Evaluation of the Impact of Implementing a Draft Policy to

Develop Advanced Nurse Practitioners

(cANPs/RANPs) to Meet Health Service Needs

Final Report - January 2020

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Executive Summary

Background to the Evaluation

In March 2017, the Department of Health published a document entitled: *Developing a Policy for Graduate Specialist and Advanced Nursing & Midwifery Practice: Consultation Paper* (henceforth referred to as the Consultation Paper). Following publication, there was national consultation with a broad range of stakeholders focusing on this major policy initiative relating to the nursing and midwifery workforce in Ireland. The policy aimed to develop a flexible, enabling and adaptive workforce, part of which involves developing a critical mass of advanced nurse practitioners (cANPs/RANPs) and advanced midwife practitioners (AMPs). This policy has now been implemented with demonstrator sites established for over 120 cANP/RANP posts across a range of health services in Ireland. The initial target cANP/RANP service areas are in chronic disease management (rheumatology and respiratory medicine), older persons care and unscheduled care.

Purpose of the Evaluation

This report outlines the results of the evaluation collaboratively undertaken by the Schools of nursing and midwifery at Trinity College Dublin and University College Cork. The purpose of the evaluation was to measure the impact (direct and indirect) of a critical mass of cANPs/RANPs to four service areas (rheumatology, respiratory medicine, older persons care and unscheduled care). In particular, the research evaluated the impact of this critical mass of cANPs/RANPs on service challenges of access to services: waiting lists, avoidance of unnecessary hospital admission, improved patient flow, and support for early discharge from hospital. This evaluation also included a qualitative and quantitative exploration of the effect of implementing a critical mass of cANPs/RANPs on: a) patients and families, b) staff and teams in the hospital and the community settings, c) the health service organisation and d) the health system against the service challenges identified above.

Objectives of the Evaluation

- Using activity based data collected by the cANPs/RANPs and the existing data available in the health services (HIPE, NQAIS, NTPF), in cooperation with the National Clinical and Integrated Care Programmes (https://www.hse.ie/eng/about/who/cspd/icp/) of the HSE, design a study methodology to identify the impact of a critical mass of candidate cANPs/RANPs being recruited to the Irish healthcare system.

- Measure the activities and services provided by cANPs/RANPs in the service areas of unscheduled care, older person care, rheumatology and respiratory medicine to determine the impact of a critical mass of cANPs/RANPs.

- Evaluate the impact of the cANP/RANP on service challenges of waiting list reduction, timely access to service, improved patient flow and avoidance of unnecessary hospital admission and/or early discharge.

- Capture the perspective and experiences of patients and their families; the interdisciplinary teams; the health service organisation and the health system effect of implementation of the critical mass of cANPs/RANPs.

- Capture the contribution of a critical mass of cANPs/RANPs to existing healthcare reform strategies such as the National Clinical and Integrated Care Programmes and potential contribution to Sláintecare.

- Provide an analysis of the challenges and opportunities arising from this initiative.

- Assess the economic effectiveness/contribution of the cANP/RANP policy.

- Make recommendations for service, practice and implementation for continuing the rollout of a critical mass of cANP/RANP's.

Design of the Evaluation

To ensure the introduction of cANPs/RANPs into the demonstrator sites was comprehensively evaluated, the research team utilised longitudinal and cross-sectional designs that incorporated both quantitative and qualitative research methods in the research design. In addition secondary administrative data sets were also sourced as part of the evaluation. The overall aim of the design was to evaluate the impact of implementing a draft policy to develop cANPs/RANPs to meet health service needs. Due to the nature and setting of the research evaluation, the research team developed approaches, in association with a cohort of cANPs/RANPs, that were used to measure the impact of the introduction of the role on patient outcomes, staff outcomes and organisational factors both pre and post the implementation. The design of the evaluation framework was informed by: the Participatory Evidence-Informed Patient-Centred Process for cANP/RANP Role Development (PEPPA) and PEPPA-Plus (Bryant-Lukosius & DiCenso, 2004, Bryant-Lukosius *et al.* 2017). In addition, the research team, in partnership with cANPs/RANPs in the areas of older persons' care, rheumatology, respiratory care and unscheduled care developed Logic Models; these Logic Models provided a framework for the methods and measurement approaches used in this evaluation. Stakeholders in the evaluation included patients, cANPs/RANPs, clinicians and managers in a number of settings.

Logic Models for cANPs/RANPs

Logic Models were developed for the four specialist areas in which cANPs/RANPs were introduced: older persons' care, rheumatology, respiratory care and unscheduled care. A Logic Model is a graphic display or 'map' of the relationship between a programme's resources, activities, and intended results, which also identifies the programme's underlying theory and assumptions (Kaplan and Garrett, 2005). Logic Models may be used in theory-based evaluation, such as this, and are designed to explicitly articulate the underlying theory of change that underpins a transformation programme or initiative (NHS, 2016), such as the introduction of a critical mass of cANPs/RANPs into the health service. The aim of developing the Logic Models was to identify the inputs, activities, outputs, outcomes and impact of the role in the various specialities; these were then used to identify and develop the measures used in the evaluation.

Results

Key Findings from Baseline and Follow-up Surveys of Candidate and Registered Advanced Nurse Practitioners

Over the period of the evaluation, the proportion of respondents at registered cANP/RANP (RANP) level had risen from 8.1% at baseline to approximately 62% at follow-up. The highest proportion of cANP/RANP roles were in the area of older persons' care (41.1%) followed by rheumatology, respiratory care and emergency care. Levels of clinical supervision of cANPs/RANPs by a medical practitioner were high; in addition, there was an increase in

cANPs/RANPs reporting that their job description was fully developed over the two time periods of the survey. The vast majority of cANPs/RANPs worked between Monday and Friday with a small proportion working a combination of weekdays and weekends; no cANPs/RANPs surveyed undertook night duty work. The majority of work undertaken by the cANP/RANP was in the provision of direct clinical care; the vast majority of cANPs/RANPs were working with patients with long-term conditions. In addition, cANPs/RANPs surveyed were predominantly working with older people.

As part of their role, cANPs/RANPs undertook a number of activities with the most frequently reported being clinical history taking and physical assessments, counselling and educating patients and ordering/performing/interpreting clinical tests. In particular, there was a significant growth over the time-period of the evaluation in the number of cANPs/RANPs prescribing medications.

The peripatetic role of cANPs/RANPs increased over time with approximately a third of respondents stating that they travelled to see patients outside their area of immediate practice. Of those cANPs/RANPs who had, or were planning to expand their services, the majority highlighted the community as the area of expansion. Areas of expansion of the cANP/RANP into the community included: primary care centres, assessment of older people in their own homes and community settings, outreach services for patients to prevent hospital admission, GP practices, schools, nursing homes and satellite clinics.

The majority of cANP/RANP referrals came from a healthcare professional within their setting; however, over the time period of the survey, there was an increase in referrals from other settings, in particular from the community, and from patients themselves. The majority of cANPs/RANPs referred patients directly to other services without recourse to a medical practitioner. The majority of referrals made by cANPs/RANPs were to allied healthcare professionals (e.g. physiotherapy, occupational therapy) followed by public health/community nurses, GPs and medical practitioners, and clinical nurse specialists and other cANPs/RANPs.

A majority of respondents were in agreement that they were working to the full extent of their scope of practice and that their skills as an cANP/RANP were being fully utilised; approximately a third of respondents disagreed that they were either fully practicing within their scope or that their skills were being fully utilised at the time of the survey.

As rates of registration of cANPs/RANPs increased over the timeline of the evaluation, there was an associated increase in the proportion of cANPs/RANPs prescribing medications and ionising radiation. It was also identified that cANPs/RANPs were increasing their level of autonomy within their role but also highlighted that there were strong collaborative working relationships with their medical colleagues. In relation to the organisational environment in which cANPs/RANPs were working, there were high levels of satisfaction with patient caseloads, levels of autonomy, respect from physician colleagues, opportunities for professional development. A large proportion of cANPs/RANPs were involved in the design and configuration of services with a number of innovative clinics being put in place as a consequence of the role. The outcomes where cANPs/RANPs reported they had the highest impact included: patient satisfaction, patient

education, continuity of care, increasing patients access to care, a positive impact on potentially avoidable hospitalisations, and decreasing patient complications.

Key Findings from an Analysis of Administrative Data (National Treatment Purchase Fund and Emergency Department Data)

At the time of the completion of the evaluation, following a review of the National Treatment Purchase Fund (NTPF) waiting list data, there was no discernible change in waiting times as a consequence of cANPs/RANPs being placed in the demonstrator sites; however, this may be due to a number of factors including the specificity and validity of the data collected, and the issue that newly assigned cANPs/RANPs have not yet been fully internalised into their role. The inclusion of the NTPF waiting list findings in future evaluations on the implementation of cANPs/RANPs in the Irish healthcare system will provide valuable information in regards to typical patient waiting times and further work is recommended in this area.

One area where data did identify the impact of cANPs/RANPs was in ED care. Data collected in one pilot ED site that had new cANPs/RANPs appointed demonstrated a significant impact on waiting times and PET times for patients at triage levels 4 and 5; these are the cohort of patients generally seen by cANPs/RANPs in ED.

Key Findings from an Evaluation of the Activities of cANPs/RANPs

Over the course of the evaluation, the proportion of cANPs/RANPs who reported that their role had a positive impact on potentially avoidable hospitalisations increased from 52% at baseline to 61% at follow-up. In relation to Outcome Activity Logs (OALs), which measured the day-to-day activities of a cohort of cANPs/RANPs, it was identified that cANPs/RANPs, on average avoided 3.1 patients being admitted per week whom they consulted with on a face-to-face basis and 1.2 admissions avoided through virtual interactions. These interactions resulted, on average, a total of 4.3 avoided admissions per week per cANP/RANP. The potential to avoid hospital admission, differed by cohort with cANPs/RANPs working in the area of unscheduled care recording the highest number of potential avoidances followed by cANPs/RANPs in the area of respiratory care, older persons' care and rheumatology. For the 22 cANPs/RANPs that were involved in the collection of data through the OALs, this accounted for, over a 4-week period, 408 patients for whom admission to hospital was avoided; this would equate to 4,919 patients over a year for these 22 cANPs/RANPs. At the time of the evaluation there were 87 registered cANPs/RANPs from the demonstrator sites; if admission avoidance was projected for this cohort, it would result in approximately19,453 admissions avoided per year. If all 154 demonstrator cANPs/RANPs were in post, this would equate to an avoidance of 34,434 admissions per year. This would account for 5% of all hospital discharges in 2019 (Department of Health 2020).

Key Findings from a Survey of Patients Following a Consultation with an cANP/RANP

The vast majority of patients reported that they had a highly positive experience during a consultation with an cANP/RANP; this included being highly satisfied with the quality of care received. There was near unanimity from patients that the cANPs/RANPs they consulted with were understanding of their personal health concerns, gave them encouragement in regards to their health problems, felt comfortable in asking the cANP/RANP questions, had confidence in the cANP/RANP's skills, that the cANP/RANP was professional in their approach towards them, and that the cANP/RANP spent enough time with them. All four specialties in which patients were surveyed reported overall high experience scores indicating high overall levels of satisfaction with the consultation that they received from an cANP/RANP.

In addition, the vast majority of patients surveyed reported that they felt better or much better following consultation with an cANP/RANP. As a consequence of the consultation, the majority reported that they were better or much better able to understand their illness, cope with their illness, feel confident about their health, and keep themselves healthy.

Findings from the analysis of the open-ended narrative comments provided by patients also demonstrated high levels of satisfaction with the consultation process. A number of respondents reported that they received high levels of care from cANPs/RANPs, that this care was individualised to their needs and was delivered in a highly professional manner. Patients also highlighted that they were treated with dignity and respect as well as having high levels of contact with an cANP/RANP, not only in face-to-face meetings but also through telephone contact and follow-up support. Respondents who provided narrative comments also expressed high levels of confidence that cANPs/RANPs had comprehensive knowledge of their condition. Patients also wrote about how cANPs/RANPs initiated changes to treatments which facilitated respondents to self-manage their condition in a more proactive way.

In conclusion, the survey and open-ended comments provided by patients identified that they had a very positive experience of receiving their healthcare from an cANP/RANP; in addition, this care led, in the majority of cases, to patients feeling better enabled to care for themselves. Patients also highlighted that they had received a high level of professional care from cANPs/RANPs and that this care was effective in helping them manage their illness as well positively impacting on their overall quality of life.

Key Findings of cANPs/RANPs' and Key Stakeholders Perspectives on the Implementation of the cANP/RANP Policy

It was evident that the development of the cANP/RANP role within the demonstrator sites was highly facilitated by the medical practitioners with whom the cANPs/RANPs worked; in addition, cANPs/RANPs received high levels of support from other members of the multidisciplinary team.

cANPs'/RANPs' prior clinical experience as well as their educational preparation for the role were also highlighted as strong facilitators. The greatest barrier to the development of the role was highlighted as the physical environment in which cANPs/RANPs worked; this was followed by other healthcare professionals' perceptions of the role.

There was strong evidence, from the cANP/RANP and key stakeholder interviews, to show that cANP /RANPs lacked adequate infrastructural resources, which prevented them from fulfilling their clinical role. The main barriers identified were a lack of clinical space for assessing and treating patients, a lack of administrative/secretarial support for managing patient charts, writing referral and patient letters, managing cANP/RANP-led clinic appointments and patient check-in services. The lack of coded identifiers for individual cANP/RANPs was another key issue that impacted on their work in several ways; this included that their clinical work and direct contribution in managing a patient caseload was largely invisible; the system was not able to differentiate the cANP/RANP's work from that of the medical consultants/team members and, patient management systems for clinic appointments and patient lists were available to those with coded identifiers – this precluded a number of cANPs/RANPs from using these systems.

KEY OUTCOMES

Outcomes from the Survey of Candidate and Registered Advanced Nurse Practitioners

Demographic and Academic profile of cANPs/RANPs

- Over the course of the evaluation, there was a substantial increase in the proportion of cANPs who had become registered as ANPs.
- The vast majority of respondents surveyed hold a master's degree as their highest level of qualification.
- The majority of cANPs/RANPs have extensive clinical experience; the average length of time qualified as a registered nurse was 19.8 years (SD = 7.5) – this ranged from 6 to 36 years.
- The vast majority of cANPs/RANPs are working in the area of older persons' care.

Clinical Supervision and Mentorship of cANPs/RANPs

- Supervision of cANPs/RANPs is provided by medical practitioners with RANPs also providing supervision to their cANP colleagues.
- Supervision from medical practitioners for cANPs/RANPs is available greater than 50% of the time.

Job Description and Working Profile of cANPs/RANPs

- On average, cANPs/RANPs work 37.6 hours per week.
- The majority (92.8%) of cANPs/RANPs work weekdays only; no cANPs/RANPs work night duty.

Activities and Roles of cANPs and RANPs

- Approximately 65% of the cANP/RANP role is undertaken in clinical work
- The remainder of the cANP/RANP time is spent on non-clinical, administrative, research and other activities.
- The vast majority of patients (67.0%) that receive care from cANPs/RANPs have long-term conditions.
- The majority of patients (72%) that cANPs/RANPs provide care to are 65 years of age and older.
- The vast majority of cANPs/RANPs undertake history taking and physical assessment (97%) counselling and educating patients (97%), make referrals (91%), participate in practice improvement activities (90%), ordering/performing/interpreting clinical tests (89%), provide care co-ordination (89%), and diagnosis, manage and treat chronic illness (83%) as part of their role.
- Approximately 30% of cANPs/RANPs travel to see patients outside their immediate practice environment; the majority of these visits are to the patient in their own home or in a community setting.
- Approximately half of cANPs/RANPs stated that they further intended to expand their practice beyond their current location to areas including: primary care centres, assessment of older people in their own homes and community settings, outreach services for patients to prevent hospital admission, GP practices, schools, and satellite clinics.
- A very small proportion of cANPs/RANPs (6.6%) reported that they have hospital admitting privileges without recourse to a medical practitioner.

- Approximately 27% of cANPs/RANPs have hospital discharge privileges without recourse to a Medical Practitioner.

Caseload and Referral Processes to/from an cANP/RANP Service

- The majority of cANPs/RANPs (75%) receive patient referrals from a healthcare professional within their clinical speciality.
- cANPs/RANPs are increasingly receiving referrals from community settings (including GPs and public health nurses), other healthcare specialities and directly from patients.
- cANPs/RANPs are increasingly referring patients to other groups of health professionals (physiotherapy, occupational therapy, speech and language therapy, medical practitioners GPs community nurses, other RANPs and clinical nurse specialist specialists).
- Approximately 87% of cANPs/RANPs refer patients directly to another healthcare professional without recourse to a medical practitioner.

Educational component of cANP/RANP role

- The vast majority of cANPs/RANPs (97.1%) provide educational support to other members of the healthcare team.
- The majority of cANPs/RANPs provide educational support to other health care professionals through formal requests from colleagues, as part of a structured teaching programme or in response to develop an area of clinical practice or at the request of other health care team members.

Scope, facilitators and barriers of cANP/RANP practice

- The majority of cANPs/RANPs reported that they were able to work at their full scope of practice (58.2%); however, a minority (38.1%) of cANPs/RANPs disagreed that their skills were being fully utilised.
- The majority of cANPs/RANPs (79.6%) reported that they were limited in seeing certain patients. Reasons included: inability to prescribe medications or ionising radiation, personal patient choice by the cANP/RANP, limited support from services, lack of a job specification or patients with whom they could consult specifically identified in a job description.
- The top three factors that facilitated cANPs/RANPs in their role included: the physicians with whom cANPs/RANPs worked; the cANP/RANP's level of clinical experience prior to entering the cANP/RANP programme; and multidisciplinary team with whom the cANP/RANP worked.
- The top three barriers to the role included: the physical working environment; other healthcare professionals' perception of the role; and the organisation in which the cANP/RANP is employed.
- cANPs/RANPs reported increasing competence to undertake their role.
- Overall, the vast majority of r cANPs/RANPs (80.6%) had no concerns regarding their scope of practice.

Multidisciplinary and cANP/RANP Led Clinics

- The types of multidisciplinary clinics in which cANPs/RANPs are involved include: memory clinics, falls clinics, frailty assessment clinics, symptom management, management of long-term illnesses, allergy clinics, reproductive health, respiratory and

rheumatology clinics, stroke and Parkinson's disease clinics, oxygen therapy clinics, and emergency department reviews (soft tissue injury management).

- Approximately 48% of cANPs/RANPs reported that provided cANP/RANP led clinics.
- These clinics included: cognitive assessment, falls assessment, polypharmacy and discharge reviews, delirium assessment, dementia review and frailty assessment, medication reviews, treat-to-target reviews, optimisation of treatments for inflammatory joint disease, and gout management, disease assessment and management, asthma optimisation, management of COPD, and allergy reviews, review clinics, fracture clinics, and ambulatory care reviews.

Prescribing Activities of cANPs/RANPs

- The majority of cANPs/RANPs were prescribing medications (62.1%) with half of cANPs/RANPs indicating that they were currently prescribing ionising radiation (50.0%).
- For cANPs/RANPs currently not prescribing medications or ionising radiation, the main reasons included: cANPs still completing the prescribing/ionising radiation component of their course; and delays with approval of collaborative practice agreement by their hospital's drugs and therapeutics committees.

Organisational Support

- cANPs/RANPs reported high levels of satisfaction with patient caseload (68%), level of autonomy (78%), respect from physician colleagues (79%) and opportunities for professional development (75%).
- Approximately 47% of cANPs/RANPs were dissatisfied with infrastructural space (i.e. office space, clinical space) to undertake their role.
- The vast majority of cANPs/RANPs were highly satisfied with the support received from consultants.
- Overall, approximately 70% of cANPs/RANPs were satisfied with their position within the organisation.

Interventions and Outcomes

- Approximately 68% of cANPs/RANPs were involved in service practice redesign as part of their role.
- Examples of service redesign included: the introduction of frailty services in an emergency department, environmental design related to dementia care, geriatric assessment clinics, syncope pathways, ANP-led dementia clinics, joint community and acute older persons' assessment hubs, nurse led asthma and oxygen clinics, integrated respiratory services, smoking cessation services, Frail Intervention Therapy (FIT) teams, allergy services, outreach nursing home services, nurse-led virtual clinics, patient flow pathways, and fracture prevention clinics.
- The vast majority of cANPs/RANPs (80%) were involved in contributing to the development of protocols and guidelines.
- Telephone contact/support was the most predominant method of contacting patients electronically (89%). Approximately 50% of cANPs/RANPs also used Virtual Clinics as a means of engaging with patients.
- The greatest impact of their role reported by cANPs/RANPs included: enhanced patient satisfaction (87.2%); patient education about their health (87.1%); increased continuity of care (73%), increase in patients' access to care (73%); a positive impact on

potentially avoidable hospitalisations (61%); and decreasing patient complications (56%).

Output Activities of cANPs/RANPS

Scheduled versus Unscheduled Care Activity for cANP/cANP/RANP
- On average, cANPs/ANPs are undertaking 17 to 18 face-to-face consultations and 9 virtual (telephone contact/advice) consultations per week.
- Approximately 65% of the time spent by ANPs per week is in patient contact with approximately 22% of the time spent on contacts with other clinicians.
- The proportion of patients seen by cANPs/RANPs is dependent on the speciality with cANPs/RANPs working in the area of old age and chronic illness reporting longer consultations.
- Apart from cANPs/RANPs in unscheduled care, the majority of cANPs/RANPs see return patients.

Impact of cANP/RANP face-to-face and virtual interventions on health service outcomes

- On average, 3.9 patients per week per cANP/RANP are being removed from a specialist waiting list with an average of 4.3 patients per week per cANP/RANP avoiding hospital admission.
- The number of patients removed from a specialist waiting list, varies by speciality; on average, 4.6 patients from rheumatology, 5.6 from older persons services and 6.9 per week, per cANP/RANP.
- The number of avoided hospital admissions also varied by speciality with, on average, 1.7 patients from rheumatology, 4.8 patients from unscheduled care, 3.9 patients from older persons care and 7.7 patents per cANP/RANP, per week.

Referral pathways to cANP/RANP services

- On average, cANPs/RANPS were referred 16.6 patients per week (internally and externally). The largest number of referrals came from medical practitioners (average = 6.3) followed by referrals from the community (average = 3.6).

Prescribing Activity

- On average, cANPs/RANPs are prescribing 4.2 times per week and describing 1.7 times per week.
- The highest levels of prescribing are amongst RANPs working in the area of respiratory care with the highest levels of de-prescribing recorded by RANPs working in rheumatology.
- Barriers and limitations in prescribing for cANPs/RANPs included restrictions in prescribing some medicinal products and delays in completion of their collaborative practice agreement (CPA).
- On average, RANPs prescribe ionising radiation 4.7 times per week; RANPs in the area of unscheduled care, with an average of 3.4 patients per day prescribed ionising radiation by this cohort.

Expert and Educational Advice

- cANPs/RANPs in the provision of expert advice to nursing staff, have, on average, 10 interactions per week; this includes advice provided to colleagues working within and without their organisation.

- cANPs/RANPs are also involved in the provision of advice to medical practitioners and health and social care professionals.
- cANPs/RANPs are highly involved in the provision of education to patients and families, especially those who are experiencing long-term illnesses. This is provided both face-to-face and virtually.

Research contributions and responsibilities

- cANPs/RANPs are involved in the development of clinical practice guidelines, organisational policy developments; the extent of activity in these areas varied according to speciality.
- The vast majority of cANPs/RANPs undertake the collection of data to measure performance, the impact of their role and for external agency review.
- A relatively small proportion of cANPs/RANPs are involved in direct research activity (e.g. projects, conference presentations, publications).

Patient Experience and Enablement

Patient Experience

- Over 95% of patients reported that they had a had a positive experience of the care received from an cANP/RANP.
- Over 98% of patients agreed that the cANP/RANP was understanding of their personal health concerns, gave them encouragement in regards to their health problems, felt comfortable in asking the cANP/RANP questions, and that the cANP/RANP spent enough time with them.
- Almost all patients surveyed (99%) were in agreement that they had confidence in the cANP/RANP's skills and that the cANP/RANP was professional in her/his approach.
- 97.0% of respondents were satisfied with the care they received with 99.4% reporting that the care they received from the cANP/RANP was of a high quality.
- Overall, patients in all four specialities reported that they received high quality care from cANPs/RANPs.

Patient Enablement

- The majority of patients (90% or greater) reported that they felt better or much better following the consultation with an cANP/RANP.
- The majority of patients (90% or greater) reported that they felt better or much better able to understand and cope with their illness and able to keep themselves healthy following consultation with an cANP/RANP.
- Patients commented that they received high levels of care from cANPs/RANPs, that this care was individualised to their needs and delivered in a highly professional manner. Patients also commented that they were treated with dignity and respect as well as having high levels of contact with an cANP/RANP in both face-to-face meetings and telephone contact and follow-up support.

Administrative Data Outcomes (National Treatment Purchase Fund and Emergency Departments)

- No change in waiting list data was identified from the National Treatment Purchase Fund dataset; at this stage, this may be due to the specificity and validity of the data collected and that the newly assigned cANPs/RANPs have not yet fully internalised their role into the health service.

- cANPs/RANPs appointed demonstrated a significant impact on waiting times and PET times for patients at triage levels 4 and 5; this impact was particularly significant on reducing patient experience times.

Outcomes from Interviews with ANPs and Key Stakeholders

Main opportunities realised in the implementation of cANP/RANP policy

- Improving patient care through setting up new patient services.
- Career advancement to effect RANP-led service development

Key facilitators to cANP/RANP policy implementation

- Supportive clinical consultant mentors
- Nursing and Midwifery Planning Development Units
- Supportive Directors of Nursing and effective Local Implementation Groups
- Educational input and RANP role preparation
- Role awareness and role clarity

Key challenges to cANP/RANP policy implementation

- Sufficient lead-in time
- Demonstrator site selection and process of setting up new posts
- Organisational readiness and site preparation

Key barriers to cANP/RANP policy implementation

- Lack of infrastructure resources - clinic space/ admin/ office space
- Delays with backfill and release arrangements
- Underdeveloped organizational governance structures and mechanisms
- Role resistance from administration/ secretarial services, allied healthcare professionals and nursing colleagues

Sustainability of RANP workforce and future RANP programmes

- Infrastructure resourcing- administration support and clinic space
- Coded identifier and system to identify RANP
- Cover arrangements for lone RANPs
- Governance and mechanisms for ensuring quality governance standards

Recommendations

The independent evaluation recommends that the national rollout of the model of cANP/RANP continue and be further supported and strengthened through the implementation of the recommendations outlined below:

- Based on the results of this evaluation and the emerging impact that ANPs are having on patient access to care, waiting times and patient outcomes, the target of increasing the proportion of ANPs to 2% of the nursing workforce should be continued.

- Further development is required to identify individual cANPs/RANPs on hospital and data administrative systems (for example HIPE, NQAIS and iPiMs); these systems can be used to capture the clinical work of cANPs/RANPs as well as being used to measure patient related outcomes in audits, research and evaluation. A coded identifier for each cANPs/RANP should be developed that is integrated into the organisational systems, so that cANPs/RANPs can demonstrate their role and impact on improving patient services.

- Clear job specifications and roles should be put in place by all employing organisations; these specifications will ensure that cANPs/RANPs can operate at their full scope of practice as well as alleviating any ambiguities that may occur with the role.

- Each organisation should endeavour to provide infrastructural and administrative support to cANPs/RANPs within their clinical setting; there is an imperative to provide clinical space that can be fully utilised for cANPs/RANPs to consult with patients.

- ANPs, should, as a matter of course, have the ability to request diagnostic tests, have full prescriptive authority both for medications and ionising radiation as required and have full access to referral pathways in the provision of full episodes of care.

- Prescribing of medicinal products and ionising radiation was identified as core elements in the role of the cANP/RANP; therefore, it is recommended that these should continue to be a core component in the credentialing process of cANPs/RANPs.

- Hospitals and employing authorities should ensure that governance structures are in place to facilitate the implementation and ongoing support of the Advanced Practice roles as they are developed and implemented.

- It is evident from the results of this evaluation that the Advanced Nurse Practice roles have been implemented in areas where there are service challenges; it is recommended that these are kept under review and amendments made as required, including the provision of new roles as other service challenges arise.

- The evaluation identified that the majority of cANPs/RANPs work patterns are day-time and week day hours (Monday to Friday). It is recommended that consideration be given

to ensuring that the times worked by cANPs/RANPs match periods of patient demand including weekend and night times as appropriate.

- The evaluation identified that a major facilitator in the development of the role of the cANP/RANP was the educational preparation received by candidates. Therefore, it is recommended that the current broad-based educational preparation of Advanced Practitioners continue to be delivered by institutes of higher education.

- Further research and evaluation of the introduction of a critical mass of cANPs/RANPs be undertaken. This study was conducted while many of the candidate cANPs/RANPs were in the early stages of role development. Continued research on this group would provide better insight into how the role will impact on the key deliverables of access and reduced waiting lists.

- Future evaluations should include the introduction of comprehensive economic evaluations and be underpinned by the PEPPA Plus evaluation model.

- The recommendation in the *Consultation Paper* that the minimum regulatory timeline for undertaking an RANP/RAMP pathway be reduced to 2-years be kept under review (Department of Health, 2019).

- The evaluation identified that there were challenges related to the understanding of the role amongst other cohorts of healthcare professionals; therefore, it is recommended that collaboration with interdisciplinary teams should be at the core of the operationalisation of the role; this will ensure that all healthcare professionals develop an understanding and appreciation of the role of the cANP/RANP.

- The evaluation identified that a number of cANPs/RANPs were developing services that incorporated both hospital and community health systems; therefore, it is recommended that, under the auspices of the Sláintecare implementation plan, that these services are further developed and funded to ensure their impact on patient care in both hospital and community settings.

- cANPs/RANPs' teaching and research roles are further developed through the enhancement of formal arrangements and appointments between clinical sites and institutes of higher education.

- Build leadership capacity at cANP level, so that cANPs/RANPs can begin to develop the leadership skill-set necessary for the long-term sustainability of the role, including cANP/RANP involvement in health system improvement and involvement in senior management teams at hospital and community levels.

- The introduction of cANP/RANP roles should be preceded by a local organisational planning phase to include candidate selection and recruitment, organisational preparation, job description and role awareness development. Organisations should implement the recommendations in the National Guidelines for the HSE.

- Strategic leadership and support from organisations is needed in order to realistically prepare future advanced practice nurses for the challenges they will face, through mentorship programmes and continuous further training.

- National Guidelines for the Development of Advanced Nursing or Midwifery Practitioner Services (HSE 2020) referred to and implemented in all stages of the development and implementation of Advanced Nursing and Advanced Midwifery Practitioner Services.

Conclusion

Following the publication of the document entitled: *Developing a Policy for Graduate Specialist and Advanced Nursing & Midwifery Practice: Consultation Paper* (Department of Health 2017) and, during the period of the evaluation, *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice* (Department of Health 2019), a joint research team from the schools of nursing and midwifery at University College Cork and Trinity College Dublin, in conjunction with cANPs/RANPs designed and completed a multi-method evaluation of the initiative. This model of evaluation, incorporating the PEPPA+ framework and the development of programme logic models can be used to undertake future evaluations as the initiative is further integrated into the health services. During the process of the evaluation, a large proportion of cANPs/RANPs progressed from candidate to registered status and this enabled the evaluation to identify the impact of the introduction of the critical mass of cANPs/RANPs in the four key areas (older persons' care, rheumatology, respiratory care, and unscheduled care).

The principal findings from the evaluation demonstrate that the introduction of the critical mass of cANPs/RANPs is beginning to impact on a number of key patient outcomes. This is particularly evident in relation to the positive impact that the role is having on the patient experience and patient enablement. Patients expressed high levels of support for the role and identified that they were receiving high quality professional care that was positively impacting on their quality of life. In addition, the critical mass of cANPs/RANPs evaluated in this study were identified as providing high levels of patient education, continuity in the provision of patient care, the potential to avoid hospitalisations and decreasing patient complications.

In a relatively short period of time cANPs/RANPs were identified as providing a variety of direct clinical services to patients and these are increasing over time. This increase in the provision of clinical care is also associated with greater levels of autonomy amongst ANPs as they reach registration as well as the development and delivery of innovative services to patients in a variety of settings. Many of these innovative services are matching the key recommendations in Sláintecare; that is implementing services that bridge the gap between hospital and community settings, and reduce waiting times and hospital admissions.

The most important factors that have contributed to the success of the introduction of the role include the mentorship and supervision provided by medical practitioners to which cANPs/RANPs were aligned; this has resulted in strong collaborative working relationships. Other strong facilitators included the educational programmes designed and implemented by the institutes of higher education as well as the support of the Office of the Nursing and Midwifery Services Directorate (ONMSD) and the National Midwifery and Planning and Development Units (NMPDUs) in the Health Services Executive. There is no doubt that the initiative would not have progressed to its current stage without the input and support of medical practitioners, universities/colleges and the ONMSD/NMPDUs.

There are a number of barriers currently inhibiting the ongoing development of the role, not least the challenges of infrastructural support to allow cANPs/RANPs to practice to their full scope of practice. It is also evident from the evaluation that the critical mass of cANPs/RANPs are at the introduction and early implementation phases of integration within the health services; however, the results from the evaluation point to the potential for the role to develop long-term sustainability as it becomes internalised into the health services in Ireland.

In conclusion, as more candidate cANPs/RANPs become registered, the potential to alleviate pressure points in the management of long-term illness and unscheduled care is high; the current operationalisation of the role of cANPs/RANPs also has the potential to provide high quality care to patients in a variety of settings. In addition, the impact of cANPs/RANPs on the health and wellbeing of patients was evident form the very high levels of satisfaction reported by patients both in their experience of a consultation with an cANP/RANP as well as their ability to manage their illness or injury following a consultation. Overall, based on the findings from this evaluation the independent evaluation recommends that the national rollout of a critical mass of cANPs/RANPs continue and be further supported and strengthened.

Chapter 1: Introduction and Context

1.1 Introduction

In March 2017, the Department of Health published a document entitled: *Developing a Policy for Graduate Specialist and Advanced Nursing & Midwifery Practice: Consultation Paper* (henceforth referred to as the *Consultation Paper*). Following publication, there was national consultation with a broad range of stakeholders focusing on this major policy initiative relating to the nursing and midwifery workforce in Ireland. The policy aimed to develop a flexible, enabling and adaptive workforce, part of which involves developing a critical mass of advanced nurse practitioners (ANPs) and advanced midwife practitioners (AMPs). First introduced into the nursing workforce in Ireland 17 years ago (2001), the expansion of ANP/AMP roles has been gradual with the need being determined primarily by individual healthcare organisations; these roles were predominantly based in the acute healthcare sector. In 2017, 193 cANPs/RANPs were registered with the Nursing and Midwifery Board Ireland, comprising less than 0.2% of the total nursing and midwifery workforce in Ireland (DoH, 2017).

The Consultation Paper outlined the aim of increasing the number of cANPs/RANPs/AMPs from 0.2% to 2% of the total nursing and midwifery workforce by 2021. This policy has now been implemented with demonstrator sites established resulting in 134 candidate Advanced Nurse Practitioners (cANPs) being recruited in 2017 with a further 30 cANPs recruited in 2019; these two cohorts constituted the basis of this evaluation. The initial target cANP/RANP service areas are in chronic disease management (rheumatology and respiratory medicine), older persons care and unscheduled care. The Nursing and Midwifery Board of Ireland (NMBI) accredit the educational programme. The cANP/RANP education programme aims to maximise the potential of nursing to be both responsive and proactive in developing new services within the context of national reform (e.g. integrated care programmes, shift in hospital-centric services to predominately community/primary care led healthcare, community nursing and midwifery response to an integrated model of care).

The Nursing and Midwifery Board of Ireland definition of cANPs/RANPs/AMPs states that:

> Advanced practitioners are educated to master's degree level and have the competencies to be senior decision makers that undertake a comprehensive advanced physical and/or mental health assessment of patients with complex multiple healthcare needs. They can interpret the results of multiple different assessments and investigations to make a diagnosis, and plan and deliver care
> (accessed at: https://www.nmbi.ie/Registration/Advanced-Practice, 3rd January 2020).

In addition, the NMBI further outlines the core competencies of cANPs/RANPs including acting as clinical leaders who can make decisions based on evidence as well as using appropriate interventions and treatments, including prescribing as required. The definition further outlines the independence of the role while highlighting the importance of interdisciplinary working.

There is a paucity of systematic research evaluations of cANP/RANP roles, not least due to the complexity of the role and the variety of healthcare settings in which they are working. In 2010, a national mixed-methods evaluation of specialist and advanced roles in nursing and midwifery, known as the SCAPE project was undertaken in Ireland (Begley et al. 2010). The findings indicated positive clinical outcomes for patients and that care provided by cANPs/RANPs (and specialists) was cost neutral. A challenge encountered in the SCAPE study related to collection of performance data due to limitations in how data were collected within the health service. In contrast, the development of a critical mass of cANPs/RANPs in the service as targeted by the

Department of Health (2017) *Consultation Paper* will involve collecting key performance indicators (KPIs) of the Health Service Executive (HSE) as well as additional metrics relevant to the specific practices of cANPs/RANPs. Given the significant financial investment towards increasing the cANP/RANP workforce, a comprehensive research evaluation is required to measure the impact of cANPs/RANPs within the health services. Following on from the publication of the Consultation Paper, in 2019, the Department of Health published a key document entitled: *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice*; this built upon the recommendations made in the *Consultation Paper* and also provides a basis for discussing the results of the evaluation outlined in this report.

This report outlines the results of the evaluation collaboratively undertaken by the Schools of nursing and midwifery at Trinity College Dublin and University College Cork. The focus of the research was evaluating the impact of the policy initiative on health service objectives such as waiting list reduction, timely access to services for patients, avoidance of unnecessary hospital admissions and early discharge from acute healthcare settings. As the allocation of cANPs/RANPs is focussed on the following areas: unscheduled care; older person service; and chronic disease management of rheumatology and respiratory medicine, the evaluation will identify and evaluate the impact of introducing a critical mass of cANPs/RANPs to these four service areas.

The first section of this chapter discusses the report: *Developing a Policy for Graduate, Specialist and Advanced Nursing and Midwifery Practice: Consultation Paper* (Department of Health 2017); this report provides the basis of the evaluation outlined here. The recent publication of *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice* (Department of Health 2019) is also discussed within this chapter. The final section of this chapter outlines the aims and objectives of the evaluation as well as providing an overview of the structure of the report.

1.2 Developing a Policy for Graduate, Specialist and Advanced Nursing and Midwifery Practice: Consultation Paper

In 2017, the Department of Health published a document titled: *Developing a Policy for Graduate, Specialist and Advanced Nursing and Midwifery Practice: Consultation Paper*[1] (henceforth referred to as the *Consultation Paper*). This document provided an 'evidence-based, patient-centred' framework for the introduction of cANPs/RANPs into four identified service areas; these included: older persons' care, rheumatology, respiratory care, and unscheduled care (Department of Health 2017: 5). This *Consultation Paper* also provided the basis for the aims and objectives and the design of the evaluation. The *Consultation Paper* highlighted, that compared to some countries, the proportion of cANPs/RANPs of the total number of nurses and midwives registered with the Nursing and Midwifery Board of Ireland was relatively low at the time of the report (2017) this was less than 0.2% of the total workforce. To address this, one of the principal aims outlined in the *Consultation Paper* was to 'develop a critical mass of graduate, specialist and advanced practice nurses and midwives' (Department of Health 2017: 5). This 'critical mass', it was proposed, would result in a number of improvements related to 'patient flow', including earlier discharge from hospital and greater access to healthcare both in terms of time to be seen and location of the service.

The reasons for introducing a new policy included the small number of cANP/RANP/AMP posts, poor geographical location of the posts, and, what the *Consultation Paper* highlighted as 'unduly cumbersome professional pathway' to registration that was in place at the time the document was published (Department of Health 2017: 6). Therefore, based on these barriers, the

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[1] it is of note that this document has been superseded by the publication titled: *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice* (Department of Health, 2019)

Department of Health proposed a new interconnected framework for graduate and specialist advanced practice to meet service need. This interconnected framework differed in a number of ways from the model that was in place prior to the time the *Consultation Paper* was published. The main changes recommended in the proposed interconnected framework included: a substantial increase in the number of nurses and midwives at cANP/RANP/RAMP levels, the introduction of a credentialing pathway, reducing the educational pathway from 7 to 2 years and focusing on developing advanced practice clinical services in the areas of most need. This interconnected framework, it was highlighted, would continue to build on and integrate the importance of interprofessional collaboration as well as the comprehensive regulatory framework that was in place for the traditional model of advanced practice.

The *Consultation Paper* provided a comprehensive discussion of the principal policy goals. Goal 1 related to developing a critical mass of ANPs and taking as its benchmark registered nurses working as ANPs in comparable countries; the aim was to increase advanced practice numbers from 0.2% to 2% of the nursing and midwifery workforce by 2021. This, in real terms, would increase the number of ANPs/AMPs registered with the NMBI from 193 to approximately 700. Within this critical mass, there was an aim to ensure that ANPs/AMPs were geographically aligned to ensure clinical provision matched patient need. The *Consultation Paper* also highlighted that there was a need to introduce 'succession planning' to ensure prospective ANPs/AMPs were advised on the pathways to follow and that these pathways be developed to match the health needs of the population.

In relation to Goal 2, the *Consultation Paper* made a number of recommendations related to the education and training of prospective cANPs/RANPs/RAMPs. These recommendations included the introduction of a system of credentialing under the auspices of the NMBI, a system of recognition of credentialed education, the recognition of accredited education in other jurisdictions, and the reduction of the regulatory pathway from 7 to 2 years. The *Consultation Paper* also recommended the shortening of the educational programme for experienced nurses and midwives and the broadening of the educational provision to 'avoid the development of micro-specialisation within a service specialty' (Department of Health 2017: 28). In addition, a number of recommendations were also highlighted in relation to Clinical Nurse/Midwife (CNS/CMS) recognition, inter-professional education standards, mentoring and support systems, educational and research pathways and governance and managerial structures.

Goal 3 in the *Consultation Paper* outlined a number of recommendations on the utilisation and deployment of the nursing and midwifery resource. The recommendations under this theme outlined the governance and accountability structures related to the new model as well as the need to ensure nurse specialists and nurse practitioners have access to services and structures that enables them to provide a full episode of care. There is also a recommendation that the nursing and midwifery resource is matched to need in terms of patients' patterns and use of health services.

Goal 4, the final set of recommendations in the *Consultation Paper,* referred to the need to measure the impact and outcomes associated with the implementation of the framework; the outcomes identified included number of patients seen, impact on patient waiting lists, clinical care outcomes and cost effectiveness of the role. In addition, the *Consultation Paper* recommended that an evaluation framework, similar to the PEPPA model be out into place; this final recommendation underpinned the evaluation framework used in this study.

The *Consultation Paper* also recommended a number of major changes in the development and implementation of the RANP/RAMP roles, not least in relation to the time required to become registered as an ANP/AMP and the proposed system of credentialing. In addition, the document proposed a more structured approach to identifying patient need as well as a core group of

outcomes that it was proposed that the new model would impact on including patient waiting times, impact on access to services, hospital avoidance and waiting list reduction. Following the publication of the *Consultation Paper*, 124 candidate cANPs were recruited in 2017 and 30 in 2018 to the four key specialist areas; this cohort became the sample used in this evaluation.

1.3 A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice

In 2019, the Department of Health, building on the draft *Consultation Paper* and following a period of consultation within the profession and with key stakeholders, published *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice* (henceforth referred to as the *Policy Document*). This policy document comprehensively outlined the model for the introduction of cANP/RANP/RAMPs in Ireland including the structure of the proposed new model, the professional and service context influencing the introduction of the policy, structures required to implement the model, and how the outcomes from the model should be tested.

The proposed new model outlining the pathway from graduate to advanced practice built upon that recommended in the *Consultation Paper* (Department of Health 2017) and proposed both a development and regulatory pathway that integrated credentialing and competence with a central focus on patient-centred care. Four core principles underline the new model for graduate to advanced practice and include: services based on population need, changes in education, flexibility in regulation and measurement of impact. The new model, similar to that outlined in the *Consultation Paper,* recommended a two year[2] timeframe through which a graduate could progress to advanced practice. This recommendation was based on the perception that the previous model leading to registration as an advanced nurse/midwife practitioner was convoluted and prolonged taking a minimum of seven years before registering as an ANP/AMP. To streamline the process and reduce the time to registration, the Department of Health (2019: 10) recommended that there should be a process of 'progressive credentialing'. This process of credentialing recognises and records previous competency and capability attainments gained by the nurse or midwife which allows for a reduction in the time required before the ANP/AMP commences practice. The Department of Health (2019: 53) envisages that under the process of credentialing, a nurse or midwife is able to practice a skill 'prior to final certification as an advanced practitioner' (see Figure 1.1).

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[2] The Department of Health (2019) recommends that specialist practitioners can progress to advanced practice over a one-year period
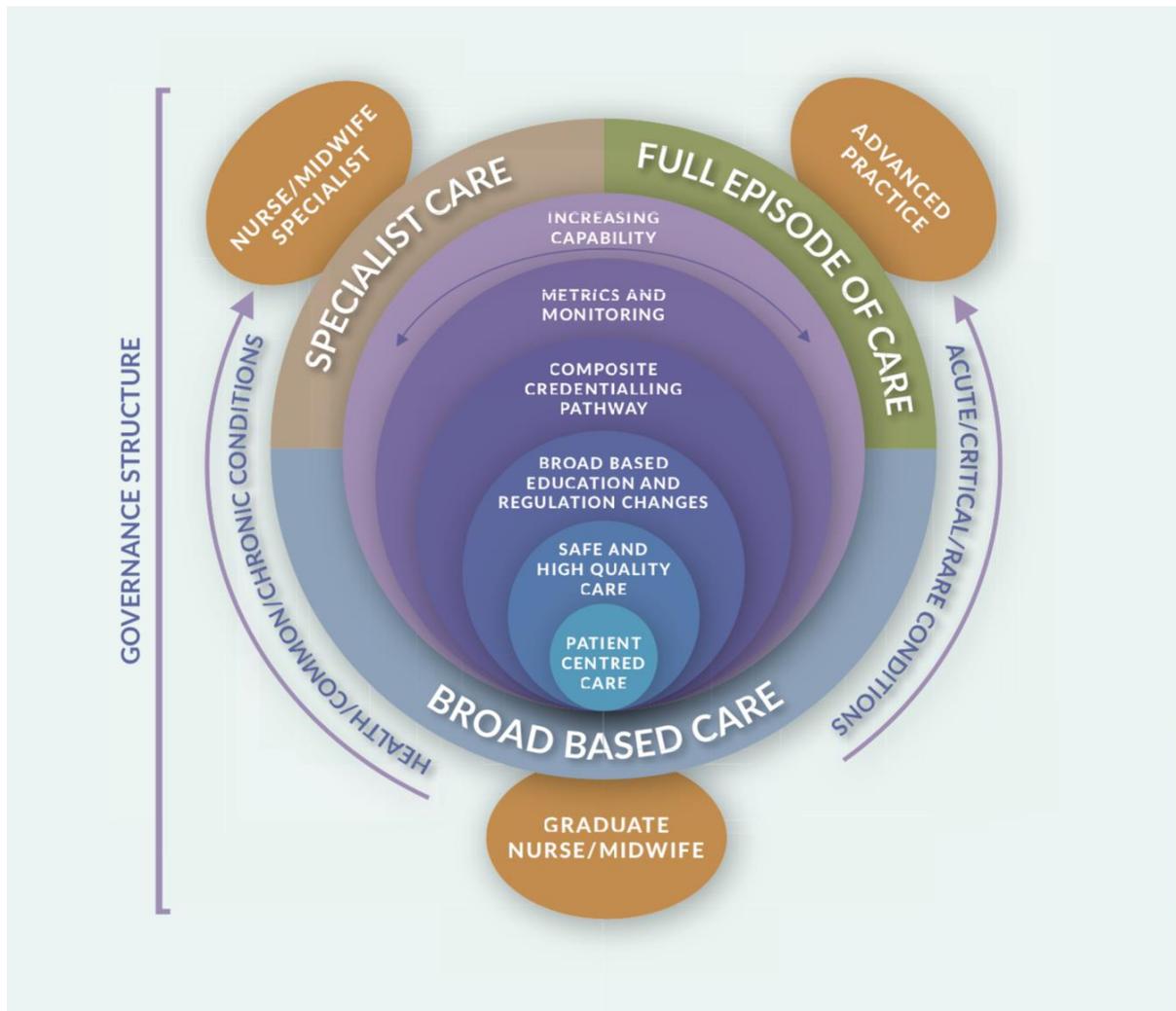
Figure 1.1 Model form Graduate to Advanced Practice (Source: Department of Health 2019)

The educational model outlined in the *Policy Document* is underpinned by integrated care; the aim of which is to 'is to improve outcomes and experiences for the greatest number of patients by putting patient outcomes at the centre of activity' (Department of Health 2019). The model of education outlines five national integrated care pathways; three of which are the focus of this evaluation (older persons' care, chronic diseases, unscheduled care) as well as midwifery and paediatrics (the education pathway is outlined in Figure 1.2). In addition, in developing the educational framework, the Department of Health (2019) recommended that interprofessional education should be embedded within the model; this, it is argued, will facilitate health professionals to share learning and build up models of collaborative working.
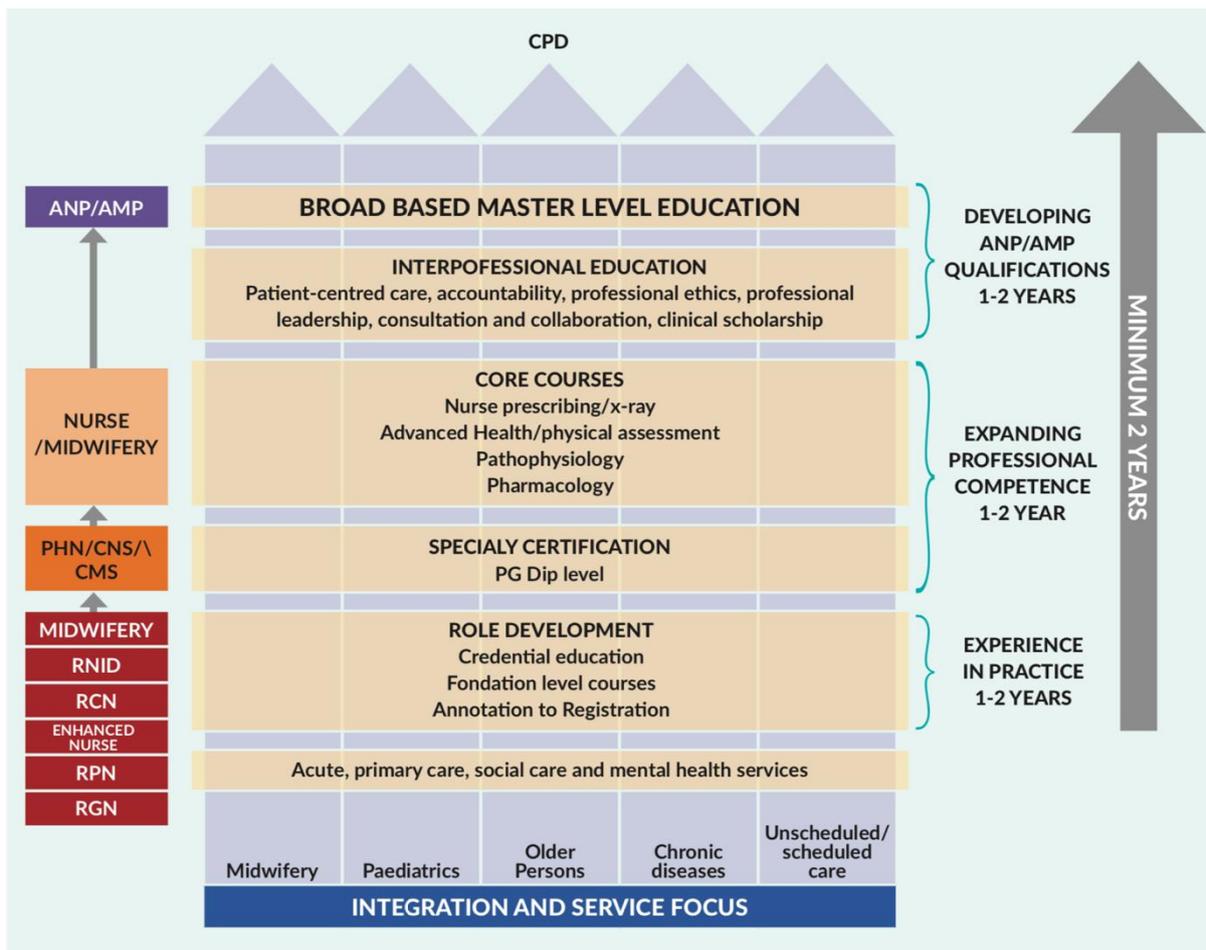
Figure 1.2 Education Pathway to Support Integrated Care: From Graduate to Advanced Practice (Source: Department of Health 2019: 12).

