

There was a set of core national clinical competencies [5], which reflected the freedom and autonomy to undertake:
• comprehensive history and clinical assessment, including physical examination of all systems and mental health assessment
• differential diagnosis, including dealing with undifferentiated client groups across all ages
• investigations including requesting, interpreting and acting on the results
• treatment plans including non-medical prescribing and using appropriate evidence-based practice
• admission, discharge and referral, including working collaboratively with appropriate healthcare professionals.

Recognising primary care as a specialty, competencies frameworks were being developed by health boards across a range of roles in primary care including general practice, OOH and community settings. These were based on the national ANP competencies [5] and the Royal College of General Practitioners (RCGP) ANP competency framework [88].

The unprecedented challenges faced by primary care in Scotland included increasing workload caused by the escalating number of older people and people with long-term conditions, as well as policy drivers designed to provide care closer to people's homes, keep people well at home, and shorten hospital stay [89]. The 2018 GP contract has set a new direction for general practice in Scotland with the aim of reducing the GP workload through the expansion of the primary care multi-disciplinary team [90]. To support the 'new direction' the development of advanced practice across all nursing, midwifery and allied health professionals has been embraced both nationally and at health board level. Against this background, the need for a consistent approach to ANP education and development was identified [5] which would address the shortage of ANPs with the appropriate competencies.

These challenges, echoed by the key informant interviewees across all the health boards, were identified as the main drivers for ANP implementation. However, most key informants emphasised that the key driver related to GP recruitment, retention and retirement issues. Having first emerged in the OOH GP service due to general medical services contract changes, this problem had now increased [86]. In response, to meet the health care needs of the local population, some health boards, including Forth Valley and Tayside, reported the creation of multi-disciplinary primary care teams in health board managed general practices that included ANPs.

Most key informants commented that ANPs could offer patients appropriate access to primary healthcare, particularly when they did not necessarily need to see a GP. Many key informants reported that the overarching aim was for a patient to 'be seen' by the right professional, at the right time (24/7), and in the right place, which might be face-to-face physically, or remotely, by telephone or video link. It was recognised that the changes in primary care were occurring in the wider context of an evolving health service:

> *'It's not driven by, let's give GP work to non-GPs, but also the reality that, over time, there's no such thing as GP work and nurse work and consultant and hospital work and so on. It fails to recognise the complexity of life and the flow where, if we look ten years ago at what consultants or specialists in the hospital did and what GPs did, it's quite different from what they do now.'*

P5

4.3 Implementation of ANP Roles

4.3.1 Identified ANP roles

According to the latest primary care workforce survey conducted by the Information Services Division (ISD) of NHS National Services Scotland, their estimated number (headcount) of registered nurses employed by 82% of general practices (n=774) in Scotland was 2,297, representing 1,541 Whole Time Equivalents (WTEs), of these approximately 10% were ANPs[92] . The survey also highlighted that there were 290 registered nurses (101 WTE) in general practice OOH services, and of these 39% were band 7 i.e. ANP equivalent. Until recently, there was no obligation for independent general practices to supply this workforce data to the ISD. This has now changed; as from 1 April 2018 general practices were contractually obliged to supply workforce data, including ANP numbers.

At the end of the phase 1 scoping exercise it was not possible to quantify the number of ANPs in primary care settings in Scotland as few boards could accurately identify how many ANPs were working for independent general practices. Additionally, some boards reported the number of ANPs employed whilst others reported the number in terms of WTEs. As the Scottish ANP definition and criteria were fairly new [5], informants reported that the picture from health boards and in general practice was mixed with nurses who:

- fully met, or exceeded, the national criteria
- were in training in order to meet the national criteria
- were practicing at ANP level but did not meet the national criteria
- had the title of ANP but did not meet the national criteria.

Table 4.3 Approximate Number of ANP Roles in Primary Care Settings across 15 Scottish NHS Health Boards

Health Board	Date data collected	General Population Size (approx.) [93]	Identified Number in Role				Future Plans (Additional)
			Dedicated ANP Lead	Estimated Number of ANPs in GP Practice	ANP in Community/ OOH	In Training	
Ayrshire & Arran	11/17	367,000	1	30	13	4	Additional 10 ANP trainees per annum
Borders	01/18	110,200		8		1	1 ANPs in OOH, 3 GP attached ANPs, and 6 Community Hospital ANPs
Dumfries & Galloway	08/17	148,190		8		13	Additional 4-6 ANPs per annum
Forth Valley	08/17	300,000		20	8	2	Additional 15 for independent general practice, 5 health board general practice and for OOH
Fife	03/18	280,000	1 (Seconded)	Not Known		12 (Community/OOH)	
Greater Glasgow & Clyde	08/17	1,200,000	1	30	15	6	
Grampian	07/17	500,000	2 (1 OOH and 1 primary care)	67 ANPs across the health boards including OOH, general practice, community and acute services plus unknown number of GP employed ANPs		38 ANP trainees across health board	Ongoing OOH training programme and Advanced Care Academy
Highland	09/17	320,000	ANP Lead OOH	43.77 WTE ANPs in OOH, community and primary care settings plus unknown number of GP employed ANPs		16.19 WTE	
Lanarkshire	10/17	563,000	1	Not Known	4	9	

Lothian	12/17	800,000	2 (1 Advanced Practice and 1 primary care)	3	9	29	Additional 90 GP attached ANPs
Orkney	04/18	21,500		6		6	
Shetland	01/17	23,000		3 WTE	2 WTE	5.1 WTE	Additional 11.8. WTE ANPs to support care home and range of primary/community care services
Tayside	04/18	400,000		10 approx. (health board general practices only)	2		
Western Isles	08/17	26,500				Not Known	23 NPs potentially supported to meet national ANP criteria (16 x community hospital/OOH, 7 x Accident and Emergency/Minor Injuries)
NHS 24	08/17	N/A				3	

However, it was possible to confirm that there were ANPs meeting the national definition in all but 2 of the 15 Scottish Health Boards (Table 4.3). The exceptions were Western Isles and NHS 24, but both of these boards had nurses undertaking education and development to meet the national ANP definition and criteria.

To ensure the future accuracy of this data, particularly as there was now agreed national criteria, health boards were reviewing the workforce data they supplied to the Scottish Workforce Information Standards Service in ISD and would only include nurses with ANP title who met the national criteria.
GG&C reported for example, instituting a three-stage process to achieve this. The job descriptions and roles of those identified as ANPs were compared to the national competencies. GG&C were also supporting general practices to achieve this.

4.3.2   Context

In terms of implementing ANP roles, two of the northern health boards, Grampian and Highland, had established OOH ANP development programmes specifically created in response to the changes to GP contracts for OOH services and the challenges of delivering OOH service in large geographical remote and rural areas [86].

Rural health boards such as Western Isles and Orkney had NP models in primary care to address the specific capacity issues facing island health boards. This model was being developed into an ANP model with some of these NPs working towards up skilling to the national ANP definition. Shetland was reported to be the first health board to introduce an ANP Governance Framework and had been moving to an ANP model of care since 2015. They had 4 ANPs who met the national criteria, with 7 others being supported through training to meet the national criteria. A key difference between these scenarios was that ANPs, with their competencies in advanced clinical decision-making, were more autonomous than NPs and needed to refer less to a GP.

In the last 2-3 years a number of health boards have developed a coordinated approach for supporting the introduction and implementation of general practice-attached ANPs in primary care. NHS Lothian, in collaboration with local universities, has had an ANP Master's level programme in place for approximately 5 years. More recently, with the collaboration of local GPs, this programme has been extended to focus on primary care as a specialty.

In 2016, the West of Scotland ANP 'Academy' was set up, supported by PCTF. (This has since become the West of Scotland Advanced Practice Academy to incorporate nurses, midwives and health professions) This body was made up of a number of health boards, including A&A, D&G, GG&C, Lanarkshire, NHS 24 and the Scottish Ambulance Service. Working in close collaboration with their general practices, the academy's role was to provide leadership to support ANP education and governance. Two tiers of the 'Academy' were envisioned including: a network of support, learning and professional development, and a leadership group taking an overarching view of advanced practice. The intention was to add a North and East Academy to cover all of NHS Scotland and a pilot of an Advanced Care Academy in Grampian was part of this expansion.

Six health boards (A&A, Fife, GG&C, Grampian, Lanarkshire and Lothian) had employed ANP Leads specifically to support ANP role implementation. Grampian had two dedicated leads one for OOH and one for general practice. Likewise, NHS Lothian had two leads, one for primary care and one for

Advanced Practice, for all nursing grades and all specialties. Highland had an ANP Lead Nurse for unscheduled care supporting the Remote and Rural Support Team. Other health boards had a senior nurse who oversaw ANP implementation as part of a wider remit.

4.3.3   ANP roles

The ANP roles involved delivery of emergency, urgent and intermediate care to both children and adults in general practices, health centres and community locations including people's homes, prison services, nursing/care homes and community hospitals. The age of children seen by ANPs varied, few saw children aged less than one year but in general, the lower age limit was 5 years. ANPs did not treat women for pregnancy related health issues.

ANPs were undertaking elements of the GP role that were perceived by most informants as being 'less appropriate' for a GP to perform, or 'more appropriate' for an ANP. It was a common perception that ANPs were not 'mini GPs' but nurses with technical skills. For example:

> 'So actually a lot of the nursing part is about what it is to be a nurse with technical skills.
> But the technical skills should be directly comparable to anyone carrying out those skills.
> And I would say the same about a physio or an OT. A chest exam's a chest exam. If you
> can't do it properly, doesn't matter whether you're a doctor, nurse or AHP, this is patient
> care and patient safety.'   P11

Whilst ANP roles were substitutions for elements of the GP role, there was recognition that the way in which primary care was delivered needed to change:

'However, there's a recognition that [practices] have to change and work differently and
adapt, so the opportunities we had in these types of conversations within a primary context
are slower to emerge than they would be traditionally within an NHS context […] so you've got
that cultural issue which is something that exists that's there, but [here] I would say that our
working through these issues is probably as good as it gets. I think we're having very mature
conversations with these things, and whilst disagreements do exist, they're not fatally
disagreements, there's no major issues, we get on with it. I think we are in a good place to
continue on that journey.'

P8

A number of general practices triaged appointments with ANPs running minor illness clinics. Triaging methods varied with this role being carried out by ANPs, GPs or reception staff. However, in some general practices there was no triaging or filtering of appointments and therefore it was more difficult to distinguish between the GP and ANP role. Examples were reported in rural locations including Highland and Shetland.

The clinical pillar of practice of the ANP role was the main focus with less emphasis on the leadership, education and research pillars of practice. However, there were examples of ANPs being seen as 'experts' and sharing this expertise with other members of the primary care team. A commonly expressed view was that experienced ANPs would ultimately provide the mentorship and supervision required to train new ANPs.

There was evidence that specialist roles or new primary care services were being created around local need or innovation that were less about GP substitution and more about transformation. For example,

GG&C had employed an ANP trainee with a specialist qualification in learning disabilities nursing to meet the specific needs of clients in a residential home in the area. In the same health board, ANPs were employed for specific roles in a GP cluster, for example, liaison with nursing homes or home visits. In NHS Shetland an ANP was being trained to undertake minor surgery. NHS Lothian had employed an ANP to attend to the needs of service users receiving 'step down care' in a 20 bedded unit catering for patients no longer needing an acute bed but who were waiting for a care package, residential or nursing home placement. In addition, Lothian was piloting, in two practices, 'The Collaborative Working for Immediate Care Service' for patients requesting same day appointments. A multi-disciplinary team including ANPs, NPs, advanced physiotherapists, a mental health community nurse and occupational therapist, delivered this service.

Some ANPs were undertaking dual or triple roles. For example, some ANPs maintained their PN role. In NHS Orkney, ANPs supported island communities where the general practices visited the islands 2 or 3 times a week but were not resident doctors. They provided first line universal care that included urgent and emergency care, continuing care, and care for those with community nursing requirements 24/7 (two weeks on, two weeks off).

Some health boards, such as Forth Valley and Grampian, were exploring the possibility of rotating ANPs across primary care settings including OOH and General Practices. There was a view that ANPs were being developed with core decision-making skills that were transferable across these roles. In NHS Highland an example of this approach was the multi-disciplinary rural support team where ANPs had wide range of knowledge and skills enabling them to provide urgent and intermediate care and essential cover for both GP day practice and OOH.

An important concern reported by some key informants was the need to be clear about the medical support available to the ANP if it was required, particularly in community settings or remote and rural areas:

> 'You know, it is a much more advanced role and you are cast out on your own making that decision in the house. Yes, you could pick up the phone and speak to a GP somewhere else, or the doctor in the hospital, but often people don't.'
>
> P20

4.3.4   ANP backgrounds

According to the agreed national definition, ANPs were expected to be experienced practitioners and most key informants reported that they expected ANP trainees to have at least 5 years post-graduate experience in clinical practice. In addition, one informant reported that ANPs required certain personal characteristics to deal with both advance practice and primary care culture including:

- a high level of motivation
- a substantial commitment to learning
- flexibility and adaptability
- resilience
- ability to accept responsibility and make decisions
- being a team player
- a high degree of diplomacy.

Both ANPs and ANP trainees in primary care came from a variety of backgrounds including the acute

sector, Accident & Emergency, general practice, and community. Generally, key informants believed that nurses with acute backgrounds were well suited to OOH and those from general practice or community settings had a good understanding of primary care. In relation to rural locations, it was believed ANPs with community and general practice backgrounds were better suited to the more rural locations, particularly where they were required to undertake dual or triple roles:

> *'The community nurses on those islands, they need to be able to provide community nursing, practice nursing, and emergency care. Alright, so they have got three...and that's a broad, generalist, very generalist nursing spectrum and there are very few, if any, unless they've come from a similar background, of individuals that apply for the jobs that have got that skillset.....now, if you then become a nurse practitioner on top of practice nurse and community nursing and emergency care you then add on the diagnosis and the management of general practice cases. That is, you know, that is another massive, massive skillset that you're asking them to do.'*

> P32

4.3.5   Funding

Funding arrangements for education and development of ANPs differed across health boards and general practices. Funding covered all or some of the following: ANP salaries, university modules and GP supervision. Whilst training needs were dependent on an individual's previous experience and their role, how the training needs were met in terms of the level of study leave, supervision and support, was dependent on their employer, workload, and GP capacity to provide supervision and assessment. Sources of funding included health boards, Health and Social Care Partnership, independent general practices, and development funds such as the PCTF.

NHS D&G had collaborated with independent general practices and funded the total salary cost of ANPs, GP supervision and university modules. It was estimated that this amounted to £125,000 per annum (P11). No other costing exercises were shared with the research team. NHS A&A, in collaboration with their independent general practices, funded GP supervision, university modules and 15 hours of back-fill for study leave for the PN. Where general practices were training their own staff, practices were covering some or all the cost as for example in the Borders, with occasionally health boards offering access to academic modules as for example in Glasgow.

Additionally, the SG was investing £3million over five years to train an additional 500 ANPs [1]. Health boards had been asked by the SG to provide NHS Education for Scotland with information regarding training needs of the future ANP workforce. These funds will then be allocated to support ANP trainees to undertake academic modules [91].

ANP trainees were generally on Band 6 rising to Band 7 pay scale once trained. Trained ANPs employed by general practices would often be on a Band 8A of the pay scale. Concern was expressed about the loss of ANPs who had been trained by health boards to independent general practices that offered higher salaries.

4.3.6   Recruiting ANPs

Key informants across all health boards highlighted that it had become increasingly difficult to recruit ANPs with the appropriate competencies and experience for the role in primary care. Consequently, those that were recruited required additional education and development and/or orientation. This issue

had been addressed in NHS Lothian with the development of specific education and development for those ANPs coming to work in primary care without the relevant experience. Recruiting ANPs in remote and rural settings was considered particularly problematic. One key informant described the supply of ANPs in remote and rural areas as having been '*exhausted*' (P43). As staff were consistently expected to work unsocial hours, such posts were perceived by informants to be undesirable.

Recruiters to ANP posts in remote and rural locations also needed to consider the suitability of the applicant for roles that tended to be more isolated and that required healthcare professionals prepared to work with virtual team members. There was also a perception from key informants in the island communities that these ANPs needed to be very resilient as they were required to negotiate the challenges of working and living in the same community as the people they were caring for.

4.3.7   Recruiting ANP trainees
Most health boards advertised ANP trainee posts both internally and externally. However, A&A, D&G, and Lothian advertised internally with the aim of up-skilling their existing PN workforce. These health boards were working in collaboration with their GPs:

> *'We're trying to work really closely with GPs to try and support them in developing these roles and, again, not just necessarily to replace doctors, but to develop a multi-professional workforce.'*
>
> P16

ANP trainee posts for OOH were generally advertised externally. There were examples given by informants, including Borders and GG&C, that some general practices had independently supported the development of PNs who had aspired to develop their careers, or recruited ANP trainees due to the recruitment difficulties highlighted above, and supported their individual development needs in terms of both clinical experience and academic qualifications.

Recruitment to an ANP trainee post in some health boards included an assessment to check a candidate's ability to undertake both advanced practice and Master's level academic work. The recruitment strategy of D&G and Lanarkshire involved clinical scenarios to check candidates' knowledge levels. In Lothian, the level of a candidate's decision-making skill was assessed via an Objective Structured Clinical Examination. Depending on the conclusions of the assessment panel there were two pathways the candidate could pursue. They were offered either a place on the Advanced Practice Pathway and the Master's in Advanced Practice or the opportunity to undertake a community-based clinical decision-making module (30 credits at level 10) to prepare them for the Master's level programme. The universities had their own application process for entry into their ANP training programme.

Recruiting ANP trainees from the PN population already in substantive posts meant they also continued to undertake their existing role. Generally, externally recruited ANP trainee posts were substantive. Some exceptions existed, for example, in NHS Borders and NHS D&G where the posts were limited to the period of ANP training.

4.3.8   ANP education
The tripartite approach to the education of ANPs involved a combination of academic preparation, clinical competence development and effective supervision. This required significant commitment

and time from the ANP trainee, their supervisors and assessors to ensure competent and confident clinical decision makers able to deliver safe and effective healthcare. . Typically, depending on whether the level of educational attainment was a PgD or Master's in Advanced Practice, it was expected that this would be undertaken for between 2 and 3 years.

The PgD academic education focused on the development of competencies related to:
- clinical assessment
- clinical reasoning, judgement and diagnostic decision-making
- anatomy and pathophysiology
- non-Medical prescribing – V300
- leading, delivering and evaluating care
- practice learning/transferable work based learning process [94].

Completion of a research module and a dissertation were required to achieve a Master's in Advanced Practice.

The nature of core academic modules undertaken by ANP trainees varied across universities in relation to module titles and credit levels, the latter ranging from 15 to 40 credits at level 11. The result was a variation of content. This presented difficulties for some trainees who might undertake their academic preparation in a number of different universities. The order of module completion was considered important by a number of informants. The knowledge and skills required to prescribe medication necessitates that the non-medical prescribing module should come after the anatomy and pathophysiology, clinical assessment and decision-making modules [5].

Other additional modules might be required to be undertaken by some nurses depending on the university modules credit level of the core topics. Optional topics highlighted included: clinical leadership; minor injuries and minor illness; care of sick children; anticipatory care in long-term conditions; and adults with incapacity. Most ANP trainees were from the adult branch of general nursing and there was recognition from key informants that to work in primary care, these ANPs required additional education in paediatrics and mental health. Palliative care was also highlighted as an additional requirement by a number of key informants.

Some health boards had created their own education programmes that related to a specialty or a specific aspect of ANP education and development. For example, NHS Grampian had developed an OOH course; NHS Lanarkshire a 4-day leadership course that included: teamwork, values and behaviours, clinical leadership, facilitating learning, and quality improvement. In remote and rural areas ANPs completed a Pre-Hospital Emergency Care certificate, run by the British Association of Immediate Care Scotland. This course was previously only available to doctors.

A number of health boards had developed competency frameworks to support the educational development opportunities for nurses, including identification of an individual's training needs and creation of a personal development plan and assessment of competencies. For example, NHS Shetland used an Advanced Practice Competency as part of their governance framework for workforce planning, recruitment, education and development, and CPD arrangements. D&G had developed competencies for a range of primary care and community services including: primary and community care, OOH, community nursing and older people.

