Drivers and Barriers to the Development of Musculoskeletal Advanced Physiotherapy Practitioner Roles in New Zealand

Leena Naik *DHSc*
Te Whatu Ora (Waitematā), Auckland, New Zealand

Duncan Reid *DHSc*
School of Clinical Sciences, Faculty of Health and Environmental Sciences; Active Living and Rehabilitation: Aotearoa New Zealand, Auckland University of Technology, New Zealand

Steve White *PhD*
School of Clinical Sciences, Faculty of Health and Environmental Sciences; Active Living and Rehabilitation: Aotearoa New Zealand, Auckland University of Technology, New Zealand

Stephen Neville *PhD*
Professor and National Head of Nursing, Te Pūkenga, New Zealand

ABSTRACT

Faced with the burden of musculoskeletal care in New Zealand, this study explores 19 participants' views on the drivers and barriers to developing musculoskeletal advanced physiotherapy practitioner (APP) roles in New Zealand. An exploratory case study methodology was applied, and semi-structured interviews were conducted as one of the multiple data sources. A purposive sampling strategy was used. Data were analysed using qualitative content analysis. This publication primarily focuses on the results of the semi-structured interviews. The results of this research identify unique drivers for the APP role development in the New Zealand context, such as surgeon engagement, legislative requirements, and profession-led issues, in addition to global drivers. Interviewees identified that the barriers relate to New Zealand's dual healthcare system and its nuances that impact patients and physiotherapists. Additional barriers include a lack of title and recognition, funding and career pathway, training, and inter-professional and intra-professional barriers. This research explores the reasons for the limited uptake of APP roles in the New Zealand context despite strong drivers. Interviewees advocate the development of APP roles as first-contact practitioners for patients presenting with musculoskeletal complaints to improve patient journey, streamline services, and provide timely, effective, and efficient care. They recommend that APP roles are tailored to meet New Zealand's unique healthcare drivers.

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INTRODUCTION

Musculoskeletal conditions are the world's fourth-largest disease burden (Briggs et al., 2016). They represent 12% of the non-communicable diseases in New Zealand (Ministry of Health, 2020b), affecting one in four New Zealanders (Bossley & Miles, 2009) and accounting for 23% of New Zealand's total annual health spending (Deloitte Access Economics, 2018). Research highlights that 59% of health expenditure is related to non-communicable diseases, and neurological and musculoskeletal conditions contribute to the largest healthcare costs and morbidity (Blakely et al., 2019). The New Zealand healthcare system has significant ongoing challenges in delivering equitable and consistent care within its current resources (Ministry of Health, 2020a). These challenges are driven by increasing demand for healthcare due to several factors, such as economic constraints, workforce shortages, health inequalities, an increasingly ageing population living with long-term conditions, and new expensive technologies and medications (Ministry of Health, 2016).

The current management strategies for long-term conditions such as arthritis can sometimes result in unnecessary investigations and hospitalisation (National Health Committee, 2015). Globally, the same drivers have prompted a rethink of the approaches to improve access to care and reduce the burden of musculoskeletal disease. One such strategy is the establishment of an advanced physiotherapy practitioner (APP), who has been employed to reduce waiting times for medical consultations and improve the cost-effectiveness of services (Hussenbux et al., 2015; Trøstrup et al., 2020). International literature covers (Marks et al., 2017; Thompson et al., 2017; Trøstrup et al., 2020) multiple facets of this role; however, little is known about the APP role development in the New Zealand context.

APP terminology

There is ambiguity around the terminology used to describe APP roles. The most common terms, "APP" and "extended scope practitioner" (ESP), are often used interchangeably (World Physiotherapy, 2019). The term advanced physiotherapy

practitioner (APP) will be used for this paper, as this is the most prevalent term used worldwide. However, it should be noted that the term advanced practice physiotherapist, as per the Physiotherapy Board of New Zealand (PBNZ) scope of practice will be spelt out in full to avoid confusion.