Within the professional context, the *Policy Document* outlines the different levels of education and competency required at graduate nurse and midwife levels, clinical nurse and midwife specialist levels (CNS/CMS) and advanced nurse and midwife levels. The level of education for ANP/AMPs is outlined at master's level with associated higher level competencies including critical thinking, clinical leadership and professional values. As within the *Consultation Paper,* the *Policy Document* reiterated the target to grow the proportion of ANPs and AMPs to 2% of the total nursing and midwifery workforce (approximately 700 nurses and midwives). The *Policy Document* also identified that the current geographic spread and specialities in which ANPs/AMPs worked was inconsistent across the hospital groups and outlined the need for the HSE to align future recruitment of these posts with service needs.

The *Policy Document* also outlines the service context in which it is proposed that ANPs/AMPs will work. This service context includes the growth in population; in particular the increase in the population aged 65 years and older aligned with an expectant increase in healthcare needs for this cohort of people. In addition, the challenges facing emergency departments (EDs) in Ireland are also outlined with an increase in ED crowding and extended wait times for patients to see a healthcare professional. Aligned with population growth and an increase in ED attendance, the *Policy Document* also highlights the increase in the number of patients waiting for scheduled care in hospitals both as inpatients and out-patients, and the increase in the prevalence of people with long-term illnesses, in particular chronic obstructive pulmonary disease, asthma, diabetes and heart failure with the need to further enhance primary care services and education for self-management to reduce hospital admissions and enhance quality of life for these patients. These

challenges, aligned with introduction of Sláintecare[3], resulted in the Department of Health, highlighting the need to reconfigure services that enhance patient access and reduce the demands on the hospital system through the integration of services between the hospital and community.

Central to the *Policy Document* is the concept of integrated care with the role of the ANP/AMP viewed as being a position that can implement the principles of integrated care through the development of a case-management approach to care, bridging the gaps between hospital and community services as well as focusing on disease modification, and facilitating disease prevention and patient self-management. As stated by the Department of Health (2017: 52), it is envisaged that the ANP/AMP will deliver 'complete episodes of care for complex, acute and rare conditions'.

In the *Policy Document*, the Department of Health (2019: 60) also recommends that 'robust governance arrangements' are put in place by healthcare organisations to ensure that cANP/RANP/RAMP roles are developed and implemented thus ensuring that they are focused on service need and provide high quality care. In addition, measurement is also highlighted in the *Policy Document* as a core component in the roll out of the new model. Measurements recommended include: numbers of patients seen, numbers of patients on waiting lists, research activities of cANPs/RANPs, and patient outcomes which include measures of quality of life, patient satisfaction, length of hospital stay and health status.

To test the model outlined above, the Department of Heath put in place a two-year demonstrator project overseen by a National Steering Committee. This resulted in a tender to provide education programmes to deliver the new model. The tender was awarded to a consortium led by University College Cork and included the National University of Ireland Galway, University College Dublin and Trinity College Dublin; the first students commenced in the academic year 2017/18. In addition, under the demonstrator project, a minimum data set was developed to collect data from cANPs/RANPs. This data set was developed with the aim of measuring the impact of cANPs/RANPs in demonstrator sites on a number of outcomes including: number of patients seen, discharges and referrals, and interventions undertaken by the cANP/RANP. Under the demonstrator model, candidate ANPs (cANPs) were identified in the following areas: chronic disease management (COPD and rheumatology), older persons' care and unscheduled care (emergency departments and acute medical assessment units).

In the *Policy Document*, the Department of Health (2019) also outlined the centrality of evaluation to identify the impact of the demonstrator project on a number of outcomes. To structure this evaluation, it recommended that the PEPPA-Plus Framework (Bryant-Lukosius et al. 2016) be used. Following this, a tender competition was advertised by the Health Service Executive to undertake an evaluation of cANPs and RANPs in the demonstrator sites; this tender was awarded to the research team at University College Cork and Trinity College Dublin. An interim report was presented by the research team to the Health Services Executive in 2019 and outlined a number of initial results including the development of a critical mass of nurse practitioners in the four demonstrator sites, the roll out of the prescribing of ionising radiation and medicinal products by RANPs, the development of roles that span both hospital and community settings, increasing autonomous practice and the delivery of the full cycle of care to various patient cohorts.

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[3] Sláintecare is a ten-year programme to transform health and social care services in Ireland (see https://www.gov.ie/en/campaigns/slaintecare-implementation-strategy/).

1.4 Summary

In conclusion, the *Policy Document* outlined a new model of advanced practice for the health services in Ireland and made four key recommendations: 1) Develop a critical mass of Advanced Practitioners utilising the capability model; 2) deploy nursing and midwifery resources to impact healthcare service needs; 3) streamline the education pathway for graduates to advanced nurse/midwife practitioners; 4) evaluate service impact (Department of Health 2019: 84-85). These recommendations were based on a number of core challenges facing the health services in Ireland including access to services, waiting times, an increase in the population of people aged over 65 years, and an increase in the population of people living with long-term illness. A number of facilitators were also in place to implement the new model including the development of an all graduate workforce in nursing, the success of the previous model of advanced practice in Ireland and the increase in the levels of collaborative working across the health professions. In addition, the publication of the Sláintecare Implementation plan (Department of Health, 2019) also highlighted number new ways of deploying the healthcare workforce, not least in terms of community care, that matched the model outlined and implemented in demonstrator sites by the Department of Health.

This evaluation, principally evaluates the recommendations outlined in the report published by the Department of Health (2017); that is: *Developing a Policy for Graduate, Specialist and Advanced Nursing and Midwifery Practice: Consultation Paper*. However, a number of recommendations in this report were also published in *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice* (Department of Health 2019) and the results of the evaluation presented here will also pertain to the recommendations outlined in that policy document.

1.5 The Evaluation

The aim of the evaluation, as outlined in the tender document, was to measure the impact[4] (direct and indirect) of a critical mass of cANPs/RANPs to four service areas (rheumatology, respiratory medicine, older persons care and unscheduled care). In particular, the research evaluated the impact of this critical mass of cANPs/RANPs on service challenges in access to services: waiting lists, avoidance of unnecessary hospital admission, improved patient flow, and support for early discharge from hospital. This evaluation also included a qualitative and quantitative exploration of the effect of implementing a critical mass of cANPs/RANPs on: a) patients and families, b) staff and teams in the hospital and the community settings, c) the health service organisation and d) the health system against the service challenges identified above.

The Objectives of the evaluation study were as follows:

- Using activity based data collected by the cANPs/RANPs and the existing data available in the health services (HIPE, NQAIS, NTPF), in cooperation with the National Clinical and Integrated Care Programmes (https://www.hse.ie/eng/about/who/cspd/icp/) of the HSE, design a study methodology to identify the impact of a critical mass of candidate cANPs/RANPs being recruited to the Irish healthcare system.

- Measure the activities and services provided by cANPs/RANPs in the service areas of unscheduled care, older person care, rheumatology and respiratory medicine to determine the impact of a critical mass of cANPs/RANPs.

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[4] Impact is defined as the 'influence' or 'difference' brought about by introducing or having a critical mass of cANPs/RANPs in post.

- Evaluate the impact of the cANP/RANP on service challenges of waiting list reduction, timely access to service, improved patient flow and avoidance of unnecessary hospital admission and/or early discharge.

- Capture the perspective and experiences of patients and their families; the interdisciplinary teams; the health service organisation and the health system effect of implementation of the critical mass of cANPs/RANPs.

- Capture the contribution of a critical mass of cANPs/RANPs to existing healthcare reform strategies such as the National Clinical and Integrated Care Programmes and potential contribution to Sláintecare.

- Provide an analysis of the challenges and opportunities arising from this initiative.

- Make recommendations for service, practice and implementation for continuing the rollout of a critical mass of cANP/RANP's.

1.6 Organisation of the Evaluation

The report consists of nine chapters. This chapter outlines the context of the introduction of cANPs/RANPs into the four identified service areas and discusses the key reports published in Ireland that outline a framework for the operationalisation of the role; Chapter 3 describes the design used in the evaluation of the cANP/RANP role; this consisted of multiple approaches including primary and secondary data as well as individual and focus groups with cANPs/RANPs and key stakeholders; Chapter 3 outlines the Programme Logic Models for the four clinical specialities; these provided a framework for the development of the measures and approaches used in the evaluation; Chapter 4 presents the results of a survey of cANPs/RANPs; this was undertaken both at the beginning and towards the end of the evaluation; Chapter 5 presents the results from the Output Activity Logs - this approach was used to develop an in-depth evaluation of the activities of cANPs/RANPs in each of the clinical specialities; Chapter 6 measures patients' perceptions of the care they received from CANPS/RANPS in terms of patient-centred focus on quality and safety; two areas were evaluated: patient satisfaction with the care received from an cANP/RANP; and the extent to which they perceived they were enabled following this episode of care; Chapter 7 presents an analysis of administrative data that was collected and analysed to measure waiting lists for patients who required care in the areas of respiratory, rheumatology and older persons' care as well as the waiting times for patients who attended an emergency department; Chapter 8 presents the findings from individual and focus group interviews that explored the perspectives of cANPs/RANPs on the implementation of the policy in demonstrator sites; finally, Chapter 9 discusses the results of the evaluation as well as outlining the recommendations for the further development of the posts.

1.7 Conclusion

This chapter outlined the context of the evaluation; the structure of which was informed by the publication of *Developing a Policy for Graduate Specialist and Advanced Nursing & Midwifery Practice: Consultation Paper* (Department of Health 2017) and the testing of the model of advanced practice in a number of demonstrator sites in four specialist areas (older person's care, rheumatology, respiratory care and unscheduled care). In addition, the recent publication, *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice* (Department

of Health 2019), which builds upon the *Consultation paper* was also discussed as many of the recommendations were relevant to this evaluation and will be referred to in the Discussion chapter at the end of this report. It is evident from the two key policy documents that the drivers for the development of a new model of advanced nursing and midwifery practice in Ireland included the strong foundation of the original model and the move of nursing and midwifery to an all graduate profession. In addition, there was a recognition that there were a number of challenges with the original model as well as increasing demands to provide quality healthcare to a growing and ageing population. The two policy documents also highlighted the importance of matching health services to patients' healthcare needs, ensuring that patients could access services close to where they live and moving from a hospital centric model to one that incorporated community services as outlined in the Sláintecare implementation plan.

Chapter 2: Design of the Evaluation

2.1 Introduction

The complexity of cANP/RANP roles in the four specialist area (older persons' care, rheumatology, respiratory care and unscheduled care) in the demonstrator sites and the multitude of outcomes that are associated with the role requires the use of multiple research methods as well as a pragmatic approach. Brooten *et al.* (2011) outlines a number of key points that need to be taken into consideration when measuring the effectiveness of cANPs/RANPs in practice including: identification of relevant outcomes and dose effects. Therefore, to ensure the introduction of cANPs/RANPs into the demonstrator sites was comprehensively evaluated, the research team put in place both longitudinal and cross-sectional designs that incorporated both quantitative and qualitative research methods in the research design. This overall aim of the design was to evaluate the impact of implementing a draft policy to develop cANPs/RANPs to meet health service needs. Due to the nature and setting of the research evaluation, the research team developed approaches, in association with a cohort of cANPs/RANPs, that were used to measure the impact of the introduction of the role on patient outcomes, staff outcomes and organisational factors both pre and post the implementation. The design of the evaluation framework was informed by: the Participatory Evidence-Informed Patient-Centred Process for ANP Role Development (PEPPA) (Bryant-Lukosius & DiCenso, 2004, Bryant-Lukosius *et al.* 2017). This chapter outlines the multiple approaches that were used to evaluate the impact of cANPs/RANPs in the demonstrator sites. The first section outlines the framework that structured the evaluation – PEPPA-Plus; this is followed by a discussion of the methods used and how each of the objectives were achieved. The final section outlines the sampling designs, the approaches used in the analysis of both quantitative and qualitative data as well as how ethical issues were addressed.

2.2 Evaluation Framework – PEPPA (Plus)

The main purpose of identifying and using an evaluation framework in this study was to provide a structure that systematically measured the impact of the cANP/RANP role in the demonstrator sites on patient, nurse and organisational outcomes. The strongest forms of evaluation are those that are theory based. One model that has been designed to particularly guide the evaluation of cANP/RANP roles is the Participatory Evidence-Informed Patient-Centred Process for cANP/RANP Role Development (PEPPA) (Bryant-Lukosius & DiCenso, 2004). The design of PEPPA allows it to be used in multiple settings as well as incorporating the views of multiple stakeholders who are involved in the introduction and rollout of cANP/RANP led roles and services. In addition, it integrates Donabedian's structure, process, outcomes model of evaluation and these core concepts are incorporated into the overall PEPPA process. Recently, PEPPA has undergone a number of amendments resulting in the development of a detailed version entitled PEPPA-Plus (Bryant-Lukosius *et al.* 2017). The PEPPA-Plus model supports the requirements of the Health Service Executive (HSE) in that it allows for the production of high quality data and facilitates the evaluation of the three stages of cANP/RANP role development: 1) introduction; 2) implementation; 3) sustainability. The model is also designed to include the perspectives of stakeholders; a key requirement in this evaluation (Bryant-Lukosius *et al.* 2017).

This research evaluation model has previously been used in a number of settings, including Switzerland (Bryant-Lukosius *et al.* 2016), which similar to Ireland, is expanding the number of ANPs nationally. The framework has been developed to be adaptable by a variety of stakeholder groups including policy, practice, education and research interests. At policy level, it can be used by the Department of Health and HSE to identify the extent to which the initiative impacts on key

priority areas such as waiting list reduction, timely access to service, improved patient flow, avoidance of unnecessary hospital admission and/or early discharge and cost-effectiveness. At clinical and organisational levels, it facilitates the measurement of the extent to which cANPs/RANPs are meeting expected outcomes as well as identifying barriers and facilitators to the sustainability of the role.

The aims of the PEPPA Framework are to:

- Utilise relevant data to support the need and identified goals for a clearly defined cANP/RANP role or service.
- Support the development of a nursing orientation to clinical practice characterised by patient-centred, health-focused, and holistic care.
- Promote the full integration and utilisation of cANP/RANP knowledge, skills, and expertise from all role dimensions related to clinical practice, education, research, organisational leadership, and scholarly/professional practice (CANO, 2001).
- Create practice environments that support cANP/RANP role development by engaging stakeholders from the health care team, practice setting, and health care system in the role planning process.
- Promote ongoing cANP/RANP role development and model of care enhancement through continuous and rigorous evaluation of progress in achieving pre-determined outcome-based goals.

The following section outlines the various stages of the PEPPA Framework for evaluating the impact of cANP/RANP roles in this study. The stages outlined below are adapted from Bryant-Lukosius *et al.* (2016).

Stage 1 - Introduction: This stage involved describing the role, patient population and workload of the cANPs/RANPs while simultaneously determining the outcomes to be measured in each of the four specialist settings. This phase allowed the activities of the cANP/RANP to be aligned with pre-defined and specific outcomes and was essential in informing the structure of the evaluation plan. Overall, this stage provided clarity in relation to the posts being evaluated in terms of role competencies and scope of practice (Table 2.1). This phase was completed through the development of programme Logic Models (Chapter 3), the undertaking of a baseline survey of cANPs/RANPs (see Interim Report and Chapter 4), the analysis of documentation and data collected by the Department of Health and the HSE.

Table 2.1 Introduction (adapted from Bryant-Lukosius et al. 2016)

Role development	Evaluation objective	Structures	Processes	Outcomes
Introduction	Determine healthcare needs being met by cANP/RANP roles in rheumatology, respiratory care, older persons' care and unscheduled care	Health setting contexts Patient/family healthcare needs Factors impacting care needs & perceived priorities	Health care experiences, practices and models of care delivery	Identified key outcomes for 4 service areas Patient, provider and health utilisation outcomes related to the model of care
	cANP/RANP role clarity and congruence between healthcare needs and cANP/RANP role	Perception of cANP/RANP roles cANP/RANP role competencies, knowledge, and skills cANP/RANP role, job description	Stakeholder engagement in cANP/RANP role, design & planning cANP/RANP role, services & interventions	Consensus on priority cANP/RANP role, goals & outcomes Consistency of cANP/RANP role, scope, & expected outcomes. Stakeholder awareness

Stage 2 – Implementation: This stage measured the process factors related to cANP/RANP role development and the extent to which outcomes, to date, were achieved. This is similar to the process phase in Donabedian's model (Donabedian, A. 2005) and included an exploration of the resources in place, cANP/RANP activities related to patients, families, and the context of the healthcare setting. Appropriate measurements at this phase included utilisation and implementation of cANP/RANP roles, expected achievement of outcomes and barriers and facilitators to implementing the role. In this stage, the relationship between patient characteristics and cANP/RANP role processes and their impact on outcomes at patient, cANP/RANP, organisational and health systems level were identified. This was measured through the development of programme Logic Models (Chapter 3) and a pre-post survey of cANPs/RANPs (Chapter 4) over the period of a year. The implementation was also measured in the focus group and individual interviews undertaken with cANPs/RANPs in the demonstrator sites and key stakeholders involved in the implementation of the initiative (Chapter 8).

Table 2.2 Implementation (adapted from Bryant-Lukosius et al. 2016)

Role development	Evaluation objective	Structures	Processes	Outcomes
Implementation	Structures identified to support effective cANP/RANP role implementation	Healthcare policies, funding, legislation and regulation cANP/RANP role competencies Education programs	Participation in cANP/RANP role education and mentorship	cANP/RANP competence and confidence
	Understand the impact of cANP/RANP roles	Advanced cANP/RANP characteristics	Patient, family, cANP/RANP and healthcare provider experiences Dose of cANP/RANP role interactions	Satisfaction with cANP/RANP role Integration of cANP/RANP role in the healthcare team Achieve expected cANP/RANP role outcomes
	Promote optimal use and implementation of cANP/RANP roles	Supply of cANPs/RANPs to meet current demands Barriers and facilitators to achieving expected cANP/RANP role outcomes	cANP/RANP practice patterns and deployment Use of cANP/RANP services	cANP/RANP role acceptance cANP/RANP satisfaction and retention Effective use of cANP/RANP knowledge, skills, and scope of practice for all cANP/RANP role competencies

Stage 3 – Sustainability: The final stage measured the long-term impact and the sustainability of the cANP/RANP post within the health services setting. This phase explored the extent to which the cANP/RANP role needed to be amended and further developed based on measurement outcomes associated with the posts and identifying the barriers and challenges to the cANP/RANP role. Due to the timeframe of the research (18 months), outcomes related to this phase of the research are not yet fully realised; however, there are trends in the data collected to date, including an analysis of the outcomes in administrative data (Chapter 7), cANP/RANP

activity (Chapters 4 and 5) and patient experience and outcomes following a consultation with an cANP/RANP (Chapter 6).

Table 2.3 Long-term sustainability (adapted from Bryant-Lukosius et al. 2016)

Role development	Evaluation objective	Structures	Processes	Outcomes
Long-term sustainability	Demonstrate the long-term benefits and impact of cANP/RANP roles	Type, number & characteristics of cANP/RANP role innovations and productivity	cANP/RANP leadership to develop/ implement new policies and practices cANP/RANP involvement in health system improvement	Patient and healthcare Provider behaviours Continuity and coordination of care Quality of care Health service use, healthcare costs, and cost benefits
	Ensure cANP/RANP roles meet long-term healthcare needs	Healthcare trends Vision of the cANP/RANP role Barriers to cANP/RANP role integration Supply of cANPs/RANPs to meet future needs	cANP/RANP role evolution and needs for modification Dissemination and use of research evidence to make decisions about cANP/RANP roles	Integration of cANP/RANP roles into the healthcare system cANP/RANP role outcomes are sustained over time

2.3 Methods

The methods are structured within the objectives of the study as well as within the three stages outlined above in the PEPPA Plus model; that is introduction, implementation and sustainability. Each of the methods discussed below are presented under each of the objectives outlined in the HSE tender that was published to undertake the evaluation of the draft policy.

2.3.1 Objective 1 - Using activity-based data collected by the cANPs/RANPs and the existing data available in the health services, design a study methodology to identify the impact of a critical mass of candidate cANPs/RANPs being recruited to the Irish healthcare system.

This objective was achieved through the development of a Programme Logic Model for each of the four speciality areas measured as part of the evaluation. The development of Programme

Logic Models provided a framework for the methods used and informed the measurement approaches implemented in this evaluation. These programme logic models were developed in partnership with a cohort of cANPs/RANPs in the areas of older persons' care, rheumatology, respiratory care and unscheduled care.

2.3.1.1 Participatory Programme Logic Models

To identify the outcomes associated with each of the four areas identified in the introduction phase (rheumatology, respiratory, older persons and unscheduled care), the research team worked closely with a cohort of cANPs/RANPs to develop a series of participatory Programme Logic Models (see Figure 2.1). These logic models identified the relationship between inputs (resources specific to cANP/RANP implementation), activities (what cANPs/RANPs do), outputs (direct outputs of cANP/RANP activity), outcomes (benefits for patients) and, impact (change in condition based on outcomes; for example, changes in the quality of life of patients).
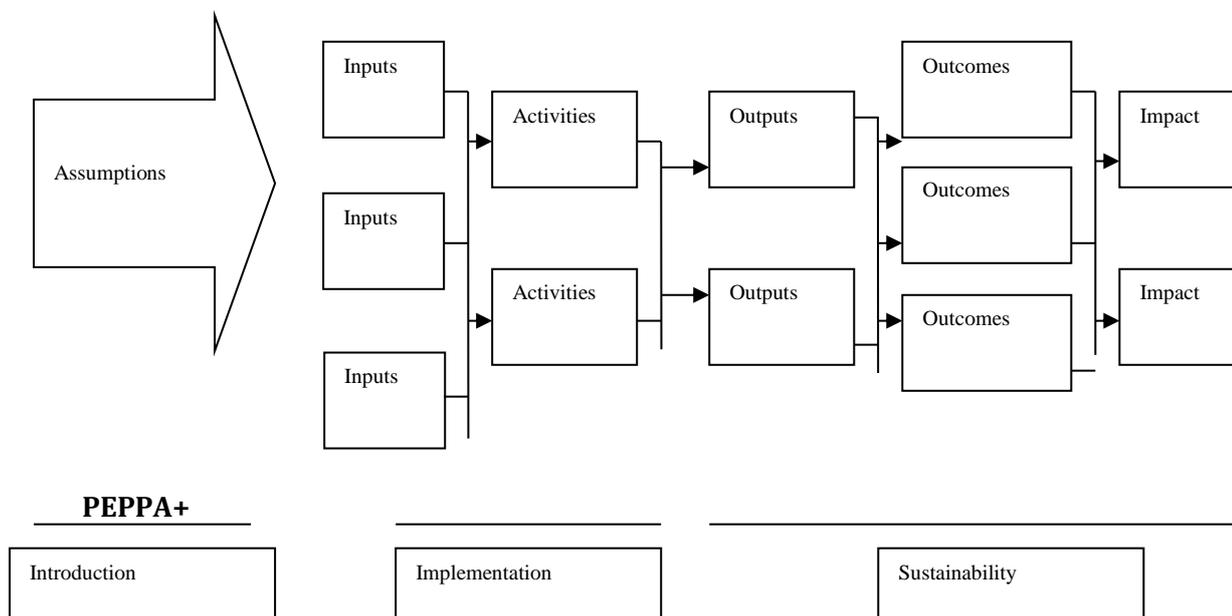
Figure 2.1 Programme Logic Model Template incorporating PEPPA+

The Logic Models were developed through qualitative approaches with a chosen cohort of cANPs/RANPs in each of the four clinical areas as well as being informed by data collected in the 'Introduction' phase of the PEPPA-Plus Framework. The approach used in the development of the Logic Models was based on that advocated by the Centre for Disease Control (CDC 2006) and enabled the identification of inputs, activities, outputs, outcomes and impacts that relate to the role of cANPs/RANPs. The development of the logic models as the first stage of the evaluation allowed for the development of measures used in subsequent stages.

2.3.2 Objective 2 - Measure the activities and services provided by cANPs/RANPs in the service areas of unscheduled care, older person care, rheumatology and respiratory medicine to determine the impact of a critical mass of cANPs/RANPs.

Two approaches were used to measure the activities and services provided by cANPs/RANPs in the four areas, which included: an online survey of all candidate and registered cANPs/RANPs in the demonstrator sites; and the development of Output Activity Logs.

2.3.2.1 Online Survey

An online survey was developed particularly for this evaluation and was administered at two time points to all candidate and registered ANPs in the demonstrator sites: at the beginning of the study (baseline - January 2019) and at the end of the evaluation (follow-up - December 2019 – January 2020). The development of the survey was structured by the PEPPA Plus evaluation framework and informed by a number of sources including previous research into the structures, processes and outcomes associated with the cANP/RANP role (Gardner *et al.* 2010) and the outcomes identified from the programme logic models in each of the four specialities. The structure of the survey was similar at both time-points and measured a number of key areas related to the cANP/RANP role, including: demographic and educational profile, areas of practice and status, mentorship and supervision, service context, activities and roles undertaken by the cANP/RANP, patient assignment and referrals, educational role, scope of practice, prescribing activity, organisational support, and outcomes associated with the role.

2.3.2.2 Output Activity Logs

Based on the Programme Logic Models and the results from the baseline online survey (see section 2.3.2.1), Output Activity Logs (OALs) were developed for cANPs/RANPs in each of the four speciality areas (older person's care, rheumatology, respiratory care and unscheduled care). The OALs were completed by 22 cANPs/RANPs in exemplar sites that included six cANPs/RANPs in the area of older person's care, six in the area of rheumatology, six in unscheduled care, and four from respiratory care. The aim of the OALs was to collect in-depth data on the activities and services provided by cANPs/RANPs over a period of time; therefore, cANPs/RANPs were requested to complete the OALs on a daily basis over a period of 4 to 5 weeks. The OALs measured the following activities and interventions undertaken by cANPs/RANPs: clinical activity, prescribing activity, the provision of expert advice, and the extent to which cANPs/RANPs were involved in education and research. Clinical activity measures were further divided to ascertain the extent to which the cANP/RANP was involved in: scheduled care, unscheduled care, patient contact, impact of cANP/RANP face-to-face interventions on services, impact of cANP/RANP virtual interventions (telephone support, email contacts) on services, and referral pathways to and from the cANP/RANP service. Prescribing activity measured the extent to which the cANP/RANP was involved in the prescribing of medicinal products, ionising radiation and shared decision making in relation to prescribing. Expert advice measured the cANP/RANP's role in the provision of advice to other healthcare professionals as well as patients; it also measured the extent to which cANPs/RANPs received advice from medical, nursing and health and social care professional colleagues. The final section of the OAL measured the extent to which cANPs/RANPs were involved in the delivery of education to patients and their families as well as other healthcare professionals; it also measured the extent to which cANPs/RANPs undertook a research and audit function within their role including, clinical practice guideline developments, data collection on patient outcomes, and involvement in programmes of research as well as dissemination of research.

2.3.3 Objective 3 - Evaluate the impact of the cANP/RANP on service challenges of waiting list reduction, timely access to service, improved patient flow and avoidance of unnecessary hospital admission and/or early discharge.

To achieve this objective, the research team used cross-sectional and outcome activity log data from cANPs/RANPs (see sections 2.3.2.1 and 2.3.2.2 respectively); in addition we explored administrative and secondary data available at hospital and national levels to measure the impact of a critical mass of candidate cANPs/RANPs on the healthcare system. This secondary data explored included data from the Hospital In-Patient Enquiry system (HIPE), the National Quality

Assurance Improvement System (NQAIS), the National Treatment Purchase Fund (NTPF) and emergency department administrative systems. Of these systems, the two most feasible were data from the NTPF and the ED administrative system[5].

2.3.3.1 National Treatment Purchase Fund (NTPF) Data

The NTPF publishes in-patient/day-case, planned procedure and outpatient waiting lists for hospital wards across Ireland; (this data is publicly available at https://www.ntpf.ie/home/nwld.html). For the purpose of this evaluation, data acquired from outpatient waiting lists only for older persons, rheumatology and respiratory hospital wards where an cANP/RANP is present, were analysed. Hospital wards that provided regular updates on waiting lists to the NTPF with no missing years were included in this analysis, creating continuity and the opportunity for each ward to contribute equally to the trends presented in this report. This culminated into 55 hospital wards (19 Older Persons, 14 Respiratory and 20 Rheumatology) across 29 different public hospital institutions being included.

2.3.3.2 Administrative Data on Patient Waiting Times and Patient Experience Times in ED

Data were collected from a pilot ED that was a demonstrator site for the integration of cANPs/RANPs in emergency departments. This hospital was chosen as it has in place an Integrated Patient Management System (iPMS) that measured patient waiting times from triage to be seen by a healthcare professional as well as the overall Patient Experience Time (PET). This site was also chosen as the cANPs/RANPs were identifiable on the iPMS system (this was not the case in other EDs at the time of the evaluation). Data from the iPMS were retrospectively collected for one year (January 2019 to December 2019) with patients' waiting times to be seen by a doctor and an cANP/RANP compared over this time period. To ensure validity of the comparisons, only patients who were classified with a Manchester Triage Score (MTS) of 4 or 5 were included in the analysis; these are the core cohort of patients seen by cANPs/RANPs in ED.

2.3.4 Objective 4 **-** Capture the perspective and experiences of patients; the interdisciplinary teams; the health service organisation and the health system effect of implementation of the critical mass of cANPs/RANPs.

To achieve this objective, the research team undertook an anonymised cross-sectional survey of a sample of patients who consulted with an cANP/RANP. In addition, a series of qualitative interviews were undertaken with cANPs/RANPs and key stakeholders who were part of the interdisciplinary teams to ascertain their views on the implementation of a critical mass of cANPs/RANPs on the health system.

2.3.4.1 Patient Enablement and Satisfaction Survey (PESS)

The Patient Enablement and Satisfaction Survey (PESS) was used to measure patients' perceptions of how satisfied they were with the care they received during a consultation with an cANP/RANP and whether that care facilitated them to understand more about their health and wellbeing. In addition, the instrument measured the extent to which that care provided by an cANP/RANP enabled them to look after their health. The PESS consists of 20 items: 15 items measured the patient experience of care and item responses consisted of a Likert scale ranging from 'Strongly Disagree' to 'Strongly Agree'; five items measured enablement and responses ranged from 'Same' or 'Less' to 'Better'. The PESS was distributed to patients directly following a consultation or the receipt of care from an cANP/RANP. The rationale was twofold: firstly from an ethical point-of-view, this ensured that the patient was well enough to receive and complete

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[5] Recommendations and discussion on data from HIPE and NQAIS to measure outcomes related to the cANP/RANP role are discussed in Chapter 7.

the survey; secondly, from a cognitive perspective, the patients could associate the questions on the survey with the episode of care delivered by the cANP/RANP. Although patients were presented with the survey at the end of the episode of care, respondents were requested to complete the questionnaire in their own time and post it directly back to the research team.

2.3.4.1 Qualitative Interviews with cANPs/RANPs and Key Stakeholders

A series of focus group interviews were completed with cANPs/RANPs in the areas of older persons' care, rheumatology, respiratory care and unscheduled care. One-to-one interviews were completed with key stakeholders who had direct contact with cANPs/RANPs in the demonstrator sites. Both the focus groups and the one-to-one interviews consisted of semi-structured in-depth interviews with cANPs/RANPs and stakeholders. The approach was particularly useful in understanding how the introduction of the recommendations in the draft framework was perceived in professional practice and cANPs/RANPs' and stakeholders' subjective experiences of the benefits of the model to the health and well-being of patients and clients. This approach also allowed for an exploration of the connection between what the intervention (cANP/RANP posts) promised and what was actually implemented. Furthermore, qualitative research may be effective in responding to a number of criticisms levelled at evaluation research such as the lack of practical value of results, the lack of opportunity of stakeholders to participate in the research, and a lack of acknowledgement of the formative components of programmes (von Kardorff, 2004).

2.3.5 Objective 5 - Capture the contribution of a critical mass of cANPs/RANPs to existing healthcare reform strategies such as the National Clinical and Integrated Care Programmes and potential contribution to Sláintecare.

The results of this research will be of particular relevance to the Integrated Care Programmes, in particular the integrated care programmes for older persons, patient flow and prevention and management of chronic disease. Working closely with a cohort of cANPs/RANPs, the research team, using qualitative approaches, sought to develop an understanding of how the work of the critical mass of cANPs/RANPs aligns with each of the integrated care programmes, and their relationships with local implementation teams. The research also reports on the potential contribution of the critical mass of cANPs/RANPs in the context of the Sláintecare report (Houses of the Oireachtas, 2017). This is particularly the case in terms of the potential of the role to inform the recommendations related to integrated workforce planning. In interim and final reports presented to the steering group, the research team evaluated, based on the evidence collected, the role of the cANPs/RANPs in integrated care. Many of the measures outlined in this evaluation are in line with the outcomes perceived in the Sláintecare report, in particular, the delivery of services to patients by the most appropriate healthcare professional.

2.3.6 Objective 6 – To provide an analysis of the challenges and opportunities arising from this initiative.

To achieve this objective, the research team conducted a series of semi-structured in-depth interviews with candidate cANPs/RANPs and key stakeholders who had first-hand experience of the implementation process. A semi-structured interview guide (see Appendix A) informed by the evaluation objectives and the literature, for example Elliott et al's (2016) framework, was developed. This was used across all interviews to ensure consistency across gathering the interview data. Interviews were audiotape recorded with participant permission and transcribed verbatim.

Two members of the research team attended each focus group. One researcher acted as facilitator, asked the questions, clarified inconsistencies and explored the extent to which the experiences and views were shared by the group. The other researcher acted as moderator interjecting only to seek further clarification where needed and to note group interactions, common experiences and shared concerns.

Individual interviews were held with nine key stakeholders. Key stakeholders were defined as health professionals that were involved in the implementation of the cANP/RANP policy. They included consultants who were candidate ANP clinical supervisors, allied healthcare professionals who worked with cANPs/RANPs, RANP mentors, Director of Nursing Leads in HSE Clinical Programmes as well as stakeholders from the Nursing Midwifery and Planning Development Units (NMPDUs). Overall, a total of nine individual stakeholders were interviewed either face-to face or by telephone, to provide their first-hand experiences of the implementation process.

Based on the evidence collected as part of the evaluation, the research team report on the challenges and opportunities arising from the initiative. This also include recommendations to strategically address the challenges identified as a result of this programme of research. A number of factors were considered in how well the introduction of the cANP/RANP posts were adopted at each of the sites; that is, have they diffused to and reached all parts of the organisation, and were the posts implemented as originally planned. These include factors related to the intervention (such as evidence strength and quality), factors related to the setting (including patient needs, leadership and engagement), individual characteristics of those involved in implementing the intervention, and factors related to the implementation process itself.

2.3.7 Objective 7 - Make recommendations for service, practice and implementation for continuing the rollout of a critical mass of cANPs/RANPs

Based on the results from the evaluation, the research team has, in this final report presented to the HSE recommendations for continuing the rollout of a critical mass of cANPs/RANPs.

2.4 Sample

The sample consisted mainly of three cohorts: 1) the cANPs/RANPs in the demonstrator sites who were providing care at the time of the evaluation to patients in the areas of older persons' care, rheumatology, respiratory medicine and unscheduled care[6]; 2) patients who received care from an cANP/RANP in these settings; 3) key clinical stakeholders who worked with, or have knowledge of cANPs/RANPs in each of these settings. Due to the nature of the research and the timeframe, both convenience and purposeful sampling approaches were used.

Depending on the phase of the evaluation, various samples were selected to achieve the goal of that phase; these are outlined below:

1. Development of Programme Logic Models – the sample for this included the new cohort of cANPs/RANPs in the demonstrator sites as well as experienced cANPs/RANPs who were currently or had previously worked in one of the specialities that were the focus of the evaluation.

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[6] The cANPs/RANPs in the demonstrator sites included both candidate and registered Advanced Nurse Practitioners

2. Survey of cANPs/RANPs in the Demonstrator sites – all cANPs/RANPs that were recruited into the demonstrator sites in one of the four speciality areas were included in the survey.
3. Survey of Patients – all patients who were consulted by an cANP/RANP between September 2019 and December 2019 were requested to complete a survey.
4. Output Activity Logs – 22 cANPs/RANPs in demonstrator sites completed the OALs; these included six cANPs/RANPs in the area of older person's care, six in the area of rheumatology, six in unscheduled care, and four from respiratory care.
5. Qualitative interviews – four focus group interviews were undertaken with twenty cANPs (rheumatology n=6, older person care n=5, unscheduled care n=4, respiratory medicine n=5). Individual one-to-one interviews were undertaken with nine key stakeholders.

In relation to eligibility criteria, all ANPs in the demonstrator sites both at both candidate and registered levels were included. Patients[7] who received direct care from cANPs/RANPs and were able to understand English; no evidence of cognitive impairment; aged 18 years or older; able to provide informed consent, and deemed to be able to take part in the study by clinical staff were included. Stakeholders were identified as nurses, doctors and allied health professionals who held senior positions in a demonstrator site at the time of the evaluation and whose role involved direct contact with an cANP/RANP in one of the four specialist areas.

2.5 Analysis

Descriptive statistics were used in the analysis of the data collected. The analysis of the data included percentages, measures of central tendency (means) and measures of variability (standard deviations, range, minimum and maximum). Charts and tables are used throughout to display the data from the evaluation.

Data gathered from focus group and individual interviews were analysed using an analytical technique known as template analysis (King 1998, 2012). Template analysis is a well-established technique in qualitative research for analysing textual data systematically and organising the findings, so that they are relevant to the research question (Brooks & King, 2014).

The steps involved in the template analysis technique were as follows (see King, 2012):

1. Define *a priori* themes.
2. Transcribe interviews and read through to familiarise with the content before coding.
3. Carry out initial coding using *a priori* themes. If there is no relevant theme, then modify an existing theme or devise a new one.
4. Produce an initial template and apply to full dataset. If a relevant piece of text does not fit comfortably in an existing theme, further modification of the template may be needed.
5. The final template is used to interpret and in the write up of the findings.

The coding template was developed specifically for this cANP/RANP implementation evaluation. It was guided by Proctor et al.'s (2011) *Taxonomy of Implementation Outcomes* and included challenges and opportunities arising from the initiative, factors related to the settings and how well the introduction of the cANP posts were adopted in the sites, the implementation process itself, those involved in implementing the intervention and factors influencing sustainability. Transcripts were coded by two members of the research team using the coding template/

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[7] It is of note that due to ethics committees' requirements, patients included in the study were identified by cANPs/RANPs; this was to ensure that clinical expertise was used in identifying those patients that meet the eligibility criteria are included in the study.

framework to guide decisions. NVIVO 12 Plus (QSR International Pty Ltd., 2019) was used as an electronic data management and retrieval system, and to conduct analytical queries to ensure that the findings were comprehensive and addressed the research objective.

2.6 Ethics

To undertake the research with patients and staff as well as accessing secondary data at hospital level, ethics applications were submitted to seven research committees. All respondents surveyed were informed about the measurement procedures involved in this study. Respondents were also informed about the nature of the research and that they were entitled not to participate in the study if they so choose. Patients in particular were assured that refusal to participate in the study would in no way alter their treatment. Information on these aspects of the study were provided to all respondents and participants through Research Information Leaflets or information provided in emails. All data were coded and individuals or individual hospitals are not identifiable in any of the results and findings reported. No individual identifying information was transferred onto computer files; identification numbers were used throughout. Gaining ethical approval from the hospital in which the research was undertaken ranged from two weeks to eight months.

2.7 Conclusion

The evaluation of a complex intervention, that is the introduction of a critical mass of cANPs/RANPs into four key areas, required a multitude of approaches. Using the PEPPA Plus framework, a model that has been designed to guide the evaluation of cANP/RANP roles, enabled the development of a research design that could incorporate mixed-methods, be used in multiple settings and involve key stakeholders in the research. The PEPPA plus framework was used to identify and develop research approaches that could measure the integration of cANPs/RANPs into each of the four specialist areas. In particular, the evaluation model allowed the research team to measure the introduction and implementation of the posts as well as to identify facilitators and challenges to the sustainability of the role in the future. To effectively evaluate the impact of the role we explored both national and international approaches to evaluation of cANPs/RANPs roles; this resulted in the decision to use multiple methods and approaches in the evaluation. These approaches included the development of programme logic models, the collection of primary data from cANPs/RANPs, patients and key stakeholders through both quantitative and qualitative approaches as well as the identification and use of administrative and secondary data. These approaches, it is argued, can be used to provide a comprehensive evaluation of the introduction of a critical mass of cANPs/RANPs into the areas of older persons' care, rheumatology, respiratory care and unscheduled care.

Chapter 3: Evaluating the impact of cANPs/RANPs through the Development of Logic Models

3.1 Introduction

This chapter describes the Logic Models that were developed for the four specialist areas: in which cANPs/RANPs were introduced: older persons' care, rheumatology, respiratory care and unscheduled care. A Logic Model is a graphic display or 'map' of the relationship between a programme's resources, activities, and intended results, which also identifies the programme's underlying theory and assumptions (Kaplan and Garrett, 2005). Logic Models may be used in theory-based evaluation, such as this, and are designed to explicitly articulate the underlying theory of change that underpins a transformation programme or initiative (NHS, 2016), such as the introduction of a critical mass of cANPs/RANPs into the health service. Logic Models can illustrate and depict the relationships and assumptions of what a programme aims to achieve and the expected deliverable changes. This process may identify gaps and barriers during the implementation phase of a project and help to crystallise the underlying assumptions and anticipated outcomes. This chapter outlines the process of the development of the Logic Models and graphically displays the models for older persons' care, rheumatology, respiratory care and unscheduled care; unscheduled care models were divided into emergency care and acute medical assessment units. The aim of developing the Logic Models was to identify the inputs, activities, outputs, outcomes and impact of the role in the various specialities; these were then used to identify and develop the measures used in the evaluation.

3.2 Logic Models for cANPs/RANPs

The transformation programme to develop a critical mass of cANPs/RANPs within the Irish healthcare system is an example of a complex quality improvement initiative; however, prior to evaluating the outcomes associated with the introduction of these new posts, there is a need to explore the core elements of the role that are amenable to evaluation. One way of doing this is to develop programme Logic Models.

From an evaluation perspective, adopting a Logic Model to support the research process has a number of advantages. In this instance, the Logic Model approach compels the participants (policy makers, clinicians, healthcare managers) to fully articulate and clearly define the aims and vision of the cANP/RANP policy from individual or sectoral healthcare perspectives. While the Logic Model process makes explicit what is often implicit (Jordan 2010), it has further value in supporting the communication required between various stakeholders to explore underlying assumptions, in this case assumptions that underpin the cANP/RANP programme. Having a clear visual model of the cANP/RANP programme supports communication and collaboration at local organisational levels thereby facilitating both formative and summative evaluation. The flexibility of the Logic Model adapts to high-level organisational evaluation needs that can be integrated within different local contexts (Helitzer, 2010). The Logic Model may also identify best practice solutions in certain practices while highlighting unintentional as well as intended outcomes following the introduction of a critical mass of cANPs/RANPs.

It is intended that the Logic Model for each service area, chronic disease management (rheumatology and respiratory medicine), older persons care, and unscheduled care will foster stakeholder collaborations on sharing perspectives and goals as well as acting as a framework for the evaluation. This should reduce the incidence of misunderstanding and or conflict between individuals and services in respect of agendas or targets.

3.2.1 Key elements and Challenges of the Logic Model Approach

Creating effective and robust Logic Models takes commitment in time, resources and training (Kaplan & Garrett, 2005). The Logic Model approach asks questions of the participants in the change process to explore and explain possible outcomes to specific interventions. This process resulted in a number of key questions:

- What is happening in reality?
- What is getting better and why?
- What is not improving and why?
- What expected outcomes/activities have occurred?
- What unexpected outcomes/activities have occurred?
- What are the effects of this new working practice?

The Logic Model approach is dynamic and is constantly reviewed within an iterative process of reflection and critique. This requires the Logic Model process to be monitored continually particularly around the development of unintended consequences.

3.2.2 Developing the Logic Models for the cANP/RANP policy

Logic Models were developed in a tabular form to capture and express the underlying assumptions of the cANP/RANP policy which articulates and illustrates what is being done (cANP/RANP led interventions) to improve a particular set of challenges within the Irish healthcare system (e.g. early discharge from hospital, reduce waiting lists, admission avoidance, delivery of care at lowest level of complexity).

3.2.3 Stages of Model development for evaluation of cANP/RANP policy:

The following stages were undertaken in the development of the Logic Models:

1. Collection of information needed to develop the model (review of relevant research literature, policy documents and key stakeholder perspectives).

2. Description of the problem that each component of the cANP/RANP policy aims to address and the context and factors that contribute to the individual challenges.

3. Definition of the individual elements of each Logic Model. Visits to clinical sites by members of the research team to visualise existing work practices and services.

4. Constructing individual Logic Models for individual service areas targeted by the cANP/RANP policy.

5. Verification of the model with key stakeholders and development of a continuous review protocol to capture intentional and unintentional consequences of the change initiative.

The Logic Model for each service area (rheumatology, respiratory medicine, older persons care and unscheduled care) were designed in tabular form and reflect the five stages of Logic Model development described above (Table 3.1). Each Logic Model reflects the collaborative process of sharing perspectives to achieve commons goals or target. This type of co-production delivers more complete Logic Models whose underlying assumptions are more accurate and less ambiguous. This increases the likelihood that the change will be accepted and effective.

Table 3.1 Stages of Logic Model Development

Collection of information to inform the development of the Logic Model	Review of relevant research literature, health policy documents, national strategies (clinical care programmes) and stakeholder perspectives (hospital groups)
Assimilation of information	
Description of the problem and contributing factors	Research team review and engagement with key stakeholders in the health service (policy, management and clinical perspectives) Site visits to determine inputs required to implement cANP/RANP policy Panel discussion with field experts
Assimilation of information	
Definition of the individual elements of each Logic Model	Site visits Reaching a consensus on the aims and outcomes of the cANP/RANP role Continuous expert input and iterative review to determine Activities, Outputs, Outcomes and Impact of each cANP/RANP role
Assimilation of information	
Constructing the Logic Model	See individual Logic Models for each targeted healthcare sector
Assimilation of information	
Verification of the Logic Model and continuous review protocol	Collaborate with key stakeholders to develop a continuous review protocol that captures the intentional and unintentional consequences of the cANP/RANP initiative

3.3 Developed cANP/RANP Logic Models

The following section outlies each of the Logic Models for each speciality. Each model is divided into inputs, activities, outputs, outcomes and impact.

Inputs describe the service context within which the cANP/RANP post has been created. Inputs across the five models[8] were predominantly the same and included: the influence of education and training, the service context in which the cANP/RANP was employed, organisational support and arrangements and job design.

Activities represent the everyday work and activities associated with the cANP/RANP post; these Logic Models seek to differentiate activities that are particular to the cANP/RANP and are distinct from the work of an RN. cANP/RANP activities included clinical activity, prescribing and de-prescribing, consultancy and influencing activity, capacity building, and outreach (e.g. moving between hospital and community). Outputs, these were identified as the quantifiable outputs of the cANP/RANP activities. Outcomes represent the tangible and measurable clinical, service, education, evidence outcomes that arise from the activities and outputs of the cANP/RANP. Finally, impact, this represent the broader indicators of impact on service user experience, service delivery, expenditure and standards of practice. There were a number of core elements identified in the roles across the specialities; however, there were also a number of unique elements see figure 3.1 to 3.5). Outputs, outcomes and impact are distinguished by their timeframes; outputs are those outcomes that occur within the short-term (weeks to months), outcomes are defined as intermediate term outcomes (months to years) and impact are those outcomes that occur in the long-term (years-decades).

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[8] Separate models were developed for cANPs/RANPs in the areas of emergency care and acute medical assessment units.