4.3.9   Supervision and assessment

Clinical supervision necessarily varied depending on ANP trainees' needs, stage of training and competencies. However, it also varied depending on practice placement, resources, availability and experience of supervisors. National guidance recommended that ANPs had effective clinical supervision and support, through the use of competence frameworks and locally agreed supervision models (SG, 2017 TNMaHPR – Advance Nursing Practice). A number of health boards had developed criteria for ANP work-based training places and supervision models that mirrored GP training. These included: A&A, Lothian, D&G, Lanarkshire and Shetland. Supervision was generally staged, starting with shadowing a GP, then being supervised by a GP, progressing to performing clinics or consultations independently but with access to a GP for advice, ultimately ending in debriefing sessions with the GP. Once competencies had been assessed, the ANP could then practice autonomously.

Key informants believed that the GP training practices tended to follow the medical model of GP training; while this approach was valued some informants believed ANPs should also have an ANP supervisor to ensure the ANP was being trained as an advanced nurse rather than as a doctor:

> *'They're definitely working in an advanced clinical skill set. Their learning is being supported by a GP and as we go forward when we look at the assessment they should be assessed as an advanced nurse practitioner and not as a GP. It's all about recognising limitations, practicing within your scope of practice and having an appropriate escalation so that they would be able to escalate where appropriate if they were unsure of a condition or a presentation.'*

P28

In a number of health boards, including A&A, Lothian and D&G, general practices were funded in the region of £8k per ANP per year to supervise ANP trainees. In other boards, for example, in GG&C supervision was not funded but the health board paid ANP trainees' salaries. In independent general practices that employed an ANP who required education and development, for example in NHS Borders, supervision was generally un-resourced. In general, a shortage of both GP and ANP supervision was reported. This was particularly challenging in remote and rural areas. A pilot of the Northern Advanced Care Academy, initiated by NHS Grampian, was exploring a way of addressing this by employing 'academy fellows' specifically to address remote and rural challenges related to clinical supervision and skills maintenance.

Additionally, the amount of funded study leave ANP trainees received varied and tended to be based on level of resource and workload rather than training needs. For example, trainees in GG&C and Lothian were offered 15 hours per week, whilst trainees in Shetland were offered 7.5 hours per week. In some health boards, ANP trainees had supernumerary status in their first year of training. This tended to be OOH ANP trainees employed by health boards as in, for example, NHS Highland. In NHS Grampian, ANPs were supernumerary whilst undertaking the in-house OOH course and until assessed as competent in a particular competency.

Advanced clinical practice work-based modules were competency based and required a portfolio submission. Portfolios provided evidence of attendance at training events and reflective notes, reflective learning logs, supervision meetings, and clinical assessment conclusions. The person conducting assessments could vary depending on the competency being assessed. In some health boards,

assessment of competencies was described as a basic tick list of competencies whilst in others it involved a more structured approach with the use of tools and a range of methods such as:

- objective structure clinical examination
- direct observation of clinical skills
- mini clinical evaluation exercise
- case based discussion
- multi-source feedback from colleagues and service users
- significant event analysis.

4.3.10 Continuous Professional Development

CPD was a requirement of NMC revalidation, which must be evidenced every 3 years. A number of health boards were still developing their CPD guidance for trained ANPs. There were also concerns from some key informants about the robustness of CPD arrangement for ANPs in independent general practices:

> *'There are many ANPs who've been in post for about 5-6 years who have not been systematically and reliably assessed on how they have kept up their competencies. And that worries me.'*
>
> *P25*

The competency frameworks enabled the assessment of the ANP trainee's clinical competence as they moved through their training and could be used as a CPD tool to maintain their competencies. For example, NHS Shetland used an 'advanced practice competency verification check list' when appointing ANPs to identify CPD requirements.

Remote and rural health boards had additional challenges with CPD as ANPs could be working in isolation and ANP roles tended to be wider in terms of their scope of practice. Innovative methods of CPD were being used in NHS Orkney, including weekly virtual meetings with nurses and GPs where discussions of clinical cases were undertaken. A multi-disciplinary approach was regarded as important as elements of the role had previously been part of the GPs remit:

> *'…for me, the structures around the support mechanisms, the networks that support these individuals* [ANPs]*, …they need to be multi-disciplinary.'*
>
> P32

The West of Scotland ANP Academy had developed a governance framework that included a range of CPD methods and monitoring mechanisms [5]. They included:

- annual review of 10 clinical cases by line or clinical supervisor
- signed peer review a defined number of times per year
- clinical supervision including monthly meetings with their GP supervisor for case-based discussion, clinical case note review and annual direct clinical supervision
- peer supervision including regular meetings with an ANP mentor
- line management supervision including team meetings, debriefing session for stressful events, and annual appraisal.

These were intended to be prescriptive, but it was not clear how their adherence would be monitored in the primary care setting. Additionally, the 'Academy' organised quarterly meetings with NHS Board members to support CPD and networking. Health boards also required ANPs to undertake

mandatory/statutory training, for example, child protection, moving and handling, and advanced cardio pulmonary resuscitation.

4.3.11 Accountability and governance arrangements

A distinction has been made between management accountability and professional accountability [95]. Employer organisations were accountable for governance of employees, which included reporting any professional issues to the regulator. Their external regulatory body, in this case the NMC, governs ANPs in the same way as other registered nurses. They were expected to adhere to the standards of the NMC code. The code states:

> *'You work within the limits of your competence, exercising your professional 'duty of candour' and raising concerns immediately whenever you come across situations that put patients or public safety at risk. You take necessary action to deal with any concerns where appropriate.'* [6]

The national TNMaHPR programme set out to provide agreed national standards and its guidance suggests ANPs be embedded in nursing governance structures, with clear lines of responsibility and accountability leading through the professional nursing line. However, it was recognised by some informants that where ANPs were working across traditional organisational boundaries there may be no suitable professional nursing governance structure in place [5]. This was particularly relevant for ANPs working for independent general practices where there may be no professional nursing structure. Some informants perceived that ANPs in such settings might be professionally vulnerable or isolated. However, most health boards employed a nurse leader to provide a support network to nurses in the primary care setting.

There was recognition that ANPs were accountable for their actions in accordance to the NMC code. A number of informants reported that ANPs were aware of the need to work within their competency levels and seeking advice when necessary. This related to the common view that ANPs were good at following guidelines, protocols and other standardised approaches to care. However, there was a perception from GPs that it was the GP that had overall responsibility for patients in the practice, suggesting that ANPs were not wholly autonomous:

> *'I think there probably is some healthy value in having any clinician, in this case, at this point in time, we're talking about GPs, it might not always be but at the moment if it's going to be a GP having overall responsibility. I think it is a bit analogous to the consultant in the hospital that any one patient at any one time is under his or her care'.*
>
> P5

Professionally and legally, there were no barriers for ANPs relating to referring, admitting, discharging, ordering tests or prescribing. A lack of understanding of the ANP role in acute settings occasionally created difficulties for ANPs carrying out some of these tasks. Legislative barriers relevant to ANP roles in primary care that may impede autonomous practice related to adults with incapacity; compulsory detention or treatment under the Mental Health Act (1993); and certification of death [96-98]. Nurses can however, perform verification of expected and unexpected deaths.

Generally, key informants reported that governance arrangements for ANPs were still in development. However, some health boards had developed governance frameworks. NHS Shetland had developed a governance framework for the purpose of supporting the development of advanced practice roles at a

strategic level as well as consistency in skill acquisition and self-evaluation [99]. It included the definition, competencies, role and educational preparation for an ANP. Its framework also stipulated requirements for clinical mentorship, clinical pathways, role impact evaluation and professional leadership.

The West of Scotland ANP Academy had also developed a governance framework [100]. This similarly outlined competencies and their maintenance, line management, peer and clinical supervision arrangements, and academic education and CPD. A challenge was however, monitoring how well these governance arrangements were enacted in general practice by the academy.

Indemnity arrangements were generally the responsibility of the employer, whether this was the general practice or the health board, and registered nurses had responsibility to ensure arrangements were in place as part of their NMC revalidation [101]. Concern was expressed that, unlike ANPs employed by health boards, those employed by general practices may lack indemnity for undertaking home visits or for on call, particularly when clinical support may not be available or lacked clarity.

As part of their governance arrangements NHS Highland was using an online database system 'Clinical Guardian' to support the audit of clinical cases. This involved virtually reviewing ANP cases from the case records, scoring them and giving feedback to the ANP, including any learning points. This was reported as being well received by ANPs who were positive about its benefits as a learning tool

4.4 Facilitators and Challenges to ANP Role Implementation in Primary Care

The challenges and facilitators identified from key informants covered all stages of the implementation of the ANP role from their introduction to evaluation. These have been grouped into categories based on the Yorkshire contributory factors framework which included: communication systems equipment and supplies, external policy context, design of equipment and supplies, individual factors, lines of responsibility, management of staff and staffing levels, patient factors, physical environment, policies and procedures, quality and safety culture, scheduling and bed management, staff workload, supervision and leadership, support from centre functions, task characteristics, team factors and training and education. [68] (Appendix F). Key informants generally expressed more challenges than facilitators.

4.4.1 Facilitators
External policy context - National leadership from the TNMaHPR programme and nurse leaders across Scotland was commonly viewed as having provided a clear steer regarding ANP roles and education. Specifically, the national definition and criteria for ANPs was regarded by the majority of key informants as instrumental in developing better understanding of the role of the ANP as well as consistent and appropriate educational programmes.

Communication - Involvement of GPs at all stages of introducing, implementing and evaluating ANP roles was perceived as crucial by a number of key informants. Some reported that initial resistance from GPs had reduced after they heard from colleagues about their positive experience and the benefits of having an ANP in the team.

Management of staff and staffing levels - There was a view that the organic way ANP roles had evolved had helped. GP Clusters had allowed flexibility to develop ANP roles across small practices in areas such as nursing homes and community hospitals.

Supervision and leadership - The leadership of Medical and Nursing Directors and senior management teams was recognised by key informants as critical to the implementation of ANP roles. Dedicated leadership to facilitate the development of ANP roles and educational solutions was highly valued by many GPs and ANP trainees. The 'Academy' Model had enabled health boards to work in partnership to develop ANP roles, competency frameworks, education and governance guidance and share experiences.

Team factors - Trust and good working relationships between ANPs and GPs were perceived as essential. Up-skilling PNs who were known and trusted by GPs was perceived as a positive approach. Appreciation of the role of the ANP by other members of the team was highly valued.

Training and education - Dedicated funding from the PCTF was helpful in enabling educational solutions to support ANP role implementation. A coordinated health board approach to implementing the ANP role, in collaboration with GPs, had helped progress educational solutions in primary care. Peer support and networking offered by other ANPs was also helpful. Joint working between health boards and universities to develop modules that were appropriate for primary care was important. Supernumerary status of ANP trainees (i.e. OOH) until they had been assessed as competent was perceived as a safe and effective way to train staff.

Quality culture and systems - Providing GPs with competency, education and governance frameworks had supported the implementation of ANP roles.

4.4.2   Challenges

External policy context - The inconsistent use of the ANP title and lack of understanding of the role could, potentially mean different standards of practice.

Physical environments -ANPs in remote and rural areas could experience professional isolation.

Individual factors - Educating service users and healthcare staff about the ANP role, and how to best utilise them, could be problematic. This had for example, caused occurrences where other professionals/departments were not familiar with the ANP role had not accepted referrals or requests for investigations. There was a perception among some informants that some service users expected or wanted to see a doctor, no supporting data was avaiable. This could be based on their views of traditional professional identity and/or not understanding what an ANP was.

Lines of responsibility - The development of ANP roles in primary care had tended to focus on what ANPs could take over from a GP rather that reviewing models of primary care and team responsibilities. There was a perception from some key informants that some GPs did not understand advanced nursing practice as an autonomous role that cared for the '*whole*' person.

Management of staff and staffing levels - There was a shortage of trained ANPs with the appropriate primary care experience. There were difficulties, particularly for small general practices, of funding an ANP post or upgrading PNs. ANPs trained by health boards were leaving to work for independent general practices for a higher pay band.

Staff workload - There were concerns that ANP trainees who were up-skilling whilst maintaining a clinical caseload did not have adequate study leave or supervision:

> *'I think the difficulty we might have is that the nurses are absolutely shattered. I can…I saw one of the nurses on the second module the other day and she's just done another master' module while she's working full-time doing the advanced practice role and she looks shattered.'*

> *P26*

Team factors - There were perceptions from key informants that other primary care team members i.e. PNs, GPs and community nurses, were concerned about the effect the ANP role may have on their own role. A few informants perceived some GPs were resistant to employing ANPs due to professional identity issues and lack of proof of concept of ANP roles in primary care. An alternative perspective expressed by some key informants was that, considering the ANP as the panacea to the GP recruitment crisis was causing potentially unrealistic expectations about what an ANP could do.

Training and education - Regular updating of competencies could be difficult to support the depth and breadth of some ANP roles, particularly in remote and rural areas where opportunities may be rare. The cost of training an ANP i.e. study leave, modules, supervision, was considerable and not always fully resourced. The different module titles and credit levels meant there could be some difficulties transferring across different universities. Concerns were express by a few key informants that the emphasis on the clinical pillar of ANP practice could mean less emphasis on the facilitating learning, research and leadership pillars.

Supervision, leadership and support - Some health boards had difficulties finding supervisors or work-based practice placements in general practice. There were concerns expressed by some key informants of over reliance on GP supervisors/assessors who had limited capacity while at the same time there were a limited number of ANP supervisors. In addition, clinical supervision was difficult for ANP trainees in community or remote and rural settings. One concern expressed related to inconsistent standards of mentorship, supervision and assessment, which in turn caused concern in relation to the robust evidencing of competence. Overall most informants recognised the considerable time, commitment and effort of GPs, education leads and ANP trainees to complete ANP education.

Support from central functions - IT systems were not accessible at point of care or connected and therefore did not facilitate the coordination of person-centred care across primary care practices, community and acute services. One informant highlighted lack of administrative support for ANPs working across clusters.

4.5   Evaluation of ANP Roles in Primary Care

The evaluation of ANPs relates to their value in terms of what they bring to the role and whom they affect. The expected impact of introducing ANP roles in primary care has been categorised on four levels: organisational, team, service user and ANP. The evaluations have also identified some potential unintended consequences, which are described below.

4.5.1 The value of advanced nursing roles in primary care

A common view expressed by informants, both nurse leaders and GPs, was that ANPs brought an additional nursing perspective, i.e. a holistic approach, to elements of the GP role that they were now undertaking. For example:

> *'The unique contribution of the nurse is about that comprehensive assessment, that ability to do that holistic assessment and look at the person in totality and use their judgment, their knowledge, their experience, that they gain through their training and as they go into their role, around who are the key people that need to be involved in this person's care, including the person themselves.'*
>
> P1

However, key informants stressed, that they were not suggesting GPs were not holistic or person-centred, but that they were under pressure to deliver essential care due to workload challenges. Some key informants also suggested that, because of perceived professional typecasting, some service users might interact differently with an ANP compared to a doctor:

> *'But there's something I think about a nurse being able to tease out other essential crucial information that quickly gets to build up a picture and get to the heart of the kind of issues that they're needing to support that individual with………And making them feel comfortable that they will disclose…. It's all down to communication skills.'*
>
> P6

The rationale given for these differences ranged from: nursing philosophy; different education, development and practice experiences; the nurses understanding of the multi-disciplinary team member's role; and the interpersonal approach used by nurses. A number of key informants suggested that ANPs undertaking home visits or working in community settings had more time than a GP.

It was also believed that ANPs were good at following protocols and clinical guidelines therefore undertook comprehensive assessments, which was perceived as appropriate in terms of risk management. A few key informants highlighted that this could be attributed to the level of competency and confidence of the ANP trainee.

4.5.2 Expected organisational impact

From a national perspective it was anticipated that ANPs would contribute, as key members of the multi-disciplinary team, to the delivery of primary care services that would [5,89,94,102-105]:

- be high quality, safe, effective, sustainable, equitable and affordable
- make the best use of available facilities, resources and people
- enable people to be cared for by the most appropriate professional, in a suitable setting, based on their health needs.

Key informants were of the opinion that ANPs would contribute to future sustainable primary care models. However, some highlighted that the service had been under strain for some time due to workload and workforce challenges and that, whilst ANPs were believed to be part of the answer, this was not a quick solution due to recruitment issues and the time it takes to train a new ANP. However, key informants expected the impact of ANPs from an organisational perspective would be:

- delivery of safe, high-quality person-centred OOH and primary care services
- improved efficiency of primary care services

- provision of ANPs to lead and be part of new models of primary care that were multi-disciplinary, multi-sectorial, and that meet the healthcare needs of communities.

4.5.3 Expected impact on the team

From national strategies and policies and the perspective of key informants at this level, it was anticipated that ANPs would enable future models of primary care delivered by multi-disciplinary and multi-sectorial teams [5,89,94,102-105]. With a focus on strong collaboration across professions and sectors, ANPs would utilise their knowledge, skills and experience, to enable timely achievements for patient outcomes and/or provide a point of access for other members of the multi-disciplinary team. There was a view that this would allow GPs to 'take on more complex patients', acting in similar ways to consultants in hospitals.

Key informants also anticipated that the ANP role would enable the creation of a multi-disciplinary team of healthcare professionals that would provide flexible and appropriate primary care services for communities. The expected impact on the team would be:
- to enable GPs to act as clinical leaders and manage service users with more complex healthcare needs
- to demonstrate the benefits of a multi-professional primary care team in meeting the health care needs of communities
- more appropriate use of the skills of the multi-disciplinary team
- improved availability of GP appointments for service users
- reduced reliance on GPs, particularly in nursing homes and community hospitals
- reduction in GP stress caused by increasing workload in primary care

There were both perceptions and reports, from a number of key informants, that some team members including PNs, community nurses and GPs, were anxious about how ANPs would affect their own roles. There was concern from a few nurse leaders that ANPs may be given the less desirable aspects of the GPs role. Conversely, concerns were expressed by a few GPs that the '*best bits*' of being a GP may diminish. Also highlighted was the eroding of the GP role in remote and rural medicine.

4.5.4 Expected impact on service users

The national strategic perspective put forward the ambition that multidisciplinary team would enable service users to be seen by the right professional, at the right time (24/7), and in the right place (either physically or remotely). Access to services would be easier and faster, coordinated and customised according to need. Like their primary care team colleagues, ANPs would be expected to support service users, be informed and engaged in their care, contribute to anticipatory care and support self-management in response to the individual needs of the service users [89,102,104,105].

Overall, some informants expressed the view that service users would receive the right care, at the right time, from a competent healthcare professional. Others believed that advanced nursing skills should equate to an enhanced quality of care. It was specifically anticipated that advanced nursing skills could make an impact by providing:
- an enhanced service users' experience and a holistic approach to primary care
- improved access to a healthcare professional in primary care
- enhanced continuity and coordination of care in community settings by reducing hand offs to other member of primary and community teams

- reduced referrals and waiting times for prescriptions by enabling nurses to prescribe
- support for people to stay well in their own homes and reduce unnecessary admissions
- reduced length of stay in hospital
- improved patient safety through comprehensive clinical and nursing assessment
- improved service users concordance to treatment
- increased secondary prevention activities where appropriate to the ANP role

4.6 Long Term Vision and Goals

From a professional strategic perspective the work of the national TNMaHPR programme would provide consistent education, CPD and governance opportunities, to ensure ANPs were valued and supported throughout their careers [72]. Key informants believed that ANPs would benefit in terms of:
- the opportunity for clinical career advancement
- being enabled to reach their full potential
- improved job satisfaction.

Additionally, there was a perception that the nationally agreed ANP definition and criteria offered the necessary framework for high quality, consistent education and development of new ANPs across Scotland:

> *'That has been amazing because it is clear now. It is clear what an advanced nurse practitioner is. It is clear what they need to do. It's clear what they band they should be at and it's clear the level of support they…are required, not just during their training but after their training. They have to be allowed to have time for CPD. They have to be allowed for time to develop.'*
>
> P25

The 'Academy' model was believed to have enabled ANP implementation by sharing good practice and experience across health boards and general practices. Specifically, this would potentially enable:
- improved access to clinical supervision and CPD opportunities for existing ANPs
- enhanced employability, professional development and scholarship of nursing
- supported governance structures in primary care
- wider recognition and acceptance of the ANP role in primary care.