International context and APP roles

The United Kingdom (UK) has been a forerunner in developing the APP role (Blackburn et al., 2009). In the 1980s, APP roles naturally evolved, initially due to the collaborative work with orthopaedic surgeons in the National Health Service in an attempt to manage long waiting lists and free up surgeon time to perform more surgery (Byles & Ling, 1989; Hockin & Bannister, 1994). This role was later underpinned by health legislation (injection, prescribing) changes and government policies. In the UK, the APP roles are more prevalent in orthopaedics, rheumatology, and musculoskeletal settings than other sub-specialities within physiotherapy, such as cardiorespiratory, neurology, or pelvic health (Burn & Beeson, 2014). Australia has developed APP roles primarily in the emergency department and musculoskeletal settings (Crane & Delany, 2013; Morris et al., 2015). In Canada, APP roles have evolved in arthritis care management, joint arthroplasty, and orthopaedic triage (Desmeules et al., 2012; Norman et al., 2015).

Internationally, APPs can undertake advanced clinical practice and manage complex case workloads across various settings (Chartered Society of Physiotherapy, 2016; National Health Service, 2017). APPs possess the clinical skills and capability required to act as first specialist assessors for musculoskeletal conditions (de Gruchy et al., 2015; Marks et al., 2017). In the UK, APP clinicians can autonomously request radiological investigations and blood tests, inject, prescribe, and refer patients for appropriate specialist assessments, such as orthopaedics, rheumatology, and neurology (Durrell, 1996; Marks et al., 2017). However, the scope of practice of an APP in Canada and Australia is dependent on their jurisdictional legislative regulations (Martinello et al., 2017).

Research into APP roles suggests that instigating the APP role within a secondary or primary care framework allows health sectors to access clinically effective, cost-efficient services, deliver appropriate healthcare, and meet health targets (Goodwin & Hendrick, 2016; Oakley & Shacklady, 2015). Studies suggest that APPs are 88% clinically concordant with their medical colleagues (diagnosis, investigative choices, and management options) (Desmeules et al., 2013), and they can direct the entire spectrum of care from triage to discharge (Burn & Beeson, 2014; Thompson et al., 2017). These roles have also been shown to reduce waiting times by 26%–87% (Hussenbux et al., 2015; Razmjou et al., 2013; Trøstrup et al., 2020). Additionally, patient satisfaction with these roles was reported to be high across many musculoskeletal service settings (Thompson et al., 2017; Trøstrup et al., 2020).

New Zealand health context and physiotherapy

Since 1938, New Zealand has offered government-funded healthcare. State-owned hospitals deliver public hospital services through the entity of Te Whatu Ora – Health New Zealand. This entity was developed in 2022 by combining all the District Health Boards (DHB) in New Zealand (Ministry of Health, 2022). In contrast, primary health services are provided by self-employed private practitioners (e.g., GPs, physiotherapists) (Ashton et al., 2005). Consequently, the health system in New Zealand is dichotomous (a situation unique to New Zealand), commonly described as a "dual system", in which hospital care is predominantly publicly funded by the Ministry of Health, and primary care is mainly private, albeit subsidised by the Ministry of Health (Starke, 2010). New Zealand has another unique entity embedded within its healthcare system: the Accident Compensation Corporation (ACC). ACC was established in 1974 as a no-fault accident compensation scheme for work and personal injuries sustained in New Zealand, and is a quasi-government social insurance scheme predominantly funded by employer levies (McNaughton & McPherson, 2000). Other schemes, like the accredited employer scheme, also deliver injury compensation and rehabilitation.

In the current model of musculoskeletal healthcare delivery in New Zealand, patients with a diagnosis of injury-related care are generally referred to ACC. Patients managed under the ACC scheme have been shown to have shorter waiting times for their specialist assessments and treatment than those not covered by the Act, as they can access care through the private sector (Accident Compensation Corporation, 2022, 2023a, 2023b). In contrast, non-accident-related conditions such as osteoarthritis are managed through Te Whatu Ora and experience longer waiting times (National Health Committee, 2015). Referrers choose multiple pathways and providers, resulting in multiple entry points into the Te Whatu Ora system. Patients referred to the orthopaedic surgeons in Te Whatu Ora have sometimes failed to optimise conservative treatment to its fullest potential (Abbott et al., 2022); hence, they are allocated low priority for orthopaedic assessment. This leads to increasing volumes of patients on a waiting list to see a surgeon, where surgery may not be the best option (Abbott et al., 2022). Waitlists cause inefficiencies in service delivery and adds to the chronicity of symptoms.

Workforce analysis in New Zealand indicates that 58% of physiotherapists work in the private sector as primary care providers, 25% work in the public sector, and 17%, work in academia and other institutions (Reid & Dixon, 2018). Physiotherapists working in the private sector have a significant part of their work funded by ACC (Reid & Larmer, 2007).