Figure 3.1 Acute Medical Assessment Unit Logic Model [Unscheduled Care]

Inputs

- Education, Training & Mentorship
- ANP - Service Context
- Organization Support & Arrangements
- Job design
- AMAU Setting

Activities

Clinic activity
Review ED patients and patients directly referred to AMAU - at presentation/review
Direct review from triage
Provision of full episode of care
Telephone follow-up
Rapid/Flexible Access & inreach/outreach activity
Out-patient
ED/AMAU
Community/General Practice
Clinical care activity
Care coordination
Advanced health assessment
Therapeutic interventions
Diagnostic interventions
Pyscho/social interventions
Personalised patient education
Referral to services/professions
Prescribing/DePrescribing activity
Medication prescribing
Prescribing of ionising radiation
Education & training activity
Formal/opportunistic
Consultancy/Influencing activity
Membership of & consultancy tolocal/National/international policy commitees
Consultancy to other health professionals
Capacity/capability MDT Building activity
Mentoring
ANP led reseach/audit
Service/practice innovation

Outputs

Clinical outputs
Number/proportion of patients seen by ANP
Numbers of admissions avoided
Reduction in patients in ED
PET/Waiting time reduction in ED
Length of stay reduction
Reduced unscheduled visits
Reduction in patients leaving without been seen
Reduction in patients who did not attend follow-up
Numbers referal & sources in and out
Prescribing outputs
Number of prescriptions
Number of drug de-prescriptions
Number of X-Rays prescribed
Educational outputs
Numbers reached in training and education
Numbers of groups/professionals supported (MDT & Public)
Numbers of patient educations materials developed
Expert advice outpurs
Number expert groups/committee
Number MDT Professionals supported
Number clinical guideline development
Number policies developed/contibuted to
Number of service innovation
Research outputs
Number publications
Nmber research studies led/collaborated
Number invited talks

Outcomes

Clincial outcomes
Timely access
Concordance with treatment
Sympton resolution/reduction
Heallth maintainance
Waiting time reduction
Reduction in readmissions within 30 days
Reduction in framengation
Care at lowest point of acuity
Appropriate referral
Prescribing outcomes
Optimized pharmacological usage
Educational outcomes
...rmal knowledge transfer to ...ients, clinicans and public
...vice outcomes
...ptimized patient flow
Service re-direction
Patient outcomes
Increased Patient experience
Patient self manangement
Research outcomes
ANP led knowledge & evidence generation

Impact

Service impact/Integration of care
Decreased utilisation of healthcare
Waiting list reduction
Increased throughput
Reduced readmission rates
Enhanced ED functioning
Service user impact
Well-being & quality of life enhanced
Health promotion
Economic impact
Reduction in cost of pharmacological products
Reduction in care costs/Increased value for money
Efficent use of resources
Quality of care impact
Adherence to best practice standards

Inputs	Activities	Outputs	Outcomes	Impact
Education, Training & Mentorship	**Clinic activity** Review ED patients - at presentation/review Direct review from triage Provision of full episode of care **Rapid/Flexible Access & inreach/outreach activity** Out-patient ED/AMAU Community/General Practice **Clinical care activity** Care coordination Advanced health assessment Therapeutic interventions Diagnostic interventions Pyscho/social interventions Personalised patient education Referral to services/professions **Prescribing/DePrescribing activity** Medication prescribing Prescribing of ionising radiation **Education & training activity** Formal/opportunistic **Consultancy/Influencing activity** Membership of &consultancy tolocal/National/international policy commitees Consultancy to other health professionals **Capacity/capability MDT Building activity** Mentoring ANP led reseach/audit Service/practice innovation	**Clinical outputs** Number/proportion of patients seen by ANP Numbers of admissions avoided PET/Waiting time reduction Length of stay reduction Reduced unscheduled visits Reduction in leaving without been seen Numbers referal & sources in and out **Prescribing outputs** Number of prescriptions Number of drug de-prescriptions Number of X-Rays prescribed **Educational outputs** Numbers reached in training and education Numbers of groups/professionals supported (MDT & Public) Numbers of patient educations materials developed **Expert advice outputs** Imber expert groups/committee Number MDT Professionalss supported Number clinical guideline development Number policies developed/contibuted to Number of service Innovation **Research outputs** Number publications Nmber research studies led/collaborated Number invited talks	**Clincial outcomes** Timely access Concordance with treatment Sympton resolution/reduction Heallth maintainance Waiting time reduction Reduction in readmissions within 30 days Reduction in framengation Care at lowest point of acuity **Prescribing outcomes** Optimized pharmacological usage **Educational outcomes** Formal knowledge transfer to patients, clinicans and public **Service outcomes** Uptimized patient flow Service re-direction **Patient outcomes** Increased Patient experience Patient self manangement **Research outcomes** ANP led knowledge & evidence generation	**Service impact/Integration of care** Decreased utilisation of healthcare Waiting list reduction Increased throughput Reduced readmission rates Enhanced ED functioning **Service user impact** Well-being & quality of life enhanced Health promotion **Economic impact** Reduction in cost of pharmacological products Reduction in care costs/Increased value for money Efficent use of resources **Quality of care impact** Adherence to best practice standards
ANP - Service Context				
Organization Support & Arrangements				
Job design				
ED Setting				

Figure 3.2 Emergency Department Logic Model [Unscheduled Care]

Inputs	Activities	Outputs	Outcomes	Impact
Education, Training and Mentorship	**Improved/Rapid access to Care of the older person Expertise & In-reach Out-reach activity**	**Clinical care outputs**	**Clinical outcomes**	**Integration of care and service impacts**
ANP Older Person - Service context	Who? Point of access for patients/family/GP/community, primary care & residential services/care agencies etc	Number/proportion of older adults seen by ANP	Enhanced physical, cognitive, functional & social health	Integration of care for older adults in line with the NCPOP and Integrated Care Programme for Older People
ANP Older Person - Site and service specific clinical focus and job specification	How? In person/telephone/email/virtual ward or clinic	Number of older adults admitted	Timely diagnosis	Enhanced continuity of care
Job design and role clarity	**Clinical care activities**	Numbers of older adults discharged	Care at the lowest point of acuity	Waiting list reduction
Organisational support & arrangements	Comprehensive geriatric assessment	Number of discharges to usual residence, rehab, or new care home	Appropriate care in the correct setting for the level of acuity	**Quality of care impacts**
	Diagnostic & multi-domain therapeutic interventions	Number of CGA with ANP input	Concordance with treatment/care plan	Adherence to best practice standards
	Individualised patient education	Number of referrals & sources (in an out)	Reduction in fragmentation of care	**Service user and family carer impacts**
	Care co-ordination/case management	**Prescribing outputs**	Reduction in mortality and morbidity	Health, Well-being & Quality of Life enhanced
	Multi-agency service & profession referral	Number of prescriptions and de-prescriptions	**Services Outcomes**	Supported capability to live in preferred place of residence for as long as possible
	Patient navigation across health and social care systems e.g. signposting, social prescribing	Numbers of changes to existing prescriptions	Waiting time reduction	**Economic impacts**
	Assessment & support of family carer network	**Educational outputs**	Seamless & timely access to appropriate service & appropriate hospital avoidance	Reduction in cost of care
	Prescribing/De-prescribing activities	Types of education and training	Length of stay reduced	Increased value for money
	Medication review, reconciliation	Numbers participated in education and training (total & by audience/training type)	Reduction in readmissions/representation within 30 days	Appropriate prescribing and usage of medications with associated reduction in cost
	Monitoring adherence	**Consultancy/Service Innovation/Expert Advice outputs**	Improved co-ordination of care	Efficient resource usage
	Education and training activity	Numbers of expert groups &/or committees	Optimised patient flow	
	Formal and opportunistic	Number of Policy Protocol or Clinical Guidelines produce or revised	Service re-direction, innovation or development	
	Mentoring/Role-modeling	Number and types of service innovation or quality improvement activities	**Prescribing outcomes**	
	Consultancy/Influencing/service innovation activity	**Research outputs**	Appropriate pharmacological prescribing & safe administration - medication reconciliation, reduction in polypharmacy and anti-psychotic use	
	Committee membership (local/national/inter-national)	Number of active and completed research studies led/collaborated on	**Patient outcomes**	
	Building professional national networks	Number/type of dissemination activities e.g publications, invited talks	Patient satisfaction	
	Contribution to multidisciplinary for a		Enhanced self-management	
	Service/practice innovation		**Education outcomes**	
	Quality improvement activities		Enhanced knowledge, understanding and awareness - service user, health & social care professionals & public	
	Mapping & developing new service pathways		**Research outcomes**	
	ANP research and/or audit activity		ANP led/contributed to evidence generation and knowledge translation and implementation	

Figure 3.3 Older Person Logic Model

Figure 3.4 Respiratory Logic Model

Inputs

Education, Training & Mentorship

ANP - Service Context

Organization Support & Arrangements

Job design

Role clarity

Activities

Outpatient Clinic activity
- 1st visit appt/Review clinics
- Oxygen clinics/Non invasive ventilation

Rapid/Flexible Access & inreach/outreach activity
- In-patient/Out-patient
- ED/AMAU
- Community/General Practice
- Virtual/Remote/Telephone

Clinical care activity
- Care coordination
- Advanced health assessment
- Therapeutic interventions
- Diagnostic interventions
- Pyscho/social interventions
- Personalised patient education
- Referral to services/professions

Prescribing/DePrescribing activity
- Titration of medication

Education & training activity
- Formal/opportunistic

Consultancy/Influencing activity
- Membership of & consultancy to local/National/international policy commitees
- Consultancy to other health professionals

Capacity /capability MDT Building activity
- Mentoring
- ANP led research/audit
- Service /practice innovation

Outputs

Clinical outputs
- Number/proportion of patients seen by ANP
- Numbers of admissions avoided
- PET/Waiting time reduction
- Length of stay reduction
- Numbers referral & sources in and out

Prescribing outputs
- Number of prescriptions
- Number of drug de-prescriptions

Educational outputs
- Numbers reached in training and education
- Numbers of groups/professionals supported (MDT & Public)
- Numbers of patient educations materials developed

Expert advice outputs
- Number expert groups/committee
- Number MDT Professionals supported
- Number clinical guideline development
- Number policies developed/contibuted to
- Number of service innovation

Research outputs
- Number publications
- Nmber research studies led/collaborated
- Number invited talks

Outcomes

Clincial outcomes
- Timely access
- Concordance with treatment
- Sympton resolution/reduction
- Heallth maintainance
- Waiting time reduction
- Reduction in readmissions within 30 days
- Reduction in fragmentation
- Care at lowest point of acuity

Prescribing outcomes
- Optimized pharmacological usage

Educational outcomes
- Formal knowledge transfer to patients, clinicans and public

Service outcomes
- Optimized patient flow
- Service re-direction

Patient outcomes
- Patient satisfaction
- Patient self manangement

Research outcomes
- ANP led knowledge & evidence generation

Impact

Service impact/Integration of care
- Decreased utilisation of healthcare
- Waiting list reduction
- Increased throughput
- Reduced readmission rates

Service user impact
- Well-being & quality of life enhanced
- Health promotion

Economic impact
- Reduction in cost of pharmacological products
- Reduction in care costs/Increased value for money
- Efficent use of resources

Quality of care impact
- Adherence to best practice standards

Figure 3.5 Rheumatology Logic Model

Inputs	Activities	Outputs	Outcomes	Impact
Education, Training & Mentorship	Outpatient Clinic activity	**Clinical outputs**	**Clincial outcomes**	**Service impact/Integration of care**
	1st visit appt/Review clinics	Number/proportion of patients seen by ANP	Timely access	Decreased utilisation of healthcare
	Treat to target review caseload	Numbers of admissions avoided	Concordance with treatment	Waiting list reduction
	Rapid/Flexible Access & inreach/outreach activty	PET/Waiting time reduction	Sympton resolution/reduction	Increased throughput
	In-patient/Out-patient	Length of stay reduction	Heallth maintainance	Reduced readmission rates
ANP - Service Context	ED/AMAU	Numbers of caseload disease inactive state	Waiting time reduction	**Service user impact**
	Community/General Practice	Numbers referal & sources in and out	Reduction in readmissions within 30 days	Well-being & quality of life enhanced
	Virtual/Remote/Telephone	**Prescribing outputs**	Reduction in fragmentation	Health promotion
	Clinical care activity	Number of prescriptions	Care at lowest point of acuity	**Economic impact**
	Care coordination	Number of drug de-prescriptions	**Prescribing outcomes**	Reduction in cost of pharmacological products
	Advanced health assessment	**Educational outputs**	Optimized pharmacological usage	Reduction in care costs/Increased value for money
	Therapeutic interventions	Numbers reached in training and education	**Educational outcomes**	Efficent use of resources
Organization Support & Arrangements	Diagnostic interventions	Numbers of groups/professionals supported (MDT & Public)	Formal knowledge transfer to patients, clinicans and public	**Quality of care impact**
	Pyscho/social interventions	Numbers of patient educations materials developed	**Service outcomes**	Adherence to best practice standards
	Personalised patient education	**Expert advice outpurs**	Optimized patient flow	
	Referral to services/professions	Number expert groups/committee	Service re-direction	
	Prescribing/DePrescribing activity	Number MDT Professionalss supported	**Patient outcomes**	
	Titration of medication	Number clinical guideline development	Patient satisfaction	
Job design	Education & training activity	Number policies developed/contributed to	Patient self manangement	
Role clarity	Formal/opportunistic	Number of service innovation	**Research outcomes**	
	Consultancy/Influencing activity	**Research outputs**	ANP led knowledge & evidence generation	
	Membership of & consultancy to local/National/international policy commitees	Number publications		
	Consultancy to other health professionals	Nmber research studies led/collaborated		
	Capacity /capability MDT Building activity	Number invited talks		
	Mentoring			
	ANP led research/audit			
	Service /practice innovation			

3.4 Conclusion

Following a review of policy documents, key stakeholders involved in the development of the policy on the development of the new model of cANPs/RANPs; five Logic Models were developed. These Logic Models, for the first time in Ireland, provide a framework that displays the core elements of the role and the expected outcomes from the introduction of these posts in the short, intermediate and long-term. As well as providing a framework for the identification and development of measures used in this evaluation, they can also be used by cANPs/RANPs, clinical leaders and key stakeholders in the HSE and the Department of Health to articulate the core elements and intended impact of the posts. The can also be used both in education programmes preparing cANPs/RANPs for their role and in the development of programmes for continuing professional development. Although the models presented here included outputs, outcomes and impact, within the timeframe of the evaluation only outputs (short-term) and outcomes (intermediate term) were measured.

Chapter 4: Baseline and Follow-up Survey of Candidate and Registered Advanced Nurse Practitioners

4.1 Introduction

This section reports on data collected from an online survey designed by the research team that collected data from candidate and registered advanced nurse practitioners (cANPs and RANPs). The survey (See Appendix B) was administered to cANPs and RANPs at two times points: the beginning of the evaluation (January/February 2019) and at the end of the evaluation (December 2019 to January 2020). The survey aimed to explore and measure the current role and scope of cANPs/RANPs and to see the extent to which the roles changed following the role out of the policy over the period of the evaluation. This chapter is presented in a number of sections, these include: the demographic educational and professional profile of cANPs/RANPs, clinical supervision and mentorship, work profile, activities and roles, caseloads, scope of practice, clinics, prescribing activities, organisational support, and interventions and outcomes. Comparisons between the two time-points (January/February 2019 and December 2019/January 2020) of the evaluation are presented throughout.

4.2 Demographic & Educational Profile of Respondents

At baseline, 129 cANPs/RANPs responded to the survey with 116 responding at follow-up. The majority of respondents (86.3%) were female with an average age of 42.2 years (SD 7.0). The highest academic qualification reported by the majority of respondents was a master's degree (84.8%); this was a substantial increase on the proportion of cANP/RANPs who reported that they were at master's level at baseline (Figure 4.1). This increase was expected as respondents completed their educational programme and transitioned from candidate to registered status.
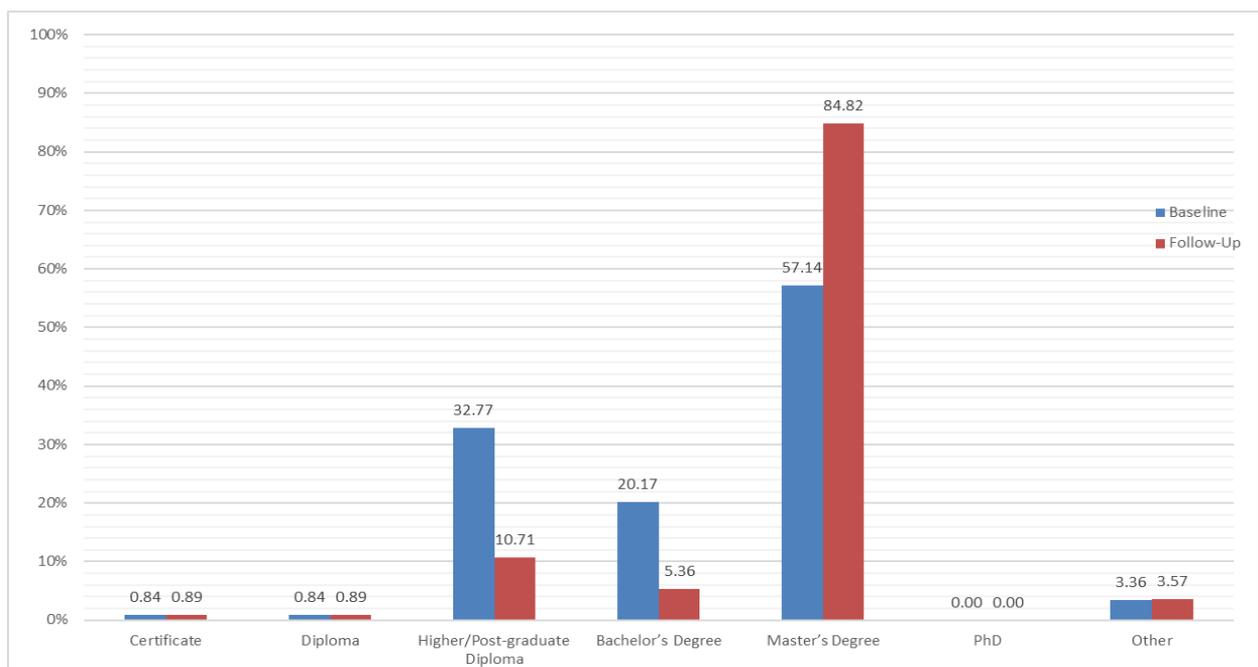
Figure 4.1 Educational Profile of Respondents – Baseline and Follow-up

4.3 Professional Status of Respondents

On average, respondents were qualified as registered nurses (RNs) for 19.8 years (SD 7.5) with a range from six to thirty-six years. Compared to baseline, where the majority of respondents were at candidate cANP/RANP (cANP) level (79.7%), the follow-up period of data collection showed that this had reduced to 41.1% at this level; therefore, over the period of the evaluation, the proportion of respondents at registered cANP/RANP (RANP) level had risen from 8.1% at baseline to approximately 55% at follow-up (Figure 3.2).

All respondents had taken up their role as a cANP at the time of the follow-up survey. There was a slight increase in respondents who identified their current status as 'other' in the follow-up period (8.9%) compared to baseline (4.1%). The majority of respondents in the 'other' category had graduated but were awaiting registration with the Nursing and Midwifery Board of Ireland (NMBI). Once registered, this should bring the proportion of registered ANPs from the demonstrator sites to approximately 62% in the near future.

A small proportion of respondents were not currently working as either a candidate or registered cANP/RANP. A number of reasons for this were highlighted and included awaiting registration to prescribe medications or awaiting ratification of the post by their employer.
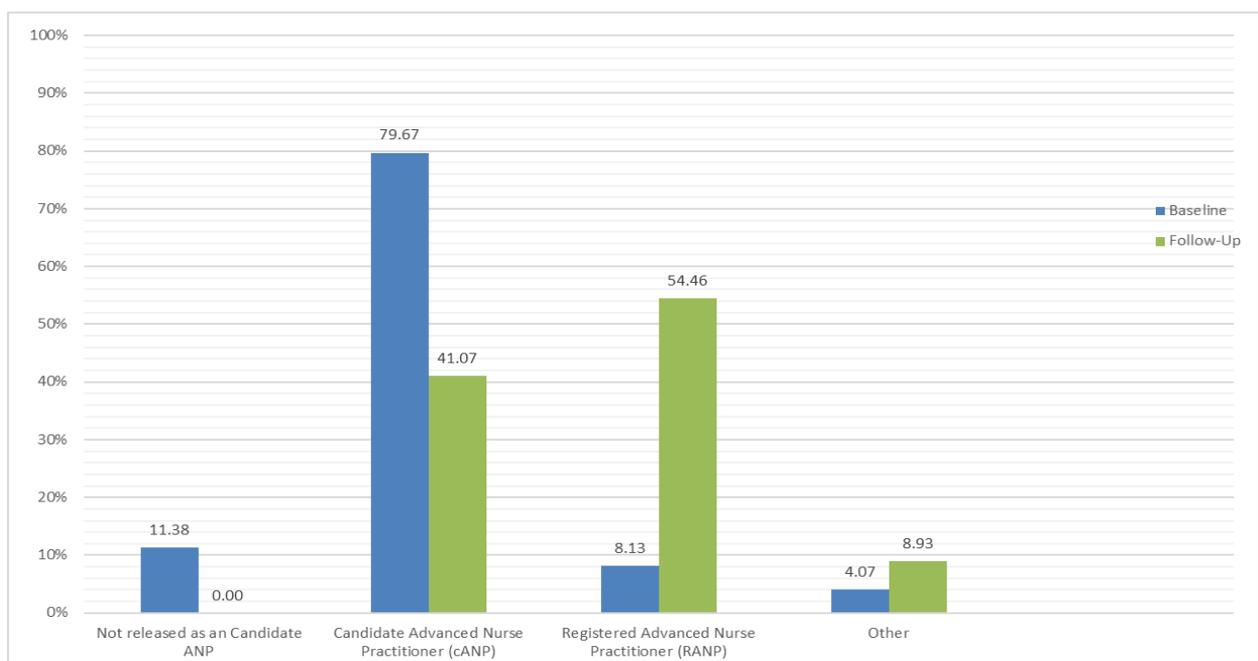
Figure 4.2 Professional Status of Respondents at Baseline and Follow-Up.

Similar to the baseline data, the most common cANP/RANP roles at follow-up were in the area of older persons' care (41.1%) followed by rheumatology (17.9%). There was a small drop in the proportion of cANPs/RANPs working in the area of respiratory care between baseline and follow-up (18.7% Vs. 14.5%) and emergency care (9.8% Vs. 8.0%). An equal number of cANP/RANPs worked in Acute Medical Assessment Units at baseline and follow-up (approximately 16%). There was a slight increase in respondents reporting that they were currently working in an 'Other' category (4% at baseline versus 7% at follow-up); the majority of respondents who recorded 'other were working in an area that was associated with older persons' care (i.e. dementia care and falls) with others categorised under unscheduled care. A small number under the 'other' category had changed role or were working in the area of mental health or movement disorders (see figure 4.3).
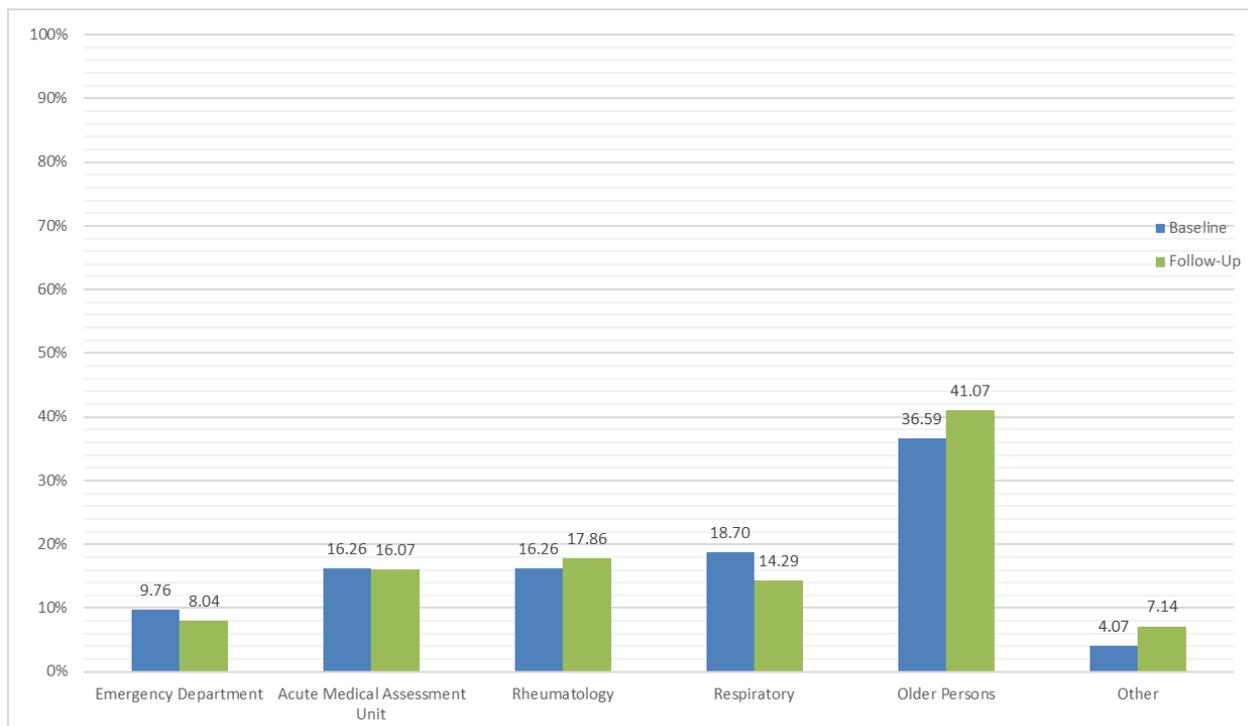
Figure 4.3 Clinical Areas where cANPs/RANPs are employed – Baseline and Follow-up

4.4 Clinical Supervision and Mentorship of cANPs/RANPs

Respondents were surveyed in respect of their development as cANPs/RANPs in the areas of professional training and role development. Of particular interest was the area of clinical supervision and the mentorship of cANPs/RANPs.

The majority of cANPs/RANPs at both baseline (89.9%) and follow-up received clinical supervision/mentorship from consultants (Figure 3.4). On a lesser scale, cANPs/RANPs were supervised and mentored by RANPs within their own speciality; this level of mentorship increased from 12.6% at baseline to 13.5% at follow-up (there was a decrease in mentorship provided by cANPs/RANPs in other specialities; however, this was relatively low at baseline). It is of note that respondents who indicated 'other' identified particular grades of consultants, registrars or general practitioners as their clinical supervisor and/or mentor; this accounted for approximately 16% of respondents indicating that all received some level of medical supervision.
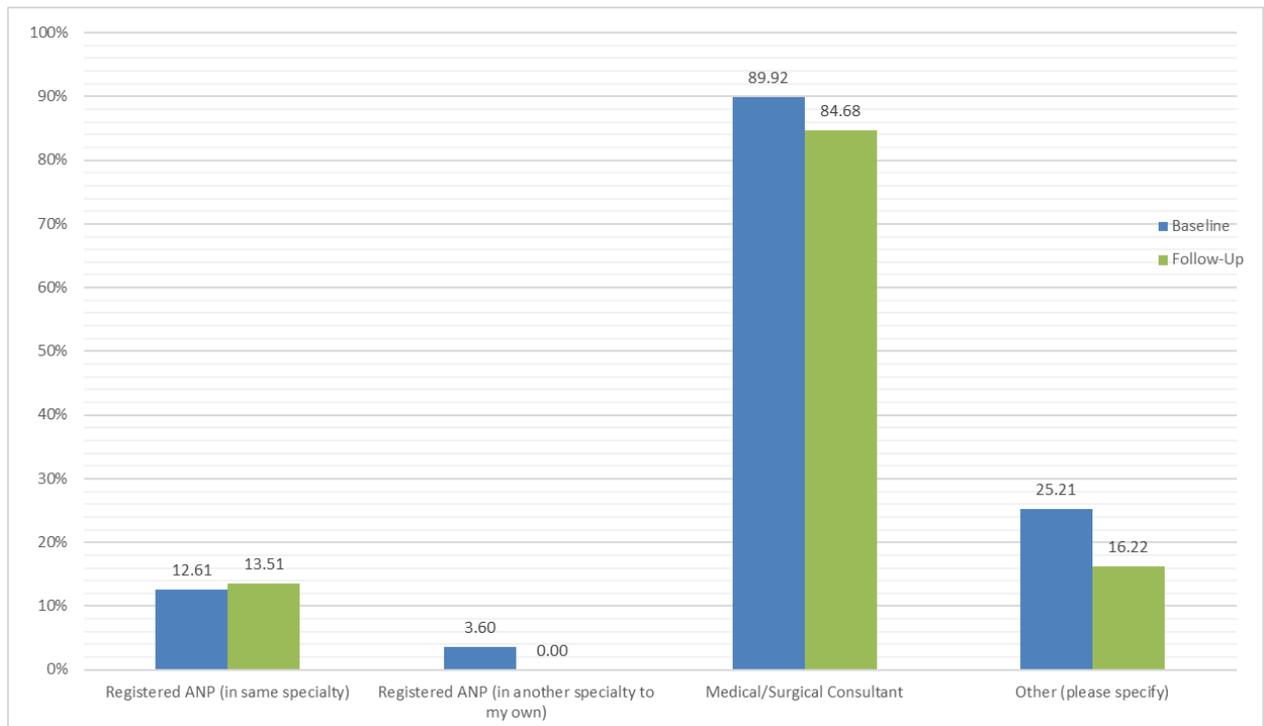
Figure 4.4 Clinical Supervision and Mentorship of cANPs/RANPs

There was a reduction in the level of medical supervision provided to cANPs/RANPs 75% to 100% of the time between baseline (56.8%) and follow-up (50.45.0%); however, the proportion of medical supervision available between 50% and 75% of the time increased from 15.3% for respondents at baseline to 23.4% at follow-up. These changes may have occurred as a consequence of cANPs/RANPs becoming registered and therefore required less supervision. (Figure 4.5).
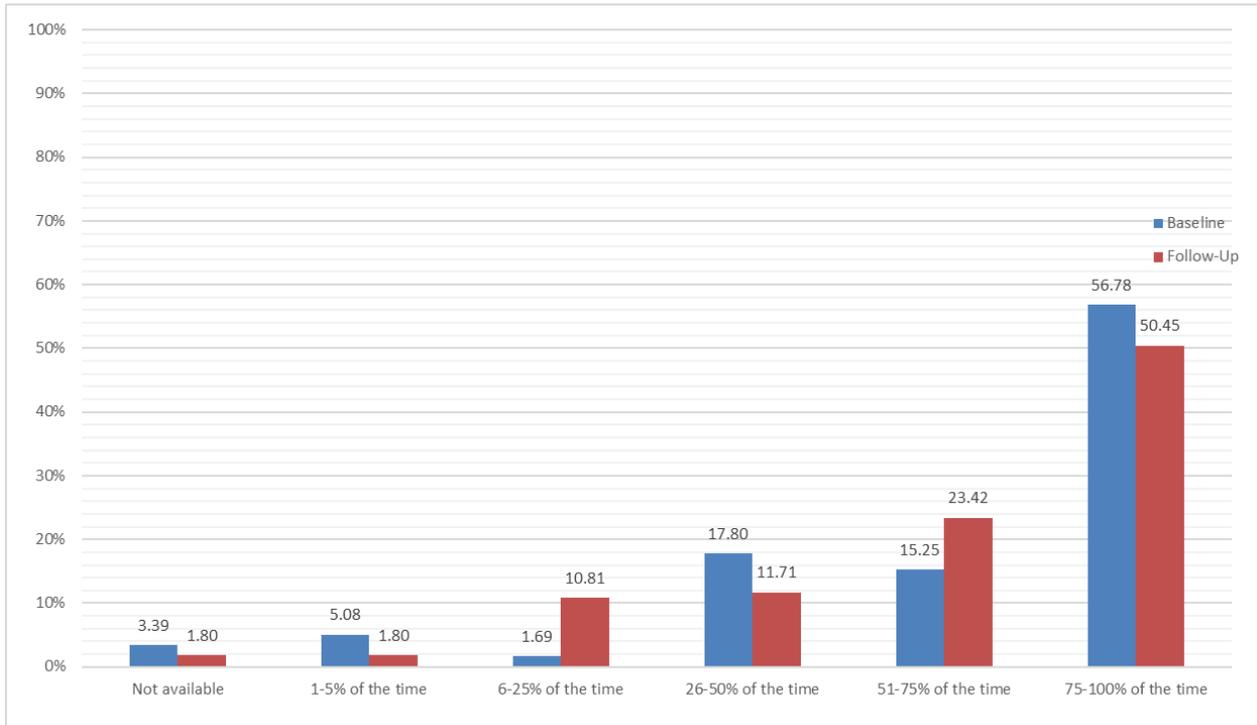
Figure 4.5 Time Available for Clinical Supervision and Mentorship of cANPs/RANPs by Medical Colleagues – Baseline and Follow-up

Clinical supervision provided from other registered ANPs to those cANPs/RANPs in the demonstrator sites increased from that available at baseline when compared to follow-up. Although the majority of respondents still reported that they did not receive clinical supervision from an cANP/RANP at follow-up, this reduced from 69.3% to 57.7%. Approximately a third of respondents reported that they currently received clinical supervision from another cANP/RANP compared to approximately a quarter at baseline (Figure 4.6).
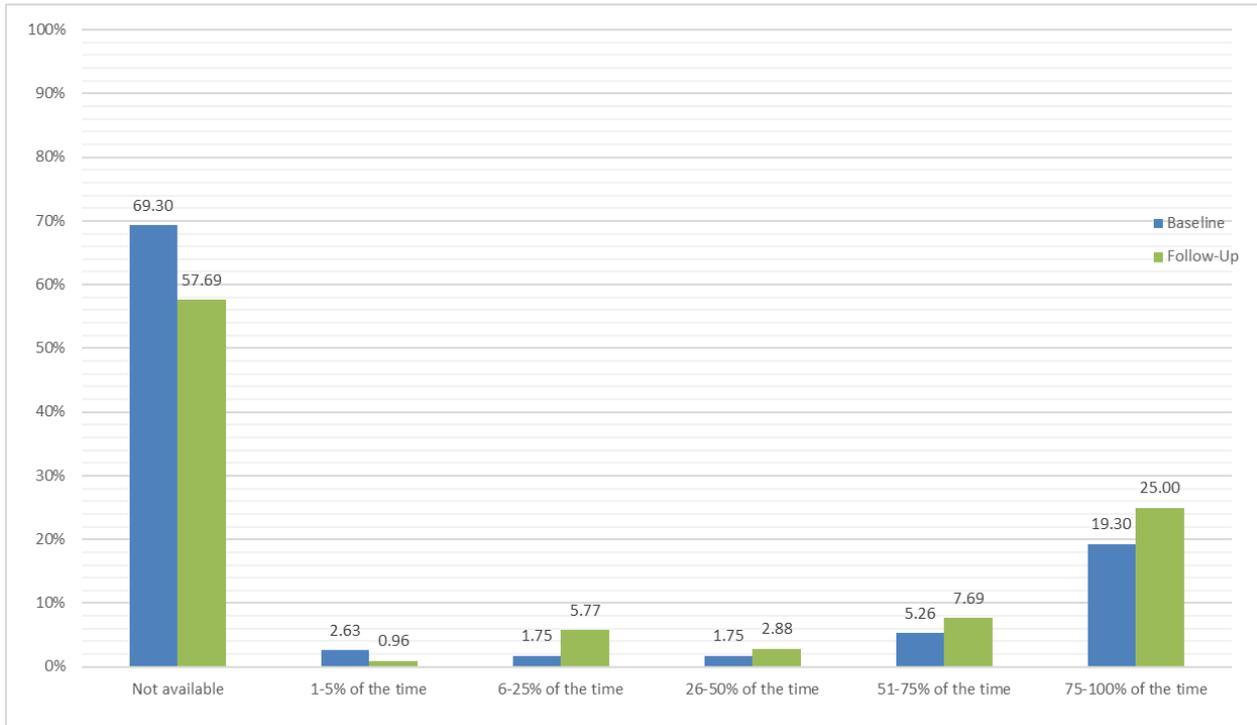
Figure 4.6 Time Available for Clinical supervision and Mentorship of cANPs/RANPs by other RANPs – Baseline and Follow-up

4.5 Job Description and Working Profile of cANPs/RANPs

The proportion of respondents who reported that her/his job description was fully developed increased from 24.4% at baseline to just over 36% at follow-up; however, just over 63% of reported that a job description was still not fully developed at the time of the follow-up survey; however, this reduced from 75% at baseline (Figure 4.7).
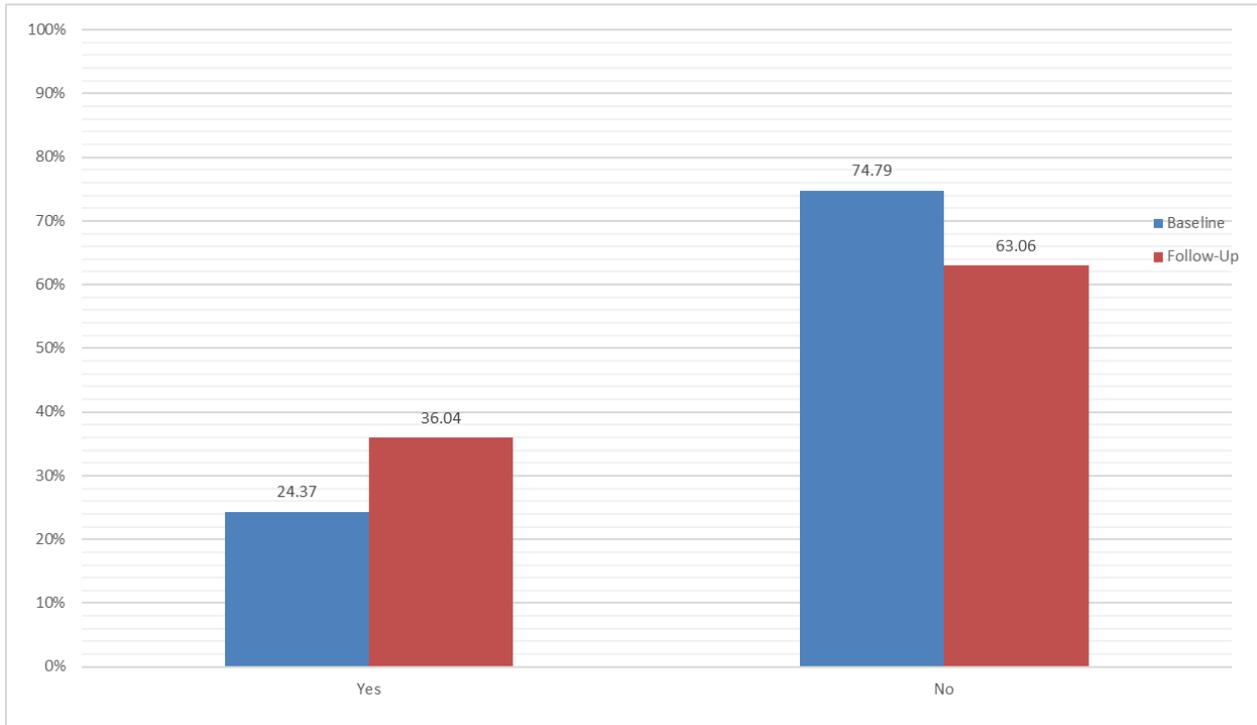
Figure 4.7 Job description available to support the cANP/RANP Role – Baseline and Follow-up

On average, respondents worked, 37.6 hours per week (SD 4.7); this was similar to the hours recorded at baseline (mean = 38.2 hours, SD = 3.6). The shifts worked at follow up were similar to baseline data with the vast majority (92.8%) working week days only with a small minority working a combination of weekdays and weekends (7.2%), slightly down from 9.3% working a combination of weekdays and weekends at baseline (Figure 4.8). As in baseline data, no respondent reported that they worked night duty hours in his or her cANP/RANP position.
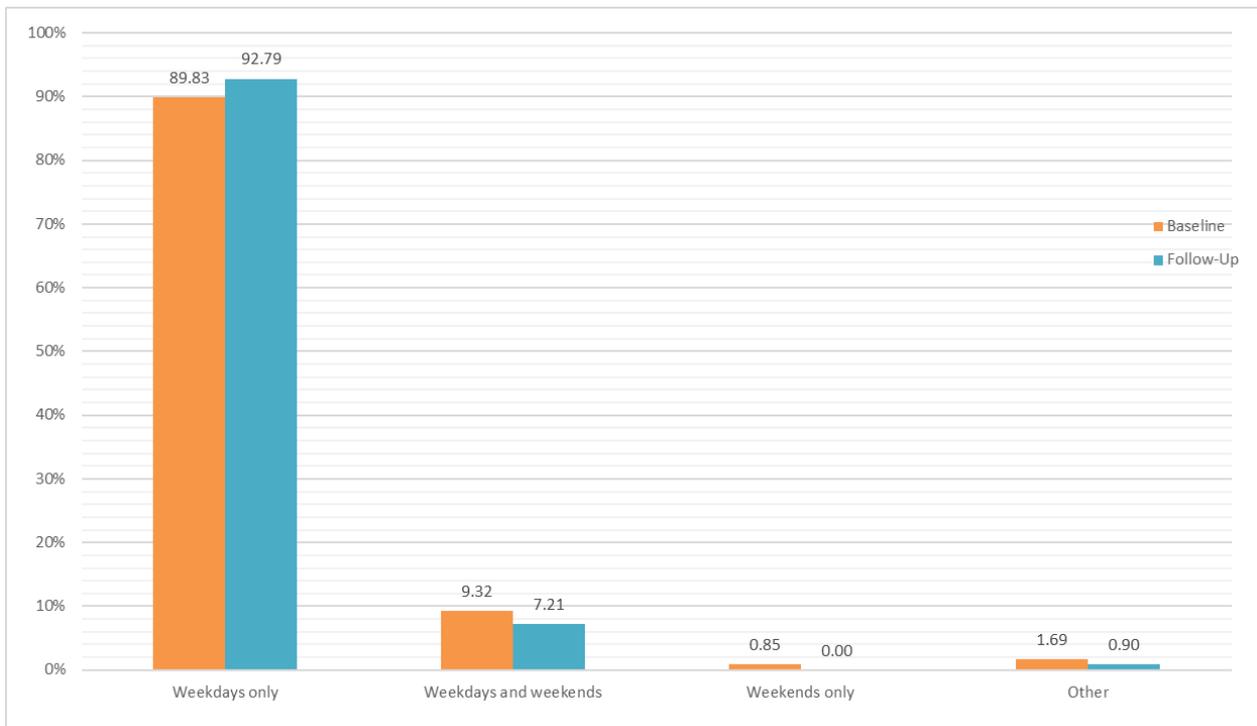
Figure 4.8 Working Schedule of cANPs/RANPs – Baseline and Follow-up

4.6 Activities and Roles of cANPs/RANPs

Respondents approximated the amount of time spent on various aspects of their role as an cANP/RANP; Figure 4.9 outlines the activities at baseline with comparisons to follow-up. As measured at baseline, the majority of cANP/RANP activity was undertaken by clinical work with a slight increase on time spent in this area increasing from 61.6% at baseline to 64.1% at follow-up; this increase in clinical activity was associated with slight decreases at follow-up in time spent by cANPs/RANPs on non-clinical, administrative, research and other roles (Figure 4.9).
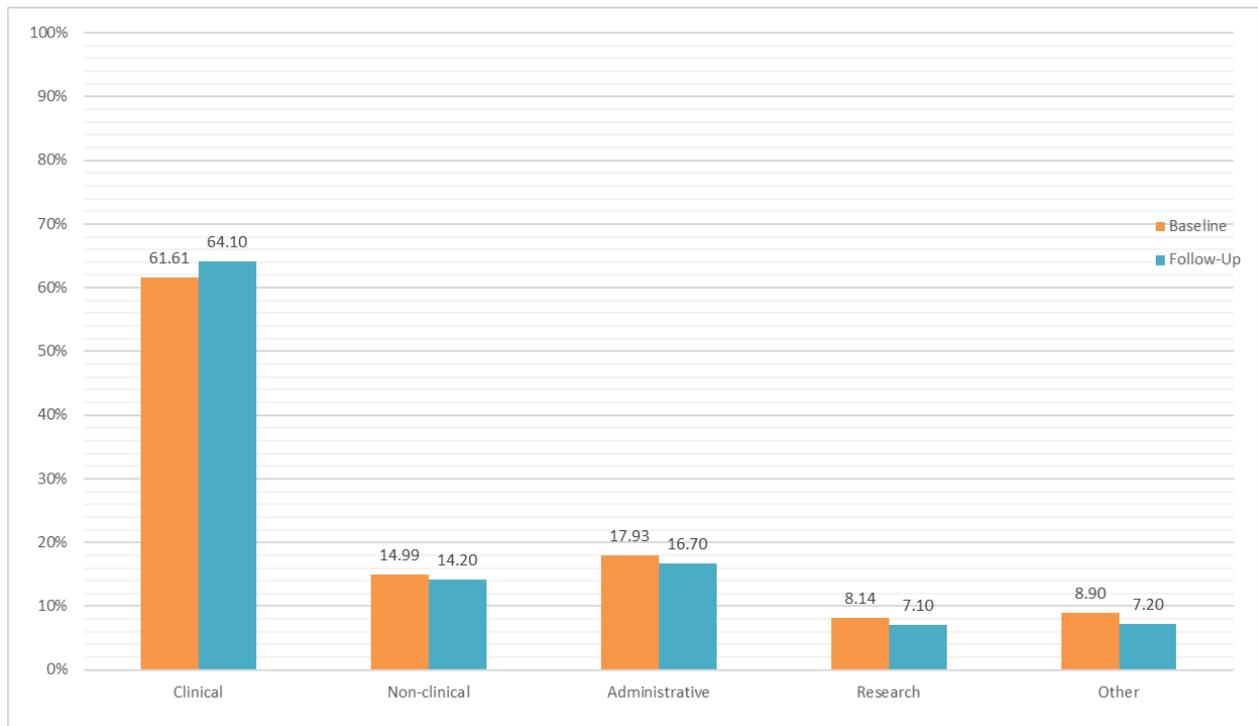
Figure 4.9   Time spent on Various Aspects of the cANP/RANP role – Baseline and Follow-up

In addition, respondents were asked about the patient cohorts to which they provided care. As reported at baseline, the majority of cANPs/RANPs engaged with patients with long-term chronic conditions; however, the proportion of patients with long-term conditions to whom cANPs/RANPs delivered care, increased from 59.2% at baseline to 67.0% at follow-up. There was a slight decrease in the proportion of care provided to patients with acute minor illnesses (33.4% at baseline versus 27.5% at follow-up) with care provided to patients with acute major illnesses remaining the same over the two time periods (Figure 4.10).
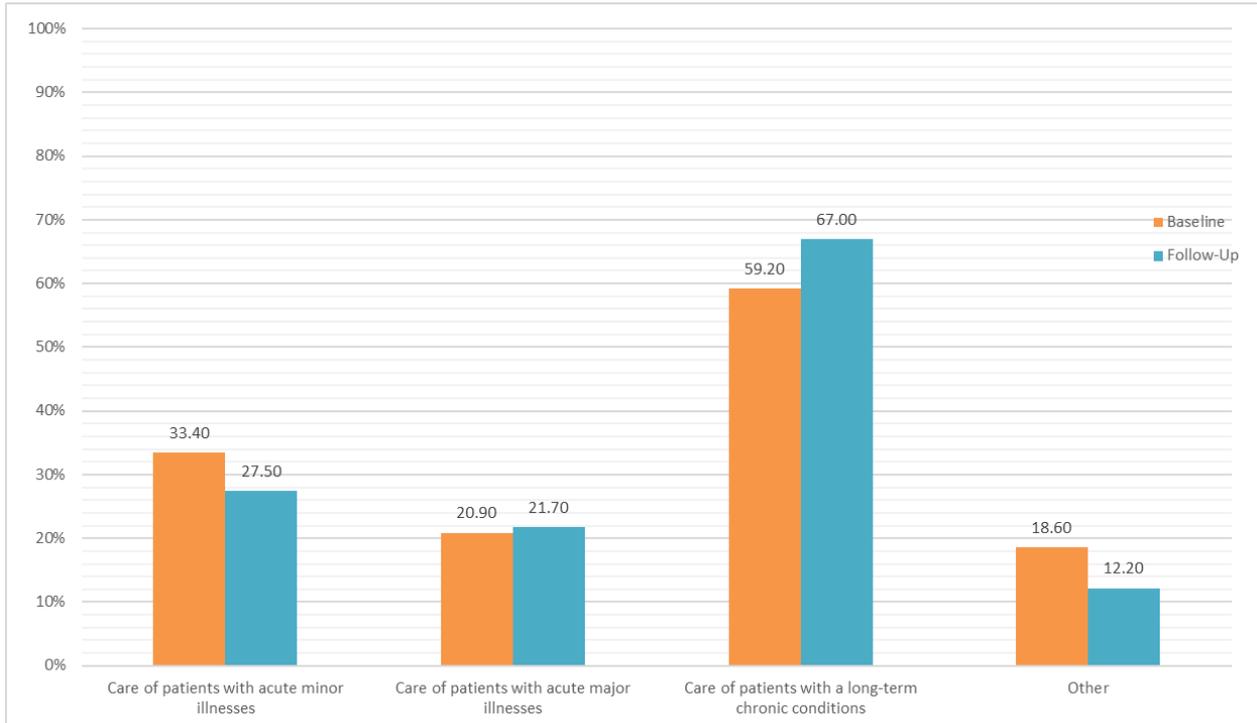
Figure 4.10 Proportion of time spent by cANPs/RANPs with Patient Groups – Baseline and Follow-up

Respondents provided an age estimate of their patient population to which they provided care (Figure 4.11). There was an increase in the proportion of cANPs/RANPs that provided care to older people (aged 65 years and older); this increased from 64.5% at baseline to 71.7% at follow-up. There was a slight decrease in the proportion of cANPs/RANPs who provided care to adults (aged 17 to 64 years) and adolescents (aged 13 and 16 years). The proportion of cANPs/RANPs who provided care to children remained the same at the two time points.
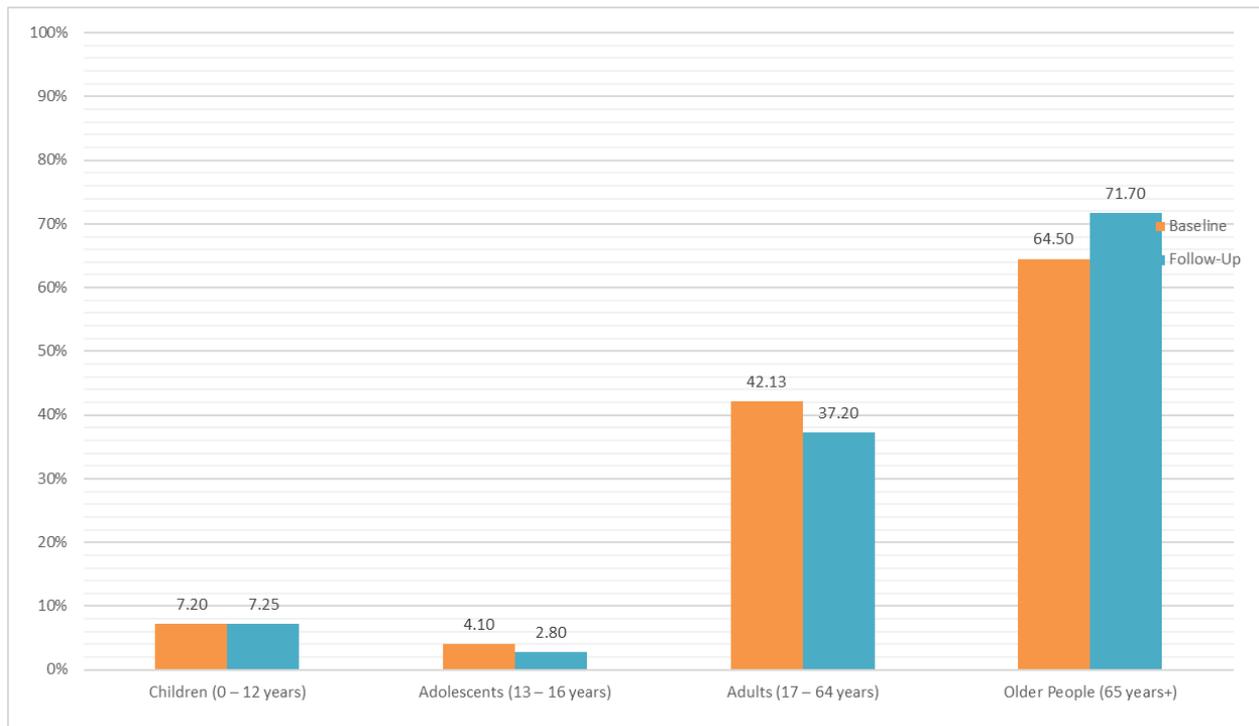
Figure 4.11 Age Profile of Patients seen by cANPs/RANPs

The respondents reported on the activities most frequently performed in their role as an cANP/RANP (Table 3.1). While many of these cANP/RANP roles are evolving, a certain pattern of activity is emerging from this data. The most common activities reported by cANPs/RANPs for some or most patients included clinical history taking and physical assessments (97% at baseline and follow-up); counselling and educating patients (baseline 92% Vs. follow-up 97%), and ordering/performing/interpreting clinical tests (baseline 80% Vs. follow-up 89%).

The vast majority of activities performed by cANPs/RANPs increased between baseline and follow-up with the largest change in the proportion of respondents who were prescribing medications for acute and chronic illness; this increased from 39% of respondents at baseline to approximately 53% at follow-up, a 14% increase. Other activities that increased over time included, the diagnosis, treatment, and management of chronic illnesses (+8.5%), ordering/performing/interpreting clinical tests (+9.4%), providing preventative care (+7.2%) and making referrals (+7.5%). Only one activity, performing procedures, was noted as decreasing over time (-6.0%) (Table 4.1).