4.6.1 Potential unintended consequence

An increase in workload in both primary and secondary care was considered to be a potential, unintended consequence of the ANP role due to:
- reduced admission to and early discharge from hospital
- increased referral to GPs from the OOH service
- increased admissions to secondary care.

Some key informants reported that these concerns had been investigated and that no evidence had been found to support them. For example, the NHS Highland 'Clinical Guardian' online system, that facilitates audit of ANP clinical decisions, found their ANPs used appropriate criteria for admitting people to hospital (P20).

4.6.2 Measuring impact of ANP roles

A national working group recently published a report detailing ANP specific metrics principles [5,106]. The report identified examples of outcome measures that related to safety, effectiveness and person-centred care. The stated purpose was to identify the impact on patient outcomes and in particular, to demonstrate the unique contribution of ANPs to health and care delivery. There was recognition however, that further nursing research was required to develop these ANP specific four guiding principles that should underpin these metrics were:

- the need for quantitative and qualitative metrics that enable triangulation of data
- that they should be based on key result areas/outcomes according to service needs
- the data should be available from existing systems
- there must be clear methods for displaying outcomes of ANP practice that align to the national nursing assurance framework.

There was recognition that these metrics will vary according to the ANP setting and service requirements. Examples of identified metrics included:

- **Safe** – complications; prescribing errors; serious adverse events; and near misses
- **Effective** – access to timely clinical decision-making; use of resources; hospital admissions and readmissions; length of stay; use of investigations; timeliness of interventions; onward referral and waiting times.
- **Person-centred** – patient experience; quality of life and social well-being; self-efficacy; responsiveness to deteriorating patient; complaints.

Measurement of the activity or impact of ANP roles at health board level was underdeveloped. There was common recognition from key informants about the difficulty in measuring the impact of ANP roles in terms of clinical outcomes. Some were concerned that if the impact of ANPs cannot be measured their role may not develop appropriately or exist in the future. Measures suggested as being potentially useful and that reflected the national working group proposal included:

- patient experience
- staff experience
- prescribing patterns
- adverse incidents
- admissions to hospital by profession
- clinical decision-making.

Some health boards where ANPs had been in post in OOH for some time had undertaken audits of ANP activity, patient experience and complaints. This included Highland and Grampian who had adapted the RCGP OOH Clinical Audit Toolkit to support monitoring of ANPs. Borders health board were auditing their ANP OOH pilot. NHS 24 was a data rich organisation with a management system for implementing new patients that can monitor electronic health records and activity. An example of how this could be useful was provided by Highland who had introduced an online system called 'Clinical Guardian' that supported the governance process by enabling remote reviewing of health records and an audit of services. This was being used for GP locums in addition to ANPs. Likewise, in recognition of the varied roles undertaken by ANPs, NHS Glasgow & Clyde required ANPs to produce an annual report that provided evidence of achievement of the objectives for their particular role. At the time of writing, only the Grampian audit results were available (Appendix J).

4.7   Long Term Vision and Goals

The key informants' long-term vision for ANP roles was consistent with the national vision for primary in the future [102]. Thus, they expected an expansion of the multi-disciplinary team to ensure service users have access to health and social care professionals with the appropriate competencies, in a timely manner, and close to home. This would support holistic, person-centred, coordinated care that meets the needs of service users and communities. The desired focus was on preventative, anticipatory, pro-active care that supports self-management, responsibility and maintenance of health, in addition to supporting those with greater dependency.

Long-term goals identified by key informants included:
- continuing to develop ANP roles where there was a service need and service users can benefit
- developing nurse led services in, for example, community teams and nursing homes
- improving the use of technology to support service user access to healthcare
- employing ANPs across all general practices, GP clusters and Primary Care Hubs (groups of small general practices
- replicating the academy model across Scotland by creating three academies: West, East and North of Scotland
- ensuring consistency of education, professional development and governance arrangements for ANPs, supported by national competencies
- expanding competency-based approaches to quality governance to other nursing and advanced practice roles.

4.8   Summary of Implementing ANP Roles in Primary Care in Scotland

The international evidence suggests ANPs can be effective substitutes for delivering some elements of care previously delivered by primary care doctors. The key driver for the introduction of ANP roles in primary care was to enable the creation of multi-disciplinary teams and new models of care to address the GP workforce challenge and increased workload in primary care. Both a driver and a facilitator to their implementation was the national leadership of the TNMaHPR programme and primary care transformation initiatives.

It was not possible, however, to identify the exact number of ANPs as the TNMaHPR programme had only agreed the national ANP definition and criteria in 2016. Additionally, there were no accurate central or local primary care workforce records, although this was being addressed with all general practices required to supply workforce data to ISD from April 2018. However, there was a shortage across Scotland of ANPs with the necessary primary care competencies. To address this and the recommendations of the TNMaHPR programme health boards and universities to develop infrastructure to implement ANP education programmes some of which was aided by funding from PCTF and SG.

Approaches to ANP implementation differed across health boards due to varying context. Remote, rural and island health boards had already implemented NP models of care where nurses with advanced clinical decision making skills had enabled challenges of delivering healthcare in these areas to be addressed (large geographical areas and small populations). Additionally, those boards with established NP OOH or ANP education and development programmes were able to progress quickly with ANP role implementation. More recently, the establishment of the West of Scotland ANP

Academy, a collaboration of 6 health boards, had been set up to provide leadership and a network of support to progress the implementation of ANP roles in primary care. These health boards were increasing the number of ANP trainees in primary care in close collaboration with GPs who provided work-based learning placements and clinical supervision.

The national criteria for an ANP involved Master's level academic preparation, clinical competency development and effective supervision, which took 2-3 years to achieve. ANPs were reportedly taking on elements of the GP role, delivering healthcare to adults and paediatrics in a range of primary and community care settings, 24 hours a day/7 day a week. Roles included comprehensive assessment to make a differential diagnosis, including dealing with undifferentiated client groups of all ages; treatment of minor illness/injuries; management of long-term conditions; health promotion; anticipatory care, and referral/admission to hospital. In some contexts, particularly in remote and rural areas, ANPs were reported to be dealing with complex patients and pre-hospital emergency care. In some health boards, new models of primary care were evolving with ANPs taking on new or enhanced roles for example in care homes and same day appointment centres.

Reported key facilitators for implementing ANP roles in primary care in Scotland were - enabling education and role development through, national and local professional leadership; and collaboration between the health board, general medical practice and universities. Reported key challenges were - a lack of understanding of the ANP role by some patient and GPs; concerns regarding how the role affected other primary care team members; the length (2/3 years), time and effort required by ANP trainees and GPs to develop necessary competencies; funding particularly affecting study leave and clinical supervision; a shortfall in GP and ANP supervisors; and variable governance arrangements including limited evaluation of impact.

4.9   Selection of the Tests of Change for Deep Dive Exploration

The identified tests of change were assessed using a staging system: those which were well established and implemented; those still in the early stages of implementation; and those not got off the ground of development. This classification was used to support the selection of case studies in Phase 2 (not as a measure of board 'progress' on using ANPs). At the end of the scoping exercise (March 2017):

- 4 were classified *implemented* including Grampian, Highland, Lothian,and Shetland
- 8 were classified *partially implemented* including A&A, Borders, D&G, Forth Valley, GG&C, Lanarkshire, Orkney and NHS 24
- 3 were classified *not started/stopped* including Eileanan Siar, Fife, and Tayside.

Those health boards that were reported as implemented included remote and rural health boards that had well established education and development programmes. These remote and rural boards may have experienced recruitment challenges sooner than the non-remote rural and island boards. Those health boards that were Partially implemented were generally those that were members of the recently established West of Scotland ANP Academy. These boards had employed ANP leaders to specifically support the implementation of ANPs. There was significant collaboration with general practice in these boards. In addition, most of these boards had funded GPs to provide clinical supervision or fund ANP posts.

Whilst those health boards that were 'not started/stopped' had ANPs in post, including some in health board managed general practices, they had not yet initiated a coordinated approach to ANP education and development across the health boards or in collaboration with general practice.

This assessment for all the tests of change is summarised in Appendix J. The status of these tests of change, together with consideration of different contexts and approaches adopted by the health boards, provided the basis of the selection of the deep dives for Phase 2. Those selected were:

- NHS A&A
- NHS GG&C
- NHS Highland
- NHS Lothian
- NHS Shetland.

5. PHASE 2 FINDINGS

This chapter summarises the findings from the review of **4 local documents** and **interviews or focus group discussions with 24 key informants** representing the five selected 'deep dive' NHS Health Boards, i.e. A&A, GG&C, Highland, Lothian and Shetland (Figure 5.1). Findings are presented as descriptive summaries to report the perspective of ANPs and address the objectives regarding actual impact of ANPs, scaling up and sustainability of ANP implementation. Framework analysis was used to identify what worked for whom, why and in what circumstances.

Box 5.1 Scottish Health Boards: (red text indicates) the Five Boards chosen as 'Deep Dives'
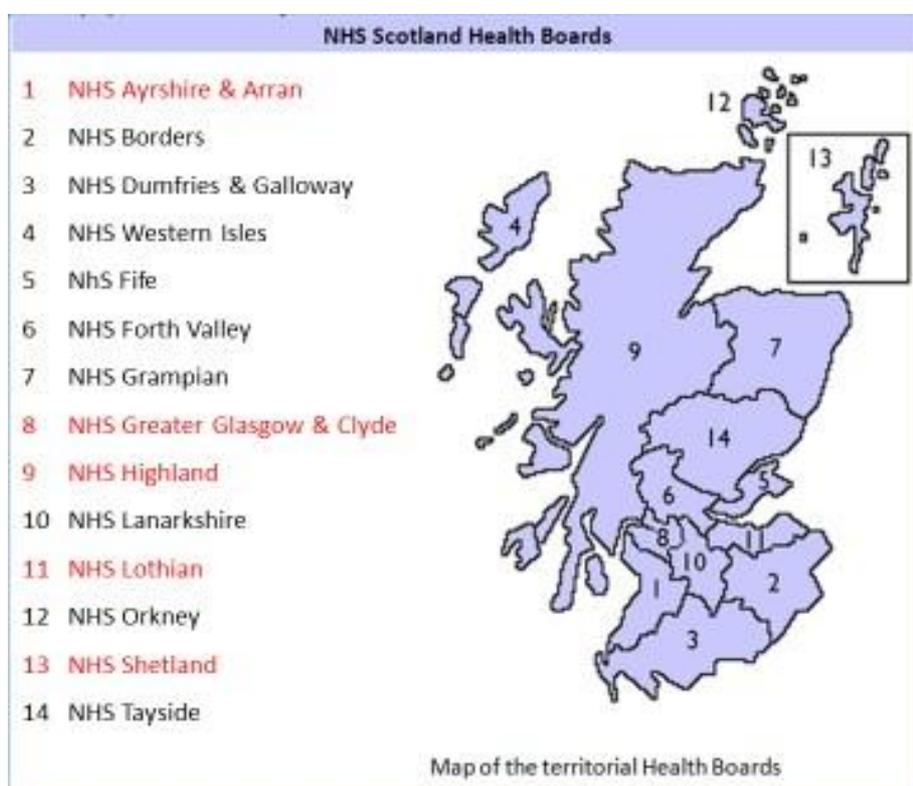
Of 86 key informants invited, a total of 19 participated in interviews, and a further 5 in a focus group discussion. Table 5.1 summarises the number of interviewed key informants in relation to the 'deep dive' health board area. Table 5.2 shows the role of key informants interviewed across all five health boards.

Table 5.1 Number of Phase 2 Key Informants by Health Boards Area

Health Board Area	Number of Key Informant Interviews
NHS Ayrshire & Arran	3
NHS Greater Glasgow & Clyde	8
NHS Highland	3
NHS Lothian	5
NHS Shetland	5
TOTAL	**24**

Table 5.2 Role of Phase 2 Key Informants

Role of Key Informant	Number of Key Informants
ANP	10
ANP trainee	7
Clinical Lead/Managers Nursing	3
Education Lead	2
General Practitioner	1
Clinical Lead/Managers Medical	1
Total	**24**

The background of most ANP key informants was as a NP or PN in primary care, with some from community or acute settings. Most had between 20 and 29 years of experience of nursing. Education and development to become an ANP had generally taken between 2 and 3 years, and most intended to achieve a Master's in Advanced Practice.

5.1   ANP Roles

All ANP key informants confirmed findings from phase 1 that they had taken on elements of roles previously performed by GPs, often these elements were believed to be more appropriate for ANPs. They identified a number of issues relating to the development and implementation of ANP roles:

- recognition by GPs and patients of the unique contribution made by the ANPs
- importance of adapting the role for the primary care setting
- reviewing and developing all team members roles not just ANPs.

There were varying methods of accessing appointments with the ANP. Patients could ask to see the ANP or be triaged by the reception staff or a doctor. ANPs also undertook a triage role however, there were general practices where no triage systems were in place and ANPs were seeing a similar case mix to the GPs. Despite this, a preference for recognition as advanced nurses was articulated, as opposed to doctor substitutes or mini GPs. Likewise, as identified in phase 1, many informants suggested that the difference between GPs and ANPs was the holistic approach that the ANP could offer and the addition of their nursing skills to the medical model which tended to focus more on diagnosing problems

Some key informants believed some members of the public were not always aware of what an ANP was or what they actually did, and some patients expected or preferred to see a GP. Other patients were happy to see an ANP and it was perceived that patients valued the ANPs interpersonal skills. One informant believed that some patients were resistant to ANPs as the patient's perception was based on the traditional view of doctor and nurse roles. There was also a view expressed that the ANP needed to work hard to gain the respect of the patient, unlike the doctors who they perceived as already having that respect. Some ANPs believed that wearing a nurse uniform compounded the patient's perception of the nurses traditional role of providing nursing care rather than recognising their advanced decision making skill.

However, involving the community in introducing ANP roles was believed to have improved understanding and acceptance of ANP roles.

Some ANPs reported that nurses who did not have a primary care or community background required more time to adapt to the culture within primary care. The reason given was the perceived greater degree of risk in primary care compared with the acute sector as nurses in primary care worked more autonomously, with one to one consultations. This issue had been recognised and addressed in NHS Lothian where a training package had been developed to familiarise ANPs new to primary care with the context and practices.

It was reported that ANPs valued being recognised for their existing nursing skills. They valued working with forward thinking GPs willing to take forward new ideas and who listened and respected the ANPs views as members of the multi-disciplinary team. ANPs were less happy working for GPs who did not listen to their ideas. Recognised as a culture shift it was highlighted in terms of the importance of listening to nurses. It was perceived that many GPs did not understand the role of the ANP. Some informants perceived GPs as being protective of their roles, concerned that they may lose the best bits, and as one informant described it, GP 'scepticism' about the ANP role. Conversely, there was a concern that GPs might pass on inappropriate tasks or the less desirable elements of their role. In addition, some ANPs experienced resistance from other nurses due to the uncertainty of how the ANP role would affect their duties. This confirmed findings from phase 1. Conversely, others perceived that other nursing team members valued the new ANP role, for example the advice, education and leadership that ANPs could provide.

It was acknowledged that ANP roles affected other team members' roles and as one group of staff were up skilled there was a need to develop all primary care team members roles, for example healthcare assistants. It was noted by PNs who had up skilled to an ANP role that it was a challenge to undertake both the PN and ANP roles. In this situation it was not clear what they should give up and, although they might be relieving GP workload, their workload was increasing. Some ANP informants believed as they took on elements of the GP role where they were not necessarily able to use their nursing skills to the full. There was, they felt, a need to ensure their nursing expertise and experience was full utilised. Conversely, there were concerns that some ANPs would be expected to fulfil basic nursing tasks as well as practice their advanced nursing skills. It was recognised that ANPs could provide leadership to develop primary care services to ensure they realise advanced nursing potential. It was also highlighted by key informants that, before attempting to introduce ANP roles into the multi-disciplinary team, it was important to discuss the roles of all the other team members.

Whilst it was highlighted in phase 1 that ANPs were good at following guidelines, one key informant confirmed that guidelines were a valuable training tool. There was a concern that ANPs would not be '*covered*' if they did not adhere to these. There was also the belief that conversely, their GP colleagues who did not adhere to guidelines would not be challenged. Likewise, one key informant highlighted concerns that the NMC code of conduct reflected fundamentals of nursing practice standards rather than ANP advanced clinical decision. In terms of autonomy to act according to their competencies, a number of ANPs stated they were very aware of the limitations in their knowledge but believed that, as they advanced in their education and development, they would gain the competencies and confidence.

5.2   ANPs Education and Development

A number of issues related to ANP education and development were identified, including:

- substantial learning commitment from ANP trainees
- importance of commitment and time for supervision from GPs experienced in training
- support from peers and an ANP supervisor or manager
- support for ongoing CPD to maintain competencies.

The learning commitment for ANP trainees was perceived to be extensive and there was often insufficient time allowed for this, with much studying being carried out in their own time. It was reported that there was reliance on the GP's willingness to release the ANP trainee for study leave although the pressure of workload was also recognised. The lack of equity for study leave across health boards was also highlighted. The ANP trainees recognised the importance of being self-directed, whilst distance learning added to this challenge. In particular, the ability to balance work, learning and home life was important, as was integrating learning into their working process and ensuring up to date maintenance of their profile of evidence of learning. Confirming findings from phase 1, ANPs and ANP trainees reported that more general mental health and paediatric education and development was required.

It was reported that ANPs appreciated the support and time of GPs during their education and development and for on-going support. Although GPs lacked capacity to support the ANPs was highlighted also. It was highlighted that ANPs learned a lot by being trained and supervised by GPs, or in a GP training practice. Another ANP highlighted that if assessing competencies was not to become a *'tick box'* exercise it was important that the GP was an experienced trainer (P66). To ensure the ANP received appropriate support and supervision, it was believed that GPs needed to be '*100% on board*' with ANP role implementation (P38, P58).

Peer support appeared to be valued highly. However, some ANPs highlighted that they would value more peer support. Having a manager who was an ANP was appreciated. However, having a manager who was not an ANP or was the same grade caused some ANPs concern. The manager of an ANP who was not her/himself an ANP also shared this concern.

It was suggested that ANPs returning to learning as experienced nurses may feel vulnerable and that this could lead to a loss of confidence and increased stress. Some ANPs suggested that, until you started on the ANP pathway you might not realise how much you don't know. It was reported that GPs feedback was greatly valued but they could be forthright in their feedback, and that being an ANP trainee was not for the '*faint hearted' (P36)*. One ANP trainee reported to being *'quite upset'* that they were treated like a GP trainee, yet were not a trained doctor (P53). It was recognised that GPs needed to be open to the questions and concerns of the ANPs and to recognise their learning needs*.*

> *'You've got to make* [ANPs] *feel comfortable. You've got to make them feel that they can come to* [a GP] *and talk.., because that reduces* [the GPs} *risk as a partner, and practice, responsibility* [to] *patients, but it also supports that ANP to feel supported.'*
>
> P10

Opportunities for clinical supervision for ANPs in community settings could be limited as there were few more experienced ANPs to do this and the trainee worked in more autonomous situations, for example

in people's homes. There was recognition that as an ANP they were always learning, which was something ANPs were reported to enjoy. However, the amount of learning was considerable, and competencies needed to be maintained. CPD requirements for ANPs were considered over and above NMC revalidation and there needed to be time built into their role. This was more challenging in remote and rural areas as these nurses often had multiple roles that increased the CPD need. Ultimately, whilst an ANP role was seen as a good career pathway, some ANPs were concerned about banding and lack of career advancement opportunities.

5.3 NHS Ayrshire & Arran

5.3.1 Overview

A&A's approach to ANP implementation in primary care could be characterised by key context, mechanisms and outcomes, examples of which are described in Appendix K.

5.3.2 Changes to implementation over time

Some changes to implementation have occurred and others were proposed including:
- Regular CPD sessions had not happened due to level of workload in primary care.
- Modules from the University of West of Scotland had been reviewed to provide a better focus on primary care needs.
- A recognition and plan to increase use of virtual networks/social media to enhance peer support for ANPs.
- A business case had been developed to employ a dedicated GP clinical supervisor to support non-medical prescribing clinical supervision.