The fundamental role of the Physiotherapy Board of New Zealand (PBNZ) is to define scopes of practice and regulate the physiotherapy profession to safeguard the public. The PBNZ currently recognises three scopes of physiotherapy practice (generalist, specialist, and advanced practice physiotherapist scope) based on key competencies. Until 2012, all physiotherapists had a generalist scope of practice. The New Zealand College of Physiotherapy was created in 1989 to promote and coordinate continuing education for physiotherapists and establish a route to specialisation in physiotherapy. The New Zealand College of Physiotherapy membership comprised accredited APPs, honorary life members, and fellows. This entity dissolved in 2015. The PBNZ then undertook the work on the specialisation that originated with the New Zealand College of Physiotherapy,

and the physiotherapy "specialist scope" was gazetted in 2012. Specialists are accredited by the PBNZ depending on their clinical, leadership, and research competencies. The PBNZ approved the advanced practice physiotherapist scope in October 2020 and created its key competencies in 2022 (Physiotherapy Board of New Zealand, 2020, 2023b). Of the 7,556 physiotherapists registered with the PBNZ on 1 April 2022, 13 were registered as specialists, but currently, the PBNZ has no registered advanced practice physiotherapists (Physiotherapy Board of New Zealand, 2022).

Rationale for study

There is little published literature on APP roles and delivery models in the various service sectors in New Zealand. Generally, these roles appear to have been created on an ad-hoc basis, depending on individual organisational needs and funding (Naik, 2016, 2021). APP roles were first piloted in a public hospital in New Zealand in 2002 (Hames & Exton, 2010) to assist orthopaedic services in reducing their spinal waiting lists. The *Musculoskeletal Workforce Service Review* in 2011 (Ministry of Health, 2014) also recommended the development of APP roles to improve musculoskeletal healthcare delivery; however, none have been established to date. It is unclear why these roles have not gained traction in New Zealand. Therefore, this study explored the *drivers and barriers to the development and recognition of APP roles in New Zealand.* A better understanding of drivers and barriers will facilitate the establishment of APP roles and reap the benefits reported from analysis of the impact of these roles in other countries.

METHODS

Ethical approval was granted by Auckland University of Technology Ethics Committee (reference 19/141).

Methodology

A case study methodology was chosen (Merriam & Tisdell, 2016; Yin, 2018). Semi-structured interviews were utilised as one of the multiple data sources. This multi-perspective, in-depth approach enabled the researcher to interpret multiple realities and construct meaning from participant voices (Sandelowski, 1995).

Reflexivity

The research team comprised an orthopaedic physiotherapy practitioner, who was the first author and completed this research in partial fulfilment of her doctoral studies (LN), a professor of physiotherapy (DR), a senior lecturer in physiotherapy (SW), and a professor of nursing (SN). LN has lived experience of APP roles, having worked in two countries in a similar role. The academic physiotherapy team provided insights into the content of the APP role, whereas the academic nursing author provided qualitative research experience and support with methodology. Research meetings and information sharing enabled discussion, sharing of perspectives, and drawing of threads shaping the data interpretation and development of insightful rich analysis.

Sampling

Purposive sampling was chosen to identify participants who would best contribute to the research question's complexity, depth, and context surrounding the phenomenon. Participants were chosen to provide a broad perspective on the APP role and included those implementing (for their lived-in experiences), influencing, legislating, or providing governance to the role. Two cohorts of participants, group A (physiotherapists) and group B (stakeholders), were selected based on the inclusion/exclusion criteria in Table 1.

Recruitment

Semi-structured interviews were conducted with an initial 20 participants; however, one dropped out due to perceived risk of identification, leaving a final sample of 19. Physiotherapy New Zealand (PNZ) advertised the research to New Zealand College of Physiotherapy accredited APPs. PBNZ specialists were approached directly. The DHB leadership special interest group were asked to advertise the research to their members. Some participants also suggested suitable participants to interview.

Table 1

Inclusion and Exclusion Criteria

Group A – Physiotherapists	Group B – Stakeholders
Inclusion criteria	
Consenting physiotherapists with current PBNZ annual practising certificate. All PBNZ accredited musculoskeletal specialist physiotherapists. Physiotherapists accredited by the former COP as musculoskeletal APP. The generalist physiotherapists working in APP roles or undertaking an extended or advanced practice.	Consenting stakeholders. Medical or surgical clinicians working alongside APP roles. Managers of health services, ACC with knowledge of their individualised services and knowledge of APP roles. Representatives of the legislative or professional physiotherapy body with knowledge of their individualised services and APP roles.
Exclusion criteria	
Medical consultants and DHB managers from the organisation that the researcher worked for to avoid any conflict of interest. Other allied health professionals who were not physiotherapists.	