Table 4.1 Proportion of Activities Performed by cANPs/RANPs – Baseline and Follow-up

Item	Comparison				
	Baseline		Follow-up		Percent Change from Some/Most Patients
	No/Few Patients %	Some/Most Patients %	No/Few Patients %	Some/Most Patients %	
Diagnosis, treatment, and management of acute illnesses	45.45	54.54	43.11	56.87	+2.33
Diagnosis, treatment, and management of chronic illnesses	25.96	74.04	17.48	82.53	+8.49
History taking and physical assessment	2.83	97.17	2.83	97.17	0.0
Order, perform, and interpret lab tests, x-rays, ECGs, and other diagnostic studies	19.81	80.19	10.37	89.62	+9.43
Prescribe drugs for acute and chronic illnesses	60.58	39.42	46.23	53.77	+14.35
Provide preventative care, including screening and immunisations	52.43	47.57	45.19	54.81	+7.24
Perform procedures	60.0	40.0	66.04	33.96	-6.04
Counsel and educate patients and families	7.55	92.45	2.83	97.08	+4.63
Provide care coordination	14.57	85.43	11.32	88.68	+3.25
Make referrals	16.98	83.02	9.44	90.56	+7.54
Participate in practice improvement activities	16.03	83.97	10.38	89.62	+5.65

The survey also measured the location where cANPs/RANPs practiced. Approximately 30% of cANPs/RANPs travelled to see patients outside their immediate practice environment; this was an increase from 25% of cANPs/RANPs at baseline. Of these, over 70% reported that they visited patients in a community setting or in their own home; this was an increase from the 60% of cANPs/RANPs at baseline who engaged with patients in one or both of these settings. This change reflected respondent's intentions to expand into community settings which was highlighted in respondents' replies when the baseline data was collected in early 2019. Approximately half of respondents stated that they further intended to expand their practice beyond their current location to areas including: primary care centres, assessment of older people in their own homes and community settings, outreach services for patients to prevent hospital admission, GP practices, schools, and satellite clinics. A third of respondents highlighted that they visited 'other' settings external to their own site; these predominantly included other hospitals and nursing homes (Figure 4.12).
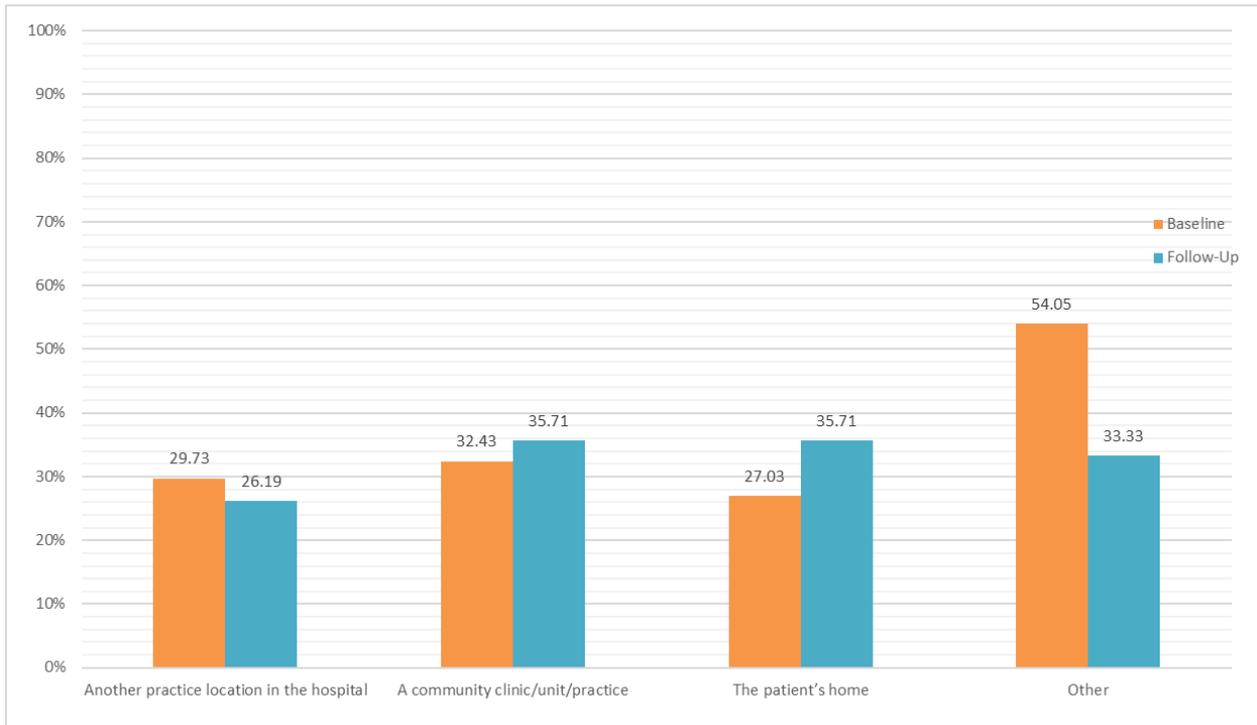
Figure 4.12 Extent of cANP/RANP Engagement with Patients outside their Current Practice Location – Baseline and Follow-up

Only a very small proportion of cANPs/RANPs (6.6%) reported that they had hospital admitting privileges without recourse to a medical practitioner; this proportion remained relatively unchanged from that measured during the baseline survey (5.6%) (Figure 4.13).

cANPs/RANPs' hospital discharge privileges without recourse to a medical professional did change over time from approximately a fifth of respondents at baseline to over a quarter at follow-up; however it is of note that approximately three quarters of cANPs/RANPs reported that they did not have the privilege of discharging patients at the time of the survey (Figure 4.14).
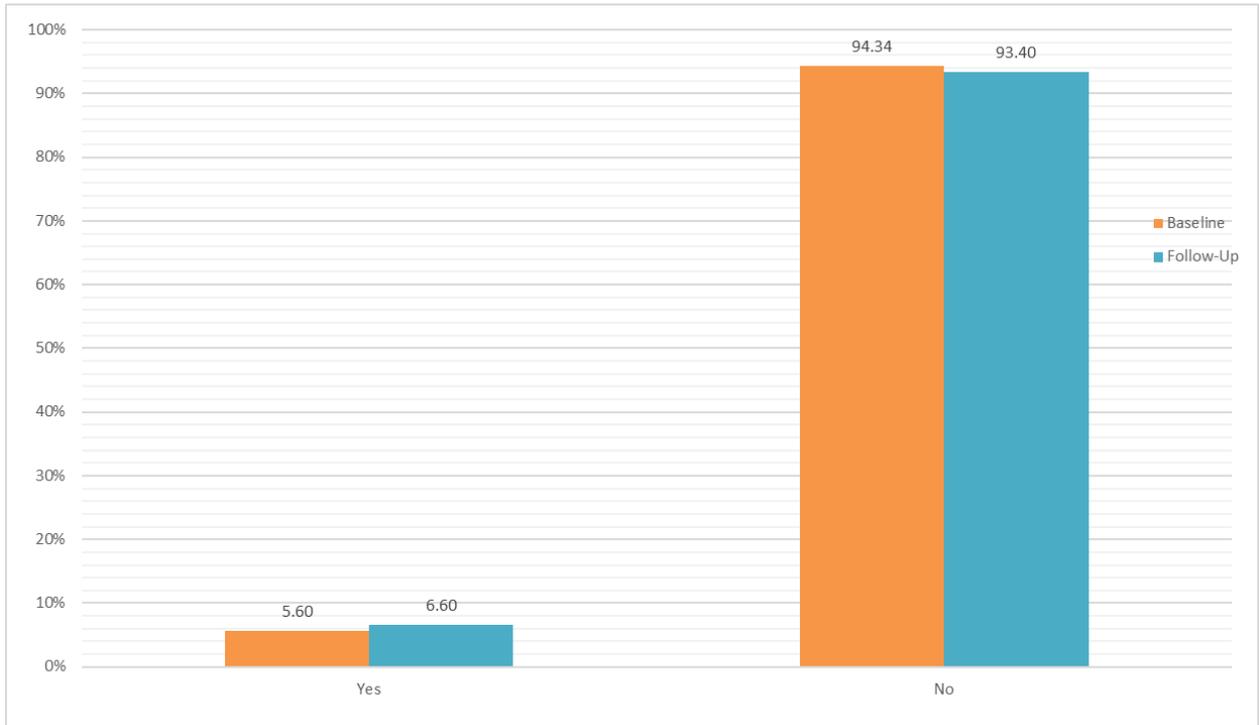
Figure 4.13 cANP/RANP Hospital Admitting Privileges without Recourse to a Medical Practitioner – Baseline and Follow-up
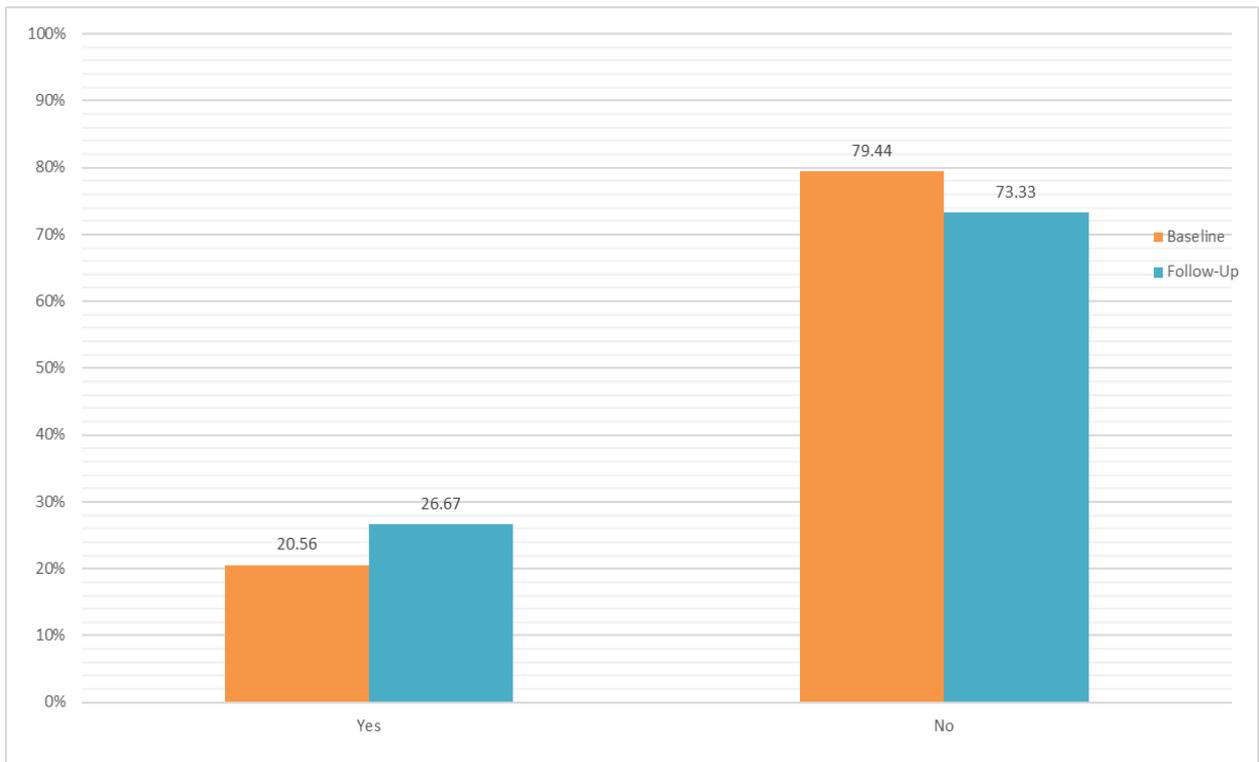
Figure 4.14 cANP/RANP Hospital Discharge Privileges without Recourse to a Medical Practitioner – Baseline and Follow-up

4.7 Caseload and Referral Processes to an cANP/RANP Service

At both baseline and follow-up time-points, the majority of respondents (approximately 75%) reported that patients were referred to them by a healthcare professional within their clinical setting. Two areas of referral showed large increases at follow-up when compared to baseline; referrals to cANPs/RANPs from community settings increased by 13.4% whereas referrals from another healthcare setting within the hospital in which the cANP/RANP was located increased by 11.4%. Patient self-referrals to cANPs/RANPs also increased by 7.1% over time period measured (baseline to follow-up) (Table 4.2).

Table 4.2 Modes of Patient Referral to the cANP/RANP Service – Baseline and Follow-Up

Item	Comparison		
	Baseline %	Follow-up %	Percent Change from Baseline
Patient can self-refer directly to me	11.32	18.45	+7.13
Patient is referred by a healthcare professional within my setting	73.58	74.76	+1.18
Patient is referred from another healthcare setting within my hospital	25.47	36.89	+11.42
Patient is referred from the community	27.36	40.78	+13.42
Other	30.19	28.16	-2.03

cANPs/RANPs reported that they received referrals from a number of sources; the majority of referrals came from GPs, other nurse practitioners, allied health professionals and medical practitioners. A quarter of cANPs/RANPs received referrals directly from patients and nurses working in the community. There was an increase between baseline and follow-up in referrals to cANPs/RANPs from GPs and other cANPs/RANPs (Figure 4.15).

65
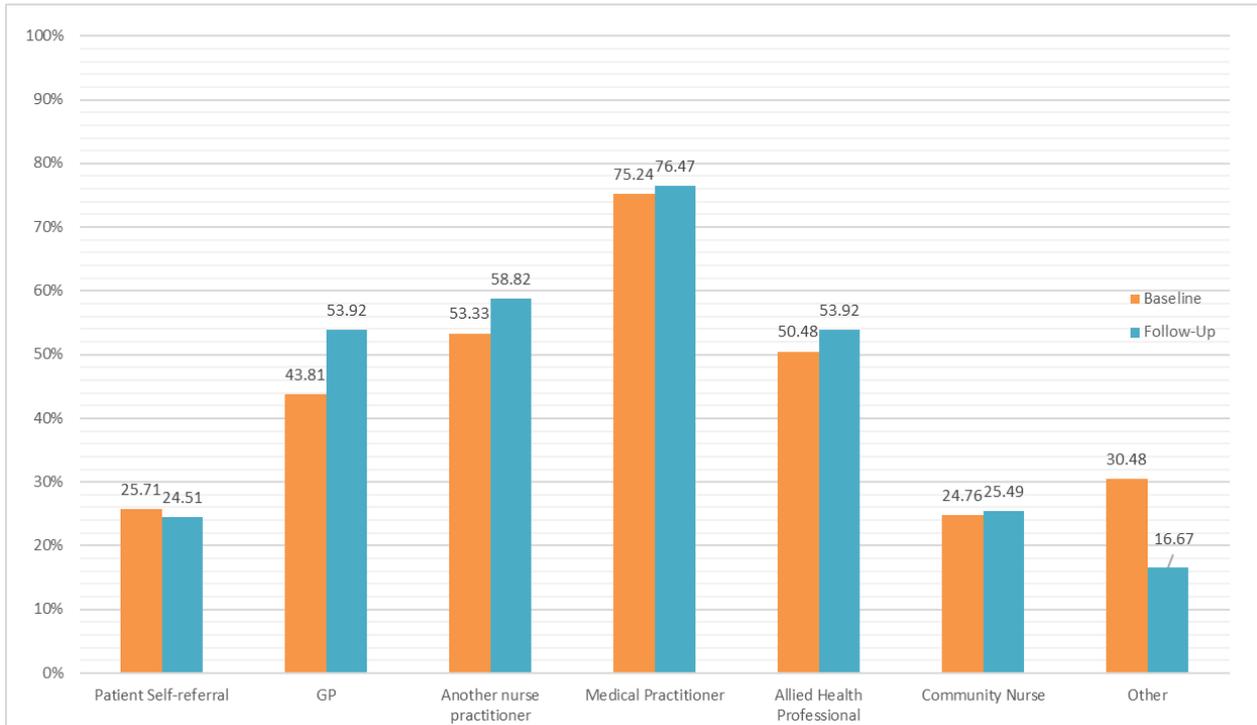
Figure 4.15 Source of Referrals to cANPs/RANPs – Baseline and Follow-up

Levels of referrals from cANPs/RANPs to other health care professionals increased from baseline to follow-up. The vast majority of referrals from cANPs/RANPs were to allied health professions (physiotherapy, occupational therapy, speech and language therapy), medical practitioners, GPs community nurses, other RANPs, and clinical nurse specialists (Figure 4.16).
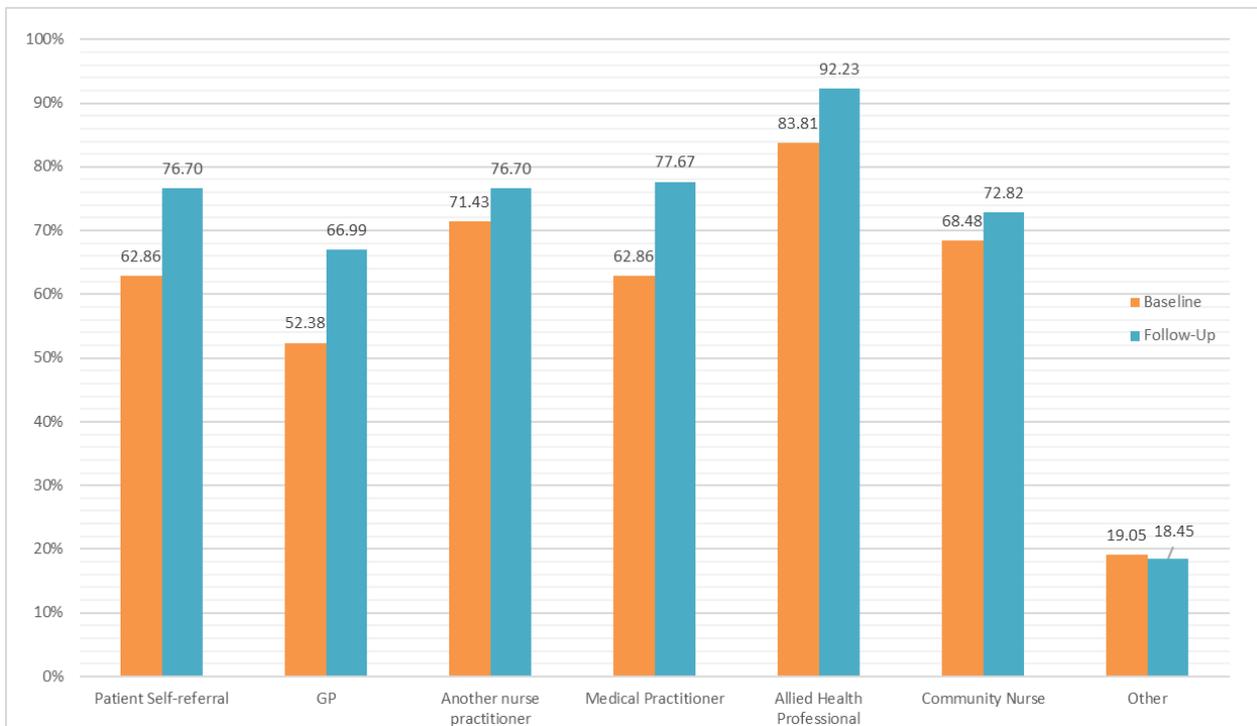
Figure 4.16 Referrals from cANPs/RANPs to Other Healthcare Professionals – Baseline and Follow-up.

As identified in the data at baseline, the majority of cANPs/RANPs in the follow-up period of data collection referred patients to another healthcare professional independently without recourse to a medical practitioner. The proportion of cANPs/RANPs independently referring patients increased from approximately 60% at baseline to over 87% at follow-up; fewer than 10% of cANPs/RANPs reported that the medical practitioner signed or wrote the referral note. In a minority of instances, the referral process was identified as a collaborative process between the cANP/RANP and their medical practitioner (1.9%) or done exclusively by the medical practitioner (6.8%) after consultation with the cANP/RANP; however, these models of referral were substantially lower at follow-up when compared to baseline data indicating greater independence in the referral process undertaken by the cANP/RANP (Figure 4.17).
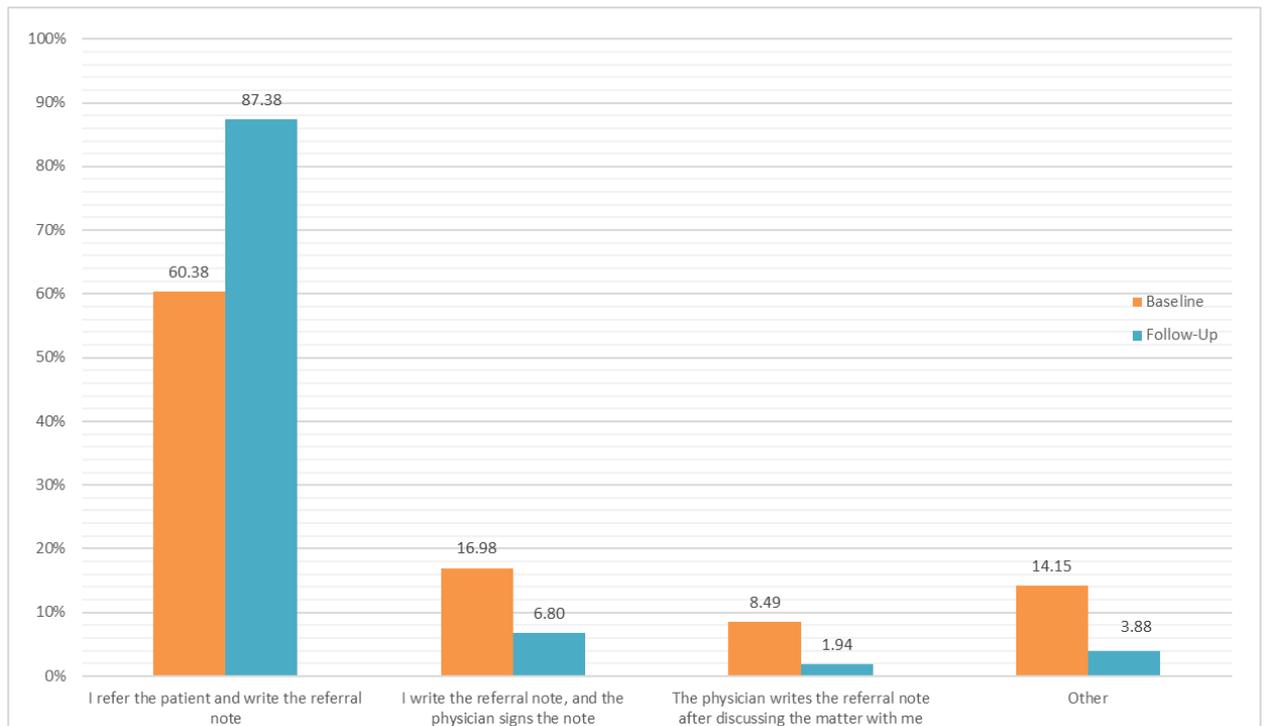
Figure 4.17 cANP/RANP Referral Process – Baseline and Follow-Up

4.8 Educational component of cANP/RANP role

The vast majority of cANPs/RANPs at follow-up (97.1%) reported that they provided educational support to other members of the healthcare team; this was a slightly higher proportion when compared with the baseline data (93.0%). The majority of respondents provided educational support to healthcare professionals through formal requests from colleagues, as part of a structured teaching programme, in response to develop an area of clinical practice or at the request of other health care team members (Figure 4.18).
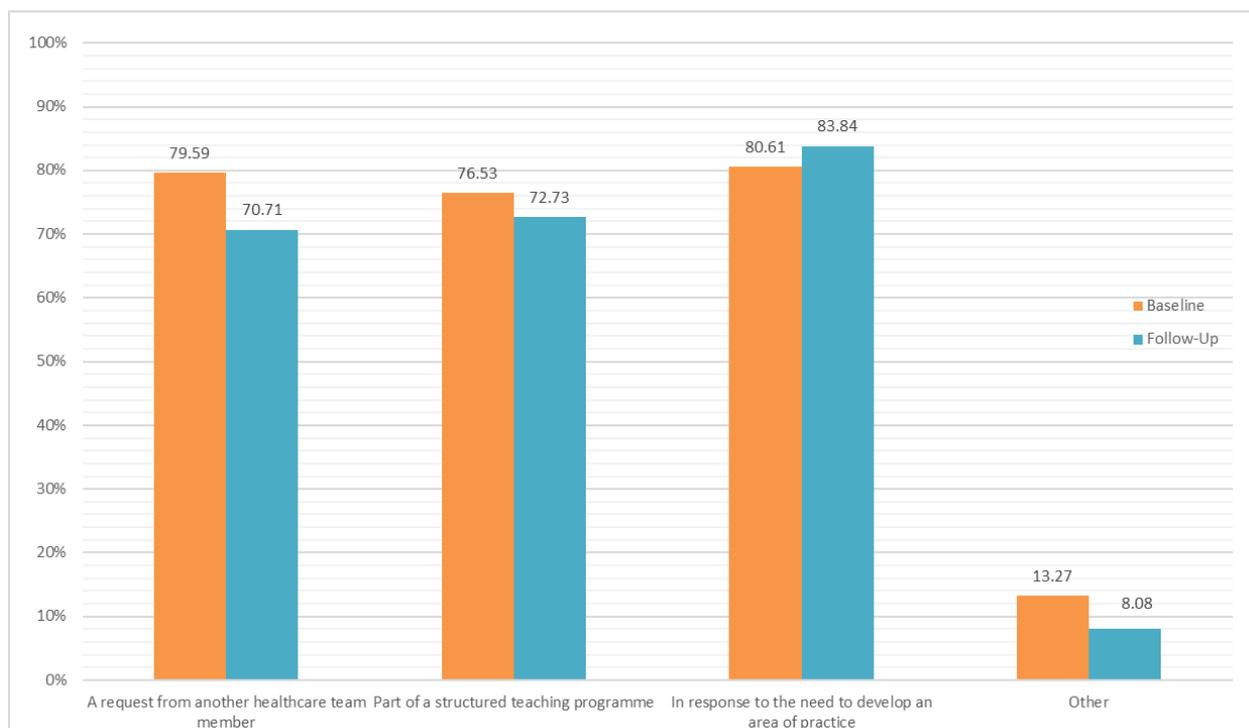
Figure 4.18 Educational component of cANP/RANP role – Baseline and Follow-Up

4.9 Scope of cANP/RANP practice

Respondents in the survey were asked to provide feedback on their individual cANP/RANP scope of practice. Although the majority of respondents were in agreement at both time points that they were able to work at their full scope of practice, there was very little change between baseline and follow-up. It is of note that over a third of respondents at both baseline (37.3%) and follow-up (37.8%) disagreed that they were working at their full scope of practice.

There was some change in the extent to which respondents were in agreement that their skills as an cANP/RANP were been fully used; this increased from 49.5% at baseline to 55.1% at follow-up; a 5.6% increase in levels of agreement between the two time points. Similar to the result in scope of practice, approximately a third of respondents at follow up disagreed that their skills as an cANP/RANP were being fully utilised (Table 4.3).

Table 4.3 cANPs/RANPs' Attitudes towards their Scope of Practice – Baseline and Follow-up*

Item	Comparison				
	Baseline		Follow-up		Percent Change from Agree at Follow-up
	Disagree %	Agree %	Disagree %	Agree %	
Allowed to Practice to the fullest extent of my scope of practice	37.3	56.9	37.8	58.2	+1.3
My cANP/RANP skills are being fully utilised	42.7	49.5	31.8	55.1	+5.6

*No opinion responses are omitted

The majority of respondents (79.6%) reported that they were limited in seeing certain patients; this was similar to the proportion of cANPs/RANPs that reported this at baseline (83.0%). Of those that reported limitations, the most frequent reason was their chosen area of speciality (67.9%) followed by the request of a physician (32.1%). When baseline and follow-up are compared, there was an increase in limitations at follow-up in relation to chosen area of speciality and the request of the physician with a fall in limitations imposed by the hospital or employer (Figure 4.19). Reasons provided by respondents for limitations in the patients with whom they consulted, included: inability to prescribe medications or ionising radiation, personal patient choice by the cANP/RANP, limited support from services, lack of a job specification or patients with whom they could consult specifically identified in a job description.
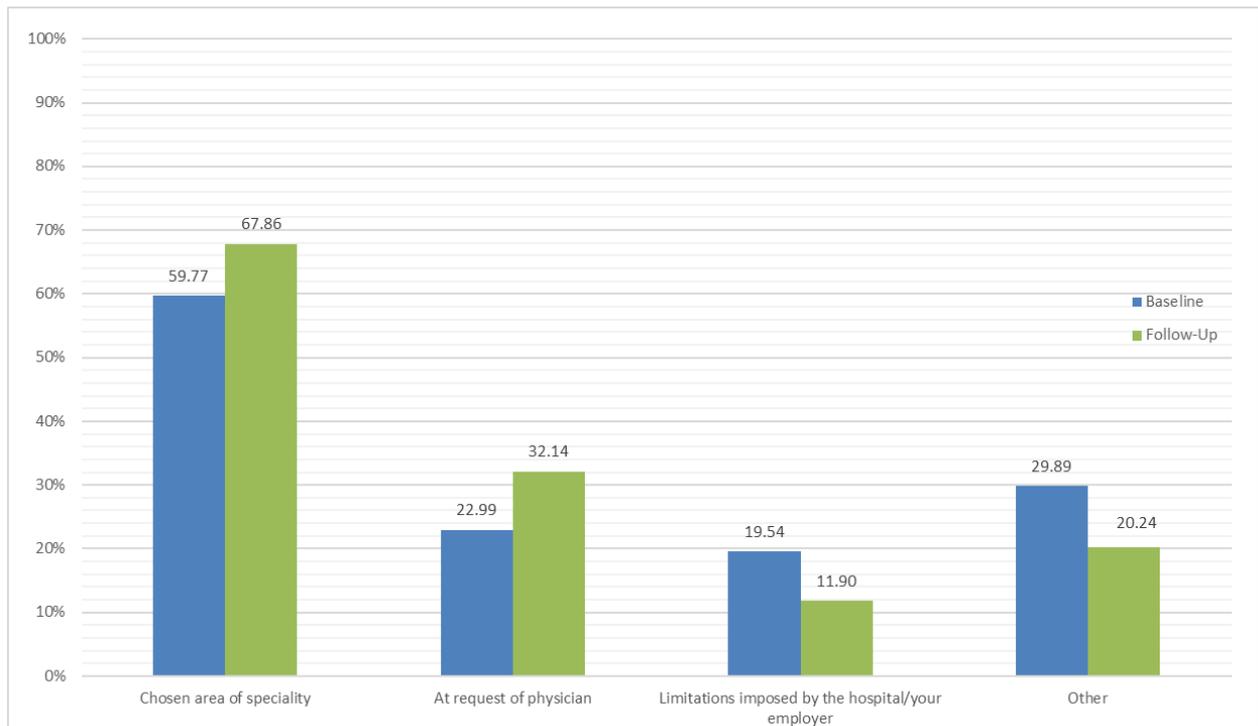
Figure 4.19 Reasons for limitations in Scope of Practice – Baseline and Follow-up.

Factors that respondents identified as facilitating the cANP/RANP role and scope of practice are reported in Table 4.4 and ranked in order from most to least facilitative; comparisons between both time-points (baseline and follow-up are provided).

At both time-points, the most facilitative factors identified were the physicians with whom cANPs/RANPs work followed by the cANP/RANP's level of clinical experience prior to entering the cANP/RANP programme. The third most facilitative factor at follow-up was the multidisciplinary team with whom the cANP/RANP worked; this moved from fourth place at baseline to third place at follow-up. The facilitating factor with the largest change, an increase of 13.8%, was the support received from the organisation in which the cANP/RANP worked; this was ranked fifth at follow-up, moving one place from sixth at baseline (Table 4.4).

Table 4.4 Factors Facilitating Ability to Fulfil Role as an cANP/RANP – Baseline and Follow-up

Item	Comparison				
	Baseline		Follow-up		Percent Change from Baseline
	%	Rank	%	Rank	
The physicians with whom I practice	78.6	1	77.7	1	-0.86
My clinical experience prior to entering the cANP/RANP programme	66.0	2	57.5	2	-8.44
The multidisciplinary team with whom I practice	33.0	4	38.3	3	+5.37
My educational preparation for my cANP/RANP role	38.8	3	29.2	4	-9.54
The organisation in which I am employed	15.5	6	29.2	5	+13.76
Level of confidence to take on the responsibilities of this new role	21.3	5	18.1	6	-3.18
The practice model under which I operate	14.5	7	13.1	7	-1.43
The way my role has been defined – narrow	10.6	8	11.1	8	+0.43
Patients' perceptions of my role	0.9	14	7.0	9	+6.1
Number of patients to see	2.9	12	6.0	10	+3.15
The way my role has been defined – broad	5.8	9	6.0	11	+0.23
Healthcare professionals' perceptions of my role	3.8	10	3.0	12	-0.85
Physical working environment	1.9	13	2.0	13	+0.08
Legislation related to my role	5.8	11	1.0	14	-4.82

Factors identified by respondents as barriers to the cANP/RANP role and scope of practice are reported in table 4.5 and are displayed in order from the greatest to least barrier; comparisons between the barriers identified at baseline and follow-up are displayed.

The top three barriers were the same at both baseline and follow-up time-points and included: the physical working environment, other healthcare professionals' perceptions of the role and the organisation in which the cANP/RANP is employed. In particular, the proportion of cANPs/RANPs identifying the physical environment in which they worked as a barrier to the operationalisation of the role increased from 57.3% at baseline to 62.6% at follow-up. Similarly, there was an increase of 6.6% from baseline (37.9%) to follow-up (44.4%) in the proportion of cANPs/RANPs identifying the organisation in which they work as a barrier to the role. There was little change in between baseline and follow-up in the proportion of respondents who reported that other healthcare professionals' perceptions of their role was a barrier. The largest decrease identified between baseline and follow-up was in respondents' perceptions of how the role is defined as a barrier; at baseline, 34.0% of respondents identified the broad definition of the cANP/RANP role as a barrier, however, this reduced to 24.2% cANPs/RANPs at follow-up, a decrease of 9.7%.

Table 4.5 Factors acting as Barriers to fulfilling the cANP/RANP Role – Baseline and Follow-up

Item	Comparison				
	Baseline		Follow-up		Percent Change from Baseline
	%	Rank	%	Rank	
Physical working environment	57.2	1	62.3	1	+5.35
Healthcare professionals' perceptions of my role	48.5	2	48.4	2	-0.06
The organisation in which I am employed	37.8	3	44.4	3	+6.54
Number of patients to see	26.2	5	25.2	4	-0.96
The way my role has been defined – broad	33.9	4	24.2	5	-9.74
Level of confidence to take on the responsibilities of this new role	20.3	6	19.1	6	-1.2
The physicians with whom I practice	9.7	9	13.1	7	+3.42
Legislation related to my role	11.6	8	13.1	8	+1.48
The multidisciplinary team with whom I practice	9.7	10	12.1	9	+2.41
The practice model under which I operate	9.7	11	11.1	10	+1.4
The way my role has been defined – narrow	6.8	13	8.0	11	+1.28
My clinical experience prior to entering the cANP/RANP programme	8.7	12	7.0	12	-1.67
My educational preparation for my cANP/RANP role	6.8	14	6.0	13	-0.74
Patients' perceptions of my role	12.6	7	5.0	14	-7.57

One area of note in the factors that were identified as both barriers and facilitators was respondents' views on patients' perceptions of their role. At baseline, only approximately 1.0% of cANPs/RANPs viewed patients' perceptions as a facilitator but in follow-up, this had increased to 7.0%. Similarly, at baseline, 12.6% of cANPs/RANPs reported that patient perceptions were a barrier to the role but by follow-up this had reduced to 5% of respondents, a reduction of 7.5%; in addition, patients' perceptions as a barrier reduced from being ranked 7 at baseline to 14 in follow-up.

The greatest reduction in the area of concern from baseline to follow-up was related to the response to the item 'I feel that I am not competent to perform some of the tasks I am asked to perform'; this reduced from 14.3% of respondents who expressed a concern regarding their scope of practice at baseline to 3.9% of respondents at follow-up.

The vast majority of respondents (80.6%) at follow-up had no concerns regarding their scope of practice; this is compared to 67.7% who expressed no concern about their scope of practice at baseline. Similarly, the proportion of cANPs/RANPs who were concerned about their scope to practice reduced from 32.4% at baseline to 19.4% at follow-up (table 4.6).

Table 4.6 Respondents' Concern Regarding Their Scope of Practice – Baseline and Follow-up

Item	Comparison		
	Baseline %	Follow-up %	Percent Change from Baseline
I feel that I am asked to work outside my scope of practice	14.3	11.5	-2.8
I feel that I am not given enough information to treat patients properly	14.3	11.5	-2.8
I feel that I am not competent to perform some of the tasks I am asked to perform	14.3	3.9	-10.4
Other	73.8	92.3	+18.5

Of the 1 in 5 respondents who did have a concern regarding their scope of practice, the vast majority indicated 'other' concerns for the reasons why this occurred. 'Other' responses included:

- Pressure from management to increase number of patients seen.
- Patient caseloads.
- Pressure to combine college work and clinical hours.
- Being rostered to work in an area outside the cANP/RANP's scope of practice with no clinical supervision.
- Access to clinical space and diagnostic tests.
- Perceptions and expectations of other health professionals regarding an cANP/RANP's scope of practice.
- Uncertainty in role.
- No oversight from local implementation groups.
- Lack of support from linked consultant.
- Lack of individual confidence.
- No job description.
- Ongoing framework development.

4.10 Multidisciplinary and cANP/RANP Led Clinics

There was a reduction in the extent to which cANPs/RANPs were involved in multidisciplinary clinics between baseline (41.18%) and follow-up data (30.2%). cANPs/RANPs reported that they were involved in such clinics, on average, twice weekly and review, on average 22 patients, per clinic. The types of multidisciplinary clinics in which cANPs/RANPs were involved included: memory clinics, falls clinics, frailty assessment clinics, symptom management, management of long-term illnesses, allergy clinics, reproductive health, respiratory and rheumatology clinics, stroke and Parkinson's disease clinics, oxygen therapy clinics, and emergency department reviews (soft tissue injury management).

However, in comparison, the proportion of cANP/RANP led clinics increased from 34.3% at baseline to 47.8% at follow-up. On average there were three cANP/RANP led clinics held per week ranging from one per week to one or two per day. cANP/RANP led clinics were held in a variety of areas; for example, older persons' clinics included: cognitive assessment, falls assessment, polypharmacy and discharge reviews, delirium assessment, dementia review and frailty assessment. cANP/RANP led clinics in the area of rheumatology included: medication reviews,

treat-to-target reviews, optimisation of treatments for inflammatory joint disease, and gout management. Respiratory clinics included: disease assessment and management, asthma optimisation, management of COPD, and allergy reviews. cANP/RANP led clinics in unscheduled care included: review clinics, fracture clinics, and ambulatory care reviews. The number of nurse led clinics which had defined protocols increased from 27.7% at baseline to 52.5% at follow-up.

4.11 Prescribing Activities of cANPs/RANPs

This section measured the extent to which cANPs/RANPs were prescribing medications and/or ionising radiation (X-Rays) as part of their role. The majority of cANPs/RANPs surveyed were prescribing medications (62.1%) with half of the respondents indicating that they were currently prescribing ionising radiation (50.0%). This was an increase from the proportion of respondents who were prescribing medications (28.4%) and ionising radiation (28.5%) at baseline (Figure 4.20).
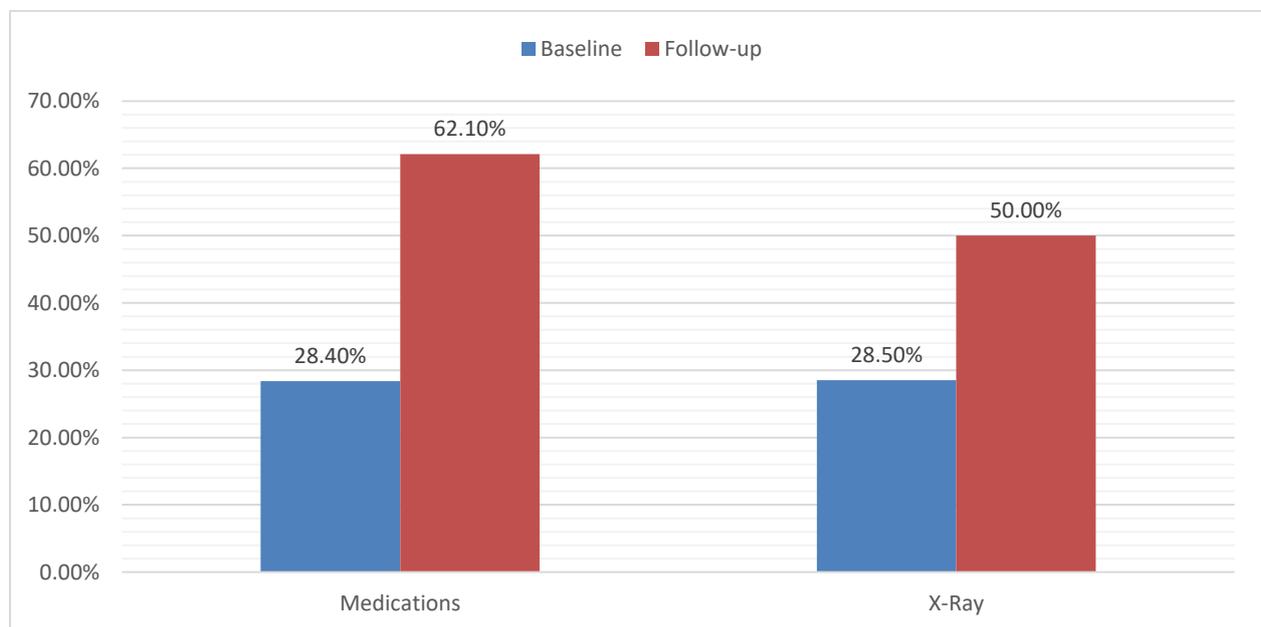
Figure 4.20 cANP/RANP Prescribing of Medications and Ionising Radiation (X-Ray) – Baseline and Follow-up

For the 38% of cANPs/RANPs who were not prescribing medications at the time of the survey, a number of reasons were highlighted by respondents. The most frequently identified was that respondents were currently in the process of completing the prescribing component of their course; for those who had completed the course, delays with approval of an cANP/RANP's collaborative practice agreement by their hospital's drugs and therapeutics committees was cited as the main reason for respondents not currently prescribing. Other barriers included: awaiting approval from a director of nursing, organisational barriers, awaiting registration as an cANP/RANP from the NMBI, and a delay in a university completing the necessary documentation. Similar issues were highlighted by respondents who were not currently prescribing ionising radiation with a majority who were not yet prescribing in the process of completing the course. Other issues highlighted by respondents included awaiting sign-off from a hospital's local implementation group and/or radiology department, prescribing of X-Rays not needed as part of their role and, in a minority of cases, organisational issues which included resistance to cANPs/RANPs prescribing ionising radiation by key decision makers.

4.12 Organisational Support

This section of the baseline and follow-up survey firstly measured cANPs/RANPs' working relationship with physicians, in particular those with whom they received supervision and mentorship; secondly, it measured the overall environment in which the respondents worked including workload, perceptions of other colleagues of the role, infrastructural and administrative supports and overall satisfaction.

Respondents were asked about their professional relationship with physicians, in particular the physicians who provide clinical supervision and mentorship. Table 4.7 highlights the respondents' perceptions of their working relationship with physicians both at baseline and follow-up. There was generally little change between the two points with approximately three-quarters of respondents collaborating with a physician at the site in which they are predominantly based. Approximately a third reported that a physician oversees their practice with just under half identifying that they are accountable to a physician.

The greatest change between baseline and follow-up data was the response to the item, 'I must accept the physician's clinical decision about the patients I see'. At baseline, 21.6% identified this as a component of their professional relationship; however, this had reduced to 12.5% at follow-up. Approximately 10% indicated 'other' and the majority of comments under this section referred to close collaborative working relationships with physicians; these working relationships included referrals and consultations regarding patient outcomes. A number of comments under the 'other' category also highlighted the ability of the cANP/RANP to work autonomously in their role but also the capacity to consult with the physician when required. cANPs/RANPs, in particular, highlighted that, in the main, consultants that they worked with were 'approachable', 'trusting' and 'respectful'. Negative comments regarding the relationship CANPs/RANPs had with their medical supervisors were limited.

Table 4.7 Professional Relationship between cANP/RANP and Physicians – Baseline and Comparison

Item	Comparison		
	Baseline %	Follow-up %	Percent Change from Baseline
No physician in my practice	0.0	0.0	0.00
Collaborate with physician at another site	6.8	9.4	+2.52
Collaborate with physician on site	74.5	74.0	-0.55
Equal colleagues/no hierarchy	20.6	21.9	+1.29
Physician oversees all my practice	27.4	30.2	+2.76
I am accountable to the physician	46.0	49.0	+2.88
I must accept the physician's clinical decision about the patients I see	21.6	12.5	-9.07
Physician sees and signs off the patients I see	33.3	32.4	-1.04
Other	5.9	10.4	+4.54

In a further exploration of the cANP/RANP role and its development the participants were asked to rate their satisfaction levels with a list of statements related to organisational support at baseline and follow-up (Table 4.8).

At both time-points, respondents expressed high levels of satisfaction with patient caseload (baseline 71% Vs. follow-up 68%), level of autonomy (Baseline 78% Vs. follow-up 78%), respect

from physician colleagues (baseline 81% Vs. 79% follow-up) and opportunities for professional development, although there was a slight decrease in this area in the level of satisfaction between the two time-points (80% baseline Vs. 75% follow-up).

Although respondents were satisfied at the two time-points with the level of respect they received from nursing colleagues, the level of satisfaction fell by approximately 10% from 74% at baseline to 64% at follow-up; this was lower than the level of respect accorded to the role from physician colleagues.

Levels of satisfaction with the availability of designated office space increased between the two time-points from 38% at baseline to 50% at follow-up; however, 47% of respondents expressed levels of dissatisfaction with access to space at follow-up. Similarly cANPs/RANPs' levels of satisfaction with administrative support increased between baseline and follow-up; however, levels of dissatisfaction remained high with 68% of respondents expressing dissatisfaction with this level of support at follow-up. Level of dissatisfaction with the amount of paperwork required by cANPs/RANPs remained at around 53% at follow-up; a slight increase from 50% levels of dissatisfaction at baseline.

Overall levels of satisfaction with the current position of the cANP/RANP increased slightly with 66% of respondents expressing satisfaction at baseline and 69% at follow-up; just under 30% expressed levels of dissatisfaction at baseline reducing to approximately a quarter of respondents at follow-up (Table 4.8).

Table 4.8 cANPs/RANPs' level of Satisfaction and Dissatisfaction* with the Organisational Climate – Baseline and Follow-up.

Item	Comparison				
	Baseline %		Follow-up %		Percentage Change in Satisfaction
	Dissatisfied	Satisfied	Dissatisfied	Satisfied	
Patient caseload	16.8	71.3	16.7	67.7	-3.58
Level of autonomy	11.9	78.2	12.6	77.9	-0.33
Respect from nursing colleagues	19.6	73.5	22.9	63.6	-9.98
Respect from physician colleagues	10.9	81.2	11.5	79.1	-2.02
Designated office space	57.9	38.2	46.9	50.0	+11.76
Amount of paperwork required	50.0	35.0	52.6	27.4	-7.63
Amount of administrative support	73.5	14.7	67.7	20.8	+6.13
Input into organisational / practice policies	26.5	47.1	21.9	55.2	+8.1
Opportunities for professional development	15.7	80.4	16.7	75.0	-5.39
Overall level of satisfaction with your current cANP/RANP/cANP position	29.4	65.7	24.0	68.8	+3.06

*No opinion responses are omitted

4.13 Interventions and Outcomes

This section of the survey measured the types of interventions and outcomes respondents were involved in as part of their role. These included the development of protocols, methods of communication used with patients and self-reports of the impact of the role on patient care.

Approximately an equal proportion of respondents were involved in service practice redesign at baseline (67%) and follow-up (68%). Examples of service redesign provided by respondents included: the introduction of frailty services in an emergency department, environmental design related to dementia care, geriatric assessment clinics, syncope pathways, business cases for further cANP/RANP posts, nurse-led dementia clinics, joint community and acute older persons' assessment hubs, nurse led asthma and oxygen clinics, integrated respiratory services, smoking cessation services, Frail Intervention Therapy (FIT) teams, allergy services, outreach nursing home services, nurse-led virtual clinics, patient flow pathways, and fracture prevention clinics.

Respondents were surveyed about their participation in guideline development and implementation. The vast majority of cANPs/RANPs surveyed (approximately 80%) were involved in contributing to the development of protocols and guidelines as part of a wider team at both baseline and follow-up. There was a 10% increase in the extent to which respondents were involved in the implementation of protocols and guidelines into practice from baseline (61%) to follow-up (71%). A similar proportion of cANPs/RANPs were involved in the monitoring and leading the implementation of protocols and guidelines at both time-points (Figure 4.21).
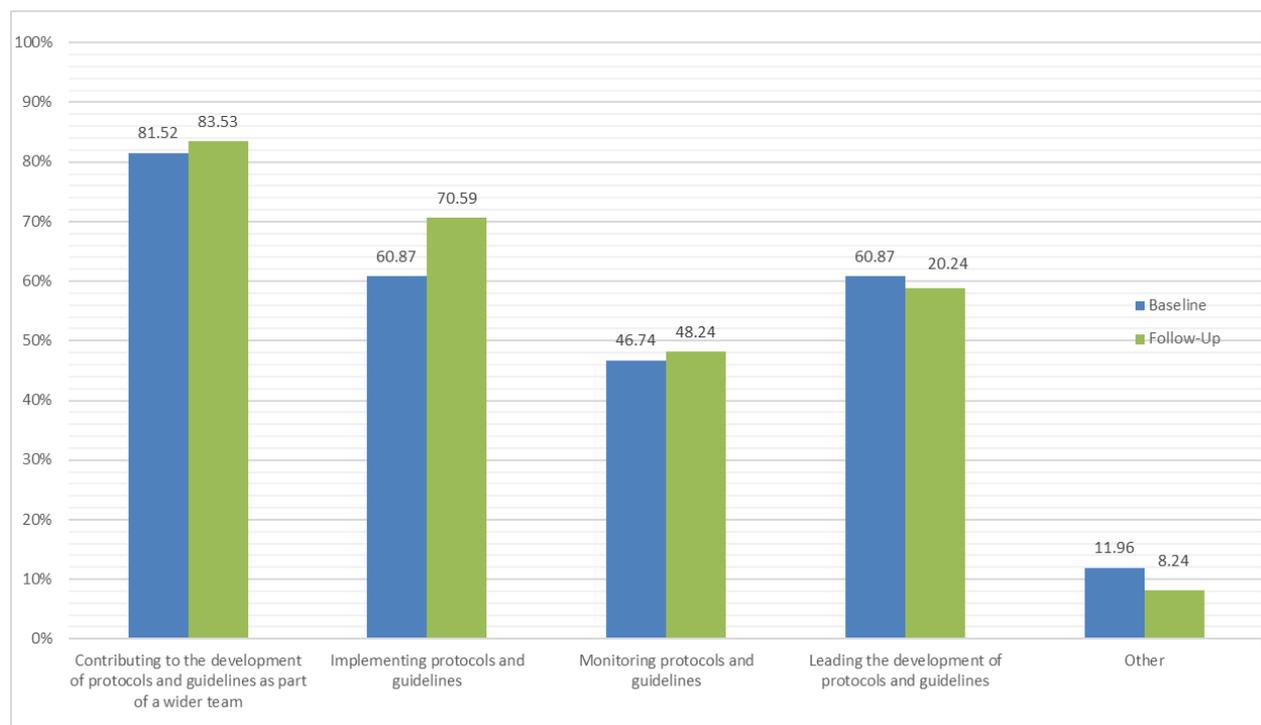
Figure 4.21 cANP/RANP participation in guideline development and implementation – Baseline and Follow-up

Participants were surveyed about their method of communicating with patients/carers and the use of information technology. Telephone contact/support was the most predominant method of contacting patients electronically (approximately 89% at both time-points). Participants identified Virtual Clinics as the second most common means of engaging with patients and their use increased from 34% at baseline to just over 50% at follow-up, an increase of 16%. There was a fall in the use of tele-monitoring and Smartphone applications between the two time-points but an increase in email contact with patients (Table 4.9).

Table 4.9 cANP/RANP method of communication with patients and use of IT

Item	Comparison		
	Baseline %	Follow-up %	Percent Change between Baseline and Follow-up
Tele-monitoring technology-distance monitoring of patient conditions	8.24	3.45	-4.79
Telehealth programmes for patient care and education	3.53	3.45	-0.08
Telephone contact with patients	89.41	89.66	+0.25
Email contact with patients	17.65	21.84	+4.19
Use of smartphone applications (Apps)	25.88	13.79	-12.09
Virtual clinics	34.12	50.57	+16.45
Other	8.24	6.90	-1.34

Respondents in this survey were also presented with a number of patient outcomes and asked to consider the impact of their role on each outcome on a 5-point scale ranging from low impact to high impact (Table 4.10).

The largest self-reported impact of the cANP/RANP role was on patients' satisfaction (high impact baseline 77.0% Vs. follow-up 87.2%) and educating patients about their health (high impact baseline 75.0% Vs. Follow-up 87.1%); both of these outcomes increased by 10% and 12% respectively at follow-up when compared to baseline.

Other areas of high impact as a consequence of the role included increased continuity of care (73% at baseline and follow-up), increase in patients' access to care (66% at baseline Vs. 73% at follow-up), and a positive impact on potentially avoidable hospitalisations (52% at baseline Vs. 61% at follow-up).

The largest increase between baseline and follow-up was the impact of the role on decreasing patient complications; respondents' self-reported assessment of this component of their work increased from 42% at baseline to 56% at follow-up, a 14% increase between the two time-points. On the other hand, there was a reduction in respondents' perceptions of the impact that their role had on healthcare costs (40% at baseline vs. 32% at follow-up).