5.3.3 Likely sustainability and spread of ANPs

A number of issues were raised that impacted on scaling up and sustainability of ANP roles in A&A:
- Greater collaboration between the university and general practices was perceived as important to ensure work-based training met the needs of ANPs in primary care.
- The lack of capacity of GPs to act as clinical supervisors has limited the numbers of ANP trainees.
- The high number of nurses in primary care aged over 45 or who do not wish to train as ANPs could reduce the pool of experienced primary care nurses available for ANP education and development.
- Team skill mix issues arose as ANPs, who were formally PNs, took on elements of the GPs role yet there was not the workforce to take on their PN roles.
- ANPs trainees required significant CPD opportunities however lack of funded study leave and workload issues created challenges delivering these opportunities.
- Funding ANP education and development was a concern, particularly as current funding had benefited some general practices and not others.

5.4 NHS Greater Glasgow & Clyde

5.4.1 Overview

GG&C's approach to ANP implementation in primary care can be characterised by key context, mechanisms and outcomes, examples of which are described in Appendix L.

In terms of impact and outcomes, an audit of the ANP role that involved undertaking home visits on behalf of a GP cluster, had been undertaken between July 2017 and February 2018. It included home visits by health professional, estimated time saved by month, top five problems presented by patients seen by ANP, and outcome of consultation. Additionally, the health board had undertaken a qualitative survey of this role involving a focus group and interviews with GPs (n=4). Other outcomes were identified from key informant interviews.

5.4.2 Changes to Implementation over time

Some learning had indicated changes to implementation that were proposed included:

- The importance that ANPs understand the primary care context.
- Access to patient information and communication was essential when patient management was shared across different members of the primary care team.
- A governance framework was being developed to support GPs and ANP trainees with a more structured approach to clinical supervision and portfolio development. A system for monitoring adherence to governance arrangements was being developed specifically related to ANPs CPD and maintenance of competencies.

5.4.3 Likely sustainability and spread of ANPs

A number of issues were raised that had potential to impact on scaling up and sustainability of ANP roles in GG&C:

- The significant investment by GPs and length of time required to train an ANP.
- A high attrition rate during or shortly after training with 3/5 either leaving for a higher salary, promotion or ceasing training.
- Limited availability of clinical supervision generally and specifically for ANP trainees within community settings but not directly linked to a GP practice.
- An increasing number of advanced practitioners across professional groups undertaking academic modules could decrease further the capacity for clinical supervision.
- There was concern regarding the future pool of ANP trainees for primary care as the nursing workforce in primary and community care had a high number of nurses over the age of 45 years.
- Concern that increasing demand for ANPs could mean recruitment of ANP trainees without the appropriate competencies to general practice which have variable governance arrangements or limited experience of ANP role requirements.
- Funding for ANP training to enable adequate study leave and supervision.

5.5 NHS Highland

5.5.1 Overview

NHS Highland's approach to ANP implementation in primary care can be characterised by key context, mechanisms and outcomes examples as described in Appendix M. These have been informed by key informant interviews in addition to verbal reporting of an audit of 2000 ANP cases undertaken using 'Clinical Guardian' - a systematic approach to clinical governance with an online system that supports the governance process and an audit of services.

5.5.2 Changes to implementation over time

Some changes to implementation were proposed including:

- Recognition that improvements were needed to clearly define support and advice available to ANPs from GP colleagues, particularly when they were working in isolation.
- Employment of an ANP education lead at Band 8 was considered necessary to support ANP education and development.

5.5.3 Likely sustainability and spread of ANPs

A number of issues were raised that had potential to impact on scaling up and sustainability of ANP roles in NHS Highland:

- Funding for education and development was considered a significant challenge to sustaining an ANP workforce.
- An increased number of clinical supervisors and mentors with time inbuilt into their work plans was required, particularly experienced ANPs.
- GPs involved in training required a good understanding of the ANP role and of their role as a clinical supervisor in order to support ANPs and deliver an appropriate training.
- It was believed appropriate for an ANP trainee to remain with the health board for at least 2 years following training if the board had funded the ANP training.
- Agenda for change meant ANPs needed to be scheduled rather than on call, which did not facilitate the remote and rural model of OOH care.
- A structured approach to manpower planning was required to take account of a developing multi-disciplinary model of primary care.

5.6 NHS Lothian

5.6.1 Overview

NHS Lothian's approach to ANP implementation in primary care can be characterised by key context, mechanisms and outcomes examples as described in Appendix N.

Evaluation methods included a patient experience survey conducted between October 2017 and January 2018 for the 'Collaborative working for Immediate Care' service, a service delivered by advanced and specialist nurses and allied health professions. Key informants identified other outcomes.

5.6.2 Changes to Implementation over time

Some changes to implementation were proposed and included:

- ANPs had identified the need for additional education and development in paediatrics, mental health and muscular skeletal problems although there was a challenge to identify the level required. The paediatric module was being reviewed.

- The role of the ANP mentor and assessor was being explored to support ANP education and development.
- A shortage of ANPs at a time of increasing demand for ANPs, allied with the ability of GPs to offer higher salaries, meant they were recruiting some ANPs from acute backgrounds without the appropriate competencies. These ANPs were offered education and development to support them in this transition.

5.6.3 Likely sustainability and spread of ANPs

A number of issues were highlighted that had potential to impact on scaling up and sustainability of ANP roles in NHS Lothian:

- There was a vision to support the development of an ANP for every GP practice. However, the funding source going forward was of concern.
- Additionally, there was a shortage of GP and ANP supervisors and mentors.
- With the current workforce pool of nurses in primary and community care potentially retiring within the next five years the need to promote advanced practice as a career pathway for younger nurses was considered important.

5.7 NHS Shetland

5.7.1 Overview

NHS Shetland's approach to ANP implementation in primary care can be characterised by key context, mechanisms and outcomes examples as described in Appendix O. An evaluation of one general practice with ANPs had been undertaken but was unavailable for this case study although informants reported some findings.

5.7.2 Changes to implementation over time

Key learning had indicated changes to implementation that were carried out and proposed including:

- The initial half-day of study leave per week that ANP trainees received had increased to 1 day per week.
- More development was required to address the leadership pillar to support ANPs lead advanced nursing practice.
- An experienced ANP in an education lead post was required to provide education support across all fields of advanced practice with an initial focus on primary care.

5.7.3 Likely sustainability and spread of ANPs

A number of issues were highlighted that had potential to impact on scaling up and sustainability of ANP roles in NHS Shetland:

- A clear education structure was required to support development and on-going investment to enable the recruitment and retention of all staff.
- ANPs working on islands without a resident doctor required considerable depth and breadth of knowledge and skill including emergency care, primary care, and community nursing. This presented challenges in terms of maintaining competencies and provision of support and clinical supervision.
- The multi-disciplinary model of primary care was believed to be possible if a technological infrastructure could support remote decision-making and reduce professional isolation for ANP.

5.8 Refined ANP Programme Theory

Whist there was variation in approaches to implementation of ANP roles across Scotland and health boards were at different stages of development, realist evaluation aimed to draw out transferable lessons from across implementation strategies. Framework analysis allowed researchers to identify the patterns across the facilitators and challenges to answer the question what works, for whom, why and in what circumstances. These are reported as statements related specifically to programme components of the ANP role: education and development: evaluation and sustainability; which are provided in Box 5.2

Box 5.2 Programme Theory of ANP Role Implementation in Primary Care: What works.

ANP Roles Component
ANP role implementation had been driven by a shortage of GPs resulting in GPs employing ANPs to 'fill the gap' and relinquishing elements of their roles to ANPs that they thought were safe for them to undertake or were less appropriate for a GP.
Shifting workload from the GP to an ANP relieved GP workload and stress but may not achieve primary care transformation or make best use of advanced nursing competencies to deliver new models of primary care.
ANPs in primary care were generalist practitioners and senior clinical decision makers whose professional identify was firmly nursing. When these roles were combined with their nursing competencies and the leadership, research and education pillars of practice, ANPs managed the complete care of patients with undifferentiated diagnosis and advanced primary care services to deliver new models of care.
Appropriate triaging of appointments, together with availability of clinical support, enabled ANPs to take on elements of a GPs workload and OOH services within the scope of ANP practice.
ANPs were perceived to deliver quality care and manage risks by undertaking a comprehensive clinical assessment, the appropriate use of clinical guidelines and protocols, and a holistic approach to caring for the whole person.
Resistance of some GPs to ANP roles was influenced by a lack of understanding of the ANP role, their education and concern that the GP role would be eroded.
A culture that values the contribution of all primary care team members and has a good understanding of the ANP role and its relationship to the roles of other team members enhances job satisfaction for the multi-disciplinary team.
ANPs working in remote and rural conditions or in smaller general practices were carrying out multiple nursing roles to provide a flexible workforce.
As the ANP role develops in primary care, there were/will be opportunities to review the skill mix of multi-disciplinary primary care teams to ensure that all members of the team practice to the full scope of their capabilities and were appropriately developed and deployed to deliver new models of primary care.

ANP Education and Development Component

Development of a national ANP definition and competencies had improved understanding of the ANP role and enhanced provision of ANP education and development although its implementation across Scotland was variable.

Collaboration between independent general practices, health boards and higher educational institutions together with dedicated local leadership had enabled a coordinated approach to delivering appropriate ANP work-based education.

The 'Academy' approach had promoted ANP role implementation across health boards through the sharing of frameworks for competencies, education and governance.

Funding across health boards for clinical supervision and study leave was variable and therefore ANPs were experiencing inequality and inconsistent education and development opportunities and experience. Recommendations for study leave ranged from 30-50% initially and in some cases ANP trainees were supernumerary.

To develop the necessary confidence and competencies ANPs required 2/3 years to complete necessary academic education, competency development and clinical supervision. Together with considerable support and commitment from the GP, the ANP needed to be resilient and self-directed.

ANPs without primary care experience required additional education and development to adapt to the primary care culture and ANPs who were registered adult nurses required paediatric and mental health education.

Using the GP model of training in approved general practices for ANPs provided high quality clinical supervision and enhanced the ANP trainee's clinical decision-making skills. However, the lack of focus on the other pillars of the advanced nursing role created perceptions those ANPs were training to be doctor substitutes.

ANPs valued the peer support and networking opportunities of other ANPs and guidance from ANP supervisors, leaders and managers to: maintain their nursing focus; support CPD opportunities; and prevent professional isolation.

Evaluation and Sustainability Components

A lack of measures of ANP impact and concern that ANP roles must evidence that they provided safe care meant evaluation was focused on adverse events rather than how ANPs added value to the primary care services. The exception was patient experience, on which ANPs had a positive impact.

Variable quality governance arrangements across independent general practices caused concern regarding the professional development and support for ANPs.

Health boards and GPs investing in ANP education and development were losing ANPs to independent general practices that reportedly paid a higher pay band, creating challenges for workforce planning and development.

PCTF had been instrumental in ANP implementation and despite funding from the Government to support future academic education, health boards and GPs were concerned about funding for future work-based learning and study leave.

There was limited capacity of both medical and nursing clinical supervisors and assessors to support ANP work-based learning.

There was uncertainty over future manpower and succession planning for ANPs in primary care as the main recruitment pool for ANPs was the experienced primary care and community nursing workforce, many of whom are over 45 years of age.

5.9   Summary

The general challenges and facilitators observed across all deep dives provided insight into what works, for whom and why.

Key to addressing the primary care workload and workforce challenges was the development of multidisciplinary teams, made up of a variety of health professions including Advanced Nurse Practitioners, who would work together to support people in the community and free up GP time for patients in specific need of their expertise. With no professional or legal barriers to nurses increasing their scope of practice or prescribing medication, the national transforming nursing roles (TNR) programme, led by Scottish Governments Chief Nursing Officers Directorate progressed the implementation of ANPs roles with the recently agreed national definition, criteria and implementation guidance for health boards. This improved the general understanding of ANPs roles, which have subsequently been developed into substituting for elements of the GP role.

Whilst some of the roles previously undertaken by GPs were deemed suitable for an ANP, in some contexts such as rural areas, there was no triaging of appointments to either a GP or ANP. This was less of a concern where there was access to virtual or actual GP advice, but this was not always the case and some ANPs felt inadequately supported. Additionally, ANPs on non-doctor islands were undertaking multiple nursing roles i.e. practice and community nurse, as well as elements of the GPs role, creating concerns regarding maintenance of competencies for such a wide scope of practice. Likewise, depending on the triage method (i.e. receptionist, ANP or Doctor) which varied across practices there could be challenges for patients navigating appropriate access to the right professional.

There were examples of new ANPs roles that focused on advanced nursing competencies together with advanced clinical decision making competencies to enhance patient care rather than simply shifting workload from GPs to ANPs. For example, ANPs in nursing homes or community services were developing anticipator care plans and diagnosing and treating minor illness, which potentially improved both the timeliness and coordination of care. . However, there was still some resistance reported from GPs and nursing colleagues particularly when ANP roles had been developed in isolation from other team members, resulting in concerns about the possible erosion of other team members' roles.

The shortage of ANPs with appropriate primary care experience had led to some health boards setting up Advanced Practice Academies and education initiatives that built on existing ANP or nurse practitioner programmes. Additionally, national and senior health board leadership and the national definition had improved consistency and appropriateness of academic education, clinical competency development and effective supervision and assessment arrangements. However, approaches varied, particularly in relation to the level of study leave provided and the availability of clinical supervision, due in the main to funding issues. Clinical supervision was a noteworthy standard in health boards that had collaborated as part of the academy model, which promoted greater collaboration with GPs who were experienced trainers, and were funded to provide clinical supervision. In these cases the ANP trainee's work based learning experience and support was very positive. Likewise, the academy employed an ANP lead to engage with GPs and coordinate implementation, which aided their understanding of ANP roles and educational preparation. Implementation tended to take an exploratory approach, and as GPs gained experience and confidence of working with ANPs their willingness to implement ANP roles increased. However, retention issues often marred these efforts with ANPs leaving to work for general practices paying higher salaries.

In terms of scaling up and sustainability of ANP role implementation, this was challenged by a shortage of clinical supervisors, (GP or nursing supervisors), as well as concerns over funding for all aspects of training. Recruitment, retention and succession planning were also a concern. The pool of suitable recruits with primary care or community nursing backgrounds, are mostly over 45 year of age.

Whilst the anticipated and perceived impact of ANP roles corresponded with the primary care vision, the actual impact was rarely measured aside from small scale surveys and audits. However, there were indications that ANPs could take on between 30% and 40% of workload in certain areas such as home visits and out of hours care, that they improved patient access to primary care and provide a positive patient experience.

6. DISCUSSION AND KEY LEARNING

This case study aimed to explore the experiences of introducing, implementing and evaluating ANP roles in primary care in Scotland in order to understand how best to optimise the contribution of ANPs to delivering the primary care vision. In particular, the aim was to identify the challenges and facilitators experienced, in addition to the impact of ANP roles and issues of sustainability and scalability. These experiences of implementing ANP roles in primary care across Scotland are echoed in the international literature.

6.1   The Vision for Primary Care and Nursing in Scotland

The SG vision for the future of primary care services is for multi-disciplinary teams, made up of a variety of health professions working together to support people in the community and free up GP time for patients in specific need of their expertise [102]. Aligned with this vision was the concept of realistic medicine. The emphasis was on co-producing healthcare that was person centred, holistic and reducing harm and waste while managing risk [103].

The outcomes for this primary care vision include:
- people more informed and empowered when using primary care
- primary care services better equipped for contributing to improved population health
- enhanced user experience of primary care
- an expanded primary care work force, more integrated and better coordinated with primary and community care
- improved primary care infrastructure
- primary care better equipped to address health inequalities [102].

A number of workforce and workload issues challenged this vision, which aimed to deliver sustainable, affordable, high quality primary healthcare. Two key challenges were the increased workload in primary care prompted by the needs of an increasingly elderly population with long-term conditions and multi-morbidity, and the move away from specialised acute services to providing care closer to people's homes and communities [89,105]. Added to this were the workforce challenges related to GP contract arrangements regarding OOH service provision and GP recruitment, retention and retirement challenges [89].

These challenges have been experienced across the world and as in Scotland, have been the main driver for implementing ANP roles in primary care in another 12 countries [77]. An additional driver has been the aspiration to develop clinical career opportunities for nurses. The nursing vision for Scotland acknowledged the need to prepare nurses for future healthcare needs and roles across the NHS, third sector and independent sector, to provide flexible, responsive services that, where appropriate, were nurse led [104]. By developing clear career opportunities, providing appropriate education and professional development, and enhancing governance arrangements, nursing can become an attractive life long career. The recruitment and retention challenges of GPs apply similarly to ANPs with the appropriate primary care experience, which has led to many health boards creating opportunities for their education.

6.2   Discussion

6.2.1   Substitution or transformation

This study found that the majority of ANP roles in primary care were substituting for elements of GP roles and had tended to develop based on what GPs were prepared to *'give away'* or felt ANPs were able to *'take on safely'*. This included management of same day consultation to make a differential diagnosis as well as urgent care - generally for minor illness or injuries. Whilst this had the benefits of relieving GP workload and allowing GPs to direct their skills elsewhere, for example managing patients with more complex healthcare needs, it does not necessarily support enhancement i.e. adding value to current roles, or transformation i.e. establishing a new service, of primary care. This, and the fact that clinical supervision was generally undertaken by GPs also gave rise to the perception that ANP role development was somewhat medically dominated. Nevertheless, there was also a perception that many of the roles the ANPs had taken over from GPs were in fact more relevant for nurses to undertake. Almost all informants believed that ANP roles were firmly within nursing's professional identity and were resistant to their medicalisation. An integrative review of the literature regarding autonomy of NPs in primary care also identified this [21].

There were some examples of services being enhanced or transformed such as the Collaborative Working for Immediate Care' in NHS Lothian, which provided same day appointments with advanced practitioners across the multi-disciplinary team. Likewise, there were examples of nurses using their enhanced roles to deliver care differently. An example of this was care home liaison in GG&C where ANPs were utilising their nursing competencies and enhanced decision-making skills to improve timeliness in the provision of anticipatory care, health promotion, treatment of minor illnesses, as well as supporting other nursing colleagues with expert nursing advice.

However, this study also found that the *'organic nature'* i.e. gradual and exploratory approach, to the introduction of ANP roles, was perceived by many key informants to be a beneficial approach to ANP implementation. This allowed tentative steps to be taken at a pace that was comfortable for all team members given that many ANPs in post were in training and GPs did not have experience of working with ANPs. ANPs needed time to develop their competencies and there was a common perception from key informants that GPs also needed time to gain confidence in the ANP role. Once a GP had worked with an ANP, they had a better understanding of the role and educational preparation and were keen to have an ANP in the team. This related to the literature review for this study that highlighted that it was 'what the individual brought to the role' i.e. experience, confidence, skills and knowledge base, that was one of the most common facilitators [12,15,17,19-24,28,32,34,37,41,43,45,48,51-53,55,56,60,66,67]. Additionally, a review of other studies suggested this trial and error type approach to implementing ANP roles was common and it was emphasised that the first year of ANP role implementation was one of transitioning towards the ANP fully occupying their scope of practice and developing autonomy. [22]

A number of key informants in this study reported resistance from some GPs and other nurses in the primary and community team. Perceptions of the reasons for this varied including lack of understanding of the ANP role and education level, and concerns about the effect on their own role. There were particular fears from GPs around erosion of their role and from NPs around devaluation of their role. These perceptions relate to one of the main challenges identified in the literature review namely 'team factors', including resistance, lack of awareness and acceptance from colleagues that ultimately creates difficulties for implementation of the ANP role [12,15,17-19,21-24,26,28,29,32,34,36,37,41,43,47,51-53,55,58,62,65-67].

There was recognition from many key informants in this study that introducing a new role into a team was likely to have an impact on the roles of all the team members however, the mechanisms used to address this were unclear. The literature suggests that role definition and planning at the team level has been used as an opportunity to reflect on current practice and model of care and to establish a shared vision for the team, whilst both the roles and the model of care needed to remain flexible. It was important that all team members practice to their full capabilities and contribute efficiently and effectively to patient management according to their expertise, whilst supporting and developing their own expertise and capabilities[22]. This approach would enable the primary care vision of an expanded work force to enhance integration and coordination with primary and community care. Additionally, planning which involves the team could potentially address enhancement or transformation of primary care services rather than substitution of one healthcare professional for another.