Note. ACC = Accident Compensation Corporation; APP = advanced physiotherapy practitioner; COP = College of Physiotherapy; DHB = District Health Board; PBNZ = Physiotherapy Board of New Zealand.

A participant information sheet (detailing the background of LN and credentials of coauthors, the purpose for conducting research and sampling, the process of participation and withdrawal, research process, and protection of privacy and confidentiality) and a consent form were provided to each participant before the interview. All participants signed their consent forms.

An interview protocol template was designed by LN and discussed with the rest of the research team. This protocol template was utilised to ensure all aspects of the interview were covered (including the completion of the consent form and the interviewee's consent for recording the interview) (Appendix A). Questions were designed by LN and discussed with the research team to capture the multiple facets within the APP role (inclusive of: knowledge of current literature, the current practice of APP clinicians in New Zealand, participants' opinions on the advanced scope of practice, training requirements for APP role, recognition and career pathway, governance, and niche for the APP role).

Five in-person interviews were carried out in the interviewee's workplace, and 14 individual interviews were conducted with a video conferencing service (either Skype or Zoom). Interviews lasted 60–90 min. In person interviews were recorded using audio recording, and video conferencing interviews were recorded using audio and visual recording. The video recording was deleted after transcription. Two initial pilot interviews were included in the final data. LN transcribed the interviews, and the transcripts and coding were shared with the other three researchers. The interview transcripts were returned to the interviewees for review. Interviewees checked these to verify that the transcripts were accurate interview records both contextually and literally. LN kept a diary to note specific characteristics, information, and inferences that guided the interpretation of findings. Data saturation was reached when participants reiterated concepts; therefore, further data collection was deemed unlikely to add new insights. Participants' data were anonymised (due to the small sample size and risk of identification in a small country) using pseudonyms for data analysis. The Consolidated Criteria for Reporting Qualitative Studies (COREQ) (Tong et al., 2007) was used to demonstrate all requisite qualitative details of research are noted.

Analysis

Data analysis utilised an interpretivist approach to understand the socially constructed meaning of the APP role in its current context based on local and international knowledge while recognising the evolutionary changes in New Zealand (Sandelowski, 1995, 2000). Data were analysed using qualitative content analysis (Priest et al., 2002). Qualitative content analysis involves condensing and distilling qualitative data into categories based on valid inferences and interpretations. It uses the process of inductive reasoning and constant comparison that enables the researcher to develop categories and themes. Data were coded by LN using Graneheim et al.'s (2017) template. The use of the template enabled the researcher to make transparent the process of deriving the results from the raw data. LN shared the coded data and derived categories with the whole research team. The team's insight and collective knowledge contributed to the inductive and deductive interpretation of the findings.

The data underwent two cycles of coding, distillation, and condensation before three overarching categories and sub-categories were derived. The categories were created to capture the drivers and barriers to APP role at strategic, organisational, and professional levels.

RESULTS

Out of the 19 participants included in the study, 14 were physiotherapists (six specialists accredited by PBNZ, two were New Zealand College of Physiotherapy accredited APPs (note that this accreditation system is now obsolete), two physiotherapists from sports, one from the emergency department, and three from musculoskeletal outpatient settings). Five participants were stakeholders (a surgeon, sports medicine specialist, ACC manager, and one representative each from PBNZ and PNZ. Quotes from participants have been categorised into APPs (all of who were generalist physiotherapists working in an advanced role), New Zealand College of Physiotherapy APPs, Physiotherapy Board of New Zealand designated specialists (Physiotherapy Specialist) and stakeholders (ST).

Findings related to sub-categories drivers and barriers for APP role in New Zealand were spread across the three categories: "workforce development", "service development", and "professional development", as seen in Figure 1.

Workforce development

The *workforce development* category addresses APP workforce development and alignment with the strategic drivers. Workforce development is driven by healthcare expenditure, service demand, workforce shortages, and an inadequate skill mix (Ministry of Health, 2006). The key drivers within the category workforce development relate to improvement in patient outcomes, access to care, strategic drivers, and legislative drivers. The barriers within this category relate to the duality of the health system and its impact on physiotherapists and patients.