Table 4.10 Self-reported Impact of the cANP/RANP Role on Patient Care

Item	Comparison						
	Baseline			Follow-up			Percent Change in 'High Impact'
	Low Impact %	Moderate Impact %	High Impact %	Low Impact %	Moderate Impact %	High Impact %	
Decreased length of stay	38.14	34.0	27.84	40.86	34.4	24.73	-3.11
Decreased healthcare costs	26.81	33.0	40.21	30.10	37.6	32.26	-7.98
Decreased readmission rates	34.37	29.2	36.46	31.92	27.6	40.43	+3.97
Decreased patient complications	19.59	38.1	42.27	13.83	29.8	56.38	+14.11
Decreased resource utilisation	25.53	35.1	39.36	24.47	36.2	39.36	0.00
Increased continuity of care	11.11	15.2	73.74	7.53	19.3	73.12	-0.62
Increase in patients' access to care	17.35	16.3	66.33	13.83	12.8	73.41	7.08
Increase in patients' satisfaction	9	14.0	77	4.25	8.5	87.24	+10.24
Increase in patients' education	7	18.0	75	3.23	9.7	87.10	+12.1
Potentially avoidable hospitalisations	25.51	22.5	52.04	19.15	20.2	60.63	+8.59

As part of their practice, cANPs/RANPs measured a number of patient outcomes related to their role. The most frequently measured were patient waiting times (approximately 50% at baseline and follow-up), followed by patient experience times (PET) (27% at baseline Vs. 36%); this outcome had the largest increase in as an outcome measurement between baseline and follow-up (9% increase). Another outcome related to the role that had increase between the two time points was the measurement of potentially avoidable admissions (baseline 20.6% Vs. follow-up 28.1%). Other relatively frequently measured outcomes included: patient length of stay, admission and readmission rates, unscheduled returns, patient access to care, and psychosocial outcomes. The least frequently measured outcomes included: mortality rates, costs and resource utilisation.

4.14 Conclusion

It is evident that the cANP/RANP role and integration into the health services has developed over the year of the evaluation. A high proportion of respondents have completed registration and, from the self-reports received in the survey, are beginning to impact on patient care. It is also evident that cANPs/RANPs are reporting the delivery of high levels of clinical care and developing increasing independence with the role. cANPs/RANPs also reported that they were involved in the development, implementation and operationalisation of innovative services, not least in the area of cANP/RANP led clinics. One of the key facilitators in the development of the role has been the support provided by medical practitioners in terms of clinical supervision and mentorship. There remain a number of barriers to the further development of the role not least the physical working environment, administrative support and organisational policies. Although they are currently self-reports, cANPs/RANPs are highlighting that they are impacting on a number of key

patient outcomes including access to care and the reduction in potentially avoidable hospitalisations.

4.15 Key Outcomes

Demographic and Academic profile of cANPs/RANPs

- Over the course of the evaluation, there was a substantial increase in the proportion of cANPs who had become registered as ANPs.
- The vast majority of respondents surveyed hold a master's degree as their highest level of qualification.
- The majority of cANPs/RANPs have extensive clinical experience; the average length of time qualified as a registered nurse was 19.8 years (SD = 7.5) – this ranged from 6 to 36 years.
- The vast majority of cANPs/RANPs are working in the area of older persons' care.

Clinical Supervision and Mentorship of cANPs/RANPs

- Supervision of cANPs/RANPs is provided by medical practitioners with RANPs also providing supervision to their cANP colleagues.
- Supervision from medical practitioners for cANPs/RANPs is available greater than 50% of the time.

Job Description and Working Profile of cANPs/RANPs

- On average, cANPs/RANPs work 37.6 hours per week.
- The majority (92.8%) of cANPs/RANPs work weekdays only; no cANPs/RANPs work night duty.

Activities and Roles of cANPs and RANPs

- Approximately 65% of the cANP/RANP role is undertaken in clinical work
- The remainder of the cANP/RANP time is spent on non-clinical, administrative, research. And other activities.
- The vast majority of patients (67.0%) that receive care from cANPs/RANPs have long-term conditions.
- The majority of patients (72%) that cANPs/RANPs provide care to are 65 years of age and older.
- The vast majority of cANPs/RANPs undertake history taking and physical assessment ((97%) counselling and educating patients (97%), make referrals (91%), participate in practice improvement activities 90%), ordering/performing/interpreting clinical tests (89%), provide care co-ordination (89%), and diagnosis, manage and treat chronic illness (83%) as part of their role.
- Approximately 30% of cANPs/RANPs travel to see patients outside their immediate practice environment; the majority of these visits are to the patient in their own home or in a community setting.
- Approximately half of cANPs/RANPs stated that they further intended to expand their practice beyond their current location to areas including: primary care centres, assessment of older people in their own homes and community settings, outreach

services for patients to prevent hospital admission, GP practices, schools, and satellite clinics.

- A very small proportion of cANPs/RANPs (6.6%) reported that they have hospital admitting privileges without recourse to a medical practitioner.
- Approximately 27% of cANPs/RANPs have hospital discharge privileges without recourse to a Medical Practitioner.

Caseload and Referral Processes to/from an cANP/RANP Service

- The majority of cANPs/RANPs (75%) receive patient referrals from a healthcare professional within their clinical speciality.
- cANPs/RANPs are increasingly receiving referrals from community settings (including GPs and public health nurses), other healthcare specialities and directly from patients.
- cANPs/RANPs are increasingly referring patients to other groups of health professionals (physiotherapy, occupational therapy, speech and language therapy, medical practitioners GPs community nurses, other RANPs and clinical nurse specialist specialists).
- Approximately 87% of cANPs/RANPs refer patients directly to another healthcare professional without recourse to a medical practitioner.

Educational component of cANP/RANP role

- The vast majority of cANPs/RANPs (97.1%) provide educational support to other members of the healthcare team.
- The majority of cANPs/RANPs provide educational support to other health care professionals through formal requests from colleagues, as part of a structured teaching programme or in response to develop an area of clinical practice or at the request of other health care team members.

Scope, facilitators and barriers of cANP/RANP practice

- The majority of cANPs/RANPs reported that they were able to work at their full scope of practice; however, of cANPs/RANPs disagreed that their skills were being fully utilised.
- The majority of cANPs/RANPs (79.6%) reported that they were limited in seeing certain patients. Reasons included: inability to prescribe medications or ionising radiation, personal patient choice by the cANP/RANP, limited support from services, lack of a job specification or patients with whom they could consult specifically identified in a job description.
- The top three factors that facilitated cANPs/RANPs in their role included: the physicians with whom cANPs/RANPs worked; the cANP/RANP's level of clinical experience prior to entering the cANP/RANP programme; and multidisciplinary team with whom the cANP/RANP worked.
- The top three barriers to the role included: the physical working environment; other healthcare professionals' perception of the role; and the organisation in which the cANP/RANP is employed.
- cANPs/RANPs reported increasing competence to undertake their role.
- Overall, the vast majority of r cANPs/RANPs (80.6%) had no concerns regarding their scope of practice.

Multidisciplinary and cANP/RANP Led Clinics

- The types of multidisciplinary clinics in which cANPs/RANPs are involved include: memory clinics, falls clinics, frailty assessment clinics, symptom management, management of long-term illnesses, allergy clinics, reproductive health, respiratory and rheumatology clinics, stroke and Parkinson's disease clinics, oxygen therapy clinics, and emergency department reviews (soft tissue injury management).
- Approximately 48% of cANPs/RANPs reported that provided cANP/RANP led clinics.
- These clinics included: cognitive assessment, falls assessment, polypharmacy and discharge reviews, delirium assessment, dementia review and frailty assessment, medication reviews, treat-to-target reviews, optimisation of treatments for inflammatory joint disease, and gout management, disease assessment and management, asthma optimisation, management of COPD, and allergy reviews, review clinics, fracture clinics, and ambulatory care reviews.

Prescribing Activities of cANPs/RANPs

- The majority of cANPs/RANPs were prescribing medications (62.1%) with half of cANPs/RANPs indicating that they were currently prescribing ionising radiation (50.0%).
- For cANPs/RANPs currently not prescribing medications or ionising radiation, the main reasons included: cANPs still completing the prescribing/ionising radiation component of their course; and delays with approval of a cANP's/RANP's collaborative practice agreement by their hospital's drugs and therapeutics committees.

Organisational Support

- cANPs/RANPs reported high levels of satisfaction with patient caseload (68%), level of autonomy (78%), respect from physician colleagues (79%) and opportunities for professional development (75%).
- Approximately 47% of cANPs/RANPs were dissatisfied with infrastructural space (i.e. office space, clinical space) to undertake their role.
- The vast majority of cANPs/RANPs were highly satisfied with the support received from consultants.
- Overall, approximately 70% of cANPs/RANPs were satisfied with their position within the organisation.

Interventions and Outcomes

- Approximately 68% of cANPs/RANPs were involved in service practice redesign as part of their role.
- Examples of service redesign included: the introduction of frailty services in an emergency department, environmental design related to dementia care, geriatric assessment clinics, syncope pathways, ANP-led dementia clinics, joint community and acute older persons' assessment hubs, nurse led asthma and oxygen clinics, integrated respiratory services, smoking cessation services, Frail Intervention Therapy (FIT) teams, allergy services, outreach nursing home services, nurse-led virtual clinics, patient flow pathways, and fracture prevention clinics.
- The vast majority of cANPs/RANPs (80%) were involved in contributing to the development of protocols and guidelines.
- Telephone contact/support was the most predominant method of contacting patients electronically (89%). Approximately 50% of cANPs/RANPs also used Virtual Clinics as a means of engaging with patients.

- The greatest impact of their role reported by cANPs/RANPs included: enhanced patient satisfaction (87.2%); patient education about their health (87.1%); increased continuity of care (73%), increase in patients' access to care (73%); a positive impact on potentially avoidable hospitalisations (61%); and decreasing patient complications (56%).

Chapter 5: Output Activity Logs
5.1 Background

An Output Activity Log (OAL) was developed by the research team in collaboration with cANPs/RANPs to facilitate the self-reporting of daily activity. The OAL template was designed to capture the intrinsic and nuanced activity of the cANP/RANP irrespective of their speciality. Each speciality group of cANPs/RANPs (rheumatology, respiratory, unscheduled care and care of the older person) were engaged early in the design phase of the OAL. This iterative collaboration with the cANPs/RANPs in conjunction with best practice evidence from the relevant literature (research evidence and policy documents) and the logic models underpinned the content and context of the OALs. Formative feedback was also obtained from academics, educationalists and allied healthcare professionals throughout the design phase of the OAL. The content of the OAL was validated by the participants prior to recording their activity and any feedback provided was incorporated into the final version of the OAL.

The primary objective of the OAL was to support the cANP/RANP in reflecting upon and capturing the daily activities associated with their role and scope of practice. Each OAL is a self-reported, written record of the cANP/cANP/RANP daily work activity for a four-week period. During this period the cANP/RANP recorded the frequency of particular activities intrinsic to the role. These professional activities were captured under one of five agreed activities: clinical activity (virtual and face-to-face); prescribing activity (ionising radiation and medicinal products); expert advice; education and research.

5.2 cANP/RANP Sample

A total of twenty-five (n=25) cANPs/RANPs were invited to participate in this section of the policy evaluation. Prior to recording their OAL, each participant completed a mandatory training session with a member of the research team. This facilitated questioning and clarification of the OAL content by the participating cANP/RANP. Exemplar sites were chosen for this phase of the evaluation. Twenty-two (n=22) completed OALs were returned to the research team from the twenty-five participants. Of the twenty-two cANPs/RANPs who returned the OAL, six worked in care of the older person services, six in rheumatology services, six in unscheduled care services and four in respiratory care services (Figure 5.1). The four respiratory cANPs/RANPs worked at geographically different hospital locations, the six rheumatology cANPs/RANPs worked in 4 different hospital locations, the six older person care cANPs/RANPs worked in four different hospital/community based services while the six unscheduled care cANPs/RANPs all worked in one acute hospital location. Of the three cANPs/RANPs who did not return their OAL, one worked in respiratory services, one in rheumatology services and one in unscheduled care services.
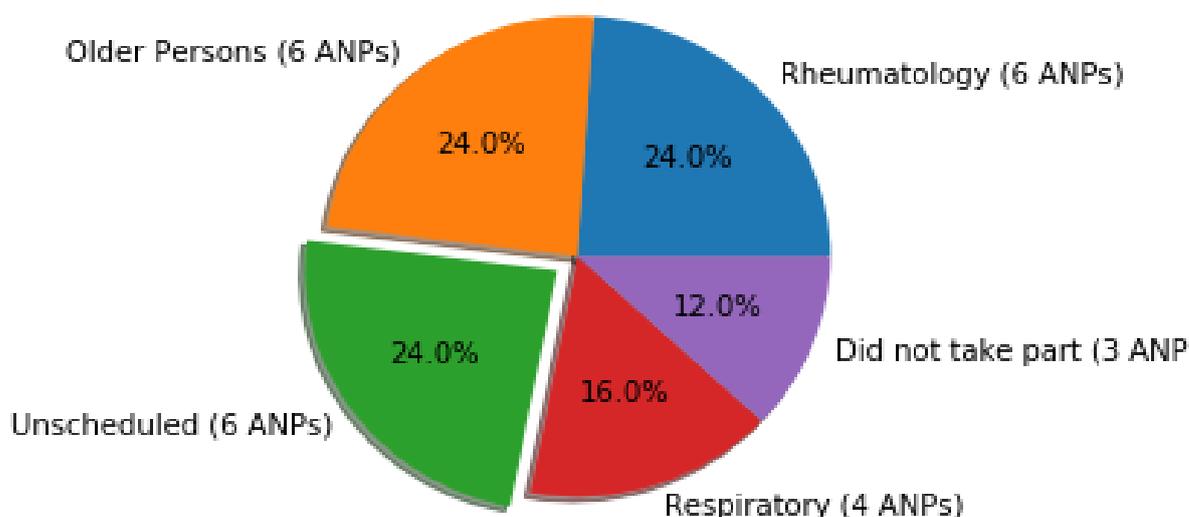
Figure 5.1 cANPs/RANPs who completed Output Activity Log (OAL)

5.3 Results

In reporting the results of the OAL data it must be remembered that measuring or comparing the cANP/RANP's performance was not the objective of this part of the study. The purpose of the OAL was to provide a mechanism for cANPs/RANPs to articulate and illustrate the emergence of their roles and activities within the healthcare system. To elicit an accurate reflection of the cANP/RANP's outcome activity, it was emphasised to the participants that their activity was not being measured or compared with each other or across clinical sites. It is not possible to draw any comparative conclusions between individual cANP/RANP's activities or to compare one specialist service activity against another. There are many uncontrolled extraneous variables that weaken any type of comparative analysis between individual cANPs/RANPs and service groups. What did emerge, however, were exemplars and trends relating to clinical activity and scope of practice not previously documented using other approaches.

To ensure consistency in data collection a number of key terms were clearly defined to assist the cANPs/RANPs in documenting their activity. These key terms included a definition of "new patient" versus "return patient"; "scheduled care" versus "unscheduled care"; "face to face" versus "virtual encounters"; and "shared decision making" (Appendix C). Defining these key terms ensured a common understanding between the cANPs/RANPs who recorded the activity and the research team who interpret the data.

All the participating cANP/RANPs (n=22) were working; on average, four days a week. The results have been summarised and are presented under the following headings: clinical activity (virtual and face-to-face), prescribing activity (ionising radiation and medicinal products), expert advice (sought and given), education and research. Each question regarding activity elicited a Yes/No

response only with a free text box provided for each section to facilitate further comment, explanation and/or clarification.

5.3.1 Clinical Activity

Scheduled versus Unscheduled Care Activity for cANP/RANP

The purpose of this section of the OAL was to determine the activity of the cANP/RANP in providing scheduled and/or unscheduled care to "new patients" or "return patients" and to what extent this was done face-to-face or through virtual consultation with patients and their families. The delivery of face-to-face scheduled/unscheduled care and virtual care is summarised below in Tables 5.1 and 5.2 respectively.

On average, cANP/RANP were reviewing twice as many "return patients" as "new patients" in the domain of scheduled care. During this four week period of activity, 1039 patients were reviewed by cANPs/cANP/RANP which equated to 15.76 consultations by individual practitioners per week. It is likely that this ratio of patient reviews is significantly variable based on the individual cANP/RANP stage of development and should not be interpreted in isolation.

The domain of unscheduled care in this section of the study was represented by a small number of cANP/RANPs working in the area of emergency care or medical assessment units. Unlike their colleagues in respiratory, rheumatology and care of the older person, they were less like to have scheduled interactions with patients. During this time period, 504 patients were reviewed in the domain of unscheduled care with a weekly average of 17-18 patient interactions per week for cANPs/RANPs in these services (Table 5.1).

Table 5.1 Scheduled vs. Unscheduled Face-to-Face Care Activity for cANP/RANP

Face-to-Face Scheduled/Unscheduled care	Scheduled care		Unscheduled care		
	New Patients	Return Patients	New Patients	Return Patients	Average total *per Week/Overall total*
Scheduled care cANPs/RANPs (n=16)					
Weekly average patients seen	4.23	8.4	1.27	1.86	**15.76**
Standard deviation in patients seen	4.14	5.5	2.15	2.55	
Total patients seen by scheduled care specialities	279	553	84	123	**1039**
Unscheduled care cANPs/RANPs (n=6)					
Weekly average patients seen	0.14	0.21	15.62	1.41	**17.4**
Standard deviation in patients seen	0.73	0.61	13.1	3.57	
Total patients seen by unscheduled care specialities	4	6	453	41	**504**

As would be expected, virtual care does not occur in unscheduled care services; however, cANP/RANP working in scheduled care services deliver care through a virtual medium - for example, telephone contact; in many instances this is referenced by cANPs/RANPs as a "telephone advice line". In this study period, cANP/RANPs managed the clinical needs of 600 patients through this medium (Table 5.2). Virtual care with a "return patient", most likely delivered by telephone, was reported as an activity that occurred in both Scheduled/Unscheduled Care, particularly in rheumatology services.

Table 5.2 Scheduled vs. Unscheduled Virtual Care Activity for cANP/RANP

Virtual *Scheduled/Unscheduled care*	Scheduled care		Unscheduled care		
	New Patients	Return Patients	New Patients	Return Patients	Average total *per Week/Overall total*
Scheduled care cANPs/RANPs (n=16)					
Weekly average patients seen	1	3.5	0.24	4.38	**9.12**
Standard deviation in patients seen	1.75	5.36	0.76	6.99	
Total patients seen by scheduled care specialities	66	229	16	289	**600**
Unscheduled care cANPs/RANPs (n=6)					
Weekly average patients seen	0.00	0.03	0.03	0.14	**0.2**
Standard deviation in patients seen	0.00	0.18	0.18	0.43	
Total patients seen by unscheduled care specialities	0	1	1	4	**6**

The cANP/RANP in this part of the study were asked to estimate the percentage of their working day spent in consultation with patients, families and clinicians[9] (Table 5.3). Care of the Older Person cANPs/RANPs, on average, scheduled six meetings with patients and families during a working week.

Table 5.3 Estimated time of cANP/RANP encounters

	Face-to-Face encounters		Virtual encounters	
	Patients/families/carer (%)	Clinician (%)	Patients/families/carer (%)	Clinicians (%)
Daily average % time spent	**55.21**	**17.4**	**8.9**	**4.03**
Standard deviation in % time spent on a daily basis	17.9	13.5	10.4	5.2
Maximum % time spent on a daily basis	89.33	78.33	52.5	25
Minimum % time spent on a daily basis	17.5	0	0	0
Range in % time spent on a daily basis	71.83	78.33	52.5	25

Due to the different working profiles of each cANP/RANP speciality, recorded activity in respect of KPIs such as "number of patients seen" needs to be treated with caution. For example, it is likely that cANPs/RANPs in the area of care of the older person will have significantly longer consultation times with patients and their families. Similarly, certain specialities, such as rheumatology, are more likely to predominantly engage with "return patients" rather than "new patients" given the complexity of the initial diagnosis.

5.3.2 Impact of cANP/RANP face-to-face and virtual interventions on health service outcomes

In this section, cANP/RANPs were asked to document their impact against a particular set of KPIs specific to health service performance as defined by the Department of Health (section 1.4 of OAL). A total of 370 patients were documented on the OALs as having being removed from a specialist waiting list (Table 4). Regarding hospital admission, on average, three patients a week are avoiding hospital admission because of an intervention; this suggests that over 400 patients

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[9] Most likely to be the cANPs'/cANPs/RANPs' mentor

did not have to be admitted to a hospital during the data collection period[10]. It is difficult to interpret the data in respect of care transfer between face-to-face and virtual services; however a standard deviation of 4.59 suggests that different sites may adopt different strategies to this concept. The activity data also suggests that a face to face interaction with an cANP/RANP does not increase the possibility of admission (Mean = 0.95; SD = 1.9 patients/week) or prolong an inpatient stay.

Table 5.4: Impact of cANP/RANP face-to-face and virtual interventions on health service KPIs

Number of patients seen per week	Following Face-to-Face consultation		Following Virtual consultation		
	Mean	SD	Mean	SD	Overall Group Total
Removed from a specialist waiting list	2.63	4.67	1.26	3.2	370
Avoiding hospital admission	3.1	3.4	1.22	2.25	408
Transferred from face-to-face to virtual care	0.95	1.52	0.35	0.82	123
Transferral from virtual to face-to-face care	0.83	2.23	1.99	4.59	268

The cANP/RANP documented that a specific "shared decision making strategy" occurred frequently with patients and their families regarding care and management (Mean 12.2, SD = 9.52 patients/week). Examining the four clinical areas (rheumatology, respiratory, unscheduled care and care of the older person) in respect of KPIs specific to health service performance as defined by the DoH, a number of patterns are beginning to emerge and the findings by specialty are summarised in Table 5.5

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[10] Each cANP/RANP completed the OAL over a 4 week period

Table 5.5 Speciality specific KPI findings for Face-to-face/Virtual interventions by an cANP/RANP

Impact of Face-to-face/Virtual interventions by an cANP/RANP...	Face-to-Face		Virtual		Average total per Week/Overall group total
	Mean	SD	Mean	SD	
Rheumatology					
Removed from the specialist waiting list	2.23	3.2	2.42	4.73	**4.65/121**
Able to avoid hospital admission (potential)	0.73	1.2	0.96	1.65	**1.69/44**
Admitted to hospital	0.08	0.27	0.12	0.32	**5/0.77**
Transferred from face-to-face to virtual care for their next scheduled appointment	5.5	1.65	4.27	9.2	**9.77/254**
Transferred from virtual to face-to-face care for their next scheduled appointment	1.65	1.98	0.38	0.79	**2.04/53**
ED/AMAU					
Removed from the specialist waiting list	0.00	0.00	0.03	0.18	**0.03/1**
Able to avoid hospital admission (potential)	4.76	2.78	0.03	0.18	**4.79/139**
Admitted to hospital	2.7	2.4	0.03	0.18	**10.9/79**
Transferred from face-to-face to virtual care for their next scheduled appointment	6.79	12.42	0.03	0.18	**6.83/198**
Transferred from virtual to face-to-face care for their next scheduled appointment	0.69	1.32	0.00	0.00	**0.69/20**
Older Persons					
Removed from the specialist waiting list	5.32	6.91	0.32	0.76	**5.64/124**
Able to avoid hospital admission (potential)	2.73	2.9	1.23	1.68	**3.96/87**
Admitted to hospital	0.32	1.3	0.00	0.00	**7/1.27**
Transferred from face-to-face to virtual care for their next scheduled appointment	1.5	2.15	0.55	1.2	**2.05/45**
Transferred from virtual to face-to-face care for their next scheduled appointment	0.69	1.14	0.59	0.94	**1.3/28**
Respiratory					
Removed from the specialist waiting list	4.2	4.4	2.72	3.6	**6.89/124**
Able to avoid hospital admission (potential)	4.2	4.68	3.5	3.42	**7.67/138**
Admitted to hospital	0.17	0.4	0.11	0.31	**1.11/5**
Transferred from face-to-face to virtual care for their next scheduled appointment	5.22	4.69	1.11	0.56	**6.33/114**
Transferred from virtual to face-to-face care for their next scheduled appointment	0.67	1.05	2.56	1.12	**1.22/22**

5.3.3 Referral pathways to cANP/RANP services

In this section of the OAL (Section 1.6), cANP/RANPs were asked to document the pathways of referral to their own cANP/RANP service. The purpose was to capture referring patterns and to what extent other services within the health system are engaged with cANPs/RANPs. Predominantly, patients were referred to cANP/RANPs by medical practitioners (5.32±6.66 patients/week), with 506 patients referred internally by consultants or other medical practitioners during the recording period (Table 5.6). Nursing colleagues refer less frequently with 157 patients referred internally to cANP/RANPs during the same time period (Table 5.6). Nursing colleagues were widely defined to incorporate operational nursing management roles (e.g. patient-flow/discharge coordinator; bed managers) with clinical roles (CNM/CNS/Staff nurse/other cANP/RANPs). Patient referral pathways from primary care services were evident in the activity recorded by the cANP/RANP with a total of 338 patients being referred during the period when activity was recorded. A total of 236 patients were documented as having self-referred back to an cANP/RANP service.

Table 5.6 Referral pathways to the cANP/RANP service (Weekly)

Referrals pathways to the cANP/RANP service	Patient self-referral	Medical doctor	Nursing Colleague	ED professional	Primary care	Other	Average total per Week/Overall group total
Within local Organisation							
Weekly average patients seen	2.5	5.32	1.65	0.79	3.6	1.22	**15.05**
Standard deviation in patients seen	5.23	6.67	3.1	1.8	5.2	2.6	
Total number of referrals to cANP/RANP services	236	506	157	75	338	55	**1394**
External to local Organisation							
Weekly average patients seen	-	0.99	0.54	-	-	**-**	**1.53**
Standard deviation in patients seen	-	2.3	1.61	-	-	**-**	
Total patients seen across the sample weeks of activity	-	94	51	-	-	**-**	**145**

5.3.4 Referral pathways *from* cANP/RANP services

In this section of the OAL (Section 1.7), cANP/RANPs were asked to document the pathways of referral from their service. The purpose was to determine the extent of discharging patient from services (when appropriate) and to what services patients may be discharged back to or realigned with for future management. The activity of the cANP/RANP within OPD services are summarised in table 5.7. It is evident that cANP/RANPs were establishing trends in discharging and realigning appropriate care pathways for patients with chronic disease.

Table 5.7 Referral pathways from cANP/RANP services

On a daily basis, how many patients were discharged by the cANP/RANP from...	Mean	SD	Average total per month (per cANP/cANP/RANP)	Overall total for the sample of cANPs/RANPs
OPD in consultation with clinical supervisor	0.72	1.5	2.86	68
OPD without consultation with a clinical supervisor	0.6	1.35	2.4	57
OPD to return to a nurse led OPD service	1.2	2.7	4.8	115
OPD to follow up with primary care services	0.64	1.6	2.6	61
Inpatient services in consultation with clinical supervisor	1.04	3.2	4.2	99
Inpatient services with MDT collaboration	0.5	1.9	1.9	45
Inpatient services to return to nurse led OPD services	0.8	3.00	3.12	74

5.3.5 Prescribing Activity of cANP/RANP – Medicinal Products

In this section of the OAL (2.1) we reported on the prescribing/de-prescribing activity of medicinal products by cANPs/RANPs. This is a core activity for cANP/RANPs and has significant implications for patient outcomes and healthcare fiscal costs. Over the data collection period, cANP/RANPs wrote 397 prescriptions for "new" and "return" patients while 155 patients were de-prescribed a particular medication(s) including the de-prescribing of medications for "new" patients (Table 5.8).

Table 5.8 Prescribing/De-prescribing Activity of cANP/RANP – Medicinal Products

Prescribing Activity of Medicinal Products	Prescription			De-prescription		
	New Patients	Return Patients	Average total per Week/Overall total	New Patients	Return Patients	Average total per Week/Overall total
Overall findings						
Weekly average no. of Prescriptions	2.64	1.59	4.23	0.84	0.81	1.65
Standard deviation in number of patients	3.93	2.6	6.53	1.59	1.65	3.24
Total number of prescriptions	248	149	397	79	76	<u>155</u>

cANP/RANPs were prescribing independently of the clinical supervisor (n=305) although half of the cANP/RANPs documented an issue with certain medical product's being "unavailable" on their Collaborative Practice Agreement (CPA). A further prescribing issue for a quarter of participants was delays in CPA completion. In particular, this impacted negatively on the

prescribing autonomy of cANPs/RANPs in the area of unscheduled care, whereas rheumatology and respiratory cANP/RANPs did not have an issue in this area.

Prescribing Activity Medicinal products	New Patients		Return Patients		
	Average	SD	Average	SD	Average total per Week/Overall total
Rheumatology					
Patients were prescribed a new medicinal product per week	1.08	1.57	3.65	1.89	**4.7/39**
Patients were de-prescribed a medicinal product per week	0.42	0.84	3.26	2.56	**3.7/144**
ED/AMAU					
Patients were prescribed a new medicinal product per week	4.55	5.9	0.03	0.07	**4.7/136**
Patients were de-prescribed a medicinal product per week	0.14	0.43	0.18	0.37	**0.32/3**
Older Persons					
Patients were prescribed a new medicinal product per week	1.95	2.46	0.24	0.43	**2.2/81**
Patients were de-prescribed a medicinal product per week	1.91	2.49	0.39	0.65	**2.2/13**
Respiratory					
Patients were prescribed a new medicinal product per week	2.61	2.03	2.67	2.52	**5.3/106**
Patients were de-prescribed a medicinal product per week	1.33	1.45	0.94	1.08	**2.3/65**

Table 5.9: Prescribing Activity- Medicinal products per specialty

It was identified that unscheduled care cANP/RANPs recorded the highest daily rate of medicinal product prescription to new patients (4.5±5.9 patients/week). Care of the Older Person's cANP/RANPs recorded a moderate rate of weekly prescribing with de-prescribing of medicinal products for "new patients" their highest weekly activity (1.95±2.46 patients/week). Rheumatology cANP/RANPs had the most autonomy in prescribing medicinal products that did not require consultation with a doctor (patients/week). Respiratory care cANPs/RANPs had the highest rate of de-prescription without a need for consultation with doctor (0.48±0.83 patients/day) (Table 5.9).

5.3.6 Prescribing Activity of cANP/cANP/RANP – Medicinal Products and Shared Decision Making

In this section of the OAL (section 2.3), cANP/RANPs were asked to record data specific to "Shared Decision Making" (SDM) and the prescribing of medicinal products. The definition of SDM was agreed between the research team and the cANP/RANPs in the development phase of the OAL (Appendix C). SDM around prescribing of medicinal products is a significant activity recorded by the cANP/RANP (Table 5.10). Where cANP/RANPs adopted the SDM strategy, over 10% of medication management regimes were adjusted.

Table 5.10 Prescribing Activity of cANP/cANP/RANP – Medicinal Products and Shared Decision Making

Shared Decision Making and Prescribing Activities per week	Mean	SD	Average total per month	Overall total
Discuss medication treatment options	10.7	8.97	42.3	1004
Agree on suggested medication treatment options	9.7	8.6	38.3	909
Disagree on suggested medication treatment options	0.43	1.1	1.7	40
Change your prescribing treatment based on patient preference	1.15	2.5	4.55	108
Seek consultation/clarification with a doctor before making a prescribing decision	2.15	4.1	8.51	202

The cANP/RANP documented that they sought a consultation/clarification with a doctor before making a prescribing decision on average for 2.15±4.05 patients/week. This reached as high as 23 cases in a single week in this sample and may reflect agreed protocols between some cANPs/RANPs and their clinical supervisors in regards to their local prescribing rights. Rheumatology cANP/RANPs documented the highest daily rate of discussion with patient/carers about medication treatment options (4.15±1.91 patients/day) and, in addition, also documented the highest level of "disagreement" regarding drug treatment options. As expected, this contrasted with unscheduled care where cANP/RANPs prescribing decisions were largely accepted or "agreed" upon with patients.

5.3.7 Prescribing Activity of cANP/RANPs – Ionising Radiation

In this section of the OAL (2.1) we reported on the prescribing activity of ionising radiation by cANPs/RANPs (Table 5.10). The principal commonly documented radiological intervention was X-ray. On average, for the period of activity recorded, 3.5±6.7 new patients were prescribed an X-ray intervention per week with a total of 326 patients receiving this intervention. An X-ray was thirteen times more likely to be prescribed than any other radiological intervention (e.g. CT, MRI, Dexa scan, Ultrasound). During the time of data collection, the cANP/RANP prescribing activity, over 50% of the time had no reference to prescribing of ionising radiation. Return patients were less likely to have a radiological intervention than "new" patients while 1.21±1.62 patients/week were prescribed ionising radiation by a medical professional that was recommended by an cANP/RANP. A recommendation was provided by the cANP/RANP rather than a prescription due to restrictions on nurse prescribing rights in a total of 114 reported cases. Unscheduled care cANP/RANPs prescribed ionising radiation to new patients significantly more than any other speciality with approximately 3.41±2.89 patients/day prescribed an X-ray. This is 10 times higher than the next highest rate of daily X-ray prescriptions by respiratory cANP/RANPs (0.31±0.31 patients/day).

Table 5.10 Prescribing Activity of cANP/cANP/RANP – Ionising Radiation

Prescribing Activity Ionising radiation	X-Rays		Other Radiological tests		
	New Patients	Return Patients	New Patients	Return Patients	Average total per Week/Overall total
Weekly average no. of patients	3.5	0.7	0.26	0.25	**4.67**
Standard deviation	6.7	1.66	0.74	0.78	
Total number of patients	326	66	24	23	**439**

5.3.8 cANP/RANPs providing expert advice

cANP/RANPs most frequently provided nursing colleagues within their organisation expert advice; equating to approximately 10.03±9.92 interactions per working week or 943 interactions across the time period of data collection (Table 5.11). After nursing colleagues, medical practitioners were the next most likely group of health professionals to seek expert advice on a weekly basis (4.3±4.44) with 406 such interactions across the time period of data collection. Occurring less frequently, were consultations from medical colleagues (n=53) from external organisations seeking cANP/RANP expert advice. cANP/RANPs provided expert advice to a significant proportion of allied healthcare professionals (i.e. Physiotherapists, Occupational Therapists, Dieticians, Speech Therapists, Mental health services) within their own organisation. This, as would be expected, declines again in respect of allied health professional consultations external to their local organisation. A small number of cANP/RANPs documented that they provided expert advice to primary care professionals and services (88 such interactions across the period of data collection). Patients frequently approached cANP/RANP seeking expert advice in respect of their diagnosis (6.8±9.91 patients/week) or their care and management (9.2±11.23 patients/week). This was most frequently reported by the unscheduled care cANPs/RANPs regarding their care and management (4.64±5.06 requests/day) followed by patients enquiring about their diagnosis (4.61±4.84 requests/day) (Table 5.11).

5.3.9 cANP/RANP receiving expert advice

cANP/RANPs were also asked to record data specific to receiving expert advice from individuals within or external to their organisation. The aim of this section was to determine the source of expert advice received by cANPs/RANPs. Table 5.11 below illustrates the extent and the source of advice to this sample of cANPs/RANPs. Expert advice was predominantly received by cANP/RANPs from medical colleagues within their local organisation (6.1±3.9 requests per working week). External requests for expert advice from medical colleagues occurred infrequently with only 54 such interactions reported over the study time. Expert advice was sought from nursing colleagues albeit on a much smaller scale. cANP/RANPs documented making requests to nursing colleagues within their own organisation for expert advice weekly (3.4±2.95) and to nursing colleague's external to the local organisation (1.26±1.94).

Table 5.11 cANP/RANPs providing/receiving expert advice

Expert Advice provided/received in a typical week by cANP/RANP…	Give Advice within organisation Mean (SD)	Give Advice outside organisation Mean (SD)	Receive Advice within organisation Mean (SD)	Receive Advice outside organisation Mean (SD)
Nursing colleagues	10.03 (9.92)	1.8 (4.52)	3.4 (2.95)	1.26 (1.94)
Medical colleagues	4.3 (4.44)	0.6 (1.54)	6.1 (3.9)	0.6 (1.83)
Other healthcare professionals	3.1 (3.6)	0.39 (1.44)	-	-
Expert Advice provided/received in a typical week by cANP/RANP…				
Patients enquiring about their diagnosis	6.8 (9.91)	-	-	-
Patients enquiring about their care/management	9.2 (11.23)	-	-	-

5.3.10 Education delivery/preparation

In this section, cANP/RANPs reported on the extent to which they were involved in education. The findings are summarised across the four speciality areas (Table 5.12). Preparing and delivering educational sessions for patients and families was documented frequently with high levels of teaching occurring virtually particularly for the chronic diseases.

Table 5.12 Education delivery/preparation

Education Percentage of cANP/RANP's who delivered/prepared educational sessions for…	**Rheumatology (%)**	**Older Persons (%)**	**Respiratory (%)**	**Unscheduled care (%)**
Patients/families in person	73.08	90.91	88.89	75.86
Patients/families virtually (Telephone/email)	65.38	86.36	94.44	27.59
HCPs within your local organisation	42.31	50.00	38.89	37.9
HCPs external to your local organisation	30.77	27.27	11.11	3.45
Patient educational materials	57.69	50.00	55.56	34.49
Inter-professional clinical teaching	23.08	31.82	33.33	41.38
Academic 3rd Level lecturing/teaching	30.77	18.18	11.11	37.93
cANP/RANP role/service development	57.69	50.00	77.78	86.21
cANP/RANP accreditation and portfolio development	3.85	27.27	5.56	79.3
Post-graduate 3rd level courses	19.23	9.09	5.56	17.24

5.3.11 Research contributions/responsibilities

In this section, cANP/RANPs reported on the extent to which they were involved in research (Appendix C). The findings are summarised across the four speciality areas (Table 5.13). The majority of activity is in this section related to gathering of data that supports and measures cANP/RANP activity both for local management and the wider healthcare organisation.

Table 5.13 Research contributions/responsibilities

Research Percentage of cANP/RANP's who have been responsible for/contributed to...	Rheumatology (%)	Older Persons (%)	Respiratory (%)	Unscheduled care (%)
Clinical practice guideline development	30.77	50.00	72.22	75.86
Organisational policy development	19.23	54.55	66.67	48.28
Data Collection that demonstrates RANP activity	96.15	72.73	100.00	96.55
Data collection that demonstrates RANP performance	57.69	68.18	94.44	96.55
Data collection that is submitted to external health agencies	76.92	77.27	83.33	89.66
Research conference activity	42.31	18.18	50.00	20.69
Local organisational research activity	50.00	22.73	50.00	34.48
Research manuscript development	7.69	4.55	16.67	13.79
Organisational governance committees	38.46	45.45	16.67	44.83
Supervision or academic support to a colleague	65.38	54.55	27.78	51.72

5.4 Summary

The activities of cANP/RANPs documented within the OALs provide insight into the role and scope of advanced nursing practice. The integrity of collected data was established by carefully designing the OAL with the participants. Pre-collection training built a collaborative relationship between the cANP/RANP and the research team. This ensured that data was an accurate reflection of activity over time. Although many of the cANP/RANPs are at different stages of professional development, common themes emerged from analysis of the OAL data. There is emerging evidence that cANP/RANPs are beginning to impact positively on care services for patients in the specialist areas of rheumatology, respiratory, care of the older person and unscheduled care. The findings would suggest that while positive patterns are emerging, there are certain barriers that need to be overcome to advance and progress this early development of the role.

5.5 Key Outcomes - Output Activity Logs

Scheduled versus Unscheduled Care Activity for cANP/cANP/RANP

- On average, cANPs/ANPs are undertaking 17 to 18 face-to-face consultations and 9 virtual (telephone contact/advice) consultations per week.
- Approximately 65% of the time spent by ANPs per week is in patient contact with approximately 22% of the time spent on contacts with other clinicians.
- The proportion of patients seen by cANPs/RANPs is dependent on the speciality with cANPs/RANPs working in the area of old age and chronic illness reporting longer consultations.
- Apart from cANPs/RANPs in unscheduled care, the majority of cANPs/RANPs see return patients.

Impact of cANP/RANP face-to-face and virtual interventions on health service outcomes

- On average, 3.9 patients per week per cANP/RANP are being removed from a specialist waiting list with an average of 4.3 patients per week per cANP/RANP avoiding hospital admission.
- The number of patients removed from a specialist waiting list, varies by speciality; on average, 4.6 patients from rheumatology, 5.6 from older persons services and 6.9 per week, per cANP/RANP.
- The number of avoided hospital admissions also varied by speciality with, on average, 1.7 patients from rheumatology, 4.8 patients from unscheduled care, 3.9 patients from older persons care and 7.7 patents per cANP/RANP, per week.

Referral pathways to cANP/RANP services

- On average, cANPs/RANPS were referred 16.6 patients per week (internally and externally). The largest number of referrals came from medical practitioners (average = 6.3) followed by referrals from the community (average = 3.6).

Prescribing Activity

- On average, cANPs/RANPs are prescribing 4.2 times per week and describing 1.7 times per week.
- The highest levels of prescribing are amongst RANPs working in the area of respiratory care with the highest levels of de-prescribing recorded by RANPs working in rheumatology.
- Barriers and limitations in prescribing for cANPs/RANPs included restrictions in prescribing some medicinal products and delays in completion of their collaborative practice agreement (CPA).
- On average, RANPs prescribe ionising radiation 4.7 times per week; RANPs in the area of unscheduled care, with an average of 3.4 patients per day prescribed ionising radiation by this cohort.

Expert and Educational Advice

- cANPs/RANPs in the provision of expert advice to nursing staff, have, on average, 10 interactions per week; this includes advice provided to colleagues working within and without their organisation.
- cANPs/RANPs are also involved in the provision of advice to medical practitioners and health and social care professionals.

- cANPs/RANPs are highly involved in the provision of education to patients and families, especially those who are experiencing long-term illnesses. This is provided both face-to-face and virtually.

Research contributions and responsibilities

- cANPs/RANPs are involved in the development of clinical practice guidelines, organisational policy developments; the extent of activity in these areas varied according to speciality.
- The vast majority of cANPs/RANPs undertake the collection of data to measure performance, the impact of their role and for external agency review.
- A relatively small proportion of cANPs/RANPs are involved in direct research activity (e.g. projects, conference presentations, publications).

Chapter 6: Patient Enablement and Satisfaction Following Consultation with an Advanced Nurse Practitioner

6.1 Introduction

This chapter outlines the results from a survey of patients who attended an cANP/RANP in the area of unscheduled care, older persons' care, rheumatology or respiratory care. The results are based on the Patient Enablement and Satisfaction survey (PESS) provided to patients following an episode of care received from an cANP/RANP. This questionnaire, which was specifically designed for evaluating care received from nurses in terms of a patient-centred focus on quality and safety, covers two domains: patient satisfaction with the care received from an cANP/RANP; and the extent to which they perceived they were enabled following this episode of care (Desborough *et al.* 2014). An example questionnaire is provided in Appendix D. The first section of this chapter discusses the demographic profile of patients who completed the survey; this section provides details on the age profile, self-reported overall health status of the respondents and the cANP/RANP service that they attended. The second section of this chapter will report on the patient experience; that is, patients' perceptions of, and level of satisfaction with, the care they received from an cANP/RANP. This is followed by the extent to which patients perceived that they were enabled to manage their health as a result of receiving care and advice from an cANP/RANP. A selection of open-ended narrative comments from patients that discussed their experiences of the consultation with an cANP/RANP is also included. The final section of this chapter summarises the findings of this survey and the narrative comments provided by patients.

6.2 Demographic and health profile of respondents

A total of 192 surveys were returned by patients; 8.4% of the surveys contained missing and/or invalid responses resulting in 186 valid surveys. The majority of responses were returned from patients who received care from an cANP/RANP in rheumatology (49.7%), followed by older person's care (22.1%), respiratory care (20.9%) and unscheduled care (ED and AMAU) (7.4%) (Figure 6.1 illustrates the overall response rate by speciality).

Just over half of the patients were female (55.2%); the average age of the sample was 62.0 years (SD = 17.2 years) with patients' ages ranging from 18 to 93 years. Figure 6.2 outlines the overall self-reported health of patients. Overall, 4.8% of patients reported excellent health with the majority (61.4 %) reporting their health as 'Good' or 'Very Good'; approximately a third of patients reported their health as 'Fair' or 'Poor (30.6%) while 3.2% of patients stated that, overall, they experienced very poor health.
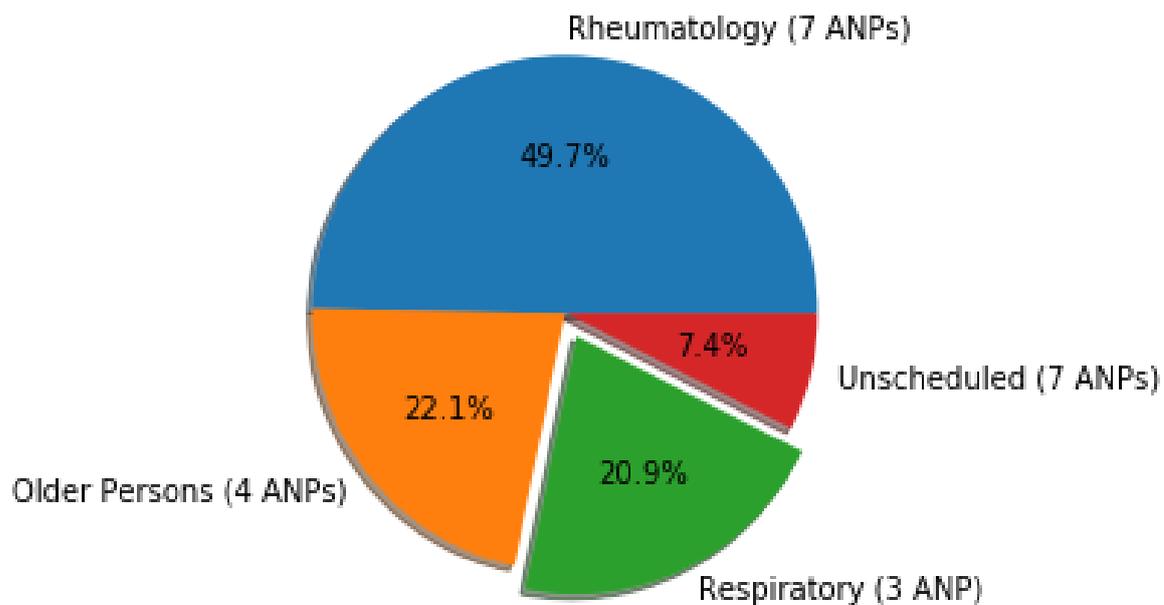
Figure 6.1 Patient Response Rates by Speciality
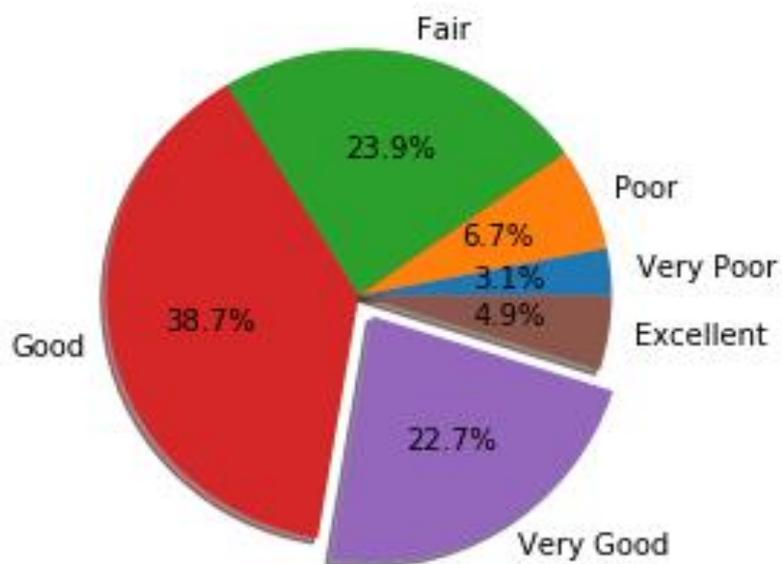
Figure 6.2 Patients' Self-Reported Health

6.3 Patient-reported experience of the care received from an cANP/RANP

This section reports on the results from the 'Patient Experience' section of the PESS survey. This section of the survey included 15 questions specific to the care provided to a patient by an cANP/RANP and their perception of the quality of this care. There were five response categories per question ranging from "Strongly Disagree" to "Strongly Agree". To summarise the findings in this section, these five categories were collapsed into three categories: "Disagree"- "Neutral"- "Agree" (see Table 6.1).

Across all items in the instrument that measured the patient experience, 95% or more respondents agreed that they had a positive experience of the care received from an cANP/RANP. Over 98% of patients agreed that the cANP/RANP was understanding of their personal health concerns, gave them encouragement in regards to their health problems, felt comfortable in asking the cANP/RANP questions, and that the cANP/RANP spent enough time with them. In addition, almost all patients (99.0%) were in agreement that they had confidence in the cANP/RANP's skills and that the cANP/RANP was professional in her/his approach. Overall, 97.0% of patients were satisfied with the care they received with 99.4% reporting that the care they received from the cANP/RANP was of a high quality (Table 6.1).

Table 6.1 Patients' Experience of the Care Received from an cANP/RANP

PESS items	Disagree (%)	Uncertain (%)	Agree (%)
The nurse was understanding of my personal health concerns	0.6	1.2	98.2
The nurse gave me encouragement in regard to my health problem	0.6	0.0	99.4
I felt comfortable to ask the nurse questions	0.6	0.0	99.4
My questions were answered in an individual way	0.6	2.5	97.0
I was included in decision-making	1.8	3.7	94.5
I was included in the planning of my care	1.2	3.1	95.7
The treatments I received were of a high quality	1.8	0.6	97.6
Decisions regarding my health care were of high quality	1.8	1.2	97.0
The nurse was available when I needed them	0.6	4.3	95.1
The appointment times for the nurse were appropriate	1.8	3.1	95.1
The nurse spent enough time with me	0.6	0.6	98.8
I was confident with the nurse's skills	0.6	0.0	99.4
The nurse was very professional	0.6	0.0	99.4
Overall, I was satisfied with my health care	0.6	2.5	97.0
The care I received from the nurse was of a high quality	0.6	0.0	99.4

Table 6.2 outlines the patient experience in terms of speciality and overall score: scores range from 15 to 75 with higher scores indicating a positive patient experience and lower scores indicating a negative patient experience. Overall, patients in all four specialities reported that they received high quality care from cANPs/RANPs; patients who attended the rheumatology services reported the highest level of satisfaction (mean = 72.7; SD = 4.6), followed by respiratory services (Mean = 71.8; SD = 4.9), older persons' care (mean = 71.5; SD = 5.0) and unscheduled care with an average score of 67.8 (SD = 16.3).

Table 6.2 Scores* of Patient Experience of Care Received from an cANP/RANP by Speciality and Overall

Patient Experience	Mean score	SD	Minimum score	Maximum score
Rheumatology	72.7	4.6	52	75
Unscheduled care	67.0	16.3	15	75
Older Persons' Care	71.5	5	60	75
Respiratory Care	71.8	4.9	60	75
Overall	**71.9**	**6.5**	**15**	**75**

*Scores range from 15 to 75 with higher scores indicating a positive patient experience.

6.4 Patient Enablement following the care Received from an cANP/RANP

The following section outlines the results from the 'Patient Enablement' section of the PESS. The patient enablement section measures the extent to which patients perceived that cANPs/RANPs facilitated them to understand and manage their own health. This section of the survey contains five items and patients are asked to rate the extent to which they felt less better or the same, better, or much better following consultation with an cANP/RANP. Table 6.3 details the responses to each item on the enablement scale. The majority of patients (90% or greater) reported that they felt better or much better following the consultation with an cANP/RANP. When 'much better' scores were considered, 71.8% of patients reported that as a result of seeing the cANP/RANP, they felt much better at understanding their illness with over 60% reporting that they felt much better at coping with their illness, and confident about their health; in addition, 58.2% of respondents reported feeling much better at keeping themselves healthy following the consultation.

Table 6.3 Patient Enablement Following Care Received from an cANP/RANP

PESS items	Same or less (%)	Better (%)	Much better (%)
As a result of seeing the nurse, do you feel you are able to understand your illness	6.5	21.7	71.8
As a result of seeing the nurse, do you feel you are able to cope with your illness	7.3	30.7	62.1
As a result of seeing the nurse, do you feel you are able to keep yourself healthy	6.6	35.3	58.2
As a result of seeing the nurse, do you feel you are confident about your health	8.9	27.6	62.6
As a result of seeing the nurse, do you feel you are able to help yourself	8.9	27.6	63.4

Table 6.4 outlines the patient scores on enablement both in terms of speciality and overall. Scores range from 5 to 15 with higher scores indicating better patient enablement and lower scores indicating that patients felt the same or less enabled following consultation with an cANP/RANP. Patients in all four specialities, overall, reported that they felt better enabled following consultation with an cANP/RANP (mean 12.8; SD = 2.7); patients who attended older persons' services reported the highest level of enablement (mean = 13.1; SD = 2.2), followed by respiratory care (Mean = 12.8; SD = 2.6), unscheduled care (mean = 12.8; SD = 3.1) and respiratory care with an average score of 12.7 (SD = 2.8).