6.2.2   The autonomy of ANPs in primary care

The second most frequently reported challenge highlighted in the literature review related to 'Lines of Responsibility', which was associated with ambiguity about the role and scope of practice. This was associated with a lack of understanding from colleagues about the ANP role, which ultimately had a negative impact on implementation. Specifically, ANPs were restricted in their role and limited in their independence within their practice [12,13,15,17,19-29,32,36-38,40,41,45,47,48,52,53,56-59,63,66]. In addition, key informants from this study identified a lack of understanding of the ANP role that could affect their actual or perceived autonomy. The points made above regarding the benefits of a gradual and exploratory approach to the introduction of ANP roles were additionally relevant to this matter. This study found that ANP autonomy increased as GPs and ANPs developed confidence in, and experience of, the ANP roles.

The Scottish ANP definition, whilst recognising that ANPs work as part of a multi-disciplinary team, also clearly states that ANPs practice at a high level of autonomous decision-making [5]. Likewise, the NMC code facilitates a wide scope of practice including legislation that allows nurses to prescribe [6]. Key informants clearly recognised that ANPs were accountable for their actions although the view was that GPs had overall responsibility for the patients in their practice. This indication that GPs were prepared to hand over tasks but not responsibility for case management was echoed in a recent review of ANP experience in general practice [32]. By default, this again challenges the notion of autonomy. The issues of autonomy and prescribing rights were perhaps more relevant internationally, particularly in the USA where different legislation between States has resulted in Advanced Practice Registered Nurses having either full, partial or restricted autonomy. This is important, as levels of autonomy have been linked to patient outcomes. A statistically significant association has been found between the level of ANP autonomy and patient outcomes. States in the USA where NPs have full practice autonomy (able to assess, diagnose and prescribe) have lower hospitalisation rates in all examined groups and improved health outcomes in their communities[107]. Without full autonomy, ANPs may need to refer to GPs for decisions, resulting in less efficient and effective patient management

Another factor affecting perceptions of autonomy was the view that ANPs were protocol driven or 'good' at following guidelines. These views have both positive and negative connotations. Whilst many key informants recognised this as a good way of managing risk, and there was reliance on guidelines as both a learning tool and clinical decision support method, there was also the view that too many guidelines or too rigid an adherence to them could be counter-productive. GPs were perceived to have more flexibility in relation to guidelines whilst a view was expressed that if ANPs did not follow protocols

their professional body would not support them. It has been suggested that the use of protocols strengthens the boundaries between GPs and ANPs and potentially means ANPs may have a less legitimate foothold in primary care [32]. This warrants further debate as rigidly following a protocol or guideline when there is a clear indication that it may be inappropriate would be hard to justify.

Lack of patient acceptance of ANPs as independent practitioners can be a barrier to autonomy [21]. This study identified a range of perceptions relating to acceptance and resistance and it was reported that patients did not always know what an ANP was. Consequently, it was felt that whilst many patients valued their consultation, ANPs had to work hard to gain their respect. Others believed patients were happy to see any clinician who was able to resolve their problem. Additionally, there was a widely held view that the interpersonal communication skills of the ANPs were highly valued by patients. At the same time, many key informants perceived that ANPs undertook a thorough assessment and were holistic in their approach to patient care. This links to the key facilitator identified in the literature review that found that the skills and knowledge base that ANPs brought to the role supported implementation.

Ultimately, as multi-disciplinary teams expand, it will be important to inform patients about not only the different roles within the primary care team but also, who would be the most appropriate person for them to access. NHS Shetland believed that involving the public in supporting the development of the ANP role had been a key facilitator in their acceptance and promotion across the community, particularly important in rural and island communities.

This study also recognised that in remote and rural areas, ANPs potentially had a greater degree of autonomy as well as a wider scope of practice, often covering both traditional nursing roles and advanced nursing roles. There were specific challenges in terms of supporting all member of the multi-disciplinary team who might experience professional isolation. Preventing this requires improvements to infrastructure enabling access to expert clinical decision-making and on-going CPD.

6.2.3 Leadership and teamwork

The literature review revealed the most significant facilitators to ANP role implementation related to team factors including collaboration and positive, supportive relationship between ANPs and other health professionals, particularly doctors [12,15,17-19,21-24,26,28,29,32,34,36,37,41,43,47,51-53,55,58,62,65-67]. Key informants also highlighted the importance of positive team relationships between ANPs, GPs, and other nurses in primary and community care. Issues such as openness, trust and mutual respect were highly valued by ANPs particularly during their training. It has been suggested that positive teamwork can be developed through vehicles such as joint training and clinical care discussions.[22] There were good examples of this across Scotland, particularly in remote and rural areas.

Teams also needed to be supported. The literature review and the responses from key informants, confirmed the importance of leadership and supervision that included mentorship from doctors and support for learning. This study revealed that clinical supervision that mirrored GP training was valued. The enactment of clinical supervision however varied across Scotland, as did the level of funded study leave received by ANPs. This study also highlighted the value of support from an ANP supervisor or manager however, there tended to be a shortage of both nursing and medical clinical supervisors, which in part was due to the variable funding of ANP education and development.

The literature review also reported the importance of leadership at an individual, organisational and governmental level. The study recognised the importance of local leadership to support GPs and ANPs to implement ANP roles and educational initiatives. The well supported 'Academy' model contributed to leadership at an organisational and individual level by developing frameworks for ANP competencies, education and governance, in addition to providing CPD and peer networks for ANPs. New academies were being established across Scotland and their leadership roles were already expanding to address some of the challenges identified in this study such as supporting clinical supervision.

Similarly, national leadership had been both a driver and a facilitator particularly the TNMaHPR programme, which has provided leadership for initiating ANP role development across NHS Scotland through development of a clear definition and criteria for ANPs. In addition, government funding to support new education and development programs had also been key. The importance of support and facilitation for development and implementation is reflected in the international literature [77].

Ultimately, integrating ANPs into the primary care team is a dynamic and complex process. It needs to be both nationally and locally driven, focused on processes through which multi-disciplinary team roles are locally negotiated, and developed and evaluated, whilst at the same time supported by a national infrastructure to ensure consistent standards of education and governance and shared success across Scotland.

6.2.4 Impact of ANP roles

As ANPs take on more elements of the GP role it is important to acknowledge that the healthcare they have delivered is comparable to that of their GP colleagues. Evidence from the literature suggests that nurses with advanced competencies are capable of undertaking elements of the GP role. They are equally, or possibly, even better in the quality of the care they provide, and have higher patient satisfaction levels and similar utilisation outcomes i.e. no difference in number of prescriptions, investigations, or admissions than their GP colleagues [73,76,77,79,81,108].

This study suggests that ANPs have the capabilities to address current workforce and workload challenges, improving access and timeliness to primary care services. In NHS Highland, it was reported that local audits demonstrated that ANPs undertook 40% of OOH services whilst GPs undertook 60% (P20). In GG&C a local audit of a new service, where ANPs worked for a GP cluster and undertook selected home visits previously undertaken by GPs, reported that over an 8-month period the ANPs were able to undertake on average 32% of the home visits compared to 68% undertaken by GPs. This aligns with the vision for primary care of freeing up GP time. However, these evaluations were few and further evidence is required before linking this to patient outcomes.

Whilst this study found few evaluations of ANP role implementation there were indications that ANPs make appropriate clinical decisions and provide a positive patient experience. There was also a recognition in the literature that, whilst ANPs provided care that was of comparable quality at an equal or lower cost, it was in some ways different from that of the GPs [73]. The challenge was to identify why it was different. The greater length of consultation time for nurses compared to doctors was one suggestion [49]. Another was better patient education by ANPs [73]. Informants in this study highlighted the importance of the holistic care provided by the ANPs and there was a perception that ANPs possessed good interpersonal skills and patients felt more at ease with a nurse than a doctor. However, informants

found it difficult to articulate the differed in their approach, as they acknowledged that GPs also practice holistic care. More research around this is therefore required.

The roles of ANPs in primary care were still evolving and there was some way to go before the full impact on the multi-disciplinary team can be ascertained. The added challenge of isolating the impact of any one profession from another was perplexing, particularly when there were overlaps in competencies and when, ultimately, it was the primary care team working together where the greatest benefit to efficient and effective primary care as well as to staff satisfaction, will be shown.

6.3 Conclusion

This study set out to highlight Scotland's experience of implementing ANP roles in primary care to allow transferable lessons regarding what works, for whom and why to be shared both nationally and internationally. Whilst ANP roles and their integration into multi-disciplinary primary care teams in Scotland have not yet fully developed there are indications that with high standards of clinical compency development and effective supervision, ANPs can effectively substitute for elements of the GPs role. Additionally, if these roles focus on utilising the unique contribution that advanced nurse practitioner bring to the multidisciplinary team, there is potential to improve patient experience and outcomes. However there has been limited emphasis on measuring their impact which is required to evidence this.

The mechanisms that facilitated ANP role implementation included leadership at all levels, which enabled collaboration across health boards and general practice and within teams. Likewise, the development of these roles requires significant investment of resources and effort from GPs, nurse educators and ANPs themselves to ensure high standards of education and positive learning experiences. Likewise, it will take time to train ANPs and to change the primary care culture from one where the GP has traditionally been the first point of contact.

6.4 Key Recommendations

Key recommendations have been identified by the researchers in regard of ANP role, education and evaluation that could build on this progress and support the development of nursing roles to deliver the future primary care vision.

- ANP **role definition and planning** for new models of care should be used as an opportunity for primary care team members to reflect on current service redesign, establish a shared vision for the multidisciplinary primary care team taking into account local patient needs and consider how best to support patients in accessing the most appropriate healthcare professional for their needs.
- In order to reduce role overlaps, 'role erosion' and to help with ANP **succession planning**, new career pathways for all nurses in primary care and community settings should be developed to support and reflect their changing roles within the multidisciplinary teams and their advanced skills.
- Transparent **governance arrangements** for ANP should be developed across primary care to address perceived concerns regarding standards of practice and education.
- Those charged with funding the development of ANP roles should recognise and provide adequate **resources** to those providing **clinical supervision**.

- Those charged with funding the development of ANP roles should recognise and provide adequate resources for nurse trainee **study leave** and other learning opportunities.
- A structured competency-based education approach should extend to **continuous professional development** to ensure **maintenance of competencies**.
- **Outcome measures** relating specifically to the ANPs role require development to facilitate meaningful **evaluation** of ANP impact.

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Scottish School of Primary Care

Guidance for Case Site Leads
February 2017

Background

The Scottish Government (SG) Primary Care Transformation Fund (PCTF) has £20 million designated to new models of care in primary care, which is part of a £60 million fund covering additional aspects of care such as mental health, community pharmacy, and out-of-hours care. The PCTF and the Primary Care Mental Health Fund put out a joint tender to all Health Boards in February 2016 asking for bids for projects to start from April 2016 and to run for 2 years. The Scottish School of primary Care (SSPC) was awarded £1.25 million by the SG to help evaluate these new models of primary care.

Case sites/studies

There were over 60 bids submitted, and most of these were funded by SG. Clearly, it's not possible to evaluate all of these in detail, so we have agreed with SG that we will take a case study approach (which member Universities will carry out), together with an overview of all projects as they move forward (which SSPC core team will carry out). The SG has asked us to take blended approach to the case studies, by looking in detail at all new models of care activities within certain Health Boards (Lanarkshire, Ayrshire & Arran, Tayside, Highlands), and by also looking at two themes (Advanced Nurse Practitioners and MSK Physiotherapy) across the whole of Scotland.

What will each case study do?

For the case studies that are Health Board based, the case study will be a 'deep dive' into all activities that relate to new models of primary care within the Health Board region, to unpick what is happening in terms of primary care transformation and new models of care. This will include the specific projects funded by the primary care transformation fund but may also extend beyond this into other initiatives funded by the primary care mental health fund, and other initiatives that broadly relate to primary care and integration. The funder, having put substantial monies into primary care through a variety of projects and approaches, simply wants to know what seems to be working well and why, what doesn't and why, and what the 'best bets' might be for future investment and the roll out of particular models. Clearly, much of this will also be context specific – what is working well in one board may not be working so well in another. We need to understand and describe this.

For case studies that are theme based (MSK and ANP) then the approach is to find out what is happening in that theme across Scotland. Clearly, there may be some overlap between this and the case sites, and we will need good communication between the different teams via the core team to share learning and avoid duplication. Thus, we will have regular meetings of all the site evaluation leads and researchers with the SSPC core team.

The aim is to 'tell the story' of the new models of primary care as far as we can within the timeframe. Thus, much of the focus will require scoping, interviewing key informants, collating and analysing key documents, assessing what evaluations are being conducted by the projects themselves, what the quality of these are, what they show, and so on.

Evaluation Framework

The evaluation framework proposed by SSPC core team consists of two phases; first the identification of the new models of primary care projects being funded by the Scottish Government (SG) across Scotland, what their components are, how they are expected to work (theory of change) and what the expected short, medium and long-term impacts or outcomes are. The second phase consists of identifying the impacts, learning, spread and sustainability. This approach is drawn from the evaluability literature, and in particular from the 'ten steps' approach described by the Evaluation Centre for Complex Health Interventions at the University of Toronto, a recognised International centre of excellence in evaluating complex interventions. (http://www.torontoevaluation.ca/evaluatingcomplexity/index.html)

Because many of the new models of primary care projects have now started, some of the questions below will need to be adapted or modified. It should be regarded as a core guide, but it may be important to add other questions depending on the context of the case study. In some cases, phase 1 and phase 2 questions may need to be asked at the same time, if longitudinal follow-up is not possible.

> **Phase 1: Intervention Theory and Expectations of Impact**

> **Phase 2: Impacts, Learning, Spread and Sustainability**

Phase 1: Intervention Theory and Expectations of Impact:

The key questions include:

- What are the new projects and how do these build on previous work?
- Have the intervention/projects been designed, developed or adapted to the specific context of the local area? If so, how has this been done?
- What are the key components of the different interventions/projects?
- Are these likely to change over the life of the intervention?
- What are the expected impacts in the short, medium, and long-term? (if not raised ask specifically about reducing inequalities, dealing with multimorbidity or ageing patients and effects of staff (including GP workload)
- How do the stakeholders think these impacts are going to be achieved?
- What is the evidence to support this?

➢ Who are the key stakeholders in terms of future sustainability and spread and what evaluation information do they require?

Phase 2: Impacts, Learning, Spread and Sustainability

The key questions include:

➢ What impact(s) has the intervention/project/programme had, in relation to the expected impacts?

➢ Has the intervention, and the expected impacts changed over time?

➢ Have there been any unintended negative consequences?

➢ What is the key learning that needs to be shared?

➢ Which interventions seem worth scaling up and spreading?

➢ How easily can these be implemented?

➢ How sustainable are these likely to be in the long-term?

The evaluation thus takes quite a developmental approach, working closely with NHS colleagues, and giving advice and support to them as issues emerge. For example, patient feedback is required by SG to be collected by the NHS staff in the pilots, and they may need advice as to what measures to use. We do not have the resources to do the data collection for them, but we may be able to give advice. Such requests should be shared via the core SSPC team, so we can coordinate responses. In terms of routine data use, Bruce Guthrie will be leading on this across sites.

Methods

Much of the analysis will be from interviews and documents and will be mainly qualitative. Given the diversity of information and sources we suggest a thematic approach to analysis is the simplest and quickest way to analyse the data, based on the Framework Approach. It may not be necessary to transcribe every interview, which is acceptable within the Framework Approach. Much will depend on the content and depth of the interviews of course. However, the evaluation framework and questions above should form the backbone, and our early analysis in Inverclyde suggest that it works reasonably well.

SSPC National PCTF Evaluation
Advanced Nurse Practitioner Case Study

Review title

A systematic scoping review of the challenges and facilitators to the implementation of the Advanced Nurse Practitioner (ANP) role in primary care settings.

Actual start date	**Anticipated completion date**
7 July 2017	31 August 2018

REVIEW TEAM

Organisational affiliation of the review

Glasgow Caledonian University[1]; University of Stirling[2]; Imperial College Healthcare NHS Trust

Review team members and their organisational affiliations

Dr Maggie Cunningham[2], Ms Claire Torrens[2], Dr Heather Strachan[2], Dr Gaylor Hoskins[2] Dr Pauline Campbell[1], Professor Mary Wells[3], Ms Hannah Bottone[2], Mr Rob Polson[2], Professor Margaret Maxwell[2]

Funding sources/sponsors

The University of Stirling has been funded by the Scottish School of Primary Care (SSPC) on behalf of the Scottish Government.

REVIEW METHOD

Review question

What are the factors (challenges and facilitators) that affect the implementation of the ANP role in primary care settings?

Searches

We will systematically search the following electronic databases: Cochrane Library, EBSCO: CINAHL, EBSCO: Health Business Elite, Kings Fund Library, Ovid HMIC, Ovid Medline, SCOPUS, Web of Science. These were chosen, in accordance with the recommendations of the Cochrane library, the York Centre and Campbell Collaboration (Box 1). The reference lists of all included studies will also be searched.

Box 1 Rational for electronic database for literature searches

Source	Rationale
Cochrane Library	A collection of databases containing high quality evidence. The CDSR is a leading resource for systematic reviews in health care. CENTRAL is a source of randomised and quasi-randomised controlled trials.
Ovid Medline	Biomedical and life sciences journal 'of value to students, staff and researchers in the fields of nursing, allied health and health sciences.'
Ovid HMIC	Healthcare management and policy database.
SCOPUS	Abstract and citation database of peer-reviewed literature the fields of science, technology, medicine, social sciences, and arts and humanities.

EBSCO	A collection of databases and full text e-journals relating to business, education, healthcare, management and nursing and allied health.
CINAHL	Key resource for nursing and allied health professionals, students, educators and researchers. Indexes journals from the fields of nursing and allied health.
Web of Science	Platform connecting to regional citation indexes, patent data, specialized subject indexes, and an index of research data sets in the sciences, social sciences, arts and humanities
Health Business Elite	Resource for healthcare administration and other non-clinical aspects of healthcare institution management.
Kings Fund Library	Resource for information on health and social care policy and management.

Abbreviations: CDSR – Cochrane Database of Systematic Reviews, CENTRAL – Cochrane Central Register of Controlled Trials, HMIC- Healthcare Management Information Consortium

A comprehensive search strategy will be developed by combining key terms using a series of free text terms and MESH terms for Advanced Practice Nursing <u>AND</u> Primary Care. We will use Boolean operators, and appropriate '*wild cards*' to account for plurals, and variations in databases and spelling.

Searches will be limited to English language only publications published between 1 January 2002 (the health policy climate/ nursing substantially changed in the early 2000s consequently papers published prior to 2002 are considered irrelevant to this search) and 7July 2017.

Condition or domain being studied
In this review, we used the following operational definition to support the application of the selection criteria:

 '*A Nurse Practitioner/ANP is a registered nurse who has acquired the expert knowledge base, complex decision-making skills and clinical competencies for expanded practice, the characteristics of which are shaped by the context and/or country in which s/he is credentialed to practice*.' [1].

Participants/population
An iterative team approach was employed, using the methodological steps outlined by Arksey and O'Malley [2], to reach consensus on how best to define and operationalise the ANP role within this review. Following consensus discussions, the following populations of nurses who are working in general practice and in other primary care settings were included:
- nurse practitioners
- advanced practice nurses
- ANPs
- advanced nurse practitioners
- advanced district nurses
- advanced community nurses.

We will exclude studies of other types of nurses working in primary care settings such as clinical nurse specialists, midwives and health visitors. We also plan to exclude studies where it is not possible to

clearly judge the population involved (i.e. where the professional group are not clearly described, or involve mixed participants).

Intervention(s), exposure(s)

We will include all studies that meet with our study design criteria and report challenges and/or facilitators to the implementation of the ANP role in primary care settings.

Types of study to be included

We will include peer-reviewed publications quantitative and qualitative studies that are published in English and for which the full texts were available.