Improvement in patient outcomes

A dominant theme from the interviews focused on developing APP roles as an important area of workforce growth in New Zealand to help reduce wait times for orthopaedic services. There was consensus on the need to deliver clinically effective, cost-effective, accessible, and timely healthcare to patients. Some (n = 6) PBNZ specialists and New Zealand College of Physiotherapy APPs stated that decreasing waiting times (from the onset of symptoms to access appropriate healthcare) reduced downstream effects on patients, such as disability, pain, time off work, and psychosocial impact. Most (n = 17) interviewees emphasised that seeing the right clinician in a timely manner improved patient outcomes and experience.

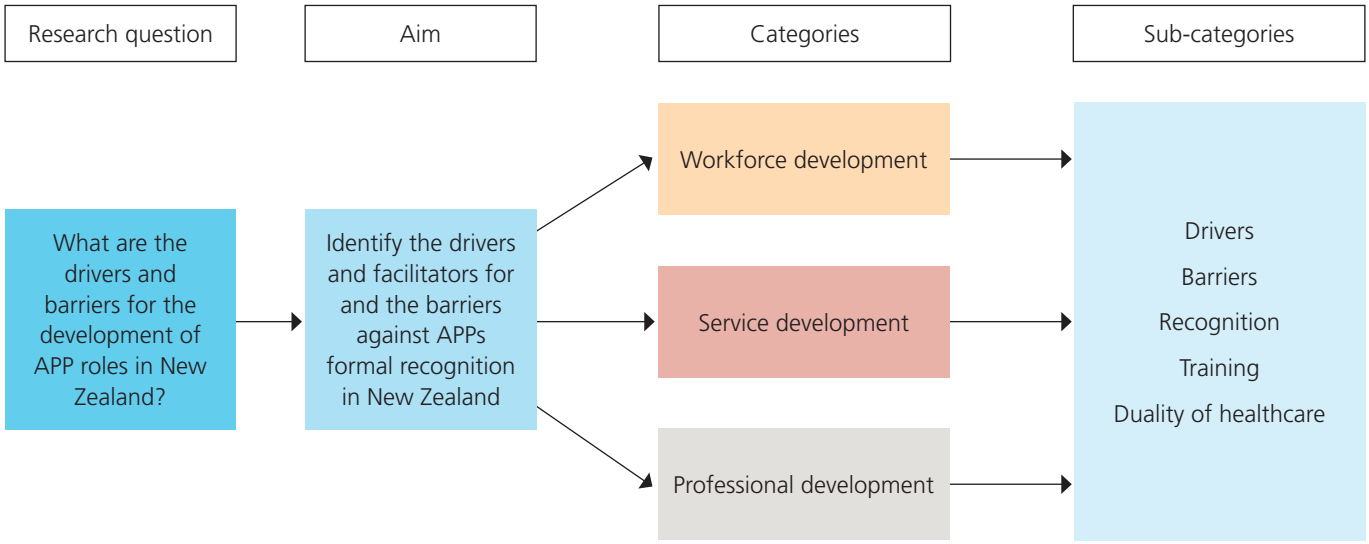
> Where can we and what can we do to lead to a significant piece of [patient] outcomes? So, whether that is an improvement in the timeliness of services they receive, workforce gap, the quality of care, or better outcomes. (ST5)

Access to care

Some (n = 6) interviewees acknowledged that due to the geography of New Zealand and workforce shortages of orthopaedic specialists, long waiting lists affected early

Figure 1

Diagram of Research Question, Its Aim, Development of Categories and Sub-categories



and timely access to musculoskeletal care. The two medical stakeholders working with an APP and a New Zealand College of Physiotherapy APP respectively, recognised the added value they provided due to their unique clinical and communication skill sets and ability to manage care across various settings. These interviewees perceived the clinical skills of the APP as equivalent to a senior registrar and that the APPs would provide timely non-surgical care to patients until they required surgical intervention.