Table 6.4 Patient Enablement Scores* by Speciality and Overall

Patient Enablement	Mean score	SD	Minimum score	Maximum score
Rheumatology	12.7	2.8	5	15
Unscheduled care	12.8	3.1	5	15
Older Persons	13.1	2.2	7	15
Respiratory	12.8	2.6	5	15
Overall	**12.8**	**2.7**	**5**	**15**

*Scores range from 5 to 15: higher scores indicate better levels of enablement; lower scores indicating the same or less patient enablement

6.5 Patient comments on the care received from an cANP/RANP

Following completion of the survey, patients were invited to add open-ended comments on the care they received from an cANP/RANP; approximately, 48% of the patients provided additional narrative data. These are outlined below under a number of themes that were identified in the comments provided by patients, including: professional and personal approach to care, understanding and knowledge, comprehensiveness of care, treatments and interventions, and overall perception of the role. Direct quotations are used from patients' accounts of the care that they received to illustrate each of the themes outlined.

6.5.1 Professional and personal approach to care

A number of patients highlighted the individuality of care received and the relationship that the patient built up with an cANP/RANP. This was particularly the case for patients with long-term conditions who visited an cANP/RANP on a regular basis:

> What makes a huge difference to me is the one-on-one care. When the nurse only sees me every few months but still remembers my name. The nurse always have a friendly word and a smile to greet, the extra advice they may give, the shoulder to cry on if needed at that time. The knowledge of these nurses can be mind-blowing. Calming any concerns I may have. Overall, I could not complain regarding any of my treatment over the past few years… (Patient 010209).

In addition, there was a sense from a number of patients that they had personal yet professional experience and that the cANP/RANP is only 'a phone call away'; this allowed patients to feel they could tell or ask the cANP/RANP anything while being treated as an individual. A number of patients also reported that they were treated with 'dignity' 'empathy', 'professionalism' and 'kindness' during their consultation with cANPs/RANPs.

I found her [the cANP/RANP] exceptional. She is very professional, thorough and caring. She made herself available to me and my family whenever required. She was a great source of information and advice. She helped in understanding my care needs having diminished and gave us all great hope that my needs can be managed at home. To be honest I hope that if myself or my family are ever admitted again that [names cANP/RANP] will be our advanced nurse practitioner (Patient 020504).

A number of patients commented that they could contact an cANP/RANP by phone if they required information or advice on their care. In addition, patients reported that cANPs/RANPs also followed up with them on the phone; this was particularly the case in following up with the results of tests or to offer support:

'She [the cANP/RANP] was always at the end of the phone to give me results or support, as my health and conditions have deteriorated this year' (Patient 010221).

There was also a sense from patients that the link to an individual cANP/RANP had enhanced their experience of healthcare, even when previous experiences had been unsatisfactory:

I had been attending the [names specialisation] outpatients in [Hospital Name] every 6 months for 2 years. My experiences with the other nurses up until this date were very poor. I then had the pleasure of meeting [names cANP/RANP], who has renewed my faith in the nursing staff, by her knowledge care and professionalism. Nothing was too much trouble for her where my health was concerned. She is without a doubt a real asset to [Hospital Name] (Patient 01021).

Nurse [cANP/RANP] was extremely understanding and sensitive to my needs. I didn't feel "spoken down to" or belittled. Unfortunately, I have experienced this type of upsetting and condescending attitude on numerous occasions … which make upsetting and anxious times more difficult. The professionalism and expertise whilst showing such kindness gave me such confidence in the nurse and department (Patient 050105).

For the first time in 10 years I felt listened to. Fantastic mentally and not to be just a number. [Names cANP/RANP] and crew are wonderful listeners and carers (Patient 030105).

6.5.2 Understanding and knowledge

Patients also highlighted the education they received through their contact with an cANP/RANP and resulted in an increased understanding and knowledge of their health issues:

The knowledge of these nurses can be mind-blowing (Patient 100209).
I was diagnosed with arthritis 2 years ago. The treatment I received from the nurses is fantastic. They are so understanding and helpful and are always available with advice (Patient 050102).

Patients highlighted in the comments received that, through their contact with an cANP/RANP, they had learned key principles in self-management of their illness as well as developing confidence to deal with their condition. The following quotation highlights this aspect of a patient developing further understanding of their condition:

I really felt I had learned more in this visit than all previous visits over the years. It felt very personal and calming as I always worry about going to see any doctors on attending the hospital usually (Patient 02013).

In addition, there was also an indication from patients' comments that there was a team approach to their care with patients reporting that cANPs/RANPs consulted with medical colleagues if required:

> The cANP/RANP was professional in interacting with myself and when we came across something neither of us knew she took the time to find my doctor and find out the information so we would better understand it ourselves. Being someone who comes from a medical background I found that my overall experience with the cANP/RANP was excellent (Patient 100201).

6.5.3 Comprehensiveness of care

Qualitative comments from patients identified that they received comprehensive care from cANPs/RANPs and there was a sense that during the consultation cANPs/RANPs considered and discussed the totality of care required by the patient and not just the condition that they presented with. Patients spoke about this care as helping them 'cope' and being a 'lifeline' and not being 'just a number' as well as looking at the totality of their needs:

> I have a variety of different health problems…The cANP/RANP I saw in the respiratory clinic took all of my health issues into consideration not just the COPD relative to my visit to the clinic on the day (Patient 070113).

> I found the nurse to be very friendly and she enquired about all aspects of my illnesses, not just my arthritis. I got some good advice from her in relation to keeping myself active and about having a positive attitude to my health issues (Patient 100308).

Patients also highlighted the extent to which they received holistic care from cANPs/RANPs with whom they consulted and reported that they had been cared for comprehensively with the cANP/RANP enquiring about 'all aspects' of their illness including other conditions as well as their wellbeing throughout the consultation. Patients also commented that, as well as cANPs/RANPs comprehensively providing care for their physical illness, they were also provided with psychological support; this was particularly the case in patients who reported that they had complex long-term conditions:

> "I was diagnosed with rheumatoid arthritis ... I was hospitalised ... with sepsis. Since then I have been in the care of several doctors. Because sepsis re-occurred ... I am limited in my tolerance of certain medications. While I have often felt like a chart number, [names cANP/RANP] has always been the person who has always explained any questions or worries ... not only has she been there for me with my physical limitations she also reassures me when I can feel low mentally because of my illness. I have never felt hurried any time I have seen [names cANP/RANP]. She has gone above and beyond her duty by ringing me at home to see how I am coping. Before my illness I was an extremely independent person so I find it hard to accept my illness is permanent but with the kindness and caring [names cANP/RANP] shows to me it's a little easier to know someone sees me as a person and not a chart number ... I am glad to have [names cANP/RANP] in my life" (Patient 010213).

> "When I was diagnosed, I was confused and very scared of becoming disabled. My cANP/RANP was able to recognise that I was struggling and admitted me for a week. Nurses were the cure in my recovery. I am very thankful for the time they spent with me explaining and helping me understand my arthritis" (Patient 030103).

In particular, patients who experienced a long-term illness, reported that there was consistency in the care delivered by cANPs/RANPs who they saw on a regular basis and this resulted in cANPs/RANPs having an interest and understanding of these individuals' illnesses:

> "The nurse practitioner always knows my case inside out and I feel I get the best care because of this. I don't have to go through my history every time I see her like I had to when only seeing the doctors for my appointments. I always see the same nurse whereas doctors are always changing their teams" (Patient 030104).

> "Asthma has affected me for most of my life. At [names age], I was given the labelled diagnosis. I always preferred to see a nurse specialist, same person each time, direct telephone line, someone with a real interest in my illness" (Patient 0609603).

6.5.4 Treatments and interventions

Patients also highlighted a number of treatments and interventions that were provided by cANPs/RANPs as part of their consultation. A number of comments related to the prescription of medications and advice on the correct use of treatments as part of their care plan:

> "The cANP/RANP saw me when I was very sick, she prescribed medicine to get my bowels going and she prescribed pain killers that help with the pain. She explained the importance of taking analgesia for my pain. She told me to ring her if I needed her when I went home" (Patient 020508).

In addition, patients highlighted that they had learned new ways of approaching their illness and understanding their treatments through contact with an cANP/RANP; the following quotations from patients highlight how contact with cANPs/RANPs in respiratory and rheumatology settings facilitated them to understand and manage their illness. In a number of cases, patients spoke about the positive changes to their treatments following consultation with cANPs/RANPs:

> "Only problem I've had is that I was not shown correctly how to use inhalers at the beginning of sickness, and was not shown the proper dials to use on oxygen ... However [names cANP/RANP] showed me the correct ways ... I have learned so much from her. I thought I had all the information on COPD but this lady thought me better ways to do things, she was so informative, kind, gentle, easy to talk with. I wish I had met her sooner ... I wish I had of met her in the beginning of my illness, I truly believe I'd be a lot healthier and my depression would not be as bad as it is nowadays" (Patient 070101).

> "I have visited this ward many times over the years to discuss new products and medication my rheumatologist has been trying on me. The cANPs/RANPs have been very helpful and have shown me and told me about the products I have been trying" (Patient 020104).

> "For me personally being aware of all the information regarding gout ... made me more inclined and driven to want help myself. Coming to see [the cANP/RANP] every 3-6 months gives me a personal target to improve gout and overall health. Without continuous review, I feel that people could slip back into old ways" (Patient 030101).

Patients also highlighted how interventions from cANPs/RANPs had positively impacted on their quality of life and activities of daily living as a consequence of their consultation. Patients spoke about the care they received from cANPs/RANPs, especially those patients who had a long-term illness as being 'life-changing' and giving them 'hope'. The following quotations from patients

describe the outcomes that occurred in respiratory care and a patient who experienced long-term pain:

> "I was admitted into [names hospital] … with severe asthma exacerbation … I assumed a wheezy chest was the norm until I got talking to the respiratory nurse [names cANP/RANP] during my stay in hospital and the follow ups to see her. After numerous steroids and antibiotics due to frequent chest infections and changes to my inhaler, I'm currently wheeze free and my asthma is under control (thank god). Only for her and knowledge of asthma and how to control it I feel I wouldn't be here to put pen to paper …" (Patient 080102).

> "I can say without a shadow of a doubt that overall quality of my life has increased dramatically over the last 6 months since visiting [the cANP/RANP]. I've gone from having pain on a daily occurrence to no pain in my feet. I've gone from exercising little to weight lifting and running 3-4 times a week. These changes were all due to the great knowledgeable care I received during every visit. I found the practitioner to be professional, caring and most importantly very knowledgeable. I'd sum up my care as a life changing experience" (Patient 030116).

> "The care and attention which I have received by my nurse has been very understanding and considerate of both my disease and me being able to cope with it and carry out my day-to-day activities such as family life and work … I wish there were more members of staff like her it makes living with this illness easier knowing I can speak openly and honestly to her" (Patient 030117).

In addition, patients highlighted the interventions that were undertaken by cANPs/RANPs, including the option of admission to hospital to stabilise their condition:

> "I am delighted to share with you that I have received excellent care from this and previous visits from this same nurse. Early this year when I was having a bad flair up she suggested that I would be a perfect candidate for specialised care in the [names unit] at [names hospital]. The two weeks I spent there have changed my life in more ways than I anticipated. I am forever grateful to her for her advice and care that she has given me" (Patient 040113).

A number of patients also reported that a meeting with an cANP/RANP reduced the time required to access tests and further consultations as well as reducing the time they spent waiting to see another healthcare professional:

> "The [cANP/RANP] told me she would speak to the consultant regarding a query and that it might be a week or so before she gets back to me. However, about an hour later I got a phone call from her and she had spoken to the consultant already and arranged extra tests. I was very impressed with the speedy response" (Patient 040112).

> "Given that I experienced very serious delays in accessing my GP because of staff shortages during the whole of 2019, I would love to see changes in general practice that would include easy access to cANPs/RANPs as an alternative" (Patient 070113).

> "Immune system not recovering after throat infection. Spoke with rheumatology cANP/RANP with possible interventions to help me feel better … She contacted me in less than 24 hours and brought me in for an appointment the next day. I was really delighted not to wait weeks feeling unwell. My own GP has longer waiting times" (Patient 100303).

6.5.5 Overall Perception of the Role

Overall, there were high levels of support for the role from patients who responded with comments; these narrative comments highlighted the quality of care received and the professionalization of the interaction with the cANP/RANP who delivered their healthcare. In addition, a number of patients commented on the need to further roll out, 'more' cANPs/RANPs in post and it becoming the 'norm' within the health services:

> "I think it is a very good idea to give experienced and qualified and nurses appointments to fully use their skills. I also think it could go a long way in helping to alleviate the chronic backlogs that we have in our health system. I am sure and confident that qualified nurses are more than capable of addressing many of the health problems that patients present to the departments with ..." (Patient 100308).

> "I would recommend more specialist nurses like [names cANP/RANP] and the work and care they provide for their patients. They will be an asset to any medical centre or hospital, and can only improve the standard of care for their patients, which is something the HSE needs. I hope the HSE continue to employ nurses with specialist care as with my experience have found to be extremely helpful with my needs and care" (Patient 060106).

6.6 Conclusion

Overall, a cross-section of patients responded to the survey following consultation with cANPs/RANPs in the area of rheumatology, respiratory care, older persons' care and unscheduled care. The majority of patients were female and approximately one in ten patients reported their health as poor or very poor.

The vast majority of patients reported that they had a highly positive experience during a consultation with an cANP/RANP; this included being highly satisfied with the consultation and that, overall, the care they received was of a very high quality. All items on the survey that measured patients' experience of the consultation were highly scored; there was near unanimity from patients that the cANPs/RANPs they consulted with were understanding of their personal health concerns, gave them encouragement in regards to their health problems, felt comfortable in asking the cANP/RANP questions, had confidence in the cANP/RANP's skills, that the cANP/RANP was professional in their approach towards them and that the nurse spent enough time with them. All four specialties in which patients were surveyed reported overall high experience scores indicating high overall levels of satisfaction with the consultation that they received from an cANP/RANP.

In relation to enablement, the vast majority of patients surveyed reported that they felt better or much better following consultation with an cANP/RANP. As a consequence of the consultation, the majority reported that they were better or much better able to understand their illness, cope with their illness, confident about their health, help themselves, and keep themselves healthy. Overall enablement scores were high for each speciality indicating that patients felt better or much better after seeing an cANP/RANP.

Findings from the analysis of the open-ended narrative comments also demonstrated high levels of patient satisfaction with the consultation process and these comments were reflective of the results highlighted in the quantitative component of the survey. A number of patients reported that they received high levels of care from cANPs/RANPs, that this was individualised to their needs and delivered in a highly professional manner. Patients also wrote of being treated with

dignity and respect as well as having high levels of contact with an cANP/RANP, not only in face-to-face meeting but also through telephone contact and follow-up support.

Patients who provided narrative comments also expressed high levels of confidence that cANPs/RANPs had a comprehensive knowledge of their condition. Patients also wrote about how cANPs/RANPs initiated changes to treatments which facilitated respondents to self-manage their condition in a more proactive way. In addition, there was also a sense from patients that cANPs/RANPs worked as part of a team and were comprehensive in their assessment of patients' needs; this was expressed in comments where patients perceived that cANPs/RANPs considered and discussed the totality of care and not just the condition that they presented with. Patients who attended hospital with long-term conditions (rheumatoid arthritis and respiratory conditions) commented on the consistency of care received from cANPs/RANPs due to seeing the practitioner on a regular basis; this, reported respondents, resulted in cANPs/RANPs having both an interest in, and comprehensive understanding of, their illness.

A number of patients noted the effectiveness of treatments delivered and advised by cANPs/RANPs including the prescription of medications as well as advice and education on managing their illness. Patients also highlighted in the narrative comments that the effectiveness of these treatments and educational interventions had positively impacted on their quality of life in term of reduction in symptoms and the ability to regain activities of daily living that had previously been limited. Timely access to care was also commented upon by patients; this was highlighted in terms of gaining access to a consultant, reduction in time to diagnostic procedures and faster access to hospital appointments. Overall patients wrote that they were highly accepting of the role of cANPs/RANPs; there was a sense from patients that cANPs/RANPs provided high quality care, reduced waiting times and were positive asset to teams providing healthcare to patients.

In conclusion, the survey identified that patients had a very positive experience of receiving their healthcare from an cANP/RANP; in addition, this care led, in the majority of cases, to patients feeling better enabled to care for themselves. Patients' comments also highlighted that they had received a high level of professional care from cANPs/RANPs and that this care was effective in helping them manage their illness as well positively impacting on their overall quality of life.

6.7 Key Outcomes - Patient Experience and Enablement

6.7.1 Patient Experience

- Over 95% of patients reported that they had a had a positive experience of the care received from an cANP/RANP.
- Over 98% of patients agreed that the cANP/RANP was understanding of their personal health concerns, gave them encouragement in regards to their health problems, felt comfortable in asking the cANP/RANP questions, and that the cANP/RANP spent enough time with them.
- Almost all patients surveyed (99%) were in agreement that they had confidence in the cANP/RANP's skills and that the cANP/RANP was professional in her/his approach.
- 97.0% of respondents were satisfied with the care they received with 99.4% reporting that the care they received from the cANP/RANP was of a high quality.
- Overall, patients in all four specialities reported that they received high quality care from cANPs/RANPs.

6.7.2 Patient Enablement

- The majority of patients (90% or greater) reported that they felt better or much better following the consultation with an cANP/RANP.
- The majority of patients (90% or greater) reported that they felt better or much better able to understand and cope with their illness and able to keep themselves healthy following consultation with an cANP/RANP.
- Patients commented that they received high levels of care from cANPs/RANPs, that this care was individualised to their needs and delivered in a highly professional manner. Patients also commented that they were treated with dignity and respect as well as having high levels of contact with an cANP/RANP in both face-to-face meetings and telephone contact and follow-up support.

Chapter 7: Evaluation of Administrative Data – National Treatment Purchase Fund and Emergency Department Data

7.1 Introduction

This chapter presents an overview of administrative data that was collected and analysed to measure waiting lists for patients who required care in the areas of respiratory, rheumatology and older persons' care as well as the waiting times for patients who attended an emergency department. Data explored for waiting times for patients from rheumatology, older persons care and respiratory came from the National Treatment Purchase Fund; data for patient waiting times in emergency departments was sourced from one case study site and was collected from the iPims system.

The National Treatment Purchase Fund (NTPF) waiting list data was sourced from the areas in which the demonstrator cohort of cANPs/RANPs are employed; however, due to the nature of the data, it does not identify individual cANPs/RANPs but the service as a whole. The NTPF is a statutory body set-up and funded by the Minister for Health to work independently under Statutory Instrument 179 (National Treatment Purchase Fund Establishment Order, 2004) and the Nursing Homes Support Scheme Act (2009). The primary objective of this scheme is to reduce the waiting times for public patients across Ireland by funding private treatment of patients. The waiting list data published by the NTPF is of particular interest in this evaluation as preliminary evidence suggests that the allocation of cANPs/RANPs to the healthcare setting can improve not only the quality of patient care but also the efficiency of care provided. This chapter will provide an overview of the recent waiting list trends in outpatient hospital wards where cANPs/RANPs are employed with the aim of demonstrating if the data can be used to identify the impact of cANPs/RANPs on patient waiting times and the extent to which the introduction of the role has resulted in changes to waiting list times for patients in the area of rheumatology, respiratory care and older persons' care. The presented findings will be discussed in the context of the implemented cANP/RANP policy and recommendations surrounding the use of NTPF data in future evaluations will be outlined. The latter part of the chapter compares the waiting times of patients at triage levels 2 and 4 who saw and cANP/RANP or a medical practitioner in one case study ED.

7.2 National Treatment Purchase Fund (NTPF) Waiting List Data

The NTPF publishes in-patient/day-case, planned procedure and outpatient waiting lists for hospital wards across Ireland; this data is publicly available at https://www.ntpf.ie/home/nwld.htm. For the purpose of this evaluation, data acquired from outpatient waiting lists only for older persons, rheumatology and respiratory hospital wards where an cANP/RANP is present were analysed. Hospital wards that provided regular updates on waiting lists to the NTPF with no missing years were included in this analysis, creating continuity and the opportunity for each ward to contribute equally to the trends presented in this report. This culminated into 55 hospital wards (19 Older Persons, 14 Respiratory and 20 Rheumatology) across 29 different public hospital institutions being included.

NTPF waiting list data is collected and coded by Hospital inpatient Enquiry (HIPE) department staff members, ensuring that data published on the national HIPE database is standardised and follows an accepted protocol. The NTPF also carries out audits on the quality of the data collected to ensure individual hospitals are following protocols. Recent audits have demonstrated that some hospital wards have not followed such protocols and as such, the presented data should be interpreted with caution. Outpatient waiting list data provided by the NTPF are publicly available

(https://www.ntpf.ie/home/outpatient.htm) and present figures for total numbers waiting both nationally and in each hospital/group and speciality across various time-bands. In this analysis, specific time-bands were pooled into more general categories of short-term (0-6 months), medium-term (6-12 months) and long-term (12+ months) waiting lists and the average national trends and speciality-specific trends are presented.

7.2.1 Older Person's care

Figure 7.1 displays the moving average trends for short, medium and long-term waiting lists along. An increase in patients' waiting was experienced on average across all time-bands. For short-term waiting lists, an average increase of 0.7 patients/month was experienced from 67 patients in January-2016 to approximately 106 patients in September-2019. Magnitude and change in waiting list numbers for medium- and long-term waiting lists were small in comparison with a moving average of 10 and 6 patients respectively. Although the overall trend in Older Person's care demonstrates an increase in waiting list numbers, the volatility of these trends appears to have improved for short- and medium-term waiting lists. Annualized volatility decreased for short- and medium-term trends by 1.6% and 2.4% respectively when comparing 2019 to 2016. Long-term volatility did not share this pattern with an increase in average monthly volatility of from 1.73% in 2016 to 2.2% in 2019. However, this is most likely as a result of the relatively low number of patients on average waiting to receive Older Person's care for greater than 12 months.
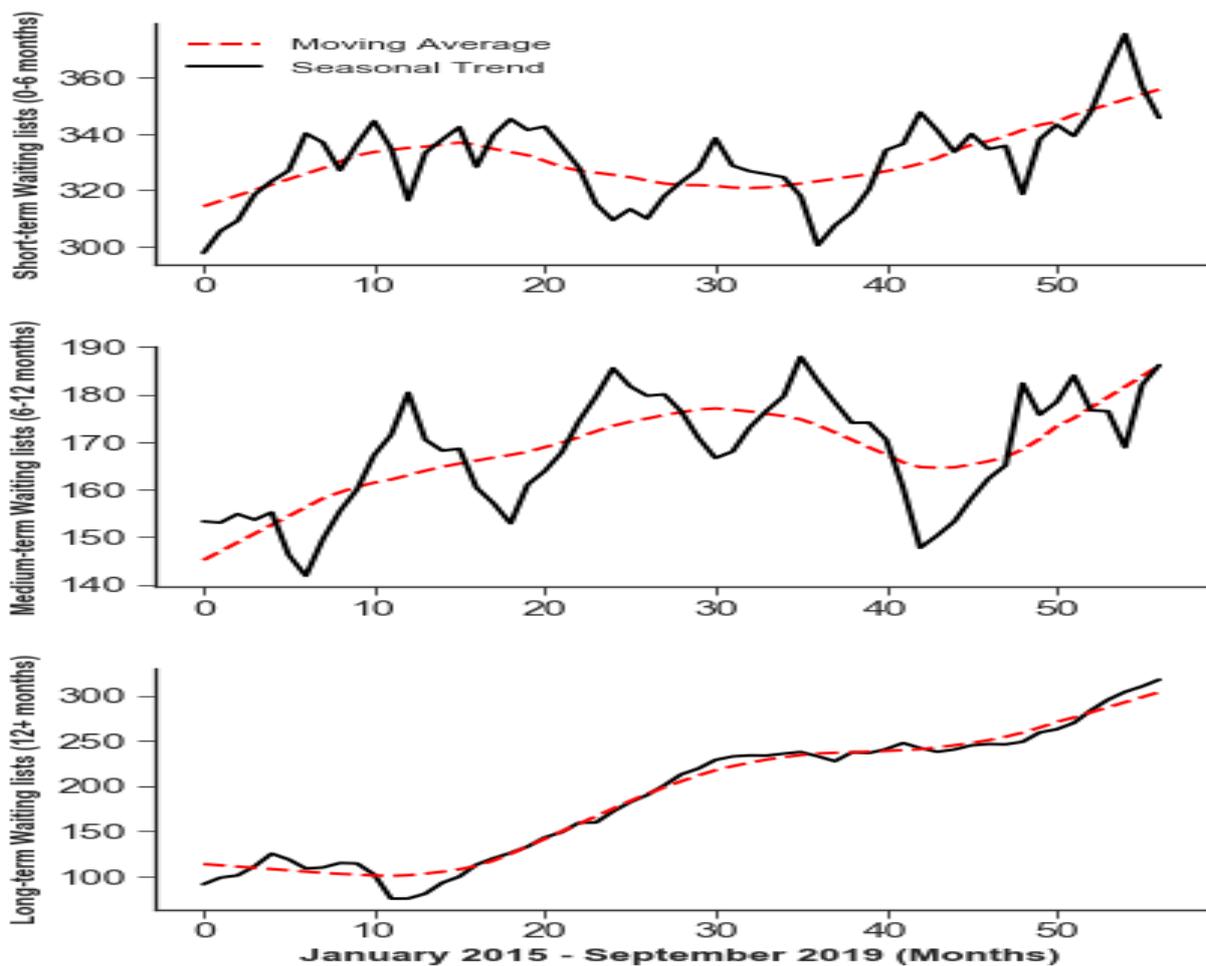
Figure 7.1 Older Persons' Waiting Lists

7.2.2 Rheumatology

Figure 2 displays the waiting list trends and volatility of these trends across the 4 years. Increases in the number of patients on waiting lists were seen across all time-bands. Short-term waiting list numbers increased from a low of approximately 314 patients in January 2015 to a peak of 356 patients in September-2019 at a rate of 0.73 patients per month during this time period. Medium-term trends on average were similar with an increase of 0.72 patients/month. Change in long-term waiting list figures was the most severe with an average increase of 3.33 patients per month between January-2015 to September 2019 experienced in rheumatology wards. Volatility reduced for short- and long-term trends although minimally by 0.96% and 0.47% respectively. Medium-term trends on average increased by 1.31% from 2015-2019 with a peak volatility of 4.4% in 2019.
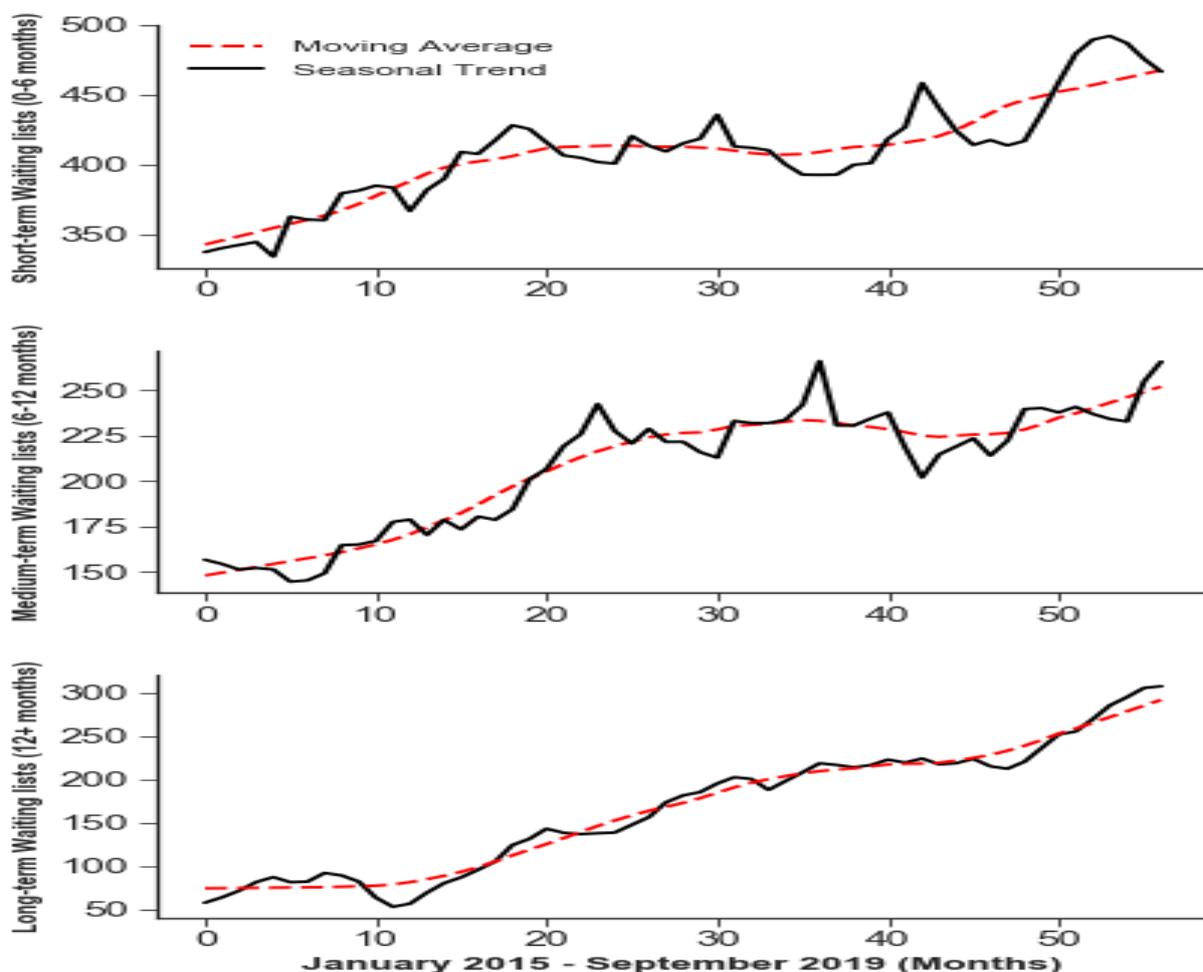
Figure 7.2 Rheumatology Waiting Lists

7.2.3 Respiratory

Of the three specialities included in this analysis, respiratory wards on average demonstrated the most significant changes between 2015-2019. Figure 3 (right) illustrates the findings from the NTPF outpatient data across 14 respiratory wards and describes a similar trend of progressively increasing numbers from 2015-2019 across all time-bands. Short-term waiting lists on average contained 408 patients, reaching a high of 467 patients in September 2019. This increase was the most rapid of all three specialities at 2.2 patients/month. Comparable rates of increase were also seen in medium-term and long-term waiting lists of 1.82 and 3.82 patients/month respectively.
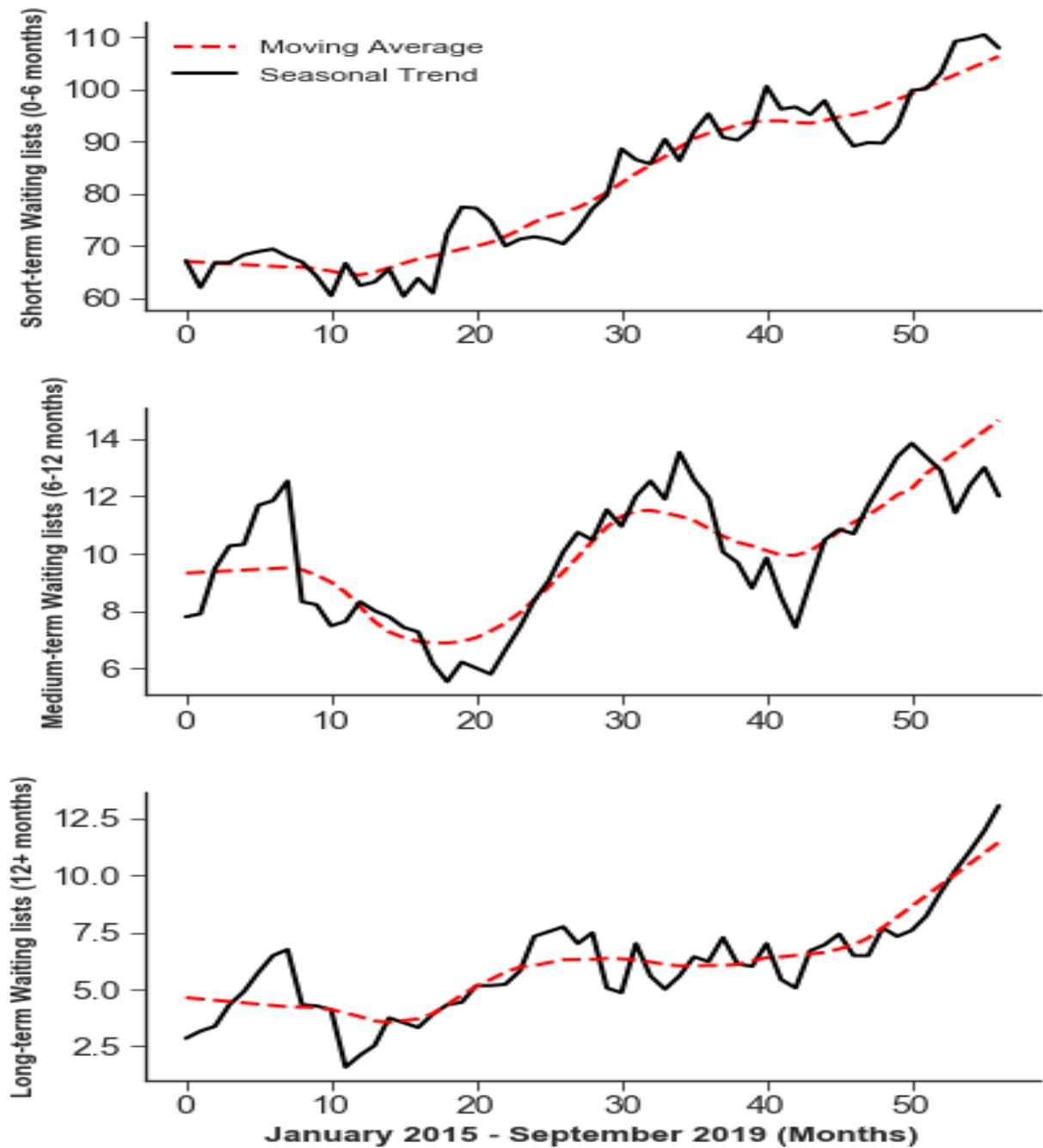
Figure 7.3 Respiratory Waiting Lists

Short-term waiting list trends were increasing in a more consistent manner and therefore the volatility reduced by 2.74% between 2015-2019. The peak year for monthly volatility was also in 2015, demonstrating a greater consistency in patient number increases as this time-period progressed. Medium-term volatility on a monthly basis peaked in 2017 of 1.6% and saw an overall increase in annualized volatility from 2015-2019 by 0.82%.

7.3 Individual Hospital Waiting List Performance

To illustrate how individual hospitals performed from 2015-2018 concerning their waiting lists, a relative standard was set based on 2015 waiting list data and hospitals were aggregated into quartiles. The subsequent waiting list data was then analysed in the context of this 2015 standard allowing a clear indication of how the individual hospitals are performing over time. Percentage increases from this 2015 standard can be interpreted as an increase in the average monthly waiting list numbers with respect to the peak month for that year and thus indicate an annualized performance deterioration while negative percentage changes signify improvements in annual performance.

Figure 7.4 below illustrates the percentage change in relative performance of the 1st, median and 4th quartile of hospitals from 2015 standards against the percentage number of hospitals within that quartile. This figure demonstrates a common pattern across all time-bands: Short-term (Left column), Medium-term (Centre column) and Long-term (Right column)) with 64.3% of the highest performing 1st quartile of hospitals decreasing in performance in 2018 compared to 2015 by ≥ +5% for short-term waiting lists. 50% and 64.3% of highest performing hospitals were also seen to underperform to this degree in subsequent years for medium-term and long-term waiting list numbers also. In contrast to this deterioration among top performing hospitals, those institutions within the 4th quartile of performing hospitals overwhelmingly improved in 2018 compared to 2015 standards, with 77% improving in short-term waiting lists along with 69.2% and 61.5% of underperforming hospitals improving in medium- and long-term waiting lists respectively. For hospitals performing within the median range, no significant shift was experienced for short- and medium-term waiting lists however; the majority (61.5%) of long-term waiting lists could not meet their 2015 standards, indicating an overall dis-improvement among hospital units intra-individually. The contrasting pattern described among 1st and 4th quartile hospitals is one known as 'regression towards the mean' and has been previously documented in hospital performance analyses and involves outlier observations returning towards the mean of the sample upon subsequent measures. Of the 10 biggest dis-improvers in short-term waiting lists, only 2 hospitals were in Dublin while upward and downward shifts were shared relatively evenly across specialities. Among medium-term hospital performances, Naas General Hospital Rheumatology ward and the Respiratory unit of St. James are the only 1st quartile ward that continued to improve on 2015 standards with a -31.1% and -13.9% improvement in average monthly performance. Opposed to this example, the Respiratory ward in the Mater Misericordiae University Hospital continued to dis-improve from its 4th quartile position in 2015 with an increase of 7.6% on average for monthly waiting lists. The rheumatology ward of Sligo regional Hospital experienced the second highest improvement in long-term average monthly waiting lists (-22.2%) but this was concurrent with the highest deterioration in short-term waiting lists (+33.4%) among the sample of hospital wards demonstrating that shifts in within hospital performance can occur in opposing directions. Various factors could be causing this including an ageing population and the prevalence of chronic diseases increasing overall waiting times coinciding with speciality specific initiatives such as the 'Model of Care for Rheumatology in Ireland' targeting long-term waiting lists (1-3).
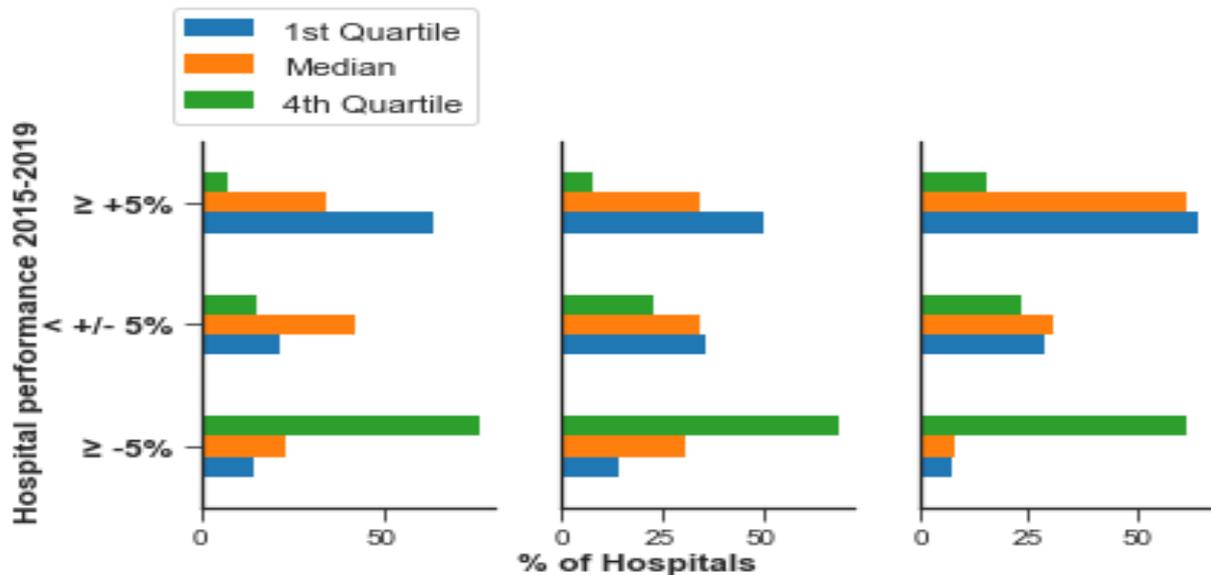
Figure 7.4 Short-term (Left), Medium-term (Centre) & Long-term (Right) shifts in hospital performance 2015-2018

7.4 Summary of Key findings

7.4.1 Waiting list numbers

- Changes in the number of patients waiting for treatment in Older Persons', Respiratory and Rheumatology outpatient care wards.
- Upward trends in the number of outpatients waiting for treatment were experienced on average across all specialities from January 2015-September 2019.
- The upward trends in waiting list numbers were experienced across short-, medium- and long-term waiting list time-bands for all specialities.

7.4.2 Shifts in overall waiting list volatility across the time-period.

- The progression of waiting list trends from 2015-2019 demonstrated a reduction in volatility across a number of time-bands and specialities.
- Regression towards the mean in waiting list performance by the majority of hospital wards indicates that this reduction in volatility cannot be sufficiently attributed to improved efficiency and quality of care by in these wards.

7.4.3 Site-specific complexity of hospital performance

- Contrasting shifts within and across hospital wards in waiting list trends indicate a highly dynamic and complex system for evaluation.
- Thorough and interpretable results necessitate an increased level in specificity of evaluation tools and resources.

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7.5 Impact of the Introduction of Advanced Nurse Practitioners on Emergency Department Waiting Times

This section outlines the results from one pilot site that had data available that explored waiting times for patients who attended the emergency departments. The emergency department was situated in Model 4 hospitals and had data on both cANPs/RANPs (including those appointed as part of the demonstrator site) and doctors in the department. Two outcomes were measured: 1) average time to be seen by a doctor of an cANP/RANP (time from triage to been seen by a doctor or an cANP/RANP); and 2) patient experience time (total time spent in the ED). Only patients whose triage category was level 4 (standard) and level 5 (expectant) were included in the analysis. Patient data was only included in the analysis if they were discharged from the ED; that is they were not admitted to hospital. It is of note that not all patients had a record of the healthcare professional to which they were assigned (doctor or cANP/RANP), therefore they were excluded from the analysis. Data was collected between January 2019 and December 2019.

7.5.1 Time to be seen

On average, from time to triage to time to be seen by a doctor was 1 hour 23 minutes (SD = 1.4); times from triage to a patient seeing a doctor ranged from 45 minutes to 5 hours 55 minutes. For an cANP/RANP the time to be seen from triage was, on average 54 minutes (SD = 0.4); times from triage to a patient seeing an cANP/RANP ranged from 24 minutes to 1 hour 11 minutes hours. Overall, a patients waited, on average 29 minutes less time to see an cANP/RANP than to see a doctor for patients.
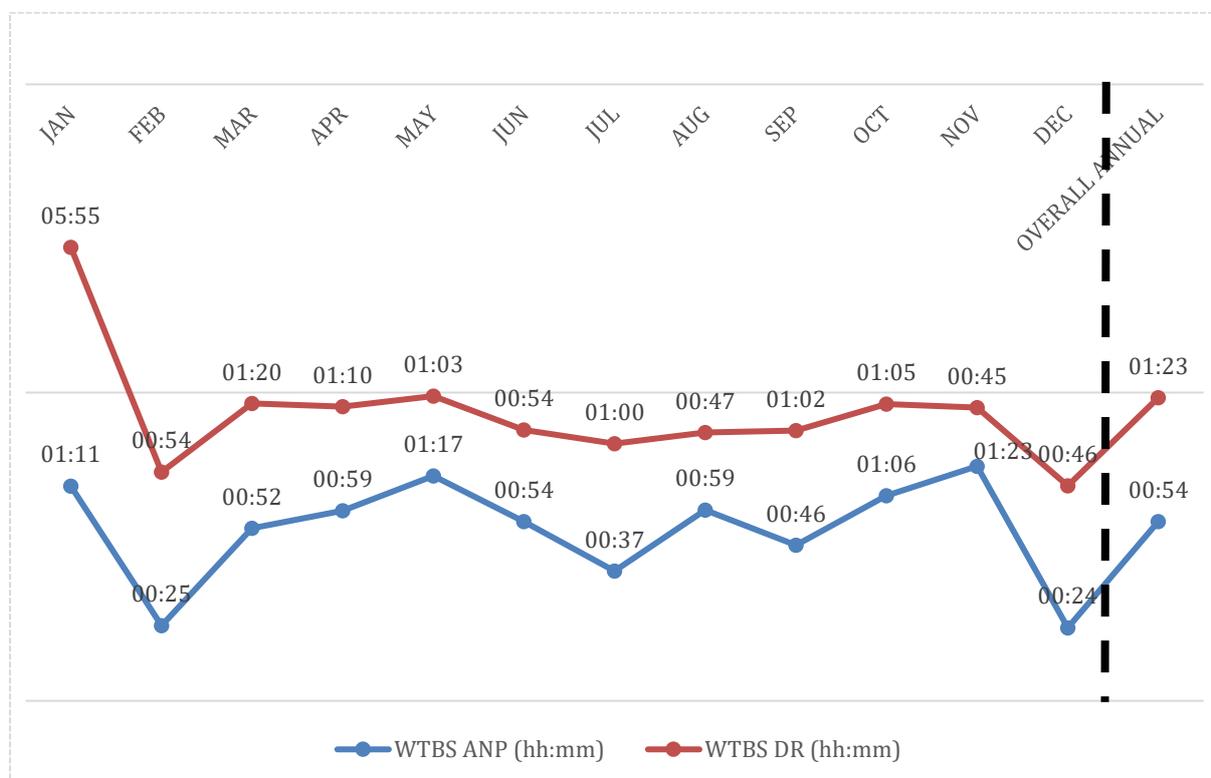
Figure 7.5 Time from Triage to be Seen by an cANP/RANP and a Doctor – January 2019 to December 2019

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7.5.2 Patient Experience Time

The total time spent with patients who were seen by a doctor and the time spent those who were seen by an cANP/RANP is outlined in figure 7.6. On average, patients at triage level 4 and 5 spent 5 hours 39 minutes (SD = 0.57) in the ED when see by a doctor; time spent in ED ranged from 4 hours 53 minutes to 6 hours 35 minutes. Patients seen by an cANP/RANP spent, on average 2 hours 56 minutes (SD = 0.47) in the ED; time in the department for this cohort of patients ranged from 1 hour 56 minutes to 3 hours 21 minutes. Overall, PET times for patients seen by an cANP/RANP compared to a medical practitioner were, on average, 2 hours 43 minutes shorter.
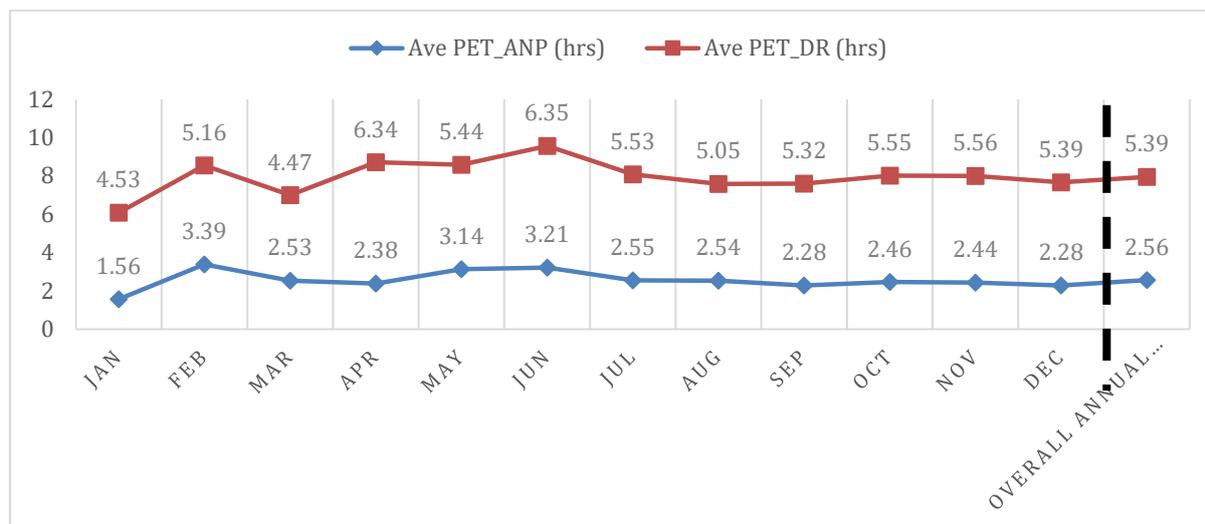
Figure 7.6 Patient Experience Times (PET) for Patients at Triage Levels 4 and 5 seen by an cANP/RANP and a Doctor – January 2019 to December 2019

7.6 Discussion

The aim of this chapter was to measure the extent to which the introduction of Advanced Nurse Practitioners into demonstrator sites in the areas of older person's care, rheumatology, respiratory care and unscheduled care. In relation to older person's care, rheumatology, respiratory care no specific data sets at hospital level were identified however, publicly available waiting list data at for each of the specialties was available at national level through the National Treatment Purchase fund. This was a relatively complex data set that outlined short, medium and long-term waiting times for patients to be seen; however, the data does not specify the health professional who the patient is waiting to see. At this stage of the evaluation, there was no discernible change in waiting times as a consequence of cANPs/RANPs being placed in the demonstrator sites; in fact, in all three areas there was an upward trend in waiting times; however, this may be due to a number of factors including the specificity and validity of the data collected and the newly assigned cANPs/RANPs have not yet fully internalised their role and it is too early to identify the required impacts on service. The inclusion of the NTPF waiting list findings in future evaluations on the implementation of cANPs/RANPs in the Irish healthcare system will provide valuable information in regards to typical patient waiting times and further work is recommended in this area.

One area where data did identify the impact of cANPs/RANPs was in ED care. Data collected in one pilot ED site that had new cANPs/RANPs appointed demonstrated a significant impact on waiting times and PET times for patients at triage levels 4 and 5; these are the cohort of patients generally seen by cANPs/RANPs in ED. The impact was particularly significant on patient experience times. This data can be used in future evaluations

7.7 Conclusion

The identification of individual cANPs/RANPs in future data sets held at local level will provide evidence of the impact that they are having on patient waiting times in a number of settings. Further work is needed to identify the cohort of patients seen by cANPs/RANPs in comparison to their medical colleagues; this will help to control for future confounding factors in the evaluation of administratively held data.

7.8 Key Outcomes - Administrative Data Outcomes (National Treatment Purchase Fund and Emergency Departments)

- No change in waiting list data was identified from the National Treatment Purchase Fund dataset; at this stage, this may be due to the specificity and validity of the data collected and that the newly assigned cANPs/RANPs have not yet fully internalised their role into the health service.

- cANPs/RANPs appointed demonstrated a significant impact on waiting times and PET times for patients at triage levels 4 and 5; this impact was particularly significant on reducing patient experience times.

Chapter 8: Analysis of cANPs/RANPs' and Key Stakeholders' Perspectives on the Implementation of the cANP/RANP policy

8.1 Introduction

This chapter presents the introduction of the critical mass of ANPs into the demonstrator sites from the perspectives of the early candidate advanced nurse practitioners (cANP) and key stakeholders who had first-hand experience of the implementation process. This chapter presents: the main opportunities and challenges arising during the implementation phase of this initiative; the key factors that facilitated policy implementation as they relate to the successful introduction and integration of new cANP posts across different demonstrator sites; key barriers that impacted on the cANP/RANP's ability to fulfil their clinical role; factors that impeded the process of integration into healthcare organizations; and finally, the cANPs and key stakeholders' views on future sustainability of the RANP policy as outlined in the key documents *Developing a Policy for Graduate Specialist and Advanced Nursing & Midwifery Practice: Consultation Paper* (Department of Health 2017) and *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice* (Department of Health 2019).

8.2 Opportunities realised by cANPs/RANPS

The opportunity for progression to RANP was broadly welcomed by nurses who, as experienced clinicians, were eager for opportunities to lead on the development of new services in their clinical practice. In the years preceding the Policy launch, some individual candidates had developed business cases for new cANP/RANP posts, which were not implemented by nursing management at that time, so there was a high level of interest especially those at clinical nurse specialist and clinical midwife specialist level to avail of this opportunity to advance their clinical career to RANP. As an RANP, candidates wanted greater autonomy and to be in a position to lead on and improve service delivery.