We plan to include the following study designs	We will not include the following study designs
• qualitative studies • cross-sectional studies • randomized controlled trials • non-randomised controlled trials • mixed methods studies • reviews in which the search strategy and selection criteria is clearly reported	• single case studies • PhD theses • editorials or commentaries • literature reviews which do not clearly report the search strategy and selection criteria

Context

For the purpose of this review primary care is defined as:

> *'Primary care provides access to care at the right time when it is required and secures on going care in the community and continuity of relationships, where this is important. In addition to General Practices, primary care services covers: community services – including: district and community nursing, mental health and dental services, community pharmacies, optometrists - and for effective health and social care integration - social care services, third and independent sector provision'* [3, page 10].

Secondary care relates to healthcare undertaken by someone who has particular clinical expertise and where most people go when they have a health problem that cannot be dealt with in primary care because it needs more specialised knowledge, skill or equipment than is available to the GP. It is often provided in a hospital.

Studies that have mixed settings, e.g. primary and secondary care, will only be included if the results related to primary care can clearly be identified from the overall findings. Studies in which the ANP role is reported and which involve the delivery of care or interventions delivered in other settings (e.g. secondary care, studies solely in NHS 24) will be excluded.

Primary outcome(s)

Facilitators and challenges to implementation of the ANP role in primary care settings.

Data extraction (selection and coding)

Study selection:

One review author will read the titles of the identified references and eliminate any obviously irrelevant studies. One reviewer will screen all of the abstracts ranking them as relevant, irrelevant or unsure. A

second reviewer will double screen a 10% random sample of the abstracts and any disagreements in their ranking will be resolved through discussion involving a third reviewer if required. Studies ranked as irrelevant will be excluded. The full text of the remaining studies will then be obtained and screened for relevance. Full text screening will be conducted independently by two review authors with a third resolving any differences.

Data extraction and coding:
A standardised, pre-piloted form will be used to extract data from the included studies for assessment of study quality and evidence synthesis.

We will extract the following information:
- study characteristics (author, date of publication, country, aims, study design)
- study population
- participant demographics
- study setting
- description of the ANP role (including, education and development, length of time in role, any role development)
- where relevant, we will extract information about any comparison conditions
- details about any interventions delivered to or delivered by the ANP will be profiled using TiDIER guidelines [4].
- outcomes and outcome measures
- any other relevant implementation factors
- key findings

We plan to use a deductive approach to identifying and coding challenges and facilitators using a predefined list of factors based on the Yorkshire contributory factors framework [4]. Data (challenges or facilitator or lever) identified that does not fit into any of the predefined codes will be coded as 'other' and we will use inductive coding approach to develop themes and subthemes from this additional data.

One review author will extract data, and these will be cross-checked by another member of the review team. Any ambiguity identified will be resolved through discussion with other members of the review team. Missing data will be requested from study authors.

Risk of bias (quality) assessment
One review author will independently assess the risk of bias of included studies using the Mixed Methods Appraisal Tool (MMAT) [5] or CASP tool [6] dependent on study design. The outcome of this will be independently cross-checked by another member of the review team. Disagreements will be resolved by discussion, with involvement of a third review author where necessary.

Strategy for data synthesis
Descriptive data will be tabulated within evidence tables. Key findings will be brought together within a narrative synthesis. Due to the potential heterogeneity between studies and outcomes, we do not plan to conduct a meta-analysis. This review contributes to a case study of the implementation of ANP roles in primary care in Scotland. Consequently, the findings of the review will be synthesised with the other findings of the case study using a framework synthesis [7], based on the programme theory developed as part of the case study.

Dissemination plans

We plan to present the review at an appropriate conference (primary care or nursing) and submit a paper to a leading journal in this field (e.g. Journal of Advanced Nursing).

Keywords

ANP, Primary Care, Implementation, Challenges, Facilitators

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The Evaluation of the Implementation of Advanced Nurse Practitioners in Primary Care
Participant Information Sheet for Interviews

The Nursing Midwifery and Allied Health Professions Research Unit at the University of Stirling has been asked by Scottish School of Primary Care (SSPC) on behalf of The Scottish Government to undertake an evaluation of the implementation of Advanced Nurse Practitioner (ANP) Roles in Primary Care. _It is important to note that this evaluation is independent_. You are invited to participate in the evaluation. Before you decide if you would like to take part, please read the following information that tells you more about what this involves.

Why have I been chosen?
You have been identified as a key stakeholder involved in introducing, implementing and evaluating ANP roles in Primary Care. Your views will help us to better understand how these new roles are working and what lessons have been learned about their implementation and long term sustainability.

Do I have to take part?
The study is voluntary and you do not have to take part. If you do decide to take part, you will be asked to sign the study consent form (copy enclosed). You will be free to withdraw consent at any time, and you do not have to provide a reason for not wishing to continue.

What is the aim of the evaluation?
The evaluation aims to identify current experience of introducing, implementing and evaluating existing and new ANP roles in Primary Care. Ultimately, we are seeking to identify what has worked well, to identify areas that might be improved (if any), and if the models of care supported by these roles are sustainable more widely.

What will be involved if I take part?
If you do agree to take part, a researcher will interview you. The interview is expected to last about an hour. You will be asked at the beginning of the interview if you have any questions about the study and, with your permission, we will record the interview to ensure that we retain an accurate account of the discussion. If you do not wish the interview to be audio recorded please indicate this to the researcher and omit this part of the consent form. Depending on the timing of this interview, you may be asked to participate in a second interview to provide an update. You will also be asked for any relevant documentation that relates to the implementation of ANP roles. This might include: service and training needs analysis, Primary Care strategies, quality strategies, education curriculum, clinical supervision policy.

Will my taking part in this study be kept confidential?
Our discussion will remain confidential. When we use the information from the interviews in publications and reports, no names will be mentioned. However, some participants may be easier to identify due to their unique or key role. In recognition of this, before using quotes that may be attributable we will check that you are happy for us to include that quote in the report. We will ensure that any potentially contentious views will not be attributable to individuals or organisations. Paper and electronic personal data will be destroyed 3 months after completion of the study. All other data will be archived for 10 years.

Why should I take part in the evaluation study?
Your views are important to finding out how ANP roles contribute to new models of Primary Care and meet service users' health and social care needs and improve the quality of that healthcare. Additionally, your views will help to inform ongoing and future Advanced Nurse Practitioner development and implementation in relation to workforce planning, education, governance and quality improvement arrangements.

What will happen to the results of the evaluation study?
The evaluation team at the University of Stirling will use the results from the interviews. Anonymised information will be shared with the evaluation teams who are part of the Scottish School of Primary Care evaluation. All the results will be gathered into a report to provide feedback to stakeholders. We will also submit findings for publication in academic journals.

Who is organising and funding the evaluation study?
The study is being led by Scottish School of Primary Care at the University of Glasgow who has been funded by The Scottish Government. The University of Stirling's Ethics Committee has approved the study.

Would you like more information?
More information about the study is available from: Dr Heather Strachan, Research Fellow, University of Stirling, Tel: 01786 466102, email: heather.strachan@stir.ac.uk or Dr Gaylor Hoskins, Clinical Academic Research Manager, University of Stirling, Tel: 01786 466429, email: gaylor.hoskins@stir.ac.uk
An independent advisor, Associate Professor, Fiona Harris, who is not part of the evaluation team, has also been appointed to give impartial advice or to discuss any complaints in relation to the conduct of this study. The contact details for Fiona are Tel: 01786 466104 e-mail: Fiona.Harris1@stir.ac.uk

The Evaluation of the Implementation of Advanced Nurse Practitioners in Primary Care Consent Form

Researcher: Dr Heather Strachan

Please initial box

1. I confirm that I have read and that I understand the Participant Information Sheet (09/11/17, Version 1.4) for this study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time during the study period, without giving any reason. If I decide to withdraw from the study before its completion, I understand that my data will be not be used.

☐

3. I understand that the data I provide will be depersonalised and that electronic versions of these will be stored on password protected computers in the University of Stirling.

☐

4. I understand that if some of my views are quoted in a report or published papers; this will be done in a way that ensures that I cannot be identified. If this is not possible my permission will be sought or my quotes will not be used. We will ensure that any potential contentious views will not be attributed to individuals.

☐

5. I understand that, subject to my permission, the interview will be audio recorded for the purpose of the study and that any recordings will be destroyed at the end of the study. Depersonalised transcripts of the recordings will be kept for a period of 10 years to ensure accurate reporting in any future publications.

☐

☐

6. I agree to take part in the above study.

Name	Date	Signature

Name of Researcher taking consent	Date	Signature

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Organisational View

Introduction – The evaluation objectives are:

- **To determine the healthcare needs that will be met by the ANP in relation to the model of Primary care.**
- **To identify how the case for change was developed and the clarity of ANP role in meeting these healthcare needs.**
- **To assess main challenges and facilitators to implementing ANPs in Primary care**

I would like to start by asking you some questions about how the Practice/Health and Social Care Partnership/NHS Board came to be involved in the ANP role(s) development opportunity.

Background –

- I just want to clarify that we are discussing ANP roles in primary care.

  (Identify how many ANPs in Primary care. Are these ANP role(s) new or did it build on current roles? How many new ANP/enhanced roles are being planned/implemented?)

Brief History –

- What is your connection with the ANP project?

  (Clarify the interviewee's role e.g. champion, manager etc. Did they initiate idea? Have they been involved in developing new ANP roles in the past?)

Driver for new ANP role –

- What is the main reason for introducing the ANP role?

  (Prompts, if necessary, drivers may relate to service improvement/reducing cost/recruitment issues/new models of care. If multiple reasons given, which was the most important?)

Past/Current and New Model of Care –

- What was the model of care before the ANP was introduced and how does it now differ?

  (Explore ANP role, services and intervention, e.g. client group, setting, explore what new activities the ANP does and their increased scope of practice, examine how this new role affects other team members. Were any other service developments essential to the ANP development?)

ANP role competencies, knowledge and skills –

- What general and specific knowledge and skills does the ANP require?

  (Explore this in relation to Clinical assessment/diagnosis/ treatment/ admission/discharge/referral. What additional skills have been most frequently identified? How are the four pillars of advance practice undertaken? Who undertook this role before? Are there any other staff that do or could undertake these roles? What is the added value of this role being undertaken by a nurse?)

Challenges and Facilitators –

- What have been the main challenges or facilitators when it comes to implementing ANP roles in primary care?

(Explore challenges and facilitators related to introduction, implementation and evaluation? Were there any solutions/tools/activities that were particularly useful?)

Expected impact –

- What are the short, medium and long term goals? What are the expected impacts of these new roles?

(Explore the impacts for different stakeholders i.e. the organisation/service users/staff. Explore how that impact might change over time i.e. short/ medium/long-term. This might include: quality of care e.g. improved access, improved safety; improved health outcome e.g. patient and family experience, enhancing self-care; organisational e.g. save money, improved recruitment)

Stakeholders –

- Who raised the idea of the ANP role?
- Who was involved in the development of the roles/models of care?

(Explore who has been involved, if it has been championed by any particular person, check involvement of other disciplines e.g. HR, staff, representative service users, and how these were involved e.g. steering groups)

Useful planning tools –

- Did you utilise any particular planning tools? What infrastructure has been required to support ANP implementation?

(Explore if a service needs analysis, business plan or workforce planning tools has been used)

Cost of implementing –

- How were the costs, funding and revenue opportunities identified and assessed?

(Explore what costs were identified in relation to role, education, travel equipment and how they were funding)

Implementation – The evaluation objectives are:

- **To develop an understanding of the potential supply of ANPs required to meet current and future service demands.**
- **To identify how the educational and development needs of ANPs are being met.**
- **To explore the appropriate governance structures to ensure safe, effective and efficient use of ANP role(s).**

I want to ask some questions about implementation of the ANPs in relation to recruitment and training.

Recruitment –

- What sort of recruitment procedures were undertaken?

(Explore whether ANPs were recruited internally or externally, if any specific groups were targeted and what recruitment methods were used e.g. adverts, nominations. How many responded and were shortlisted/recruited? Were they experienced staff or novices suitable for development?)

Education and Training –
- How were the educational requirements for this role identified and what educational tools and solutions are available to meet these?

(Explore what general and specific education was required e.g. clinical examination, decision-making, advanced practice, specialised topics? How were the educational requirements for the individual identified? How many of these educational needs were bespoke and how many could be met by core existing training e.g. university modules? What were the methods of delivering this education e.g. electronic, distance, local? How are competencies assessed? What level of qualification will be achieved?)

Supervision and Continuous Professional Development –
- What models of clinical supervision and ongoing support are in place for these roles?
- How is CPD organised and evidenced?
- Have arrangements for succession planning been made*?*

(Explore how often clinical supervision is undertaken, in what form and by whom. What access is there to CPD and keeping clinical skills up to date? How is this funded?)

Accountability and Responsibility –
- What are the lines of responsibility and accountability?

(Explore clinical, managerial and professional accountability and reporting arrangements. How does the role integrate with the healthcare team? Identify how quality of care is assured and by whom e.g. supervision, record audits, clinical audit, risk management?)

Legislation, Regulation and Policies –
- Are there any legislative or regulatory issues for clinical practice accountability and if so, how might these be addressed?

(Explore potential issues in terms of scope of practice/revalidation/prescribing, admission/discharge/referral. Did any new policies or protocols need to be developed to address any specific issues?)

Evaluation and Sustainability – The evaluation objectives are:
- **To identify what impact the ANP role(s) have had on the organisation, team, service users and their families and the ANPs themselves.**
- **To explore what measures are in use or could be used to evaluate the success of future ANP roles.**
- **To assess long term sustainability of the roles.**

I want to ask some questions about the evaluation of the ANP role(s) in relation to what has been successful or less successful and how you evidenced this

Impact –
- What does success look like to the organisation, team, service user and practitioner and was this achieved?

- Were there any unintended consequences either good or not so good?
- What evaluation measures were used or proposed?
- Has the ANP role/impact changed over time?

(Explore the impact; what positive and negative issues have been identified and how these have been measured or evidenced? Was the expected impact achieved? Has an ongoing evaluation been considered?)

Challenges and Facilitators –
- What have been the main challenges or facilitators when it comes to implementing ANP roles in primary care?

(Explore challenges and facilitators related to introduction, implementation and evaluation? What has been the key leaning that needs to be shared? Were there any solutions/tools/activities that were particularly useful?)

Long term goals –
- How sustainable are the implementation roles in the future? Do you see ANP roles expanding or developing in a different direction in the future?

(Explore what would be done differently in terms of introduction, implementation and evaluation. Identify if more ANPs will be employed and it is likely that ANP roles will change in the future and if so in what sort of capacity. If not, why not?)

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Code Number	Contributory Factors	Definition
1	ACTIVE FAILURES	Any failure in performance or behaviour (e.g. error, mistake, violation) of the person at the sharp-end (the health professional) that could affect implementation.
2	COMMUNICATION SYSTEMS	Effectiveness of the processes and systems in place for the exchange and sharing of information between staff, patients, groups, departments and services. This includes both written (e.g. documentation), verbal (e.g. handover) and electronic (e.g. pager, email) communication systems
3	EQUIPMENT AND SUPPLIES	Availability and functioning of equipment and supplies
4	EXTERNAL POLICY CONTEXT	Nationally driven policies / directives that impact on the level and quality of resources available to hospitals
5	DESIGN OF EQUIPMENT AND SUPPLIES	The design of equipment and supplies to overcome physical and performance limitations
6	INDIVIDUAL FACTORS	Characteristics of the person delivering care that may contribute in some way to active failures or providing effective care. Examples of such factors include inexperience, stress, personality, attitudes
7	LINES OF RESPONSIBILITY	Existence of clear lines of responsibility clarifying accountability of staff members and delineating the job role. Staff members have clear understanding of roles and responsibilities
8	MANAGEMENT OF STAFF AND STAFFING LEVELS	The appropriate management and allocation of staff to ensure adequate skill mix and staffing levels for the volume of work
9	PATIENT FACTORS	Those features of the patient that make caring for them more difficult and therefore may impact implementation. These might include abnormal physiology, language difficulties, personality characteristics, attitudes, preferences (e.g. aggressive attitude)
10	PHYSICAL ENVIRONMENT	Features of the physical environment that help or hinder implementation. This refers to the layout of the services, a rural or urban setting, the fixtures and fittings and the level of noise, lighting, temperature etc.
11	POLICY AND PROCEDURES	The existence of formal and written guidance for the appropriate conduct of work tasks and processes. This can also include situations where procedures are available but contradictory, incomprehensible or of otherwise poor quality
12	QUALITY & SAFETY CULTURE	Organisational values, beliefs, and practices surrounding delivering safe and quality care and having the systems and structures in place to evaluate quality and manage safety.
13	SCHEDULING AND BED MANAGEMENT	Adequate scheduling to manage patient appointments and throughput minimising delays and excessive workload
14	STAFF WORKLOAD	Level of activity and pressures on time

15	SUPERVISION AND LEADERSHIP	The availability and quality of direct and local supervision and leadership
16	SUPPORT FROM CENTRAL FUNCTIONS	Availability and adequacy of central services to support the functioning of wards/ units etc. This might include support for IT, HR, estates and other clinically relevant services (e.g. pharmacy)
17	TASK CHARACTERISTICS	Factors relating to specific patient related tasks which may make individuals vulnerable to error or enhance quality of care (e.g. providing care to complex patients in challenging environments)
18	TEAM FACTORS	Any factor related to the working of different professionals within a group which they may be able to change to improve communication or safety (e.g. team culture across professions/ specialties) and collaboration/ relationships.
19	TRAINING AND EDUCATION	Access to correct, timely and appropriate training both specific (e.g. task related) and general (e.g. organisation related)

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Contexts - What are the social, economy and political structure, organisational context, participants, geography and history that might influence outcomes?	Mechanisms - What are ANPs doing (intervention) and what reasoning and resources will enable the intervention to work?
POLITICAL External policy context driving change - Transforming Nursing Roles Programme has provided clarity on definition of ANP roles nationally	INTRODUCTION Communication systems - Engaging relevant stakeholders to understand role of ANP supports the acceptance of new models of care
POLITICAL External policy context driving change - Primary care transformation and workforce challenges and opportunities encouraging primary care teams to think about different ways of delivering the service	IMPLEMENTATION Resources to make change happen - National and NHS Board funding made available to enable the education and development of ANPs in Primary Care
PROFESSIONAL Professional policies and procedures - NMC code and non-medical prescribing enable nurses to work at a high level of autonomous decision-making	IMPLEMENTATION Training and Education - Academic education, competency development and clinical supervision enable ANPs to develop confidence and competency as senior clinical decision makers
PRIMARY CARE External policy context - Urgent and OOH Care review champions the contribution of ANPs in Primary Care	IMPLEMENTATION Supervision and leadership – Availability of clinical supervisors to support work based learning and assessment of ANPs competencies.
PRIMARY CARE Physical environment - Different nature of rural and urban localities affects model of primary care and ANP roles	EVALUATION Quality and Safety Cultures – Governance systems and indicators to monitor service quality and measure success of change

Outcomes -What impact (both intended and unintended) do ANP roles have on different stakeholders?
Primary Care Team - Increase flexibility and mobility for multi-disciplinary teams to deliver the right care in the right setting to meet service user's needs.
ANPs - ANP roles offer experienced nurses educational opportunities, a clinical career pathway and a high level of job satisfaction.
Service users - ANPs improve: access and timeliness to primary care services, coordination and continuity of care and reduced hospital admissions
Service users – ANPs provide person centred care that supports an excellent patient and family experience
Organisation – ANPs provide sustainable, efficient, effective high quality primary care services

Appendix H Contributing Factors (Facilitators) with examples from included studies
(adapted from the Yorkshire Contributory Factors Framework[66])

	Contributory Factors	Definition	Number of Studies (References)	Examples of Facilitators
1	ACTIVE FAILURES	Any failure in performance or behaviour (e.g. error, mistake, violation) of the person at the sharp-end (the health professional) that could affect implementation.	0	Not reported
2	COMMUNICATION SYSTEMS	Effectiveness of the processes and systems in place for the exchange and sharing of information between staff, patients, groups, departments and services. This includes both written (e.g. documentation), verbal (e.g. handover) and electronic (e.g. pager, email) communication systems	12 [12,17,22-24,32,42,50,52,53,66,67]	*'Various communication methods were used to make up for the lack of direct interactions between nurse practitioner (NP) and medical practitioner including an internal messaging system and informal face-to-face conversations, described as 'talk in the corridors' or a 'chat over coffee'...'* (Schadewaldt, 2016, p9) [53]
3	EQUIPMENT AND SUPPLIES	Availability and functioning of equipment and supplies	1 [65]	*'The positive correlation found between resources and the variable of physician oversight (r = 0.131, p = .038) may represent Advanced Practice Registered Nurses finding physicians a source of support to enhance availability of items needed to provide patient care...'* (Petersen, 2015, p368) [65]
4	EXTERNAL POLICY CONTEXT	Nationally driven policies / directives that impact on the level and quality of resources available to hospitals	13 [22-24,30,38,39,42,50,52,54,60,61,65]	*'Participants raised health reform activities as important for primary health care change. In particular, the positive policy environment at the time of the study was seen to be a particular enabler for developing nurses' roles in primary care.'* (McKenna, 2015, p185) [42]
5	DESIGN OF EQUIPMENT AND SUPPLIES	The design of equipment and supplies to overcome physical and performance limitations	0	Not reported
6	INDIVIDUAL FACTORS	Characteristics of the person delivering care that may contribute in some way to	25 [12,15,17,19-24,28,32,34,37,41,43,45,48,51]	*'Both patients and staff expressed the view that the perceived success of the nurse practitioner role may have as*

		active failures or providing effective care. Examples of such factors include inexperience, stress, personality, attitudes	-53,55,56,60,66,67	*much to do with the individual NP as with the actual role. One patient expressed quite clearly the view that while the NP service was currently meeting the needs of patients, this might not be the case with any other NP.'* (Perry, 2005, p257) [45]
7	LINES OF RESPONSIBILITY	Existence of clear lines of responsibility clarifying accountability of staff members and delineating the job role. Staff members have clear understanding of roles and responsibilities	16 [15,22-24,26,34,37,38,42,48,52,58,64,66,67]	*'What emerged from the focus group material was a very clear sense of a division of labour between GPs and nurse practitioners. For nurse practitioners, participants tended to report that they would be happy to see them for 'minor' or 'everyday' health concerns. For reasons of providing context what tended to count as 'minor' were things like coughs colds, sore throats, dealing with minor wounds and triaging.'* (Parker, 2013, p39) [66]
8	MANAGEMENT OF STAFF AND STAFFING LEVELS	The appropriate management and allocation of staff to ensure adequate skill mix and staffing levels for the volume of work	2 [23,42]	*'Participants expressed ongoing issues regarding attractiveness of nursing careers in general practice. General practice is increasingly emphasised as a source of care for the growing ageing population and rising chronic and complex health needs. However, finding the numbers of sufficiently skilled nurses was seen as a key factor in managing existing nursing workloads in primary care, let along expanding to advanced roles.'* (McKenna, 2015, p185) [42]
9	PATIENT FACTORS	Those features of the patient that make caring for them more difficult and therefore may impact implementation. These might include abnormal physiology, language difficulties, personality characteristics, attitudes, preferences (e.g. aggressive attitude)	13 [18,20,23,24,31,32,35,37,38,45,48,63,66]	*'The view that the NP was providing care that met the needs of the patients was held by both staff and patients and was expressed in a number of ways. Patients often describe feeling 'reassured' following a consultation with the nurse practitioner.'* (Perry, 2005, p258) [45]
10	PHYSICAL ENVIRONMENT	Features of the physical environment that help or hinder implementation. This refers to the layout of the services, a rural or urban setting, the fixtures and fittings and the level of noise, lighting,	14 [12,14,22,24,32,34,42,47,52-54,63,65,67]	*'So if you have somewhere where people can sit down and have that meal together or morning tea together or somewhere to sit, that enhances collaboration' (NP). Observations confirmed that communication and lunch breaks were significantly longer and more common where*

		temperature etc.		*participants had the opportunity to sit down together.'* (Schadewaldt, 2016, p10) [53]
11	POLICY AND PROCEDURES	The existence of formal and written guidance for the appropriate conduct of work tasks and processes. This can also include situations where procedures are available but contradictory, incomprehensible or of otherwise poor quality	6 [17,24,31,32,36,59]	*'The advanced practice nurses expressed that great care was taken in meticulously following the guidelines delineating their role, whereas the GPs were described as being quite careless regarding the matter, an observation noted by the GPs themselves.'* (Lindblad, 2010, p72) [36]
12	QUALITY & SAFETY CULTURE	Organisational values, beliefs, and practices surrounding delivering safe and quality care and having the systems and structures in place to evaluate quality and manage safety.	4 [17,25,31,66]	*'NPs are able to address many problems per visit, which is in contrast to some physician-based practices where patients are only able to address one issue per visit (CPSO 2011). Each clinic has some form of "same-day" appointments and extended hours for at least one day per week to help increase availability of care. These features have contributed positively to the quality of care for patients with diabetes and multimorbidity at* nurse practitioner-led clinics *and exemplify the Ontario Government's mandate for patients to receive quality care in a timely manner* ('Heale, 2016, p41) [31]
13	SCHEDULING AND BED MANAGEMENT	Adequate scheduling to manage patient appointments and throughput minimising delays and excessive workload	2 [18,53]	*'…To enable team meetings and manage the business of clinicians, one practice introduced a rule that no patients would be booked over lunchtime and all staff could meet during lunch.'* (Schadewaldt, 2016, p9) [18,53]
14	STAFF WORKLOAD	Level of activity and pressures on time	9 [15,17,18,22,45,52-54,66]	*'In addition, increased access was spoken of in terms of the variety of times during the day at which the nurse practitioner was available for consultation. Her appointments continued throughout the day, rather than following the traditional pattern of morning and afternoon surgeries.'* (Perry, 2005, 257) [45]
15	SUPERVISION AND LEADERSHIP	The availability and quality of direct and local supervision and leadership	19 [12,20,22-24,26,33,34,36,47,48,50,51,56,62-64,67,69]	*'The importance of mentoring was evident with most mentors being GPs or NPs. One said 'I was mentored for a year by GP who is now teaching general practice. This was invaluable.'….I have been encouraged to explore this role*

				with the view to becoming more clinically competent and developing more skills in assessing and diagnosing'.' (Carryer, 2011, p25) [20]
16	SUPPORT FROM CENTRAL FUNCTIONS	Availability and adequacy of central services to support the functioning of wards/ units etc. This might include support for IT, HR, estates and other clinically relevant services (e.g. pharmacy)	2 [23,47]	*'Receiving clerical support'* (De Guzman, 2010, p310) [23]
17	TASK CHARACTERISTICS	Factors relating to specific patient related tasks which may make individuals vulnerable to error or enhance quality of care (e.g. providing care to complex patients in challenging environments)	5 [19,23,37,43,59]	*'Instead there was' GP overlap…and to enable this to occur, nurse practitioners had "confidence in the exploratory" in other words, in their ability to undertake physical examinations… I know l am very well supported by the GPs, so I know that if I examine someone and I'm not sure about the findings I can get somebody else to check it out with me quickly'* (MacDonald, 2005, p44) [37]
18	TEAM FACTORS	Any factor related to the working of different professionals within a group which they may be able to change to improve communication or safety (e.g. team culture across professions/specialties) and collaboration/ relationships.	31 [12,15,17-19,21-24,26,28,29,32,34,36,37,41,43,47,51-53,55,58,62,65-67]	*'Collaboration was considered by the inquiry participants to be central to advancing role integration.'* (Burgess, 2011, p300) [67]
19	TRAINING AND EDUCATION	Access to correct, timely and appropriate training both specific (e.g. task related) and general (e.g. organisation related)	18 [12,15,17,19,20,22,24-26,32,33,39,42,46,62,63,66,67]	*'Our implementation analysis data suggest that NPs greatly appreciated activities involving joint training or clinical case discussions and considered them to be team-building activities to construct a joint practice. Focusing discussions on quality of care and emphasizing a patient-centred approach are also good ways to foster productive team discussions.'* (Contandriopoulos, 2015, p7) [22]

Appendix I: Contributor Factors (Challenges) with examples from included studies

(adapted from the Yorkshire Contributory Factors Framework with Examples from Included Studies[66])

	Contributory Factors	Definition	Number of Studies (References)	Examples of Challenges
1	ACTIVE FAILURES	Any failure in performance or behaviour (e.g. error, mistake, violation) of the person at the sharp-end (the health professional) that could affect implementation.	0	Not reported
2	COMMUNICATION SYSTEMS	Effectiveness of the processes and systems in place for the exchange and sharing of information between staff, patients, groups, departments and services. This includes both written (e.g. documentation), verbal (e.g. handover) and electronic (e.g. pager, email) communication systems	5 [12,17,22,24,48]	'While the availability of telemedicine equipment was noted by many of the graduates working in rural clinics, problems with this equipment were often experienced…In one clinic a problem identified was lack of sufficient power to run the equipment.' (Conger, 2008, p34) [12]
3	EQUIPMENT AND SUPPLIES	Availability and functioning of equipment and supplies	2 [12,24]	'Inadequate resources to support the CNS and NP roles (e.g., physical space, technology and infrastructure) is a frequently reported concern.' (Carter, 2010, p176) [70]
4	EXTERNAL POLICY CONTEXT	Nationally driven policies / directives that impact on the level and quality of resources available to hospitals	19 [15,20,23-25,30,34-36,38-40,46,47,52,53,56,58,59]	'While, practically speaking, NPs exercise considerable independence in providing primary care; current MA regulations require that NPs be supervised by physicians when exercising their prescriptive authority. The state requires NPs to have written agreements in place with specific physicians that define a structure for this oversight.' (Poghosyan, 2013, p10) [47]
5	DESIGN OF EQUIPMENT AND SUPPLIES	The design of equipment and supplies to overcome physical and performance limitations	0	Not reported
6	INDIVIDUAL FACTORS	Characteristics of the person delivering care that may contribute in some way to active failures or providing effective care. Examples of such factors include inexperience, stress, personality, attitudes	24 [12,15,16,20,23,26-28,31,32,37,38,40-42,47,49,52,53,55,58-60,64]	'Self-doubt is also an issue for some nurses. Two nurses identified themselves as the most significant barrier to their progress so far...' (Carryer, 2011, p25) [20]
7	LINES OF RESPONSIBILITY	Existence of clear lines of responsibility clarifying accountability of staff members and delineating the job	31 [12,13,15,17,19-29,32,36-]	'A number of NPs spoke of the artificial boundaries placed around their services often inherent in the beliefs and

		role. Staff members have clear understanding of roles and responsibilities	38,40,41,45,47,48,5 2,53,56-59,63,66	*expectations of others and sometimes sheer ignorance of the full capacity of the NP role.'* (Carryer, 2017, p529) [19]
8	MANAGEMENT OF STAFF AND STAFFING LEVELS	The appropriate management and allocation of staff to ensure adequate skill mix and staffing levels for the volume of work	6 [18,23,24,31,42,46]	*'Participants expressed ongoing issues regarding attractiveness of nursing careers in general practice…finding the numbers of sufficiently skilled nurses was seen as a key factor in managing existing nursing workloads in primary care, let alone expanding to advanced roles'* (McKenna, 2015, p185) [42]
9	PATIENT FACTORS	Those features of the patient that make caring for them more difficult and therefore may impact implementation. These might include abnormal physiology, language difficulties, personality characteristics, attitudes, preferences (e.g. aggressive attitude)	13 [15,21- 23,26,29,32,35,49,5 2,57,59,66]	*'Patients, particularly those who viewed their condition as serious, were reluctant to allow an advanced practice nurse to have a prominent role in their care'* (Jakimowicz, 2017, p9) [32]
10	PHYSICAL ENVIRONMENT	Features of the physical environment that help or hinder implementation. This refers to the layout of the services, a rural or urban setting, the fixtures and fittings and the level of noise, lighting, temperature etc.	11 [12,17,22,24- 26,32,40,47,53,63]	*'Other structural barriers included problems around nurse practitioners in walk in centres being isolated from the existing primary care framework.'* (Main, 2007, p482) [40]
11	POLICY AND PROCEDURES	The existence of formal and written guidance for the appropriate conduct of work tasks and processes. This can also include situations where procedures are available but contradictory, incomprehensible or of otherwise poor quality	7 [24,25,41,47,53,56,5 7]	*'Participants also noted a lack of supportive policies that would allow advanced practice nurses to function to their full scope. Cummings and McLennan (2005) suggest that nursing leaders in healthcare settings can influence policy change and shape the healthcare system by facilitating changes in the workplace that continually improve quality of care and meet fiscal realities.'* (Carter, 2010, p177) [70]
12	QUALITY & SAFETY CULTURE	Organisational values, beliefs, and practices surrounding delivering safe and quality care and having the systems and structures in place to evaluate quality and manage safety.	2 [25,52]	*'However, fewer than one in three physicians said that an increased supply of nurse practitioners would have a positive effect on safety, effectiveness, or equity of care, and about one in three reported that such an increased supply might have a negative effect on safety and effectiveness.'* (Donelan, 2013, p1904) [25]
13	SCHEDULING AND BED MANAGEMENT	Adequate scheduling to manage patient appointments and throughput minimising delays and excessive workload	0	Not reported
14	STAFF WORKLOAD	Level of activity and pressures on time	21 [12,15,16,20,23,2	*'Some physicians complained that NP caseloads were not*

			6-28,31,32,37,38,40-42,47,49,52,53,55,58-60,64	*equivalent to those of physicians, "They should be staffing more patients but they do not as I am too busy seeing my own patients."'* (Fletcher, 2007, p360) [71]
15	SUPERVISION AND LEADERSHIP	The availability and quality of direct and local supervision and leadership	16 [12,19-23,26,28,31,33,42,47,48,55,56,65]	*'…physicians with all types of working arrangements were quite insistent that NPs' role in primary care practice should not be independent, but rather must be supervised by physicians.'* (Street, 2010, p435) [55]
16	SUPPORT FROM CENTRAL FUNCTIONS	Availability and adequacy of central services to support the functioning of wards/ units etc. This might include support for IT, HR, estates and other clinically relevant services (e.g. pharmacy)	5 [22-24,28,37]	*'Administrative staff does NOT understand NP clinical role.'* (Fletcher, 2007, p359) [71]
17	TASK CHARACTERISTICS	Factors relating to specific patient related tasks which may make individuals vulnerable to error or enhance quality of care (e.g. providing care to complex patients in challenging environments)	14 [13,22-24,29,32,37,38,45,49,52,57,59,66]	*'…NPs who worked with homeless people. They depended on their negotiating skills to be able to refer patients on within the multi-disciplinary team and to negotiate packages of care at Accident and Emergency departments and at rehabilitation homes for vulnerable clients who were not valued by society at large.'* (MacDonald, 2005, p44) [37]
18	TEAM FACTORS	Any factor related to the working of different professionals within a group which they may be able to change to improve communication or safety (e.g. team culture across professions/ specialties) and collaboration/ relationships.	39 [12,15,17,19,20,22-26,28,29,32,36-42,45-53,56,58-60,63,66,67]	*'One NP reported that she was unable to establish a NP-led clinic because medical practitioner declined to engage in a collaborative arrangement.'* (Schadewalt, 2016, p6) [53]
19	TRAINING AND EDUCATION	Access to correct, timely and appropriate training both specific (e.g. task related) and general (e.g. organisation related)	16 [20,22,24,26,32,40-42,48,49,52,56,59,62-64]	*'Some GP participants felt that the nurse practitioner training was inadequate to prepare nurse practitioners for their extended role.'* (Main, 2007, p483) [40]

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Status Key

Implemented	Projects/tests of change that have been implemented and which may or not benefit from help to evaluate.
Partially implemented	Projects/tests of change that are planned but which are still in the planning stage or early in the implementation process, and which may or may not benefit from help to evaluate.
Not started/ stopped	Projects/tests of change not got off the ground of development/implementation had been stopped.
Unknown	*Still to be determined.*

No.	Description	Project Component	Status	Expected Transformational Change	Transformational Change
NHS Ayrshire & Arran					
1.	**Current:** 1 x ANP nurse lead. 13 x ANPs employed in Community/OOH) by A&A. 30 x ANPs (approx.) employed by general practices. **In training:** 4 x ANPs employed in A&A to support general practice clusters. 10 x ANPs in training commenced in Sep 17. **Future:** 10 x ANPs trainees per annum	**Intervention:** OOH Urgent care Hubs, liaison with care homes and community hospitals, general practice including adults and children: triaging appointments, clinical sessions responding to undifferentiated diagnosis, home visits and long term conditions management. **Context:** Partnership approach to ANP education and development with independent general practices signing up as members of the West of Scotland ANP Academy. GPs required to meet ANP training practice standards similar to GP training practice standards. Initial tranche of ANP trainee's externally recruited. Second tranche ANP trainees were	Partially implemented	Enable the provision of sustainable primary care services. Increase support for primary care team and reduce workload stress. Increase GPs capacity to deal with complex cases. Enable multi-disciplinary service that supports holistic care. Provide safe, effective, evidence based primary care services. Improve opportunities for education and development of ANPs. Improve opportunities for peer support	Unknown

	for training.	recruited from practice nurse population. **Mechanisms:** Frameworks are in place as part of the 'Academy' including competency, clinical supervision, CPD and governance. Dedication nurse leadership to support ANP implementation in primary care. Funding made available to support GP supervision.		through the Academy.	
NHS Borders					
2.	**Current:** 1 x ANP trainee in OOH employed by health board. 8 x ANPs (approx.) employed by independent general practices and 2 x posts recently advertised. **Future:** 1 x ANPs in OOH 3 x ANPs GP attached 6 x ANPs Community Hospitals.	**Intervention:** A pilot was currently underway to implement ANP roles in OOH. **Context:** There was no specific health board education initiative underway to support general practices implementation of ANP roles. **Mechanisms:** ANPs were recruited directly by independent general practices and training give as required and resourced by practice.	Partially implemented	Increase capacity of OOH team. Develop multi-disciplinary teams to provide high quality sustainable primary care services. Improve access to primary care appointments particularly GP appointments. Reduce GP workload and stress. Provide a clinical career pathway for nurses in primary care.	ANP in OOH sees approximately 10% of appointments. Evidence from one general practice included: improved access to named GP, increased availability of appointments to see a clinician; and no increase in admissions to secondary care.

NHS Dumfries and Galloway					
3.	**Current:** 1 x advanced practice lead. 8 x ANPs (approx.) employed by independent general practices. **In training:** 13 x ANPs employed by D&G, hosted by general practices. **Future:** 4-6 ANP trainees per year.	**Intervention:** OOH, community hospitals, community nursing older people, and general practice: including triaging appointments, minor illness and long term conditions management. Context: High profile leadership as the Director of Nursing is the Chair of the National Transforming Nursing Roles and leads an Advisory Group for West of Scotland ANP Academy. Mechanisms: ANP Competency frameworks for: primary and community care, OOH, community nursing and older people. Governance Framework developed. Dedicated nurse leadership to support ANP implementation in primary care. Model of training influenced by GP trainee model. Full funding for ANP salary, GP supervision, and university models for 2 years.	Partially implemented	Demonstrate multi-professional approach to Primary Care. Collaborative working with other health boards to develop 'Academy' model to support consistent education and development of ANPs. Increase access to GP appointments. Enhance service users' healthcare experiences. Support clinical career advancement for nurses in primary care.	Improved access to GP appointments over previous 12 months.