Although the cANPs/RANPs were in the implementation phase of the policy and had yet to become fully established in their role, there were early signs of leadership. Leadership potential was evidenced through a range of activities such as; setting up a new virtual clinics to manage patients in their own home, setting up new pathways of care that were reducing hospital admissions and reducing waiting list times, expanding the range of Out Patient Department clinics and services in response to service gaps, and extending patient services to the community settings:

> *The things that really stand out for me is how the cANP/RANP post has brought about clinical change to our service… the organisational changes that have been made to our [name of condition] pathway so people who have a new diagnosis of [name of condition] our cANP/RANP was instrumental in designing a new pathway for this cohort of patients. It was definitely driven by the cANP/RANP… previously [patients] mightn't see a [name] for a year or eighteen months depending on when they were referred from clinic. So, it's a huge change in how we are addressing these patients.* (Key stakeholder 6)

> *To start a whole new pathway … it was just the ten weeks we went from 100% admission rate down to 22% admission rate.* (Focus Group 2)

Candidate cANPs/RANPs were also realising opportunities to become key influencers both in terms of raising the profile of the RANP role within the multidisciplinary team and of setting new agendas for healthcare services design, delivery and innovation:

> *[an event] where consultants of the whole hospital group were invited to a forum, and as a result of hearing the RANP in [clinical area] present, every single one of the clinical leads left that meeting saying "we want them". Up to now, "we don't want them", so that in itself was fantastic influencing… the outcomes and the pathways that this cANP/RANP had developed and the outcomes that were being shown at the early stages, particularly towards ambulatory care, they really saw "how it can fit into our model and we can see how it can fit both at the large hospital and the smaller hospital".* (Key stakeholder 4)

> *Better outcomes for people, they are reducing the length of stay, they are managing their [name of condition] and they are raising the profile of [name of condition] as a long-term condition.* (Key stakeholder 3)

8.3 Factors supporting policy implementation

8.3.1 Supportive clinical consultant mentors

There was clear evidence that clinical consultants who supported the implementation of the cANP/RANP policy and provided clinical supervision and mentorship to cANPs/RANPs were instrumental to its successful implementation. In some sites, clinical consultants were the driving force in getting cANPs released to start the education programmes and organising their clinical rotations and experiences. Consultants who supported the cANPs did so in a number of ways, for example, by providing clinical supervision and mentorship to cANPs, working collaboratively with them when drawing up job descriptions and planning new services, negotiating with senior management for cANP resources, linking with other consultants to request their support for cANP initiatives and providing personal encouragement to continue and complete the cANP programme:

> *We've been so lucky and that's really important. We've been so lucky in our particular area because they [consultants] love having us, they love teaching us.* (Focus Group 1)

> *I had my consultants backing me all the way… any email that I was trying to set up a meeting, he would support that email… without that backing it's very hard because you're met with such resistance in different areas.* (Focus Group 2)

> *My consultant helped me, pushed me and supported me to the nth degree.* (Focus Group 3)

In many cases, consultants who supported the introduction of cANPs had previous experience of working with RANPs in other countries. Consultants who understood clearly what the role involved and how it could benefit patient services were key supporters of policy implementation:

> *I was in the UK, so I was working with cANPs/RANPs and that's where I got a lot of exposure to how they'd work.* (Key stakeholder 8)

> *Consultants who had trained abroad, especially in England, were used to advanced practitioners and had open arms. Where there was resistance and we don't want, was because they didn't understand.* (Key stakeholder 2)

So where it's working well, where it's supported by a good [consultant] who understands and has a vision, sees them [cANPs/RANPs] as equal and is working with them in partnership, it's working well. (Key stakeholder 3)

8.3.2 Nursing and Midwifery Practice Development Units

Data indicated that the Nursing and Midwifery Practice Development Units (NMPDUs) were recognized as an invaluable resource not only to directors of nursing but also cANPs/RANPs. Overall, the NMPDUs and Project Officers were instrumental to successful implementation of the policy. They supported individual cANPs as they transitioned from Clinical Nurse Specialist (CNS)/staff nurse to RANP by guiding them through "the process of application", "reviewing the portfolio", "advice for politics locally, how to handle situations", "how to bring matters to the forefront in the right way", "in my lowest days, I could ring somebody" and providing "guidance professionally, academically, clinically and emotionally":

I actually relied on [NMPDU Project Officer] to tell me how to navigate things politically correct as I transitioned from CNS to cANP/RANP post. Which I probably found the most helpful and then when I got my cANP/RANP post and I went to my DON … I had a conversation with [NMPDU Project Officer] because when you do go to your cANP/RANP post…you're accountable to the DON which is a big leap. (Focus Group 3)

Guiding [candidate cANPs/RANPs] through what the differences were… it was just it was so new … the key thing was the level of clinical decision making and their accountability and responsibility as an cANP/RANP as opposed to CNS … even though they were working at a very high level as CNSs and some in those posts for years, there was a distinct difference and once the light bulb moment hit, then you knew they were fine and that moved on really well. So that was important with CNSs. (Key Stakeholder 2)

At an organisational level, the NMPDU provided clarification to directors of nursing regarding the cANP/RANP role and the process of developing new posts within their organization. To facilitate the implementation, the NMPDU provided access to a range of templates; for example, job descriptions, memoranda of understanding, memoranda of understanding for clinical supervision, so that directors of nursing and cANPs could use these national standard templates and save time from starting to design new documents:

NMPDU input was invaluable… they were very helpful; the DONs were even confused and completely confused as to what the role was. (Focus Group 2)

The ONMSD Advanced Practice Network Group was key to [providing clarity and managing expectations]. It was a crucial factor towards the success of the whole project…Every two months all the officers would come together in their network meetings and this was established prior to demonstrators even coming in…What [name] did was she looked at all the policy change and all of the NMBI change coming in and we responded accordingly in a very timely fashion in providing job descriptions, updating those, in providing, and that was for candidate roles and for registered roles. (Key Stakeholder 2)

I have to mention the role of the Project Officers and the NMPDU. They are a hugely supporting role and have the ability to network so well that it's been unbelievable…they're critical, they make my job easier as well. (Key Stakeholder 4)

The NMPDU continue to provide role clarity and progressing the development of national competency standards required at RANP level. Competency standard frameworks such as, the *Guiding Framework for the Development of Registered Advanced Nurse Practitioners- Acute Medicine* (ONMSD/HSE 2018) and the *Advanced Nursing Practice Older Persons-Clinical Guidance Framework* (ONMSD/ HSE 2019) were viewed as providing clear guidelines and support to the consultants supervising cANPs/RANPs, the cANPs/RANPs themselves and directors of nursing regarding signing- off RANPs meeting the required standard:

> *[Consultants] felt very threatened, [NMPDU] has done a lot of research and developed a really good guidance document for the competence framework for [consultants] to help to sign off on the cANPs/RANPs.* (Key Stakeholder 3)

> *[NMPDU] are like an in-betweener where we go between, we bring back the information from the [NMBI] back down to the services to make sure that they are fully up to speed and sure of what they need to do. But also, that's not just the candidate but that's also the Director [Nursing] and making sure they understand their responsibilities around somebody being ready for registration.* (Key Stakeholder 5)

8.3.3 Supportive Directors of Nursing and effective Local Implementation Groups

Supportive directors of nursing and chief directors of nursing who provided guidance and mentorship to cANP/RANPs were also instrumental to the successful implementation of the policy. Where the directors of nursing were actively supportive of developing the new role, they did so by managing the prompt release of candidates to undertake the programme, providing ongoing support to candidates when dealing with barriers, maintaining involvement and interest in candidate progress and providing clear leadership as a director of nursing in the Local Implementation Group meetings to ensure the effective integration of new cANPs into the organisation:

> *Director of Nursing in [care specialty] always wished she had become an RANP and she was very passionate about developing nursing. When I told her I was going for the interview I was quite nervous because I had just developed this new role, she encouraged me all the way and she released me really quickly.* (Focus Group 2)

> *Our DoN (Director of Nursing) wanted to be in the loop, if we got to hurdles, she wanted to help us over the hurdles... [she said] "keep me in the loop, keep me up to date with what's happening"...you knew she was there at the end of a call or knock on the door.* (Focus Group 3)

> *Very clear leadership from the Director of Nursing and Practice Development were a key player in [effective Local Implementation Groups] What else made it work was the constitution of the LIG where they were very heavily multi-disciplinary as opposed to nursing only... interdependencies represented at the table such as OTs, physio, speech and language, dieticians, pharmacists.* (Key Stakeholder 4)

8.4 Educational input and RANP role preparation

The cANP/RANP education programme was identified as also facilitating the policy implementation process. There was clarity regarding the academic requirements needed to fulfil the RANP post, and clinical module / practical's / rotations supported the development of cANP advanced clinical skills and caseload management needs:

The clinical rotation was good because we saw how everybody thought… there were different clinics…and that was teaching us that there's different ways to look at everything…each had a specialist interest, so we were very blessed to actually gain that knowledge and the experience. (Focus Group 1)

The clinical practical and practice module was brilliant, it was the best kind of course that I would have done… because it was all based on clinical and you were taught as you went along and I found that a brilliant part of it. (Focus Group 4)

8.5 Role awareness and role clarity

An important factor influencing the successful introduction and integration of new cANPs into each organisation was the level of clarity about the RANP role and understanding of how it differed from other nursing roles. However, there appeared to be mixed experiences from those interviewed in terms of how well the role was understood. Where a lack of clarity existed, this was sometimes due to the job description not being fully developed early on. In places with established RANPs, the organisational awareness and understanding of the new roles at senior nursing management and consultant levels was clear and reduced the barriers for new cANPs ordering diagnostic investigations. However, the majority of cANPs were working in contexts with little or no previous experience of the RANP role. Consequently, they had to initiate and actively work at raising awareness about their role often at the same time as developing the role. Strategies that were considered effective in facilitating role clarity and managing related expectations included: developing referral pathways differentiating cANP/RANP and CNS roles; cANP presentations at grand rounds and conferences; getting out of uniform and wearing 'normal' clothes; negotiating job descriptions with consultant involvement; and, at a national level, involving consultants in the process of developing a competency framework and guidance documents:

I think when the penny dropped with these consultants was when my consultant suggested I do Grand Rounds on his behalf and to speak about the cANP/RANP role… consultants who were against this all turned up… when I explained my role and where it was going to go … the penny dropped with them what this role was all about. That was the turning point … then they thought, they're [RANPs] not out here to take our jobs, there's loads of work for everyone, so after that then everything started to get a bit smooth. (Focus Group 2)

The commonest comment that she got was that she was out of her uniform, in the normal clothes. So I suppose in a way people can see that there's a change in her role from the external appearance. (Key Stakeholder 8)

Part of developing that [competency] framework, we actually had a consultation process with [medical teams] anyway so we were able to clarify that their perceptions of what an cANP/RANP is, [they] are different to what nursing… it certainly helped to get it across the line with clinicians. (Key Stakeholder 3)

8.6 Key challenges to cANP/RANP policy implementation

8.6.1 Sufficient lead-in time

The short timelines for implementation of the cANP/RANP policy which involved multiple agencies at national and organisational levels was a significant challenge. There were varying levels of planning with some clinical programmes/groups having mapped out, prior to launch of policy, how many nurses nationally had the pre-requisite educational and clinical qualification and were available potentially for cANP recruitment. However, at an organisational level, there was limited time available to generate business plans that met the DOH policy priorities and once posts were sanctioned, to recruit, interview and appoint cANPs for the DOH designated areas of acute medicine, respiratory, rheumatology and older persons care:

> *After the posts were sanctioned, you had a week to interview and another week then to start…it was all rushed…when they signposted for the jobs… there was a lot of confusion around what job was what and where was what job.* (Focus Group 1)

> *It was incredibly rushed. We were told, say, on a Friday afternoon "you need to do a business case for your hospital" … there was a 24-hour window to get this business case in. It was crazy, everyone sitting down firing things into the computer to make the business case…it felt like it just came at you like a bolt of lightning and it was fired together.* (Focus Group 2)

> *Part of it was because everything was so rushed. I think that interview, the way the policy came out, everything happened so fast that nobody could get their head around it.* (Focus Group 2)

> *[Organizations] were given very tight deadlines. It was almost unachievable deadlines in one respect. So those who really were forward thinking were ready and off the blocks very quickly.* (Key stakeholder 4)

8.6.2 Demonstrator site selection and process of setting up new posts

Lack of clarity at the outset, regarding what posts were going to be funded for the initial demonstrator sites, was a major challenge. Directors of Nursing/ Senior Nursing management wanting to avail of the funding opportunity had to align and, in some cases, realign their cANP posts to correspond with the DOH designated areas of acute medicine, rheumatology, respiratory and older person care:

> *The demonstrator's site call for applications initially, it wasn't as clear that these were the four areas. It wasn't until the applications all came in that the four areas were chosen. So that was maybe harder in the initial [phase], maybe a lot of time and resources were put into developing the business case for other areas and that might have caused a bit of a challenge locally.* (Key stakeholder 5)

> *What do people understand by the [RANP] roles and again I would say it's senior nursing management were given "here's two posts you can have two posts, now fill them".* (Key stakeholder 3)

For directors of nursing/organisations with no previous experience of cANP site development, knowing how to set up the implementation and governance structures for new cANP/RANP posts was another key challenge. The director of nursing/ senior nursing management's involvement in setting up Local Implementation Groups to establish new cANP/RANP pathways with other

healthcare professionals (pharmacy, radiology, physiotherapy etc.), setting up governance and clinical supervision procedures, and understanding their responsibilities around cANPs being ready for registration with NMBI, was critical to a successful integration of new cANPs into the organisation.

8.6.3 Organisational readiness and site preparation

Recognising the need for organisational readiness and the importance of site preparation for new cANP posts, it was recommended that Local Implementation Groups (LIG) were set-up to oversee the integration of these new cANP roles within the organisation. The NMPDUs were a key support to the directors of nursing/ senior nursing management, providing guidance about using the LIG as a mechanism to support set-up of new cANP posts:

> *Service, governance, the organization themselves, a lot of work went through the NMPDU in getting that pulled together.* (Key stakeholder 2)

> *We had a Local Implementation Governance group, that was very helpful. We shared it with the [name of area] cANP and that was good because we were crossing over with physio managers, cardio investigations, physiologists, that we would be ordering the same kind of tests… The LIG definitely helped and we had a very supportive [name] from NMPDU who definitely helped guide and direct us and gave us great advice as to keep the LIG small.* (Focus Group 2)

Clear leadership from the directors of nursing and chief directors of nursing as regards bringing the multi-disciplinary agencies and the cANPs to the discussion table were critical to the success of the Local Implementation Group. Effective LIGs helped allay fears and misconceptions of what the cANP/RANP role was. They also provided a forum for the formal agreeing of pathways of care, prescribing and patient referrals onto other services:

> *If [health and social care professionals] have been excluded from the process it has actually slowed down the progress of pathways being able to be implemented.* (Key stakeholder 4)

> *For new organisations that haven't cANPs/RANPs or are relatively new to the process, you definitely need a DON. The reason why is, because I think the governance is so important and really for safety, safe practice and having people linked in, and for the DON to know what the role [involves].* (Key stakeholder 2)

However, Local Implementation Groups were not established in all organisations or in some cases were perceived to lack efficacy in providing an open forum for discussion and progressing the new c/RANP pathways:

> *If the Director of Nursing didn't convene the LIG, it just didn't happen.* (Key stakeholder 4)

> *As candidate ANP what would have helped certainly locally what a LIG was or how this was going to be put in place, how often they'd be run, the steering groups we would do to design our jobs. There was no sort of introduction and point of contact, it all felt very loose really. I think that if we'd had a bit of leadership with that, that might have helped*. (Focus Group 3)

8.7 Barriers to policy implementation

8.7.1 Lack of infrastructure resources - clinic space/ administrative support/ office space

Lack of infrastructural resources at local organisational level and supports that are necessary for patient clinics and managing caseloads were identified as significant barriers that impacted on the cANP/RANP's ability to effectively fulfil their clinical role. Although many cANPs/RANPs were preparing to set-up new nurse-led clinics to improve patient access to care, their patient numbers were limited because they didn't have access to clinic space where they could carry out their clinical assessments and patient treatments. The infrastructure problems also included a lack of administrative/secretarial services to support out-patient clinics; for example, to pull/file patient charts, write referral/ patient letters, print and post letters, organise/re-schedule patient appointments for clinics, manage RANP led clinic codes and check-in services, which were available to medical teams:

> *I can't start my case load, because I have no supports. Locally I have no place to see patients so I've no case load, I know what I want to do, everybody knows what I want to do but I can't, I have no way of seeing the patients....I have no clinical assessment space, no place to see a patient, my office is a clerical office, its computers and its shared with other candidates...I don't have a clinic space.* (Focus Group 3)

> *I've had patients come in some days and there's no space... I had sourced out the day room on the ward so took [the patient] to the day room. Then somebody from the ward came in for a family meeting so we got chucked out. Then I went around two other wards to see if their rooms were free, they weren't. Then I found an office that was free, so I brought [patient] into the office. Then I got chucked out of that.* (Focus Group 2)

> *[Integration of the cANPs into the service]... that is where it's not flowing and that's the problem all over the country right now... the infrastructure which means the clinical space, clinical codes and administrative support...pulling their own charts for their own clinics ... that's not efficient...[cANPs are] very effective but not efficient. The efficiency is down to the lack of infrastructure for proper outpatient setting.* (Key Stakeholder 7)

8.7.2 Delays with backfill and release arrangements

A key barrier to implementation of the cANP/RANP policy was delays with backfill and release arrangements for cANPs to undertake their training programme and engage in role development. Because the start of the policy implementation was so fast, backfill arrangements were not in place and cANPs frequently were expected to continue working in their CNS/CNM/Staff Nurse role whilst at the same time, complete the cANP education programme and role development.
The impact of cANPs not being released and having to cover their previous roles was that it created further role confusion with consultants, nursing colleagues and patients. Importantly, it delayed the time available for cANPs to set-up and develop their own clinical services. In some places these delays lasted for several months which also delayed the start of their clinical supervision and mentorship:

> *It was so difficult. That was the most thing out of the first year I found challenging, not being released but expected to be working into your role. It was all very rushed in the start.* (Focus Group 1)

> *Backfill is a big problem...they wouldn't fill our posts...that was a huge issue...for a long time so I had to wait for a clinical nurse specialist to take my post before I could be released...covering the CNS yet trying, supposed to be doing cANP/RANP.* (Focus Group 1)

We do not have back fill still which is incredibly frustrating. So they're seeing us, well we're cANPs/RANPs but where is the CNSs? So then we're still the CNSs as well actually and therefore we should be able just to do everything and what are we doing and what's not being done and it's a jumble. (Focus Group 3)

The delay with backfill where it occurred and cANPs having to cover the CNS/CNM role was identified by cANP and key stakeholder participants as impacting on cANP's personal wellbeing in some instances:

An awful lot of people took on so much education to try and do, developing a new role, working in a new way and taking on a masters and the other modules. They nearly got burnt out. There was an awful lot of tension and is a lot of tension, there was a lot of very upset people …(Key stakeholder 3)

From an organisational perspective, some of the delays with backfill were linked to a lack of available nursing staff, a lack of interest from staff nurses to fill the vacant posts and overall a lack of succession management:

Recruitment approvals were difficult to get for the backfills, the nurses just weren't there necessarily for the backfills either. (Key stakeholder 4)

8.7.3 Organisational governance structures and mechanisms

Although clinical supervision and governance arrangements were pre-requisite requirements in the application process for policy cANP posts, not all organisations were prepared, and they did not all have the mechanisms or structures set up to support the role implementation. At organisational level, formal service level agreements with the Director of Nursing, cANP and named clinical supervisor were signed. It was important to have clinical supervision arrangements formalised, so that if there were any changes, for example, the clinical supervisor moved on, that arrangements were in place. From the clinical supervisor/mentor perspective, having clear governance structures were important as they provided clear pathways of communication between team members, to help resolve problems. Furthermore, governance structures and mechanisms within local organisations were important for providing clarity around the cANP/RANP role within their scope of practice, for example, ordering x-rays, prescribing medication and making patient referrals to other healthcare professionals. However, in places where there was a lack of clarity regarding organisational governance structures and mechanisms, problems arose with clinical supervision issues and other delays in candidate cANP/RANP progression to registration:

They're very different assessment methods, so it's quite hard to switch from what you do in [name] and in [name] when you don't have the same structures or clinical governance to carry out the same assessment you would if you worked in [name] with your clinical supervisors… we don't have our policies and procedures in place… we haven't been able to sort that out. (Focus Group 4)

When we finish our portfolios our Director of Nursing wouldn't sign off on them unless the Director for [name] signed off on them, who has no governance over these roles at all, clinically, professionally. (Focus Group 3)

The clinical practical and the competencies we would have set out in the learning programme aren't necessarily going to meet the demands that are being put on us in the areas that we're expected to work in…. we're not equipped or trained to work in that area. (Focus Group 4)

8.7.4 Role resistance

Resistance to the new cANP roles from various organisation-level sources was identified as another barrier that impacted on the integration of the new cANP/RANP roles into some of the organisations. Role resistance came from three main areas or sources and varied depending on the local organisation. Some examples of role resistance and its impact on cANP/RANP role were:

- Administration/ secretarial services

  Admin see us as nurses, a nurse is a nurse whether they're a staff nurse working on the ward or an cANP/RANP running their own clinics, it doesn't matter. (Focus Group 3)

  Our admin staff are not happy to support her, it's been a huge bone of contention. We offered to get voice activated dictations that we would no longer need our letters typed and that met a brick wall. That's a huge frustration for [candidate ANP] in terms of how many patients she could see a week. (Key Stakeholder 8)

- Allied healthcare professionals

  The main blocker was physiotherapy…[and] pharmacy in some sites… nurses are still not prescribing even though they've done their programmes because they couldn't get the collaborative agreements signed off and they've been waiting up to two or three years since actually graduating, so it was an institutional factor that was a major blocker and remains so. (Key Stakeholder 4)

- Nursing colleagues

  A lot of the problem with our nursing colleagues was that they felt that they were operating at cANP/RANP level, had a lot of experience behind them already but just weren't prepared to do the academic piece, so there was a lot of resentment from them towards us and obstructive behaviours. (Focus Group 2)

  We tried to set up the [name] clinic because I got all the information and we've had to stop and cancel the clinic because the CNS will not allow me to do the [name of test], she wants the doctors to come down and do the [name of test]. (Focus Group 2)

8.8 Sustainability of RANP workforce and future RANP programmes

This evaluation at the implementation stage of the cANP/RANP policy highlights several key issues from the perspective of the cANP/RANPs and key stakeholders that need to be considered in relation to the sustainability of RANP roles as envisaged and to minimise attrition rates. This is necessary if further implementation of the DOH policy (2017) is to be successful in achieving the target of a 2% cANP/RANP/RAMP workforce.

8.8.1 Infrastructure resourcing- administration support and clinic space

Resourcing the infrastructure particularly in the areas of clinical space and administration support is critical to the sustainability of existing cANP/RANP numbers and sustainability of future programmes. For the cANPs, it not only increased their levels of stress and job frustration, but it also negatively impacted on their ability to fulfil their roles and the data suggested a potential for impact on RANP retention. From the key stakeholder perspective, concerns were raised about whether additional candidate roles would be supported in future programmes unless administration and clinic space were provided:

> *If another [RANP] post to come, I don't think we could do anything unless there was some admin support.* (Key Stakeholder 8)

> *If there are future appointments, to be absolutely supported in the appropriate manner. If clerical support is required there has to be an appropriate amount of it. There's no point of parachuting somebody into a service and expect things just to happen, there has to be a bit of thought gone into infrastructure.* (Key Stakeholder 9)

> *If you're not fully functional you feel frustrated… you know you're not going to stay in the job.* (Focus Group 2)

> *I don't have clerical support. He's not willing to support me without clerical support, so it is frustrating and you won't get job satisfaction out of that. Therefore, you won't stay.* (Focus Group 2)

8.8.2 Coded identifier- system to identify RANP

Coded identifiers for RANPs are important for the short and long-term sustainability of the RANP policy programme. The majority of cANPs are managing patient caseloads however, their work is invisible or only partially visible because they have no coded identifier to document/identify or differentiate their work from others within the organisational system. Not having a coded identifier or a system to identify the RANP has additional knock-on effects such as, lack of management systems for clinic appointments and patient lists. It also impacts on long-term sustainability and effectiveness measurement as RANPS need to be able to demonstrate their impact on improving patient services and be in a position to audit their own work as opposed to the consultant's work:

> *Nobody could see that [patients] came to me because it's in my [cANP] diary, it's not up on any system. Nobody can see that [patients] linked in with us. Nobody knows we see them.* (Focus Group 2)

You haven't the clinical codes and you haven't the admin support that will pull the charts for you. (Key Stakeholder 7)

Codes, if the nurses have their clinic codes, if they get a code, then they're under yours, then they're no longer under the consultant's codes, whereas right now everybody is under the consultant's codes whether they see them or not. (Key Stakeholder 7)

8.8.3 Cover arrangements for lone RANPs

Candidate ANPs identified the problem of sustaining service delivery where cANP/RANPs are in lone/sole positions or do not have formalised cover arrangements within their organisation to manage absences. With increased levels of autonomy and responsibility for patient care and for some the delivery of an entire new service associated with a particular cANP/RANP role, they recognised the need to plan for continuity in patient services and to avoid situations where services/clinics were cancelled because the cANP/RANP was out sick or on leave. These findings when taken together with the resourcing issues reported above were pivotal for cANPs/RANPs and other stakeholder in terms of sustainability planning considerations into the future:

If [name] is sick tomorrow who is going to look after her bookings. (Focus Group 1)

If you're a medical doctor running a service, another consultant on the ground can cover you... but if you've [RANP] a case load of patients and you're the only one that really knows that patient, they're ringing in, they're in dire straits for some reason or another, if you're not there, are they going to wait till the next day to flag it and then are they going to be sicker. There's just not the [clinical] back up. There's only plan A, there's no plan B and that is a little bit worrying for the future. (Focus Group 1)

8.8.4 Entry level of future candidate cANP/RANP's clinical experience

The clinical experience of cANPs entering the programme impacts on the sustainability of future programmes. The majority of cANPs included in this evaluation had several years of clinical experience in their specialist area and this lessened the clinical supervision workload for medical consultants. Securing clinical supervision by consultants and RANPs for future candidates who have minimal experience of patient care or no experience in the clinical specialty may be problematic for recruiting future clinical supervisors. They may not have sufficient time to commit to the additional workload associated with supervising a cANP who may be inexperienced in the clinical specialty.

If you were starting with someone who'd never had any experience in [specialty], that person going from a staff grade nurse to an cANP/RANP is a huge ask. It probably requires a huge amount more time than has actually been acknowledged and this is from speaking to other consultants who are mentors in other services with nurses without experience. (Key Stakeholder 8)

From the cANP perspective, having little or no clinical experience in the specialty area made progression through the programme more difficult as they had to learn about the specialty/ condition itself before they could develop their caseload management skills:

Combining [study and job] together in such a short time frame, because there's an awful lot of new people coming up who don't have six years' experience, mightn't have any [name of clinical area] experience, putting them into a job that is as demanding as this and to get to the level of knowledge that you have to get to. ...You can't do the two simultaneously. (Focus group 2)

8.8.5 Governance and mechanisms for ensuring quality governance standards

Further clarity and guidance is needed regarding the governance standards required of organisations in having cANP/RANPs. Whilst the Nursing and Midwifery Board of Ireland (NMBI) provide national standards and requirements for an individual's registration as an RANP, the quality assurance mechanisms regulating cANP governance in the organisation requires further clarification. For example, a critical element for the quality of the cANP/RANP programme is the clinical supervision. Therefore, clear guidance on external mechanisms of governance of the local organizational governance are needed. For example, to ensure that cANPs are practicing under their appointed consultant /RANP supervision in their area of clinical practice and protected from being delegated to work, unsupervised, in other clinical areas that are short staffed:

> *There's no guidance around governance, there's no structure... more regulation [needed] around the site and governance...there could be more clarity about the expectations of those standards for an organization themselves in having an cANP/RANP... NMBI see they're regulating the nurses themselves, the individual and it's gone very much towards the legislation around the individual now that they're registered. But I just think maybe a little bit of a missed opportunity to get a little bit more around the organization.* (Key Stakeholder 2)

8.9 Summary of key findings

8.9.1 Main opportunities realised in the implementation of cANP/RANP policy

- Improving patient care through setting up new patient services.
- Career advancement to effect RANP-led service development

8.9.2 Key facilitators to cANP/RANP policy implementation

- Supportive clinical consultant mentors
- Nursing and Midwifery Planning Development Units
- Supportive Directors of Nursing and effective Local Implementation Groups
- Educational input and RANP role preparation
- Role awareness and role clarity

8.9.3 Key challenges to cANP/RANP policy implementation

- Sufficient lead-in time
- Demonstrator site selection and process of setting up new posts
- Organisational readiness and site preparation

8.9.4 Key barriers to cANP/RANP policy implementation

- Lack of infrastructure resources - clinic space/ admin/ office space
- Delays with backfill and release arrangements
- Underdeveloped organizational governance structures and mechanisms
- Role resistance from administration/ secretarial services, allied healthcare professionals and nursing colleagues

8.9.5 Sustainability of RANP workforce and future RANP programmes

- Infrastructure resourcing- administration support and clinic space
- Coded identifier and system to identify RANP
- Cover arrangements for lone RANPs
- Governance and mechanisms for ensuring quality governance standards

Chapter 9: Discussion, Conclusion and Recommendations

9.1 Introduction

Two key documents, *Developing a Policy for Graduate Specialist and Advanced Nursing & Midwifery Practice: Consultation Paper* (Department of Health 2017) and *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice* (Department of Health 2019) were published and outlined a number of fundamental changes in the education and operationalisation of the Advanced Nurse Practitioner and Advanced Midwife Practitioner role in Ireland. Both of these reports highlighted that there was a need to re-examine and operationalise the role of cANPs/RANPs in Ireland due to a number of fundamental challenges facing the health services, not least in terms of the health needs of an increasing ageing population, demands on access to health services, waiting times to be seen and the health management needs of people with long-term illnesses.

Following the publication of the *Developing a Policy for Graduate Specialist and Advanced Nursing & Midwifery Practice: Consultation Paper* (Department of Health, 2017), cANPs/RANPs were placed in a number of demonstrator sites in the areas of older persons' care, rheumatology, respiratory care and unscheduled care. This was followed by a tender published by the HSE to undertake an evaluation of the impact of implementing a Draft Policy to develop cANPs/RANPs to meet service need. This evaluation was awarded to and undertaken by a joint research team from Trinity College Dublin and University College Cork. This chapter discusses the results of an extensive evaluation of cANPs/RANPs in the demonstrator sites and their impact to date on the health services. The discussion is structured around the objectives of the evaluation as well as the recommendations outlined in both the two policy documents: *Developing a Policy for Graduate Specialist and Advanced Nursing & Midwifery Practice: Consultation Paper* (Department of Health 2017) and *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice* (Department of Health 2019)[11]. This chapter also highlights the outcomes identified in the evaluation in conjunction with the PEPPA Plus model (Bryant-Lukosius *et al.,* 2017) and concludes with recommendations on the further development and roll out of the initiative.

9.2 Designing a Study Methodology to Measure the Impact of cANPs/RANPs on Healthcare

Part one of the tender published by the HSE identified the need to identify a study methodology to measure the impact of a critical mass of candidate cANPs/RANPs being recruited to the Irish healthcare system. Due to the complexity of the role and the number of sites in which the posts were being implemented, the research team identified the PEPPA Plus evaluation model (Bryant-Lukosius *et al.* 2017) as framework that could be used to provide a structure that systematically measures the impact of the cANP/RANP role in the demonstrator sites on patient, nurse and organisational outcomes. The stages of the model (Introduction, Implementation and Sustainability) structured around Donabedian's structure, process and framework enabled the research team to identify and develop methodological approaches that not only could be used in this evaluation but also be used in future evaluations of the initiative. The model can be used by

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[11] This document was published while the evaluation was in progress and was not considered when the evaluation was being designed; however, it will be referred to in this chapter as its recommendations are central to the continuing development of cANP/RANP posts.

all key stakeholders with an interest in future evaluations of the role including researchers, policy makers and cANPs/RANPs themselves. The PEPPA model was also recommended by the Department of Health (2017) in the consultation document as an approach to be used in the evaluation of the initiative. Through structuring the evaluation around the stages of the PEPPA Plus model, the research team was able to include a variety of stakeholders as well as identifying the key outcomes in the role.

The Introduction phase of the PEPPA Plus model was used to develop Logic Models that determined the role of the cANP/RANP as well as identifying key outcomes in the specialities. Developing the Logic Models in the areas of older persons' care, rheumatology, respiratory care and unscheduled care (separate Logic Models were developed for cANPs/RANPs in emergency Departments and Acute Medical Assessment Units) through a co-design approach with neophyte and experienced cANPs/RANPs provided a structure that allowed us to identify the key outcomes aligned to the posts. It is of note that the Logic Models are not static but through an iterative process should be continually revised and developed as the role becomes internalised in into the health services. The Implementation phase of the PEPPA model was used, in conjunction with the Logic Models, to identify and develop measures that were appropriate to the evaluation of cANPs/RANPs not only in the Irish context but also internationally.

Following the development of Logic Models, the research team identified and developed instruments and questionnaires that measured the extent to which cANPs/RANPs were working to their full scope of practice, the integration of the role within healthcare teams, and the impact on patient outcomes. In relation to the timeframe over which the evaluation was undertaken, it was not possible to fully measure the long-term sustainability of the role as outlined in the PEPPA Plus model. The long-term sustainability phase of the PEPPA model includes a framework that can structure the ongoing evaluation of the impact of cANPs/RANPs not only in the areas of long-term illness and unscheduled care (the focus of this evaluation) but also of cANPs/RANPs in other clinical areas. As highlighted, due to the timeframe of the evaluation, it was not possible to evaluate the long-term sustainability of the role; however, the research team have identified a number of primary and secondary measures and approaches that can be used in future evaluations. These include longer term patients outcomes through primary measures such as quality-of-life, patient enablement and functional status, and measures of the patient experience; secondary measures, such as HIPE, NTPF and ED administrative systems can also be used to measure long-term trends in patient outcomes, including mortality, unscheduled return visits, waiting times and hospitalisations. The measures developed and identified by the research team in the cANP/RANP survey and the Outcome Activity Logs, can also be used to measure the cANP/RANP role itself and, as highlighted in the PEPPA model, these include cANP/RANP role evolution and the need for modification, ongoing facilitators and barriers to the development of the role and the extent to which cANP/RANP outcomes are sustained over time.

9.3 Activities and services provided by cANPs/RANPs in the areas of unscheduled care, older persons' care, rheumatology and respiratory care to determine the impact of a critical mass of cANPs/RANPs

To measure the activities and services provided by cANPs/RANPs in the areas of older persons' care, rheumatology, respiratory care and unscheduled care two measures were undertaken: a cross-sectional survey and Outcome Activity Logs. The cross-sectional survey was administered at two-points – at the commencement of the evaluation (January 2019) and towards the end of the evaluation (December 2019 – January 2020) with the same cohort of candidate and registered cANPs/RANPs– the aim of this was to measure the extent to which the integration of a critical mass of cANPs/RANPs changed over time with in the clinical sites. Outcome Activity Logs were complete by 22 cANPs/RANPs at exemplar sites in each of the four specialist areas; these Logs

measured cANP/RANP activity over a four to five week period – the aim of which was to provide a more in-depth profile of the activities and Services provided by cANPs/RANPs.

9.3.1 Demographic and Educational Profile of cANPs/RANPs

It is of note to explore the demographic profile of the cANPs/RANPs that responded to the surveys. Matching the profile of the nursing profession nationally, over 90% of cANPs/RANPs are female. From an educational point of view, the majority have completed or are at the point of completing master's level education; this matches the recommendations outlined in both the *Consultation Paper* and the *Policy Document*. It is evident that this was achieved through a consortium of four universities (University College Cork, Trinity College Dublin, University College Dublin, the National University of Ireland, Galway) who successfully tendered for the development of a broad based national curriculum for cANPs/RANPs/AMPs in partnership with associated healthcare providers. In October 2017, 120 candidate cANPs/RANPs commenced an education programme; the programme is accredited by the Nursing and Midwifery of Ireland (NMBI). It is evident that the vast majority of cANPs/RANPs who attend these programmes had achieved master's level education over the period of the evaluation with a percentage increase of 48%. In addition, the proportion of respondents who had moved from candidate to registered status increased from 8% to 62%[12]. Although the vast majority of candidate cANPs/RANPs had or were in the process of transitioning to registered status, a minority were having issues, not least due to delays in ratification of their post by an employer or in securing governance support from a supervising consultant.

One of the recommendations in the *Consultation Paper* (Department of Health 2017) was that the educational pathway be streamed from seven years to two years from initial registration. However, it was of note that none of the candidate cANPs/RANPs in this evaluation had followed this pathway. The cohort of cANPs/RANPs in this research had been qualified, on average for 20 years with the minimum number of years qualified prior to commencing the programme being six years. Therefore, it was not possible in this evaluation to measure the impact of this recommendation on either the individual cANP/RANP or the organisation in which they were working; future research will be required to further investigate the impact of this recommendation.

Levels of clinical supervision of cANPs/RANPs by a medical practitioner were high; however, supervision of cANPs/RANPs by other cANPs/RANPs was relatively low. Although the level of supervision by a medical practitioner of an cANP/RANP reduced over the time period of the survey (this was to be expected as candidates became registered), levels of supervision remained relatively high with approximately three-quarters of respondents reporting that they have access to supervision over 50% of the time.

There was an increase in cANPs/RANPs reporting that their job description was fully developed over the two time periods of the survey; however, approximately two-thirds of respondents reported that they did not have access to a description of their role. When working time was explored, the vast majority of cANPs/RANPs work between Monday and Friday with a small proportion working a combination of weekdays and weekends; no cANPs/RANPs surveyed undertook night duty work.

9.3.2 Activities and Services

As would be expected, the majority of work undertaken by the cANP/RANP is direct clinical care; this level of clinical care showed an increase between the two time-points; this increase in the proportion of time cANPs/RANPs spend delivering clinical care to patients was associated with a decrease in the time spent on other activities such as administrative and research roles. In the provision of care, the vast majority of cANPs/RANPs are working with patients who have long-

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[12] This figure includes those completing the registration process with NMBI.

term conditions; there was a relatively large increase in this area of work between the two time-points. In addition, cANPs/RANPs are predominantly working with older people and this proportion increased between baseline and follow-up. As part of their role, cANPs/RANPs undertake a number of activities with the most frequently reported including clinical history taking and physical assessments, counselling and educating patients and ordering/performing/interpreting clinical tests. In particular, there was a significant growth in the number of cANPs/RANPs prescribing medications; again, this would have occurred as a consequence of cANPs/RANPs becoming registered and completing their prescribing programme.

The peripatetic role of cANPs/RANPs increased over time with approximately a third of respondents stating that they travelled to see patients outside their area of immediate practice. Of those cANPs/RANPs who had, or were planning to expand their services, the majority highlighted the community as the area of expansion; these areas included: primary care centres, assessment of older people in their own homes and community settings, outreach services for patients to prevent hospital admission, GP practices, schools, nursing homes and satellite clinics.

There was variability to the extent to which cANPs/RANPs had the privilege of directly admitting or discharging a patient without recourse to a medical practitioner. A very small minority of respondents stated that they could directly admit a patient with over a quarter highlighting that they could directly discharge a patient form the service. It is worth noting that while cANP/RANP admitting privileges did not change between the two time-points of the survey, discharge privileges did increase from a fifth of respondents to a quarter of cANPs/RANPs.

The majority of cANP/RANP referrals came from a healthcare professional within their setting but it was also identified that, over the time period of the survey, there was an increase in referrals from other settings, in particular from the community, other healthcare settings within the hospital and from patients themselves. There was an increase over the time period of the evaluation in the extent to which cANPs/RANPs referred patients to other healthcare professionals; the majority of cANPs/RANPs referred patients directly without recourse to a medical practitioner. The majority of referrals made by cANPs/RANPs were to allied healthcare professionals (e.g. physiotherapy, occupational therapy) followed by public health/community nurses, GPs and medical practitioners, and clinical nurse specialists and other cANPs/RANPs.

A majority of respondents were in agreement that they were working to the full extent of their scope of practice and that there skills as an cANP/RANP were being fully utilised; however, approximately a third of respondents disagreed that they were either fully practicing within their scope or that their skills were being fully utilised. Reasons for this were related to limitations within the speciality they were currently working (i.e. the cohort of patients they could see), and limitations imposed by a physician or the cANP/RANP's hospital/employer.

As a greater proportion of the respondents registered as cANPs/RANPs there was an increase over the two time periods in respondents' perceptions of their competence to practice; In addition, the majority of cANPs/RANPs reported that they were working within their scope of practice and had the required level of knowledge to comprehensively treat patients. Of those that did have concerns regarding their scope of practice, reason highlighted included numbers of patients to be seen, being rostered to work in unfamiliar areas, a lack of infrastructural supports, and a lack of support from medical practitioners and/or the organisation in which they were employed.

Although there was a reduction in the extent to which cANPs/RANPs were involved in multidisciplinary clinics, there was an increase in the extent to which respondents were involved in nurse led clinics. Nurse led clinics were centred all four areas of the evaluation; that is, older persons' care, rheumatology, respiratory care and unscheduled care.

As rates of registration of cANPs/RANPs increased over the timeline of the evaluation, there was an associated increase in the proportion of cANPs/RANPs prescribing medications and ionising

radiation. The proportion of cANPs/RANPs prescribing in both of these areas doubled between baseline and follow-up time periods. For those cANPs/RANPs who were not prescribing, the main reasons highlighted were that were currently in the process of completing the prescribing component of their course or delays in the approval of an cANP/RANP's collaborative practice agreement by their hospital's drugs and therapeutics committees

It was evident that over the time period of the evaluation that the extent to which cANPs/RANPs had to refer to a medical practitioner in relation to a decision about a patient reduced. It was identified that cANPs/RANPs were increasing their level of autonomy within their role but also highlighted that there were strong collaborative working relationships with their medical colleagues.

In relation to the organisational environment in which cANPs/RANPs were working, there were high levels of satisfaction with patient caseloads, levels of autonomy, respect from physician colleagues, opportunities for professional development. There were relatively high levels of satisfaction among respondents for the level of respect they received from nursing colleagues, the level of satisfaction fell between baseline and follow-up time-points. The lowest levels of satisfaction were identified in the areas of administrative support available, the amount of paperwork required and designated office space. Overall levels of satisfaction with respondents' current cANP/RANP position were relatively high.

A larger proportion of cANPs/RANPs were involved in the design and configuration of services with a number of innovative clinics in all four areas evaluated put in place. There was also a notable increase in the number of virtual clinics facilitated by cANPs/RANPs as well as an increase in the level of telephone support provided to patients. In addition, cANPs/RANPs were centrally involved in both the development and implementation of guidelines related to their area of practice.

Respondents reported that within their role they impacted on a number of patient outcomes. The outcomes where cANPs/RANPs reported they had the highest impact included: patients' satisfaction, patient education, continuity of care, patients' access to care, and a positive impact on potentially avoidable hospitalisations. The area of greatest change between baseline and follow-up time periods was the increase in reports from cANPs/RANPs on the impact that their role had on decreasing patient complications.

9.4 Evaluate the impact of the cANP/RANP on service challenges of waiting list reduction, timely access to service, improved patient flow and avoidance of unnecessary hospital admission and/or early discharge

To explore this objective, a number of secondary data sets were explored as well as an analysis of primary data provided by cANPs/RANPs in both the survey and Outcome Activity Logs. In relation to older person's care, rheumatology, respiratory care no specific data sets at hospital level were identified however, publicly available waiting list data at for each of the specialties was available at national level through the National Treatment Purchase fund (NTPF). This was a relatively complex data set that outlined short, medium and long-term waiting times for patients to be seen; however, the data does not specify the health professional who the patient is waiting to see; therefore it is difficult to link either to a specific consultant with whom the cANP/RANP collaborates or the specific service in which the cANP/RANP is based. At this stage of the evaluation, there was no discernible change in waiting times identified as a consequence of cANPs/RANPs being placed in the demonstrator sites; in fact, in all three areas there was an upward trend in waiting times. However, this may be due to a number of factors including the specificity and validity of the data collected and the fact that newly assigned cANPs/RANPs may not, as of yet, fully internalised their role; therefore, it is too early, at this stage, to identify the impact of the posts on waiting times. The inclusion of the NTPF waiting list findings in future

evaluations on the implementation of cANPs/RANPs in the Irish healthcare system will provide valuable information in regard to typical patient waiting times and further work is recommended in this area.

One area where data did identify the impact of cANPs/RANPs was in ED care. Data collected in one pilot ED site that had new cANPs/RANPs appointed demonstrated a significant impact on waiting times and PET times for patients at triage levels 4 and 5; these are the cohort of patients generally seen by cANPs/RANPs in ED. In relation to waiting to be seen times, patents at triage category levels 4 or 5 were seen by an cANP/RANP, on average, 29 minutes quicker than those waiting to see a doctor. The impact was particularly significant on patient experience times, where, on average, patients' length of stay was 2 hours 43 minutes shorter if seen by an cANP/RANP when compared to hose seen by a doctor. This data can be used in future evaluations; however, further work is needed as medical practitioners tend to see this cohort of patients at weekends and during the night; these are times when cANPs/RANPs are not in post, therefore, this may impact on the times of patients who are seen and treated by this group of healthcare professionals.

The research team also explored other administrative data sets that may have utility in measuring the impact of cANPs/RANPs on patient outcomes; these data sets included the Hospital In-Patient Enquiry system (HIPE) and the National Quality Assurance Improvement System (NQAIS) [13] which is based on the HIPE system. It was identified that both these systems will have future utility in measuring the outcomes associated with the cANP/RANP role, however, during the time period of the evaluation, individual cANPs/RANPs, unlike medical colleagues, are not identifiable on the system. There are discussions ongoing at present regarding the inclusion of individual cANPs/RANPs on each the systems (HIPE and NQAIS); this will be effective in determining the impact of cANPs/RANPs on patients' average length of stay as well as patient waiting times. The data generated can also be used for cANPs/RANPs to audit their practice, for further research and evaluation and to undertake an economic analysis of the costs associated with the role. From a research and economic analysis point-of-view, once cANPs/RANPs are identifiable on NQAIS, this data can be used to compare average length (AvLOS) where cANPs/RANPs are in post with the AvLOS of teams providing similar care where cANPs/RANPs are not in post. The inclusion of cANPs/RANPs on HIPE and NQAIS will require formal approval from the Health Pricing Office and training of cANPs/RANPs in the use of the systems.

There were no direct measures available to measure the extent to which cANPs/RANPs in post reduced hospital admissions but self-reported data from cANPs/RANPs was collected in this area. Over the course of the evaluation, the proportion of cANPs/RANPs who reported that their role had a positive impact on potentially avoidable hospitalisations; this increased from 52% at baseline to 61% at follow-up. In relation to the Outcome Activity Logs (OALs), it was identified that cANPs/RANPs, on average avoided 3.1 patients being admitted per week that they consulted with on a face-to-face basis and 1.2 through virtual interactions resulting, on average, in a total of 4.3 avoided admissions per week per cANP/RANP. The potential to avoid hospital admission, differed by cohort with cANPs/RANPs working in the area of unscheduled care recording the highest number of potential avoidances followed by cANPs/RANPs in the area of respiratory care, older persons' care and rheumatology.

For the 22 cANPs/RANPs that were involved in the collection of data through the OALs, this accounted for, over a 4-week period, 408 patients; this would equate to 4,919 patients over a year for these 22 cANPs/RANPs. At the time of the evaluation there were 87 registered cANPs/RANPs from the demonstrator sites; if admission avoidance was projected for this cohort, it would result in approximately19,453 admissions avoided per year. If all 154 demonstrator cANPs/RANPs were in post, this would equate to an avoidance of 34,434 admissions per year. This would

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[13] During the period of the evaluation, members of the research team undertook training in NQAIS

account for 5% of all hospital discharges in 2019 (Department of Health 2020). It was identified that approximately half of all cANPs/RANPs surveyed were using virtual clinics with 90% using some form of telephone contact with patients. In a review of interventions to reduce hospital admissions. The King's Fund (2010) identified that telephone follow-up by nurses as effective was effective in reducing the use of health services; however, in relation to the cohort in this study, further work is required in this area with particular research designs put in place, such as controlled trials or interrupted time series designs, to identify the impact of cANPs/RANPs on the avoidance of admission to hospital.

9.5 Capture the perspective and experiences of patients and their families; the interdisciplinary teams; the health service organisation and the health system effect of implementation of the critical mass of cANPs/RANPs.

Overall, a cross-section of patients responded to the survey following consultation with cANPs/RANPs in the area of rheumatology, respiratory care, older persons' care and unscheduled care. The majority of respondents were female and approximately one in ten patients reported their health as poor or very poor.

The vast majority of patients reported that they had a highly positive experience during a consultation with an cANP/RANP; this included being highly satisfied with the consultation and that, overall, the care they received was of a very high quality. All items on the survey that measured respondents' experience of the consultation were highly scored; there was near unanimity from patients that the cANPs/RANPs they consulted were understanding of their personal health concerns, gave them encouragement in regards to their health problems, felt comfortable in asking the cANP/RANP questions, had confidence in the cANP/RANP's skills, that the cANP/RANP was professional in their approach towards them and that the nurse spent enough time with them. All four specialties in which patients were surveyed reported overall high experience scores indicating high overall levels of satisfaction with the consultation that they received from an cANP/RANP.

In relation to enablement, the vast majority of patients surveyed reported that they felt better or much better following consultation with an cANP/RANP. As a consequence of the consultation, the majority reported that they were better or much better able to understand their illness, cope with their illness, confident about their health, help themselves, and keep themselves healthy. Overall enablement scores were high for each speciality indicating that patients felt better or much better after seeing an cANP/RANP.

Findings from the analysis of the open-ended narrative comments also demonstrated high levels of patient satisfaction with the consultation process and these comments were reflective of the results highlighted in the quantitative component of the survey. A number of respondents reported that they received high levels of care from cANPs/RANPs, that this was individualised to their needs and delivered in a highly professional manner. Patients also wrote of being treated with dignity and respect as well as having high levels of contact with an cANP/RANP, not only in face-to-face meeting but also through telephone contact and follow-up support. Respondents who provided narrative comments also expressed high levels of confidence that cANPs/RANPs had a comprehensive knowledge of their condition. Patients also wrote about how cANPs/RANPs initiated changes to treatments which facilitated respondents to self-manage their condition in a more proactive way. In addition, there was also a sense from respondents that cANPs/RANPs worked as part of a team and were comprehensive in their assessment of patients' needs; this was expressed in comments where patients perceived that cANPs/RANPs considered and discussed the totality of care and not just the condition that they presented with. Patients who

attended hospital with long-term conditions (rheumatoid arthritis and respiratory conditions) commented on the consistency of care received from cANPs/RANPs due to seeing the practitioner on a regular basis; this, reported respondents, resulted in cANPs/RANPs having both an interest in, and comprehensive understanding of, their illness. A number of patients also noted the effectiveness of treatments delivered and advised by cANPs/RANPs including the prescription of medications as well as advice and education on managing their illness. Respondents also highlighted in the narrative comments that the effectiveness of these treatments and educational interventions had positively impacted on their quality of life in term of reduction in symptoms and the ability to regain activities of daily living that had previously been limited. Timely access to care was also commented upon by patients; this was highlighted in terms of gaining access to a consultant, reduction in time to diagnostic procedures and faster access to hospital appointments. Overall patients wrote that they were highly accepting of the role of cANPs/RANPs; there was a sense from respondents that cANPs/RANPs provided high quality care, reduced waiting times and were positive asset to teams providing healthcare to patients.

It was evident that the development of the cANP/RANP role within the demonstrator sites was highly facilitated by the medical practitioners with whom the cANPs/RANPs worked; in addition, cANPs/RANPs received high levels of support from other members of the multidisciplinary team. The respondents' prior clinical experience as well as their educational preparation for the role were also highlighted as facilitators. The biggest change in the source of support over the time period of the evaluation was noted in support from the organisation in which the cANP/RANP was employed; this level of support was noted to increase over the two time periods measured. The greatest barrier to the development of the role was highlighted as the physical environment in which cANPs/RANPs worked; this was followed by other healthcare professionals' perceptions of the role and the organisation in which they were employed. One area of note was the relative change in cANPs/RANPs' responses to patients' perceptions of their role with respondents increasing their ranking of patients' views of cANPs/RANPs facilitating the development of the role.