NHS Forth Valley (FV)					
4.	**Current:** 9 x ANPs in general practices employed by the health board. 11 x ANPs employed by independent general Practices. 5 x ANPs in OOH. 3 x ANPs in Community Hospitals/ Prisons. In training: 2 x ANPs in Community Hospitals/Prisons. Future: 5 x ANPs health board general practice and OOH. 15 x ANPs in independent general practices including up skilling 6 PNs.	**Intervention:** OOH, community hospitals, prison services, general practice including adults and children: clinical sessions responding to undifferentiated diagnosis, home visits and long-term conditions management. **Context:** Established posts in health board managed general practices were developed from a multi-disciplinary perspective from the outset. **Mechanisms:** New Clinical Decision Making in Primary Care Module developed by University of Stirling. Commenced in Sep 2017.	Partially implemented	Improve service users' experience. Improve access to primary care services. Support development of multi-disciplinary teams and more appropriate use of skills. Support training of new ANPs and development of existing ANPs. Enhance governance arrangements for ANPs. Enhance service users' experience of primary care. Improve access/timeliness.	Unknown

NHS Fife				
5.	**Current:** 10 x ANPs and ANP trainees (approx..) employed by health board across primary and community care settings. 2 x ANPs (approx.) in OOH. Number of ANPs employed by general practices is unknown.	**Interventions:** Community hospitals, care homes, palliative care, paediatric home care, OOH, and hospital at home. **Context:** No current ANP implementation initiatives with independent general practices. **Mechanisms:** No formalised education and training developed by the NHS Board. Current concerns are around assessment and supervision of ANPs.	Not started/stopped	Support shift from acute bed based care to multi-disciplinary primary care model. Sustainable primary care services and new GP contract. Support increase in primary care workload and reduce reliance on GPs Patients receive care from the most appropriate clinician in the right settings at the right time. Support clinical career opportunities and development of leadership in primary care nursing.	Unknown

NHS Greater Glasgow & Clyde (GG&C)					
6.	**Current:** 1 x ANP nurse consultant. 30 x ANPs (approximately) GP attached 12 x ANPs in OOH. 3 x ANPs in community teams. **In training:** 4 x ANPs employed by Health Board to support GP Clusters in Inverclyde and 2 x ANPs in GG&C.	**Intervention:** Nursing Home Liaison, Learning Disabilities Care Home Liaison, OOH and general practice including adults and children: triaging appointments, home visits, and minor ailment clinics. **Context:** Dispersed urban area. Process in place for recognising ANPs employed by directly managed services. ANPs employed by Health Board to support GP Clusters and local populations' needs. Member of the West of Scotland ANP Academy. **Mechanisms:** Training ANPs via two university (UWS and GCU). GCU modules are multi-professional advanced practice modules.	Partially implemented	Enhance person-centred, holistic care and delivery of care from a nursing perspective. Improve access to primary care services. Make better use of multi-disciplinary team skills. Improve education and development of ANPs in line with national criteria. Support clinical career advancement for primary care nurses.	Unknown
NHS Grampian					
7.	**Current:** 1 x ANP lead for OOH and 1 x ANP lead in primary care. 67 x ANPs across health boards including primary care, acute and community (Independent general practice employed ANP unknown) **In Training:** 38 x ANP trainees across the	**Intervention:** OOH and general practice including adults and children: triaging appointments, clinical sessions responding to undifferentiated diagnosis, home visits and management of long-term conditions. **Context:** Remote and rural. Well-established ANP role in OOH. Pilot of Advanced Care Academy to support training and governance and address	Implemented	Provide holistic approach to health care and support people stay closer to home. Enable new models of health care led by ANPs. Multi-disciplinary primary care teams and appropriate utilisation of skills. Maintain access to GP appointments and OOH service.	A random sample of 463 OOH consultations of doctors and ANPs found: 89.7% record keeping and history taking were completed satisfactorily or above expected; 96.5% of provisional

	health board, all settings. On-going training programme in OOH.	challenges of clinical supervision and maintenance of skills. **Mechanisms:** Well established OOH ANP in-house development programme. Supernumerary status of ANP trainee in OOH until assessed competent. Assessment via a Competency Framework. Feedback of audit results to all OOH practitioners.		Free up GP time. Prevent hospital admissions and maintain people in their homes. Support clinical career advancement for nurses and improve job satisfaction.	diagnoses were satisfactory; 93.1% management plans were satisfactory or above expected; 93.7% overall clinical competence was satisfactory or above expected.
NHS Highland				
8.	**Current:** 1 ANP lead practitioner for unscheduled care 43.77 WTE x ANPs in OOH, primary care and community Exact figures have not been acquired for ANPs in independent general practices. **In Training:** 16.19 WTE x ANPs	**Intervention:** Adults and children in OOH, rural general and community hospitals. General practice settings include: telephone triage, clinical case management, minor and major injuries and medical conditions. Also increasingly undertaking palliative care, mental health, home visits, care homes and minor illness clinics. **Context:** Largest geographical area of all health boards in Scotland. Mixture of urban and very remote and rural setting. Remote and rural support team. Well established OOH programme and roles.	Implemented	Stable, sustainable and flexible OOH and General Practice services. More appropriate use of multi-disciplinary knowledge and skills. Enhance service users' Experience. Improve continuity of care. Provide career pathway to support clinical career advancement in primary care. Provide professional recognition of ANP role.	ANPs provide 40% of OOH service, GPs provide 60%.

		Mechanisms: Capabilities Framework and Assessment of Competency Tool. 'Clinical Guardian' system to support governance and audit of care records.			
NHS Lanarkshire					
9.	**Current:** 1 x WTE ANP lead in primary care. 3.6 WTE x ANPs in OOH. 0.4 WTE x ANPs in care homes. Number of ANPs employed in independent general practice is unknown. **In training**: 9 x ANPs rotating through all primary care Services.	**Intervention:** OOH, General Practice, and Community Hospitals. Planned expansion to home visits, care homes and integrated care teams (Hospital at Home). **Context:** A member of the West of Scotland ANP Academy. ANPs policies and procedures have been developed in the wider context of Advanced Practice to ensure consistency across disciplines. **Mechanisms:** ANP training involves rotation through all primary care areas and 2 years supervised practice during ANP training. In-house leadership development programme for primary care, to support all 4 pillars of ANP.	Partially implemented	Ensure sustainable primary care services. Reduce admissions to hospital and length of stay. Reduce reliance on GPs or in nursing homes and community hospital. Improve access to primary care services. Develop multi-disciplinary teams and improve team working. Enhance service user experience by improving holistic person-centred care. Support clinical career advancement for nurses in primary and community care.	Unknown

NHS Lothian				
10.	**Current:** 1 x ANP lead in advanced practice and 1 x ANP lead in primary care. 3 x ANPs employed in independent general practices that meet national criteria. 5 x ANPs in OOH. 4 x ANPs hospital at home. **In training:** 29 x ANPs in general practice. (Survey of 302 PNs, 67% responded of which 50% wish to undertaken ANP training to achieve national definition) **Future:** Plans to train further 90 ANPs to support all general practices in Lothian	**Intervention:** OOH and general practice for adults and children. Planned roles included home visits and care homes. **Context:** Highly populated urban area. NHS Lothian had a well-established education pathway for ANPs at Master of Science level for 5 years. Collaborative approach between universities and general practices to develop ANP roles. ANP trainees recruited from practice nurse population. **Mechanisms:** A primary care work-based module developed in partnership with GPs and accredited by Edinburgh Napier University. NHS Lothian Collaborative Framework Master of Science in Advanced Practice.	Implemented	Support the development of ANP training practices. Reduce Hospital Admissions and length of stay. Maximise appropriate use of staff time and resources. Support multi-disciplinary team of people to provide flexible, consistent primary care services and improve team working. Improve service users' experience at the point of care by competent nurses. Improve accessibility, timeliness and flexibility of access to an appropriate healthcare practitioner. Support career advancement and job satisfaction.	Unknown
NHS Orkney				
11.	**Current:** 6 x ANPs and 6 NP/ANP trainees working autonomously and at band 7. Whilst NPs do not meet the current national definition some are working	**Interventions:** Combined roles at an advanced level including: emergency care, primary care, community nursing and practice nursing, some 24/7. **Context:** Well established remote and rural	Partially implemented	Provide equitable, sustainable and high quality primary care services to remote island populations. Address recruitment challenges of GPs for remote island populations.	Unknown

towards it.	model of care where an ANP/NP's provides healthcare on some islands with no resident doctor 24/7 for 2 weeks on/2 weeks off. Well-established competency framework to support ANP/NP's development. **Mechanisms:** Academic preparation includes distance-learning modules. Virtual peer supervision 2 monthly. iNOC (network of care) GPs and Nurses meet weekly for support, education and discussion to support generic working role.		Improve continuity of care for service users. Support ANPs working in isolation and enable maintenance of core skills.	

NHS Shetland

12.	**Current:** 3 x WTE ANPs in general practice. 1 x WTE ANP older people's service. 1 x WTE ANP for child and family health **In training:** 5.1 WTE x ANPs currently training for general practice. **Future:** 2.8 WTE ANPs for care homes.	**Intervention:** OOH, community and rural general hospital care, and general practice for adults and children. **Context:** Island Health Board with mostly salaried General Practices. A well-established advanced practice nurse role and governance framework. Flexible role to ensure comprehensive coverage of services to Island population. **Mechanisms:** Advanced Practice Governance Framework for Nurses and Midwives that supports a competency based approach to education and	Implemented	Support implementation of primary care strategy and sustainable primary care services. Reduce hospital admission and minimize hospital attendance for tests, investigation or consultation. Provide emergency care locally. Support people to live independently in their own homes. Support clinical career advancement.	Unknown model for generic primary and community care focused roles, providing both nurse practitioner and specialist nursing skills.

	4 WTE x ANP to support a range of primary care services. 5 WTE x ANPs for multi-disciplinary model for generic primary and community care focused roles, providing both nurse practitioner and specialist nursing skills.	development. Patient and public involvement facilitating community engagement. GP supervision funded as part of GPs work plan. Multi-disciplinary training enabling team working.		
NHS Tayside (Ta)				
13.	**Current:** 12 x ANPs (approx.) for health and social care partnership including general practice and care of the elderly. Exact number of ANPs employed by independent general practices is unknown but it is estimated that there are approximately 20.	**Intervention:** OOH general practice, enhanced community support team for elderly. **Context:** A Board wide Transforming Nursing Roles group recently set up that has created an ANP development strategy. **Mechanisms:** ANP recruitment and development are team led. Well-established role development framework in place.	Not started/ stopped	Deliver sustainable, high quality primary care services. Enable multi-disciplinary teams and appropriate use of skills. Release GPs capacity to undertake role as expert medical generalist. Improve access to primary care services. Enable patient's to stay at home longer. Improve the patient pathway and coordination of care. Improve patient experience. Clinical career opportunities for nurses in primary care.	Unknown

NHS Western Isles (WI)				
14.	**Current:** There are currently no ANPs that meet national criteria. There are 16 nurses who work at an advanced level including: 10 x Clinical Support Nurses, 6 x Community Unscheduled Care Nurses and 7 x Emergency nurse practitioners. Some are undertaking ANP training. **Future:** 23 x ANPs (up-skill current workforce) to deliver new remote and rural ANP Primary Care and Community model.	**Intervention:** OOH, community hospitals and minor injuries. **Context:** Remote and rural environment. **Mechanisms:** Remote and rural ANP primary care and community model in development.	Not started/ stopped	Decrease in unplanned hospital admissions. Enhance service users' experience. Improve access to primary care services and continuity of care. Support clinical career advancement for nurse.	Unknown
NHS24				
15.	**Current:** NIL. **In training:** 3 x ANPs.	**Intervention:** Nurse telephone triage and self-care advice. **Context:** Member of the West of Scotland ANP Academy, Specialist Telemedicine service. **Mechanisms:** University modules and clinical placements in primary care.	Partially implemented	Improve the quality of care/Enhance patient experience/ Improve the patient pathway making it seamless. Reduce attendances for OOH services, home visit frequency or to GP next day appointments. Increase self-care advice to service users. Enhancing the clinical career pathway for nurses in NHS 24.	Unknown

Appendix K: Overview of NHS Ayrshire & Arran's Key Context, Mechanism and Outcomes

Context:
- Frameworks to support education, development and governance arrangements had been developed by the West of Scotland ANP Academy to promote high standards of education and practice.
- The 'Academy' supported the provision of CPD and peer networking opportunities to enable ANPs to maintain and improve their competencies and prevented professional isolation.
- Collaboration between the NHS Board leaders and general practices had built trust through openness, mutual respect and a willingness to develop and enhance primary care services together.
- GPs had been able to gain confidence in the ANP role and reduce workload by transferring elements of their role they felt ANPs could safely take on.
- ANPs trainees had been recruited from the current practice-nursing workforce, as they were familiar with the primary care context. This model was also identified as affordable as oppose to recruiting externally to ANP trainee posts.

Mechanisms:
- Senior management support and dedicated leadership to coordinate education and development of ANPs and support GPs with education resources and guidance as ANP training practices.
- Funding was provided for academic modules, ANP study leave, and GPs clinical supervision role.
- General practices who met ANP-training practice criteria became members of the 'Academy'.
- ANP-training practices used a similar process to the GP training scheme to support ANP education and development.
- A governance framework supported a shared understanding between the health board and general practices of ANP roles and their accountability.
- Triaged ANP appointments (although variably implemented) to direct patients to an appropriate healthcare professional.

Outcomes examples:
No health board level quantitative evaluation of ANP impact had been undertaken therefore the outcome examples are based on key informant interviews.

Patients:
- reduced waiting time for minor surgery from 6 weeks to 2 weeks
- improved access to appointments to see a clinician and a GP
- valued interpersonal skill of ANPs.

Primary Care Teams:
- GPs developed confidence in the academic rigour of ANP education and development and in ANPs competencies to manage complete care of patient
- a reduction in GP workload
- GPs focused on more complex cases as ANPs took on more minor cases
- improved primary care team wellbeing and reduced stress
- valued by other nurses as facilitators of learning.

ANPs:
- creation of career opportunities that allowed nurses to focus on advanced clinical skills.

Context:
- New ANP roles had been developed to support GP clusters and specific local population needs focusing on transforming primary care services and reducing health inequalities, particularly for older people and people with learning disabilities.
- Sharing expertise and experience regarding the implementation of ANPs in primary care as a member of the West of Scotland ANP Academy.
- Collaboration with general practices to support the development of ANP roles in primary care.

Mechanisms:
- 'Choosing the right service' campaign and triaging had helped direct the public to the right professional to deal with their health issue.
- Whilst GP mentoring was un-resourced for independent general practices the salaries of ANPs employed to support clusters was paid for by the health board thus benefiting GPs through a reduction in their workload.
- ANPs teams were expected to produce an annual report that included measurement of their impact.

Outcome Examples:
Patients:
- ANPs who used their nursing experience and advanced clinical decision-making competencies were able to deliver a complete package of care, with the aim of improving timeliness of care, reducing handoffs and improving coordination of care.
- ANPs working in care homes undertook regular visits that aimed to increase preventative interventions, enhance anticipatory care and initiate early interventions.
- Releasing GP time had increased availability and length of GP appointments from 10 to 12 or 15 minutes.
- Patients' acceptance of the ANP role was positive and they valued seeing an ANP.
Team:
- A reduction in GP workload had created a more manageable working load.
- ANPs able to take 32% of home visits on average over an 8-month period (supported by local audit data).
- Primary care teams viewed ANP role very positively and valued the close working relationship (supported by local evaluation).
- The shared care model had enabled a holistic understanding of patient needs, including understanding wider family context, potentially helping patients stay at home longer (supported by local evaluation).
- Reduction in GP job related stress.
ANPs:
- Greater opportunities for nurses to undertake ANP education and development with resulting increase in job satisfaction and sense of achievement.
- Tension between delivering the service and meeting the educational needs of the ANP.
- Duplication of documentation systems across organisations (i.e. general practice, nursing home, and ANPs records).
Organisation:
- There had been increased authentication of ANPs and ANP trainees in primary care which would assist with up skilling those who did not mean national criteria.

Appendix M: Overview of NHS Highland's Key Context, Mechanisms and Outcomes

Context:

- The rural support team is a multi-disciplinary team that provides primary care services in and OOH across a large geographical area with multiple sites for OOH.
- ANPs in remote and rural setting have a high degree of autonomy, wide breadth and depth of role, often working on their own.

Mechanisms

- A structured ANP training pathway involved academic modules and a clinic competencies framework used throughout training and work-based experience. This included 50% training and 50% clinical workload over an 18-month period.
- A systematic approach to clinical governance was supported by an online tool 'Clinical Guardian' which provided virtual supervision by enabling remote access to case records and decision-making by ANPs and provided feedback on learning points to ANPs.
- The manager of one team of ANPs was an experienced ANP practitioner, which was highly valued by the ANPs.

Outcome Examples:

Patients:

- Audit of 2000 ANP case records (time period unknown) by a team of GPs and ANPs demonstrated that ANPs provided a high standard of care, made appropriate decisions, had clear criteria for admitting to hospital and an excellent person-centred approach (P20).
- Improved continuity of patient care was anticipated following a reduction in use of locums.

Team:

- An audit of OOH urgent cases demonstrated ANPs had undertaken 40% of workload with GPs undertaking 60% of the workload.

ANPs:

- Clinical guardian case reviews revealed that ANPs were able to manage complexity and have a high standard of record keeping

Organisation:

- ANPs have enabled a reduction in use and cost of GP locums (P66).
- Investment in education and development for ANPs could be lost if on completion ANPs left to work for external general practices.

Appendix N: Overview of NHS Lothian's Key Context, Mechanisms and Outcomes

Context:
- A previously (5 years approx.) established and robust education pathway at master's level for ANPs that required adapting for primary care.
- Transformation of primary care services through the development of the 'Collaborative working for immediate care', a new model of care that provided same day appointments with multi-disciplinary team members.
- Collaboration between health boards, university and general practices to support the development of ANP roles and education opportunities.
- Recruitment of ANP trainees from the current PN workforce who were already familiar with the primary care context.

Mechanisms:
- Support from senior management, GP trainer, education staff and ANP lead to develop a structured programme for ANP trainees in primary care.
- A robust ANP trainee recruitment process included assessment of candidate's clinical decision-making capability.
- Funding of ANP education and development included: modules, study leave and GP supervision support.
- Guidance for GP Clinical supervisors to ensure they have a good understanding or ANP role, education and development needs.
- Nurse progression framework that provided a clear career pathway to support nurse progress on to ANP roles in primary care.

Outcome Examples:
Patients:
- Collaborative Working for Immediate Care service had demonstrated an improved user journey, appropriate onward referrals, positive service users' feedback, and improved timelines of care potentially reducing hospitalisation (Local evaluation).
- Positive feedback from patients who had been seen and treated by an ANP using validated instruments.
Team:
- The length of time it took to educate, supervise, mentor an ANP was considerable.
- GPs with a good understanding of what an ANP was and did were very supportive of ANPs.
ANPs:
- Time and effort required by the ANP to undergo education and development whilst carrying a clinical workload was considerable.
- Provision of clinical career development opportunities.

Appendix O: Overview of NHS Shetland's Key Context, Mechanisms and Outcomes

Context:
- Shetland is a remote, rural and island setting, with a number of islands with small populations where residents expect to have a resident doctor or nurse 24/7.
- The health board manages four out of five general practices.
- Practices who work in a multi-disciplinary way were supportive of the ANP role.
- In addition to supporting primary care strategy, remote and rural healthcare has additional challenges of maintaining emergency care services and preventing attendance or admission to hospital due to the distance and expense required to travel.

Mechanisms:
- A governance framework promoted workforce planning for new ANP roles and supported a competency-based approach to recruitment, education and development and ongoing CPD and role evaluation.
- Clinical champions and nurses were prepared to work with unknowns and allow the care model to evolve.
- Patient focused public involvement collaboration facilitated community engagement and advocated for the ANP role.
- GP supervision of ANPs was funded as part of the GP work plan although the amount of supervision had not been well articulated.
- NES TURAS Digital e-Portfolio was useful for organising and recording personal development evidence.
- ANP trainees were supported to undertake a Master's in Advanced Practice and gain RCN credentials for Advanced Nursing Practice[1].

Outcome Examples:
  Patients:
- Improved access to primary care services with additional appointments available.
- Positive patient satisfaction.
  Teams:
- ANPs reported being positively received by GPs and PNs.
- More time for GPs to consult with patient with more complex health issues.
  ANPs:
- Provided clinical career advance opportunities for ANPs in primary care.
- Lack of career development opportunities for ANPs beyond band 7.

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[1] RCN Credentialing is a process of assessing nurses' qualifications (including: registered nurse, relevant masters and non- medical prescribing), experience and competence to practice at an advanced level. Those successfully awarded were allowed inclusion onto a publically available database.