There was strong evidence, from the cANP/RANP and key stakeholder interviews, to show that cANPs/RANPs lacked adequate infrastructure resources, which prevented them from fulfilling their clinical role. The main barriers identified were a lack of clinical space for assessing and treating patients, a lack of administrative /secretarial support for managing patient charts, writing referral and patient letters, managing cANP/RANP-led clinic appointments and patient check-in services. The lack of infrastructure resourcing impacted not only in reducing the number of patients that cANP/RANPs could treat but importantly, diverted valuable clinical time to carrying out administration work. Organisational level barriers to advanced practitioner role implementation have been seen nationally and internationally. In Ireland, the SENsE report (Higgins et al. 2017) found that a lack of structural supports is a mediating factor that influences not only role development and integration, but also the sustainability of advanced practitioner roles. Similarly, from an international perspective, Elliott et al's, (2016) scoping review of the international literature reports that a lack of clerical and administrative support for patient and clinical-related work reduces the advanced practitioner's time available to fulfil all aspects of their role. In this study, the lack of coded identifiers for c/RANPs was another key infrastructure that impacts on their work in several ways: their clinical work and direct contribution in managing a patient caseload is largely invisible; the system is not able to differentiate the cANP/RANP's work from that of the medical consultants/team members; and, patient management systems for clinic appointments and patient lists are available to those with coded identifiers. Therefore, having a coded identifier and being 'visible' within the organisation management systems is important to enable c/RANP's to audit their own work, so that they can demonstrate their impact on patient care services and for long-term sustainability of the role, to improve patient care and identify future service needs that are evidence-based.

Whist the current driver for building clinical capacity and increasing the RANP/RAMP workforce is to improve patient access to healthcare services and reduce waiting lists, this evaluation at the

introduction and implementation stages (Bryant-Lukosius *et al.* 2017) of the cANP/RANP policy (DOH 2017) suggests that cANP/RANPs need to be more involved in senior management teams. Candidate cANPs/RANPs and RANPs are senior positions within nursing, therefore they should have membership or be linked into senior management teams and strategic committees, so that they can influence future service development at local organisational level, and then contribute to strategic policy and programme development at national level and at international levels. Whist the immediate focus is frequently on the clinical caseload dimensions of the role, the longer-term and strategic focus needs to consider how to enable cANP/RANP's leadership role, so that they can improve patient and service outcomes and impact on the long-term sustainability outcomes outlined in the PEPPA Plus model (Bryant-Lukosius *et al.* 2017). In Ireland, Begley et al. (2014; 2012) reports that not having an opportunity to work at strategic and healthcare system's level is a limiting factor and that advanced practitioners need to be nominated onto committees as leaders and included as nursing representatives at policy and strategic decision-making tables. Similarly, in the international literature, not having an authority position within the organisation, such as not having a formal reporting structure to executive or director management, impacts on the advanced practitioner's ability to provide leadership in healthcare service development (Elliott et al. 2016). In this study candidate cANP/RANP/RANPs had first-hand knowledge of what supports and structures were needed in order for them to fulfil all aspects of their role and therefore, were ideally placed to inform senior management and guide the successful integration of these new roles within their local organisations. Significantly, building leadership capacity needs to start at the cANP level, so that they can begin to develop the leadership skill-set necessary for the long-term sustainability of the role, including RANP leadership to develop and implement new policies and practices and RANP involvement in health system improvement (Bryant-Lukosius *et al.* 2017).

9.6 Capture the contribution of a critical mass of cANPs/RANPs to existing healthcare reform strategies such as the National Clinical and Integrated Care Programmes and potential contribution to Sláintecare.

The contribution of the introduction of cANPs/RANPs has, as the results from this evaluation demonstrate, the potential to contribute to key healthcare reform strategies, including: the integrated care programmes (ICP) for older persons, patient flow, and prevention and management of chronic disease. In relation to chronic disease and older persons, cANPs/RANPs in these areas are contributing to the development of new services that are both hospital-based and have an outreach element; this is evident in the finding that over a third of cANPs/RANPs see patients outside of the hospital setting. The majority of these cANPs/RANPs who provide an outreach service are visiting patients in their own homes or other community settings such as residential centres, health centres or GP practices. It was also evident that the proportion of cANPs/RANPs offering these outreach services is increasing over time with plans to further develop community-based services in the near future. It is also evident that the proportion of patients directly referred to cANPs/RANPs from community settings is increasing over time; these include referrals from GP and community nurses. These services provided by cANPs/RANPs in the areas of rheumatology, respiratory care, and older persons' care are reflective of the recommendations in the ICP for the Prevention and Management of Chronic Disease and the ICP for Older Persons that there is close coordination between hospital and community services and that it is focused on delivering care at a point that is closest to the patient. The ICPs highlight the centrality of multidisciplinary team working as part of the process to ensuring that patients receive quality, person-centred, integrated care. It was evident form the results in this evaluation that cANPs/RANPs are becoming key members with these teams and have, in the main, have high levels of support from other healthcare professionals, in particular medical colleagues.

As more candidate cANPs/RANPs become registered, the potential to alleviate pressure points in the management of long-term illness and unscheduled care is high; the current operationalisation of the role of cANPs/RANPs also has the potential to provide care to particular vulnerable groups including those who are the oldest old (85 years of age and older) and people from areas of social deprivation. The impact of cANPs/RANPs on the health and wellbeing of patients was evident form the very high levels of satisfaction reported by patients both in their experience of a consultation with an cANP/RANP as well as their ability to manage their illness or injury following a consultation. From the feedback received from patients, there is evidence that this model of care is resulting in the delivery of high-quality care.

Although recorded through self-report data, the intervention from cANPs/RANPs are resulting in avoidance of hospital admissions, using virtual modes to provide care (for example, telephone support, email contact), and cANP/RANP involvement in prescribing and de-prescribing; all areas that can result in reduced admissions for patients.

In relation to the ICP for Patient Flow, a number of the outcomes associated with the strategy are being out in pace, following the introduction of the critical mass of cANPs/RANPs. These include, reduced waiting times for patients in ED to be seen and a reduced patient experience time for those patients who are seen by an cANP/RANP when compared to a medical practitioner.

In relation to Sláintecare, the introduction of cANPs/RANPs into the four service areas, is responding to a number of the aims of the policy, including the development of a workforce that will provide high quality care to patients, to move care away from acute hospital services and, in particular, expanding the role of cANPs/RANPs to tackle priority service deficits and delays. The introduction and operationalisation of the role is still in a relatively early phase; however, initial indicators demonstrate that, as the role is being further internalised in the health services, a number of outcomes related to the introduction of Sláintecare are being achieved, in particular through providing services for people experiencing long-term illness and those requiring unscheduled care.

9.7 An analysis of the challenges and opportunities arising from this initiative

A number of challenges, facilitators and opportunities were identified in the evaluation. Both the quantitative and qualitative data identified a number of facilitators and challenges related to the introduction of the critical mass of cANPs/RANPs.

The key facilitators identified in the implementation and operationalisation of the role included the medical practitioners who provided support, supervision and mentorship to cANPs/RANPs. This was ranked the highest facilitator throughout the evaluation. The clinical experience of the respondents prior to them commencing the role was also identified as a highly ranked facilitator; it is of note, that the average length of time qualified was 20 years with the minimum time qualified record at six years. Therefore, it was not possible to ascertain, in this evaluation, the impact of the recommendation that candidates can move within two years from graduate status to registration as an cANP/RANP. Support from the multidisciplinary team in which the cANP/RANP practiced as well as the educational preparation for the programme were also identified as key facilitators. Qualitative data collected from cANPs/RANPs and ley stakeholders also identified a number of key facilitators that have emerged as a consequence of introducing the role; these included, as identified in the quantitative phase, high levels of support from clinical consultant mentors, the support from the Nursing Midwifery and Planning Development Units, support from directors of nursing, effective local implementation groups, and clarity around the operationalisation off the role. In addition, the opportunities identified as rising from the initiative included the improvements to patient care through the development of new patient services and the developments in cANP/RANP-led service provision.

There were also a number of challenges and barriers identified in the implementation and operationalisation of the role. The greatest challenge was identified as the physical environment in which cANPs/RANPs worked; the qualitative phase of the research identified the environmental challenges as primarily related to infrastructural resources including clinical and office space within which to operate. Other barriers identified, principally in the quantitative phase of the evaluation included other healthcare professionals' perceptions and resistance to the role and the support of the organisation in which the cANP/RANP is employed. In relation to the latter barrier (the organisation in which the cANP/RANP is employed), the qualitative interview analysis identified that the challenges in this area were delays experienced by candidate cANPs/RANPs in securing backfill and release arrangements as well as organisational governance structures not being put in place.

Overall, the evaluation identified a number of opportunities related to the future development of the posts. The principal opportunities related to the potential for the continued development of services that are patient-focused and relevant to the needs of patients in the areas of long-term illness and unscheduled care. In addition, it is evident that as cANPs/RANPs become registered, they are developing services that will bridge the gap between hospital and community as well as integrating virtual clinics into the care provided. Although the evaluation was completed at a relatively early stage of the integration of the role, there is the potential for further reduction in patient waiting times, access to care, continuity of care and enhanced patient experience of the health services.

9.8 Recommendations

The independent evaluation recommends that the national rollout of the model of cANP/RANP continue and be further supported and strengthened through the implementation of the recommendations outlined below:

- Based on the results of this evaluation and the emerging impact that ANPs are having on patient access to care, waiting times and patient outcomes, the target of increasing the proportion of ANPs to 2% of the nursing workforce should be continued.

- Further development is required to identify individual cANPs/RANPs on hospital and data administrative systems (for example HIPE, NQAIS and iPiMs); these systems can be used to capture the clinical work of cANPs/RANPs as well as being used to measure patient related outcomes in audits, research and evaluation. A coded identifier for each cANPs/RANP should be developed that is integrated into the organisational systems, so that cANPs/RANPs can demonstrate their role and impact on improving patient services.

- Clear job specifications and roles should be put in place by all employing organisations; these specifications will ensure that cANPs/RANPs can operate at their full scope of practice as well as alleviating any ambiguities that may occur with the role.

- Each organisation should endeavour to provide infrastructural and administrative support to cANPs/RANPs within their clinical setting; there is an imperative to provide clinical space that can be fully utilised for cANPs/RANPs to consult with patients.

- ANPs, should, as a matter of course, have the ability to request diagnostic tests, have full prescriptive authority both for medications and ionising radiation as required and have full access to referral pathways in the provision of full episodes of care.

- Prescribing of medicinal products and ionising radiation was identified as core elements in the role of the cANP/RANP; therefore, it is recommended that these should continue to be a core component in the credentialing process of cANPs/RANPs.

- Where candidate ANP's progression has been halted or discontinued due to governance or supervision issues, this should be followed up by the Director of Nursing to identify the contributing factors.

- Hospitals and employing authorities should ensure that governance structures are in place to facilitate the implementation and ongoing support of the Advanced Practice roles as they are developed and implemented.

- It is evident from the results of this evaluation that the Advanced Nurse Practice roles have been implemented in areas where there are service challenges; it is recommended that these are kept under review and amendments made as required, including the provision of new roles as other service challenges arise.

- The evaluation identified that the majority of cANPs/RANPs work patterns are day-time and week day hours (Monday to Friday). It is recommended that consideration be given to ensuring that the times worked by cANPs/RANPs match periods of patient demand including weekend and night times as appropriate.

- The evaluation identified that a major facilitator in the development of the role of the cANP/RANP was the educational preparation received by candidates. Therefore, it is recommended that the current broad-based educational preparation of Advanced Practitioners continue to be delivered by institutes of higher education.

- Further research and evaluation of the introduction of a critical mass of cANPs/RANPs be undertaken. This study was conducted while many of the candidate cANPs/RANPs were in the early stages of role development. Continued research on this group would provide better insight into how the role will impact on the key deliverables of access and reduced waiting lists.

- Future evaluations should include the introduction of comprehensive economic evaluations and be underpinned by the PEPPA Plus evaluation model.

- The recommendation in the *Consultation Paper* that the minimum regulatory timeline for undertaking an RANP/RAMP pathway be reduced to 2-years be kept under review (Department of Health, 2019).

- The evaluation identified that there were challenges related to the understanding of the role amongst other cohorts of healthcare professionals; therefore, it is recommended that collaboration with interdisciplinary teams should be at the core of the operationalisation of the role; this will ensure that all healthcare professionals develop an understanding and appreciation of the role of the cANP/RANP.

- The evaluation identified that a number of cANPs/RANPs were developing services that incorporated both hospital and community health systems; therefore, it is recommended that, under the auspices of the Sláintecare implementation plan, that these services are further developed and funded to ensure their impact on patient care in both hospital and community settings.

- cANPs/RANPs' teaching and research roles are further developed through the enhancement of formal arrangements and appointments between clinical sites and institutes of higher education.

- Build leadership capacity at cANP level, so that cANPs/RANPs can begin to develop the leadership skill-set necessary for the long-term sustainability of the role, including cANP/RANP involvement in health system improvement and involvement in senior management teams at hospital and community levels.

- The introduction of cANP/RANP roles should be preceded by a local organisational planning phase to include candidate selection and recruitment, organisational preparation, job description and role awareness development. Organisations should implement the recommendations in the National Guidelines for the HSE.

- Strategic leadership and support from organisations are needed in order to realistically prepare future advanced practice nurses for the challenges they will face, through mentorship programmes and continuous further training.

- National Guidelines for the Development of Advanced Nursing or Midwifery Practitioner Services (HSE 2020) referred to and implemented in all stages of the development and implementation of Advanced Nursing and Advanced Midwifery Practitioner Services.

9.9 Conclusion

Following the publication of the document entitled: *Developing a Policy for Graduate Specialist and Advanced Nursing & Midwifery Practice: Consultation Paper* (Department of Health 2017) and, during the period of the evaluation, *A Policy on the Development of Graduate to Advanced Nursing and Midwifery Practice* (Department of Health 2019), a joint research team from the schools of nursing and midwifery at University College Cork and Trinity College Dublin designed and completed a multi-method evaluation of the initiative. This model of evaluation, incorporating the PEPPA framework and the development of programme logic models can be used to undertake future evaluations as the initiative is further integrated into the health services. During the process of the evaluation, a large proportion of cANPs/RANPs progressed from candidate to registered status and this enabled the evaluation to identify the impact of the introduction of the critical mass of cANPs/RANPs in the four key areas (older persons' care, rheumatology, respiratory care, and unscheduled care).

The principal findings from the evaluation demonstrate that the introduction of the critical mass of cANPs/RANPs is beginning to impact on a number of key patient outcomes. This is particularly evident in relation to the positive impact that the role is having on the patient experience and patient enablement. Patients expressed high levels of support for the role and identified that they were receiving high quality professional care that was positively impacting on their quality of life. In addition, the critical mass of cANPs/RANPs are providing high levels of patient education, continuity of care, the potential to avoid hospitalisations and decreasing patient complications.

In a relatively short period of time cANPs/RANPs are providing a variety of direct clinical services to patients and these are increasing over time. This increase in the provision of clinical care is also associated with greater levels of autonomy amongst cANPs/RANPs as well as the development and delivery of innovative services to patients in a variety of settings. Many of these innovative services are matching the key recommendations in both the Integrated Care Programmes and Sláintecare; that is implementing services that bridge the gap between hospital and community settings and reduce waiting times and hospital admissions.

The most important factors that have contributed to the success of the introduction of the role include the mentorship and supervision provided by medical practitioners to which cANPs/RANPs are aligned; this has resulted in strong collaborative working relationships Another strong facilitator has been the educational programmes designed and implemented by the institutes of higher education. There is no doubt that the initiative would not have progressed to its current stage without the input and support of both medical practitioners and universities/colleges. There are some barriers to the development of the role, not least the challenges of infrastructural support to allow cANPs/RANPs to practice to their full scope of practice as well as. It is also evident from the evaluation that the critical mass of cANPs/RANPs are at the introduction and early implementation phases of integration within the health services; however, the results from the evaluation point to the potential for the role to develop long-term sustainability as it becomes internalised into the health services in Ireland.

In conclusion, as more candidate cANPs/RANPs become registered, the potential to alleviate pressure points in the management of long-term illness and unscheduled care is high; the current operationalisation of the role of cANPs/RANPs also has the potential to provide high quality care to patients in a variety of settings. In addition, the impact of cANPs/RANPs on the health and wellbeing of patients was evident form the very high levels of satisfaction reported by patients both in their experience of a consultation with an cANP/RANP as well as their ability to manage their illness or injury following a consultation. Overall, based on the findings from this evaluation the independent evaluation recommends that the national rollout of a critical mass of cANPs/RANPs continue and be further supported and strengthened.

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Appendix A

Study Title: Evaluation Study of the impact of implementing a Draft Policy to develop cANPs/RANPs to meet service need

Semi-structured Interview Guide: cANPs/RANPs

Introduction:

[Interviewer introduces by presenting her/ himself and the other note taker (and continues.]

We are undertaking an evaluation of the implementation of health policy to increase CANPS/RANPS.

We would like to hear about your experiences and views of the implementation of cANPs/RANPs

With your permission, we would like to record the interview, but promise to anonymise all information, no names will linked to any questionnaire specific comments.

[Notes: 1. Ask participants if they have received and read the PIL: 2. Collection of consent forms will take place: 3. Ask each person to complete the demographic information

---

1. What motivated you to pursue this cANP/RANP role?

2. Can you explain how you were recruited?
   Prompts:
   - Advertisement
   - Knowledge skills and & experience/expertise for the role
   - Arrangements/release for the role

3. Can you tell me about what is different about your cANP/RANP role in the context of this service (unscheduled care, older person care, rheumatology and respiratory medicine)?
   Prompts:
   - Context of health care & practice setting
   - Role clarity and understanding
   - Involvement and support with the role planning process (nurse/physician/organization drivers)

4. Have you experienced challenges in your new role?
   - Organization support and arrangements?
   - Awareness of role within the team
   - How was the role communicated?

4b. what strategies did you use to overcome those challenges?

5. What organizational factors have enabled you in your role to date?

6. What are the arrangements for supervision, support and mentorship with your new role?
   ➢ Facilitators/barriers

7. Can you comment on the specific contribution of your role to your field or specialty area?

8. What do you see as the specific contribution since the cANP/RANP role was implemented to:
   ➢ patients/families
   ➢ the multidisciplinary team
   ➢ the health service organization

9. Can you describe the impact of your cANP/RANP role on health service needs? (for example waiting list reduction, timely access to service, improved patient flow and avoidance of unnecessary hospital admission and/or early discharge)

10.   If the policy was to be expanded what one thing would you recommend to enhance the process?

Appendix B

Dear Colleague,

Earlier in 2019, you completed this survey that measured your role as a Candidate Advanced Nurse Practitioner or a Registered Advanced Nurse Practitioner. We would like to measure, at this stage, how your role has developed and changed since you completed the original survey. This will allow us to develop a greater understanding of the role and the facilitators and challenges related to your role as it becomes further integrated into the health services.

As previously highlighted, this study is being undertaken by a research team from the School of Nursing and Midwifery, University College Cork (UCC) and the School of Nursing and Midwifery, Trinity College Dublin (TCD) and is funded by the Health Service Executive. The team is led by Professor Anne Marie Brady (TCD) and Professor Jonathan Drennan (UCC). You are being contacted as you are currently a Registered Advanced Nurse Practitioner or a Candidate Advanced Nurse Practitioner.

This research is measuring the impact of ANPs on four service areas (rheumatology, respiratory medicine, older persons care and unscheduled care). As highlighted above, this survey is a follow-up of the survey distributed earlier in the year and has similar questions; this will allow us to measure changes in your role as they occurred over time.

Your answers to this survey are completely confidential and will be reported as statistical summaries in which no individual's answers can be identified. This survey is voluntary; however, you can help us very much by taking time to share your views. The Cork Research Ethics Committee has granted ethical approval for the study.

The survey is comprehensive as there are multiple elements of the ANP role that we wish to measure. Completing the questionnaire will take you approximately 35 minutes; this data will be invaluable in measuring the changing role of ANPs. We will be happy to share the results of the research with you on completion of the study.

If you have any queries or comments about this study, please do not hesitate to contact me by e-mail: Jonathan.Drennan@ucc.ie

Thank you very much for helping us with this important study; it is very much appreciated.

Yours sincerely,

Jonathan Drennan
Professor of Nursing and Health Services Research
School of Nursing and Midwifery
University College Cork

* 1. I consent to take part in this evaluation

◯ Yes

◯ No

If you tick 'No', there is no need to take further action and we thank you for considering our request. As the survey is anonymous, you may receive reminders to complete the research.

_____

Advanced Nurse Practitioner Status

This section asks you questions regarding your current Registered Advanced Nurses Practitioner or Candidate Advanced Nurse Practitioner status.

2. Please indicate your **current** Advanced Nurse Practitioner (ANP) status

☐ Not released as an Candidate ANP (still working as a CNS)

☐ Candidate Advanced Nurse Practitioner (cANP)

☐ Registered Advanced Nurse Practitioner (RANP)

☐ Other (please specify)

[ ]

3. Please identify the **speciality** of your ANP/cANP position:

☐ Emergency Department   ☐ Respiratory

☐ Acute Medical Assessment Unit   ☐ Older Persons

☐ Rheumatology

☐ Other (please specify)

[ ]

4. If you are a **Registered ANP**, please state the date (month/Year) you registered with the Nursing and Midwifery Board of Ireland (NMBI)

[ ]

5. If you are a **Candidate ANP** please state your anticipated date of registration

[ ]

6. If you are **not currently working** as a Candidate ANP or a Registered ANP, please indicate the reasons why:

[ ]

7. Have you **successfully completed** your educational programme to prepare for your ANP Role?

○ Yes

○ No

If NO, please specify the reasons why:

8. Please describe any **additional training or education** you have undertaken in preparation for your ANP role (aside from your required college courses):

Mentorship

9. Please identify who you **receive** your **clinical supervision** from (please tick all that apply):

☐ Registered ANP (in same specialty)

☐ Registered ANP (in another specialty to my own)

☐ Medical/Surgical Consultant

☐ Other (please specify)

[   ]

10. How often is a **Registered ANP present on site** to discuss patient issues / problems as they occur in your speciality? (Please tick only one)

○ Not available   ○ 26-50% of the time

○ 1-5% of the time   ○ 51-75% of the time

○ 6-25% of the time   ○ 75-100% of the time

11. How often is your **medical clinical supervisor** on site to discuss patient issues/ problems as they occur in your speciality? (Please tick only one)

○ Not available   ○ 26-50% of the time

○ 1-5% of the time   ○ 51-75% of the time

○ 6-25% of the time   ○ 75-100% of the time

12. Is your ANP/cANP **job description** fully developed?

○ Yes

○ No

If no, please provide a reason:

[   ]

Demographic, Educational and Professional Profile

The following questions measure your demographic, educational and professional background.

13. What is your gender?

( ) Female

( ) Male

14. Please tick the **highest** academic qualification you currently hold (please tick only one)

☐ Certificate   ☐ Bachelor's Degree

☐ Diploma   ☐ Master's Degree

☐ Higher/Post-graduate Diploma   ☐ PhD

☐ Other (please specify)

[   ]

Service Context

The following questions measure details regarding your current working hours

15. In a **typical week** how many **hours** do you work in your ANP/cANP position? (e.g. 39 hours)

[   ]

16. Do you work?

☐ Weekdays only

☐ Weekdays and weekends

☐ Weekends only

☐ Other (please specify)

[   ]

17. Please outline your hours of work (e.g. 8am to 5pm)

[   ]

18. Do you work **night duty** in your ANP/cANP position?

◯ Yes

◯ No

ANP Activities

19. In an **average week**, please indicate the **percentage of time** you spend on the following activities **(Total should add to 100%)**

Clinical	
Non-clinical	
Administrative	
Research	
Other	

20. What **percentage of time** do you spend providing the following types of **services** to your patients? (Check all that apply) **(Total should add to 100%)**:

Care of patients with acute minor illnesses	
Care of patients with acute major illnesses	
Care of patients with a long-term chronic conditions	
Other	

21. Please provide an **percentage estimate** of the breakdown of the patient population that you as an cANP/RANP **(not your practice)** see (total should add 100%):

Children (0 – 12 years)	
Adolescents (13 – 16 years)	
Adults (17 – 64 years)	
Older People (65 years+)	

22. Do you have **non-clinical** responsibilities? (e.g. education, group facilitation, sitting on committees, supervising other staff, research etc.)

◯ Yes

◯ No

If yes please specify:

23. Please indicate the extent to which you provide the **following activities** to patients:

	No Patients	A Few Patients	Some Patients	Most Patients
Diagnosis, treatment, and management of acute illnesses	○	○	○	○
Diagnosis, treatment, and management of chronic illnesses	○	○	○	○
History taking and physical assessment	○	○	○	○
Order, perform, and interpret lab tests, x-rays, ECGs, and other diagnostic studies	○	○	○	○
Prescribe drugs for acute and chronic illnesses	○	○	○	○
Provide preventative care, including screening and immunisations	○	○	○	○
Perform procedures	○	○	○	○
Counsel and educate patients and families	○	○	○	○
Provide care coordination	○	○	○	○
Make referrals	○	○	○	○
Participate in practice improvement activities	○	○	○	○

24. As an ANP/cANP, in a **typical week**, how many patients **do you see**? (Number)

[   ]

25. In a **typical week**, how many patients **in total** are seen by the service in which you work?

[   ]

26. Thinking about your ANP/cANP position, do you have a **caseload of patients** that you manage, where you are the **primary provider?**

○ Yes

○ No

27. Do you have **hospital admitting privileges** without recourse to a medical professional?

○ Yes

○ No

28. Do you have **hospital discharge privileges** without recourse to a medical professional?

○ Yes

○ No

29. Do you **travel** to see patients **outside** your **current** practice location?

○ Yes

○ No

30. If **yes**, please state **where you see** these patients (please tick all that apply):

☐ Another practice location in the hospital

☐ A community clinic/unit/practice

☐ The patient's home

☐ Other (please specify)

31. Do you currently, or do you plan in the future to expand your role into the community?

○ Yes

○ No

32. If Yes, please provide details

Patient Assignment and Referrals

The following section measures the process by which patients are referred to and from your service

33. How are patients **assigned/referred** to your care? (Please tick all that apply)

☐ Patient can self-refer directly to me

☐ Patient is referred from another healthcare setting within my hospital

☐ Patient is referred by a healthcare professional within my setting

☐ Patient is referred from the community

☐ Other (please specify)

[ ]

34. **From whom** do you **take** referrals? (Please tick all that apply)

☐ Patient Self-referral

☐ Medical Practitioner

☐ General Practitioner (GP)

☐ Allied Health Professional (e.g. physiotherapist)

☐ Another nurse practitioner

☐ Public Health/Community Nurse

☐ Other (please specify)

[ ]

35. **To whom** do you **make** referrals? (Please tick all that apply)

☐ General Practitioner (GP)

☐ Medical Practitioner

☐ Another ANP

☐ Allied Health Professional (e.g. physiotherapist)

☐ A Clinical Nurse Specialist

☐ Public Health/Community Nurse

☐ Other (please specify)

[ ]

36. Please indicate the **process** used **to make** a referral (please tick only one)

○ I refer the patient and write the referral note

○ I write the referral note, and the physician signs the note

○ The physician writes the referral note after discussing the matter with me

○ Other (please specify)

[ ]

37. In a given **week**, **how many** patients do you ...

	No patients	A few patients	Some patients	Most patients
Refer to a physician you work with for them to refer to another specialist	○	○	○	○
Refer to a physician because patient care needs are outside the scope of your practice	○	○	○	○
Refer to a physician because the patient care needs are within the scope of your practice but you are not comfortable handling the case	○	○	○	○
Refer to a physician due to a pre-set arrangement with the physician (for example, you refer all cardiac patients to the physician)	○	○	○	○
Refer to a specialist directly	○	○	○	○

Educational Provision

The following questions measure your role in relation to the provision of education to staff and students.

38. Do you **provide education** to other **healthcare team** members?

◯ Yes

◯ No

39. If Yes, is the **education you provide** to other healthcare team members usually in response to any of the following? (Please tick as many as apply)

☐ A request from another healthcare team member

☐ Part of a structured teaching programme (e.g. in college or centre for nurse education)

☐ In response to the need to develop an area of practice

☐ Other (please specify)

[   ]

Scope of Practice

The following statements/questions measure facilitators and barriers related to your scope of practice

40. Please indicate you level of **disagreement or agreement** with the following statements

	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
In my ANP/cANP role, I am allowed to practice to the fullest extent of my scope of practice.	◯	◯	◯	◯	◯
My ANP/cANP skills are being fully utilised	◯	◯	◯	◯	◯

41. Is your **practice limited** to seeing certain patients?

◯ Yes

◯ No

42. If **yes**, are your limitations due to:

☐ Chosen area of speciality

☐ At request of physician

☐ Limitations imposed by the hospital/your employer

☐ Other (please specify)

[   ]

* 43. What top **three factors** in your practice setting that **facilitate** your ability to fulfil your ANP/cANP role? (Check the top **three** facilitators)

☐ The physicians with whom I practice

☐ The multidisciplinary team with whom I practice

☐ The organisation in which I am employed

☐ The practice model under which I operate (e.g. collaborative practice, consultative practice etc.)

☐ The way my role has been defined – narrow

☐ The way my role has been defined – broad

☐ My educational preparation for my ANP role

☐ My clinical experience prior to entering the ANP programme

☐ Level of confidence to take on the responsibilities of this new role

☐ Healthcare professionals' perceptions of my role

☐ Patients' perceptions of my role

☐ Physical working environment

☐ Number of patients to see

☐ Legislation related to my role

44. Based on your **previous answers**, please **rank** your **top three** facilitators (e.g. 1 for the highest facilitator; 2 for the next highest facilitator etc.).

The physicians with whom I practice

The multidisciplinary team with whom I practice

The organisation in which I am employed

The practice model under which I operate (e.g. collaborative practice, consultative practice etc.)

The way my role has been defined – narrow

The way my role has been defined – broad

My educational preparation for my ANP role

My clinical experience prior to entering the ANP programme

Level of confidence to take on the responsibilities of this new role

Healthcare professionals' perceptions of my role

Patients' perceptions of my role

☐

Physical working environment

☐

Number of patients to see

☐

Legislation related to my role

* 45. What **top three factors** in your practice setting are **barriers** to your ability to fulfil your ANP/cANP role? (Check the top **three** barriers).

☐ The physicians with whom I practice

☐ The multidisciplinary team with whom I practice

☐ The organisation in which I am employed

☐ The practice model under which I operate (e.g. collaborative practice, consultative practice etc.)

☐ The way my role has been defined – narrow

☐ The way my role has been defined – broad

☐ My educational preparation for my ANP role

☐ My clinical experience prior to entering the ANP programme

☐ Level of confidence to take on the responsibilities of this new role

☐ Healthcare professionals' perceptions of my role

☐ Patients' perceptions of my role

☐ Physical working environment

☐ Number of patients to see

☐ Legislation related to my role

46. Based on your **previous answers**, please rank your **top three** barriers (i.e. 1 for the greatest barrier; 2 for the next greatest barrier etc.).

☐

The physicians with whom I practice

☐

The multidisciplinary team with whom I practice

☐

The organisation in which I am employed

☐

The practice model under which I operate (e.g. collaborative practice, consultative practice etc.)

	The way my role has been defined – narrow
	The way my role has been defined – broad
	My educational preparation for my ANP role
	My clinical experience prior to entering the ANP programme
	Level of confidence to take on the responsibilities of this new role
	Healthcare professionals' perceptions of my role
	Patients' perceptions of my role
	Physical working environment
	Number of patients to see
	Legislation related to my role

47. Do you have any **concerns** regarding your **scope of practice** as an ANP?

◯ Yes

◯ No

48. **If Yes**, what are your **reasons** for these concerns

☐ I feel that I am asked to practice outside of my scope of practice

☐ I feel that I am not given enough information to treat patients properly

☐ I feel that I am not competent to perform some of the tasks I am asked to perform

☐ Other (please specify)

Clinics

This section measures your individual and multi-disciplinary work in clinics.

49. Are you involved in **multidisciplinary** clinics?

○ Yes

○ No

50. If **yes**, please answer the following

Number of clinics per week?

Number of patients reviewed per week

51. What is the **nature of the multidisciplinary clinics?** (e.g. symptom management, pain management, frailty assessment etc.)

52. Do you run a **nurse led** clinic?

○ Yes

○ No

53. If **yes**, please answer the following

Number of clinics per week?

Number of patients reviewed per week

54. What is the **nature** of the **nurse-led clinic**? (e.g. symptom management, pain management, frailty assessment etc.)

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55. Do you have **defined protocols** for your **nurse-led** clinic(s)?

○ Yes

○ No

If Yes, please provide further details on the protocol.

Prescribing Activity

This section measures your role in relation to medication prescribing and the ordering of X-Rays (prescribing ionising radiation)

56. Are you currently **prescribing medications**?

○ Yes

○ No

57. If **No**, please provide **reasons why** you are not prescribing medications

[   ]

58. Are you currently **ordering X-Rays** (prescribing ionising radiation)?

○ Yes

○ No

59. If **No,** please state the reasons why?

[   ]

Organisational Support

The following questions measure your perception of the levels of support available for your role

60. What type of **professional relationship** do you have with **physician(s)** in your ANP/cANP position (tick all that apply)?

☐ No physician in my practice   ☐ Physician oversees all my practice

☐ Collaborate with physician at another site   ☐ I am accountable to the physician

☐ Collaborate with physician on site   ☐ I must accept the physician's clinical decision about the patients I see

☐ Equal colleagues/no hierarchy   ☐ Physician sees and signs off the patients I see

☐ Other (please specify)

[   ]

61. How **dissatisfied or satisfied** are you with the following in relation to your **organisation's support** for your ANP/cANP role?

	Very Dissatisfied	Dissatisfied	No Opinion	Satisfied	Very Satisfied
Patient caseload	○	○	○	○	○
Level of autonomy	○	○	○	○	○
Respect from nursing colleagues	○	○	○	○	○
Respect from physician colleagues	○	○	○	○	○
Designated office space	○	○	○	○	○
Amount of paperwork required	○	○	○	○	○
Amount of administrative support	○	○	○	○	○
Input into organisational / practice policies	○	○	○	○	○
Opportunities for professional development	○	○	○	○	○
Overall level of satisfaction with your current ANP/cANP position	○	○	○	○	○

Outcomes

The following section measures the outcomes associated with your role.

62. Are you involved in **service redesign** in your practice?

○ Yes

○ No

63. If, **Yes**, please provide details

[   ]

64. Have you been **involved** in any of the following in your **ANP/cANP role?** (Please tick as many as apply)

☐ Contributing to the development of protocols and guidelines as part of a wider team

☐ Implementing protocols and guidelines

☐ Monitoring protocols and guidelines

☐ Leading the development of protocols and guidelines

☐ Other (please specify)

[   ]

65. What **new services/programmes** have you **developed** as part of your practice? (please **list up to three,** if applicable)

[   ]

66. Do you use any of the following **information technologies** (IT) Innovations in your Practice (please tick all that apply):

☐ Telemonitoring technology-distance monitoring of patient conditions

☐ Telehealth programmes for patient care and education

☐ Telephone contact with patients

☐ Other (please specify)

☐ Email contact with patients

☐ Use of smartphone applications (Apps)

☐ Virtual clinics

[   ]

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67. Please state the **degree** on a five point scale, ranging from 1 - Low Impact to 5 - High Impact, **the extent** to which your practice as an ANP/cANP is impacting on the following:

	1 - Low Impact	2	3 - Moderate Impact	4	5 - High Impact
Decreased length of stay	○	○	○	○	○
Decreased healthcare costs	○	○	○	○	○
Decreased readmission rates	○	○	○	○	○
Decreased patient complications	○	○	○	○	○
Decreased resource utilisation	○	○	○	○	○
Increased continuity of care	○	○	○	○	○
Increase in patients' access to care	○	○	○	○	○
Increase in patients' satisfaction	○	○	○	○	○
Increase in patients' education	○	○	○	○	○
Potentially avoidable hospitalisations	○	○	○	○	○

68. Please indicate the **outcomes you measure** as part of your practice (please tick as many as apply)

☐ Patient length of stay

☐ Healthcare costs

☐ Admission rates

☐ Readmission rates

☐ Unscheduled returns

☐ Patient complications (e.g. pressure sores, DVTs, hospital acquired pneumonias etc.)

☐ Resource utilisation

☐ Patient wait times to be seen

☐ Other (please specify)

☐ Patient experience times (PET)

☐ Patients' access to care

☐ Patient experience and/or satisfaction

☐ Patient psychosocial outcomes (e.g. quality of life)

☐ Potentially avoidable hospitalisations

☐ Mortality rates

☐ Adverse events (e.g. trips, slips and falls)

☐ Missed care

69. Please indicate the **data sources** you use to measure the outcome(s) outlined above (e.g. HIPE data, chart audit etc.)

Thank you

Thank you for your time in completing the questionnaire, your input is most appreciated. If you have any queries, please do not hesitate to contact Professor Jonathan Drennan (Jonathan.Drennan@ucc.ie).

Appendix C

Output Activity Log (OAL)

What is an Output Activity Log (OAL)?
The Output Activity Log (OAL) is a self-reported, written record of your daily work activity. The design and development of the OAL is informed by current research and key stakeholder inputs. The log will allow you to reflect and capture the nuances and complexity of your role and scope of practice.

How to use the Output Activity Log (OAL)?
Please read and familiarise yourself with the content of the OAL. Where possible, collate each daily activity to one of five outputs (clinical, prescribing, expert advice, education and research). An activity not captured may be described in the appropriate comments box. In some instances, a single action may result in more than one output. Please use one single sheet to document each week of activity and subsequent outputs.

When to use the Output Activity Log (OAL)?
A member of the research team will contact you when data collection is to commence. The start date is agreed in consultation with the local governing Ethics committee, the participating cANP/RANP and organisational line management where the cANP/RANP is employed.

What happens to the OAL data?
The collected OAL data should not contain any specific information related to individual patients. A member of the research team will collect the OAL data from each individual cANP/RANP. The data will be used by the research to evaluate the implementation of the cANP/RANP policy.

Glossary of Terms

New patient: A patient presenting to the specialist service for the first time
Return patient: An existing patient within the specialist service

Scheduled care: Healthcare that is foreseen and/or planned
Unscheduled care: Healthcare that is not foreseen and/or planned

Face-to-face encounter: Any interaction with a patient that occurs in person
Virtual care encounter: Any interaction with a patient that is not face-to-face (email, telephone)

Shared Decision Making: A structured approach to decision-making where patients are informed about their choices, their preference are acknowledged and treatment options reflect this approach, including the option not to proceed with treatment.

For further enquiries or assistance regarding the Outputs Activity Log, please contact one of the following

Jarlath Varley jvarley@tcd.ie Tel: 0871643857
Anne Marie Brady abrady4@tcd.ie
Jonathan Drennan jonathan.drennan@ucc.ie

Outputs Activity Log (OAL)									

1. Clinical Activity

1.1 Scheduled Care

On a daily basis how many of your scheduled patient encounters were…	Date						
	Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
face-to-face with a new patient							
face-to-face with a return patient							
face-to-face with a relative or carer							
virtual with a new patient							
virtual with a return patient							
virtual with a relative or carer							
Addition Comment							

Clinical Activity

1.2 Unscheduled Care

On a daily basis how many of your unscheduled patient encounters were…	Date						
	Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
face-to-face with a new patient							
face-to-face with a return patient							
face-to-face with a relative or carer							
virtual with a new patient							
virtual with a return patient							
virtual with a relative or carer							
Addition Comment							

Clinical Activity

1.3 Patient contact

On a daily basis, what % (approximately) of your working day encounters were…(1 day = 100%)	Date						
	Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
face-to-face with patients/families/carers							
face-to-face with clinicians							
virtual with patients/families/carers							
virtual with clinicians							
Additional Comments							

Clinical Activity

1.4 Impact of RANP face-to-face intervention on services

On a daily basis and because of an RANP *face-to-face* intervention how many patients were…	Date						
	Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
removed from the specialist waiting list							
able to avoid hospital admission (potentially)							
admitted to a hospital							
inpatients for a longer number of days							
scheduled to return for hospital admission							
scheduled to return for OPD review							
scheduled for further tests and investigations by the cANP/RANP							
reviewed by a specialist clinician							
not reviewed by a specialist clinician							
transferred from face-to-face to virtual care for their next scheduled appointment							
transferred from virtual to face-to-face care for their next scheduled appointment							
involved in a shared decision making strategy regarding their own care and management							
Additional Comments							

Clinical Activity

1.5

On a daily basis and because of an RANP virtual intervention, how many patients were….	Date						
	Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
removed from the specialist waiting list							
able to avoid hospital admission (potentially)							
admitted to a hospital							

Impact of RANP virtual intervention on services									
	inpatients for a longer number of days								
	scheduled to return for hospital admission								
	scheduled to return for OPD review								
	scheduled for further tests and investigations by the cANP/RANP								
	reviewed by a specialist clinician								
	not reviewed by a specialist clinician								
	transferred from face-to-face to virtual care for their next scheduled appointment (e.g. Telephone Advice Line)								
	transferred from virtual to face-to-face care for their next scheduled appointment								
	involved in a shared decision making strategy regarding their own care and management								

Additional Comments

Clinical Activity

1.6 Referral pathways to the cANP/RANP service

On a daily basis how many patients were referred to the RANP service by a…	Date						
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
medical doctor within your local organisation (e.g. Consultant; NCHD)							
medical doctor external to your local organisation (e.g. Consultant; NCHD)							
nursing colleague within your local organisation (e.g. CNS; CNM; cANP/RANP, RGN; Patient Flow/Discharge Coordinator)							
nursing colleague external to your local organisation (e.g. CNS; CNM; cANP/RANP, RGN; Patient Flow/Discharge Coordinator)							
healthcare professional working in an ED/AMAU							
healthcare professional in primary care (e.g. GP; PHN; Community Nurse; OT; Physio)							
healthcare professional located in long stay geriatric services							
healthcare professional from community based services (advocacy group representative; carer, community worker)							
healthcare professional working in a private healthcare facility							
patient who self-referred themselves							

Additional Comments

Clinical Activity

1.7 Referral pathways from the cANP/RANP service

On a daily basis how many patients were discharged by the RANP from. …	Date						
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
OPD in consultation with a clinical supervisor							
OPD without consultation with a clinical supervisor							
OPD to return to a nurse led OPD service							
OPD to follow up with primary care services							
inpatient services in consultation with clinical supervisor							
inpatient services with MDT collaboration							
inpatient services to return to nurse led OPD services							

Additional Comments

2. Prescribing Activity

2.1 Medicinal Products

On a daily basis in your role as an RNP of medicinal products, how many…	Date						
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
new patients were prescribed a new medicinal product							
new patients were de-prescribed a medicinal product							
return patients were prescribed a new medicinal product							
return patients were de-prescribed a medicinal product							
RNP prescriptions required consultation with a doctor							
RNP prescriptions did not require consultation with a doctor							
RNP de-prescriptions required consultation with a doctor							

		Date						

Prescribing Activity *2.2* *Ionising Radiation*	RNP de-prescriptions did not require consultation with a doctor								
	medicinal products were not available on your CPA								
	required medications not prescribed by the RANP as CPA not established (course not completed, D&T committee delays)								
	Additional Comments								

On a daily basis in your role as an RNP of ionising radiation, how many…	**Date**						
	Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
new patients were prescribed ionising radiation (x-ray only)							
new patients were prescribed other radiological interventions (CT; MRI; Dexa Scan; Ultrasound)							
return patients were prescribed ionising radiation (x-ray only)							
return patients were prescribed other radiological interventions (CT; MRI; Dexa Scan; Ultrasound)							
required x-rays not prescribed by RANP as prescribing rights locally not available							
required radiological interventions were recommended by the RANP (CT; MRI; Dexa Scan; Ultrasound) but prescribed by a medical colleague due to nurse prescribing restrictions							
Additional Comments							

Prescribing Activity

2.3 Shared Decision Making [SDM]

On a daily basis in relation to prescribing medicinal products, how many times did you and a patient/carer …	**Date**						
	Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
discuss medication treatment options							
agree on suggested medication treatment options							
disagree on suggested medication treatment options							
change your prescribing treatment based on patient preference							
seek consultation/clarification with a doctor before making a prescribing decision							
Additional Comments							

3. Expert Advice

3.1 Giving expert advice

On a daily basis, how many times were you consulted with for expert advice by ...	**Date**						
	Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
nursing colleagues within your local organisation (CNS; cANP/RANP; CNM; Staff Nurse; ADON)							
nursing colleagues external to your local organisation (CNS; cANP/RANP; CNM; Staff Nurse; ADON)							
medical colleagues within your local organisation (doctors)							
medical colleagues external to your local organisation (doctors)							
other HCPs within your local organisation (e.g. Physios; OTs; Dieticians; Speech Therapists; Mental Health services)							
other HCPs external to your local organisation (e.g. Physios; OTs; Dieticians; Speech Therapists; Mental Health services)							
people working in primary care roles (GPs; PHNs; Community Nurses; Practice Nurses)							
people working in community-based roles (community workers; patient advocacy groups; employers; educational facilities; politicians)							
patients enquiring about their diagnosis							
patients enquiring about their care and management							
Additional Comments							

Expert Advice

On a daily basis, how many times did you seek expert advice from a…	**Date**						
	Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
medical clinician within your local organisation							

3.2 Receiving expert advice	medical clinician external to your local organisation							
	medical clinician external to your organisation but within your specialty							
	medical clinician external to your organisation and external to your specialty							
	nursing colleague within your speciality							
	nursing colleague external to your speciality but within your local organisation							
	nursing colleague external to your organisation but within your specialty							
	nursing colleague external to your organisation and external to your specialty							
	MDT member within your organisation							
	MDT member external to your organisation							
	Additional Comments							

4. Education 4.1 cANP/RANP delivered education	*Please tick yes and provide details if you have prepared or delivered education sessions/material this week for …*	**Date**	
		Week of:	
		Yes	*Details (optional)*
	patients/families in person		
	patients/families virtually (Telephone/email)		
	HCPs within your local organisation		
	HCPs external to your local organisation		
	patient educational (e.g. leaflets, information packs)		
	Interprofessional clinical teaching		
	academic 3rd Level lecturing/teaching		
	cANP/RANP role/service development		
	cANP/RANP accreditation and portfolio development		
	post-graduate 3rd level course courses		
	Additional Comments		

5. Research 5.1 cANP/RANP led research	*Please tick yes and provide details if you have been responsible for and/or contributed to…*	**Date**	
		Week of:	
		Yes	*Details (optional)*
	clinical practice guideline development		
	organisational policy development		
	data collection that demonstrates RANP activity		
	data collection that demonstrates RANP performance		
	data collection that is submitted to external heath agencies (e.g. DoH; HSE: National Clinical Care Programmes)		
	research conference activity (e.g. poster/platform presentation)		
	local organisational research activity (e.g. journal club)		
	research manuscript development		
	organisational governance committees (e.g. Ethics; D&T; Q&S)		
	supervision or acadmic support to a colleague		
	Additional Comments		

Thank you for taking the time to complete the Activity Log
Please provide any additional comments below

The Activity Log should be kept in a secure location and will be collected by the research team at the end of the collection period

Final Comments (Optional)

UNIVERSITY COLLEGE CORK, IRELAND
Coláiste na hOllscoile Corcaigh

Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin
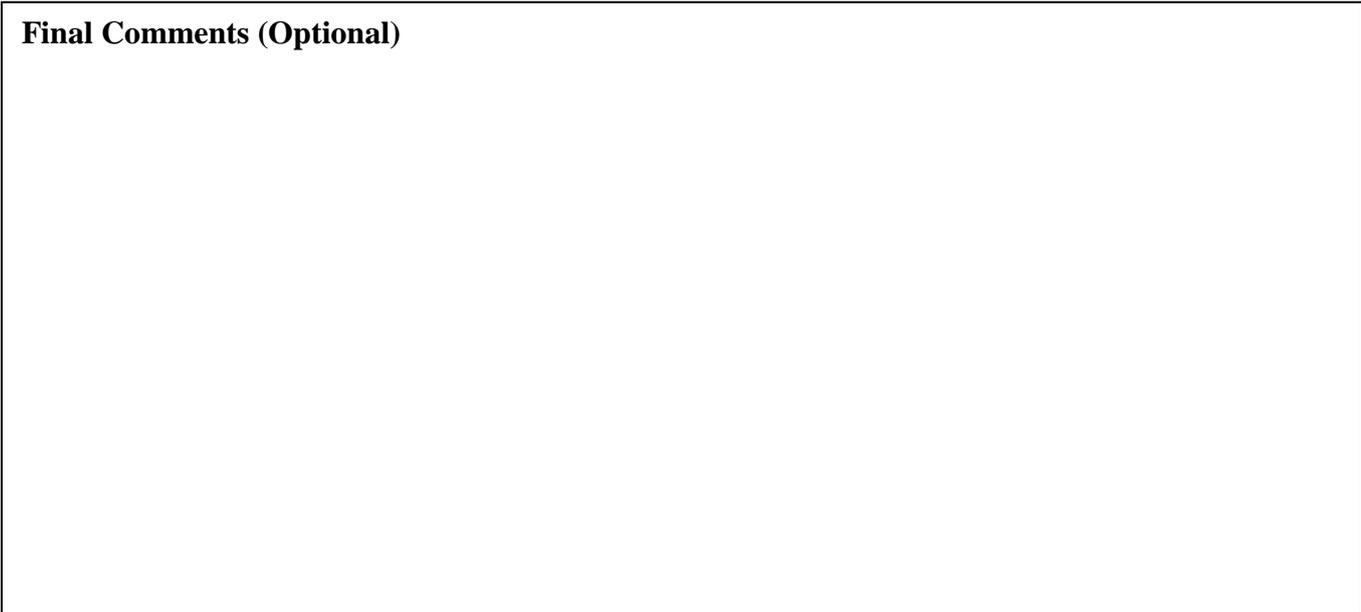
UNIVERSITY COLLEGE CORK
TRINITY COLLEGE DUBLIN

EVALUATION OF ADVANCED NURSE PRACTITIONERS

PATIENT QUESTIONNAIRE

THANK YOU FOR YOUR TIME. THE QUESTIONNAIRE WILL TAKE ABOUT 7 MINUTES TO COMPLETE

Please return your completed questionnaire by posting it directly to the research team in the enclosed stamped addressed envelope.

Patient Questionnaire

Patient Experience

The following questions measure you experience of seeing an advanced nurse practitioner

Please respond to the following statements by circling one number on each line	**Strongly disagree**	**Disagree**	**Uncertain**	**Agree**	**Strongly agree**
1. The nurse was understanding of my personal health concerns	1	2	3	4	5
2. The nurse gave me encouragement in regard to my health problem	1	2	3	4	5
3. I felt comfortable to ask the nurse questions	1	2	3	4	5
4. My questions were answered in an individual way	1	2	3	4	5
5. I was included in decision-making	1	2	3	4	5
6. I was included in the planning of my care	1	2	3	4	5
7. The treatments I received were of a high quality	1	2	3	4	5
8. Decisions regarding my health care were of high quality	1	2	3	4	5
9. The nurse was available when I needed them	1	2	3	4	5
10. The nurse appointment times were when I needed them	1	2	3	4	5
11. The nurse spent enough time with me	1	2	3	4	5

12. I was confident with the nurse's skills	1	2	3	4	5
13. The nurse was very professional	1	2	3	4	5
14. Overall, I was satisfied with my health care	1	2	3	4	5
15. The care I received from the nurse was of a high quality	1	2	3	4	5

Patient Enablement

As a result of seeing the nurse, do you feel you are:	Same or less	Better	Much Better
1. Able to understand your illness	1	2	3
2. Able to cope with your illness	1	2	3
3. Able to keep yourself healthy	1	2	3
4. Confident about your health	1	2	3
5. Able to help yourself	1	2	3

SECTION 2

I'd like to finish by getting some background information about yourself
Where indicated please **tick** the appropriate box.

1. Please indicate Your Gender:

Male…………....................... ☐

Female……………………… ☐

2. How would you describe your overall health?

Excellent …………………….... ☐
Very good……………………... ☐
Good…………………………... ☐
Fair…………………………….. ☐
Poor…………………………….. ☐
Very Poor……………………..... ☐

4. What is your age?

_____Years

5. Can you tell me the reason in your own words why you are in hospital?

_____

_____

_____

Thank you for taking the time to complete this questionnaire. Your assistance in providing this information is very much appreciated. If there is anything else you would like to tell us about your experience of receiving care from the nurses on this ward please do so in the space provided below (please attach further sheets if required).

_____

_____

_____

_____

_____

_____

If you have any queries about this questionnaire

please do not hesitate to contact:

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