> Not so much in Auckland, but there is a long wait to see the orthopaedic specialists in other parts of the country. … Advanced scope practitioners would probably lessen the time for some of these people being seen, being imaged, being investigated, and determine whether they can go down the surgical or non-surgical pathway. (ST4)

Strategic drivers

Some (*n* = 4) PBNZ specialists and stakeholders highlighted that the Ministry of Health policies such as *Better, Sooner, More Convenient Health Care* (Ministry of Health, 2011), *New Zealand Health Strategy* (Ministry of Health, 2016), and *Musculoskeletal Workforce Service Review* (Ministry of Health, 2014) documents supported upskilling of the allied health workforce to meet the healthcare needs and deliver equity within services.

> The 2016 New Zealand health strategy is looking for innovation. The resources available to deliver healthcare are not increasing at the same pace as our population … So, I think being able to reimage the health system and how that is delivered and pushing care from inside hospitals to more being dealt with within the community. (ST3)

One New Zealand College of Physiotherapy APP stressed the importance of matching the population's cultural needs with the appropriate APP from Māori, Pacific, or other cultural backgrounds to deliver equity of care "We are a multicultural society … we should be thinking about potentially something that we could have advanced practitioners with a Māori ethnic background and Pacific as well" (New Zealand College of Physiotherapy APP1).

Legislative driver

There was consensus among all interviewees that the PBNZ as a regulator would define the new APP scope to safeguard the public. Most (*n* = 9) interviewees stated that a regulated recognition of scope would direct its standards and governance. Physiotherapy interviewees believed that recognising APP as a distinct scope could facilitate a structured career pathway and tiered funding from all funders. For example, one participant stated that "I think certainly a regulated role; a separate scope of practice would provide more safety for the public around the roles … It may also facilitate the funding streams if we look at a tiered funding structure" (Physiotherapy Specialist 1).

Duality of healthcare and its impact

A strong theme related to the duality of the unique New Zealand health structure and its impact was evident throughout the interviews. Several (*n* = 13) interviewees identified a significant barrier to APP development related to the unique New Zealand dual health structure. Physiotherapy interviewees discussed this barrier through its impact on physiotherapists and patients. Some (*n* = 5) interviewees stated that since ACC was created in the 1970s, most injury-related cases were transferred to the private sector. They believed this had altered the physiotherapy structure in New Zealand, resulting in private physiotherapists focusing on delivering injury-related care through ACC. This enabled Te Whatu Ora to transfer its injury-related cases to ACC while managing its non-injury-related workload. They thought that this had led to the fragmentation of services.

> One can see clearly from the UK perspective what the drivers are … Yes, there are drivers from within the public health system here, but we do have a dual system, particularly in musculoskeletal, because of the ACC. Having ACC completely changes the structure of regular physiotherapy in New Zealand. They did that back in the 70s. So basically, because the public health service could literally divorce itself away from musculoskeletal conditions and hand them over to the private sector. It did. Therefore, the vast majority of musculoskeletal services … things that can be put down to some sort of accident are handled by the private sector. You will notice that there is no real major waiting list problem. (Physiotherapy Specialist 6)

Impact on physiotherapists

Several (*n* = 11) physiotherapy interviewees highlighted that the two sectors in New Zealand had two distinct career paths for physiotherapists. A few stakeholders (*n* = 2) expressed bewilderment at the expectation of a unified career pathway for physiotherapists working in the two sectors as each sector presented its unique environment. A few (*n* = 3) physiotherapy interviewees stated that Te Whatu Ora had a well-structured and remunerated managerial pathway but lacked a similar clinical path. Several (*n* = 10) physiotherapy interviewees and stakeholders perceived that Te Whatu Ora had a defined salary scale and designated roles for APP; however, this pathway was lacking in the private sector.

> The majority of our profession in New Zealand works in private practice, not in the DHBs. The DHBs, now all have these roles, which they call advanced roles in terms of the description on the MECA [multi-employer collective agreement]. Nothing like that exists in private practice, so what the private practitioners are saying is that we want recognition and a career structure … For many private practitioners, the only way they can get that recognition is by having that scope of practice. (ST2)

Meanwhile, the few (*n* = 3) clinicians working in Te Whatu Ora reported a lack of sustainability within their role, lack of recognition (within the organisation and by medical and wider healthcare professionals), and limited funding budgets (dependant on funding for roles being reapproved), which led to a cycle of the roles being created and disestablished.

Impact on patients

Most (*n* = 9) interviewees reported that the Te Whatu Ora sector's long outpatient and surgical waiting times compounded a patient's disability and wellness compared to ACC patients. ACC patients had shorter waits than patients seen in Te Whatu Ora and were entitled to specific treatment session allocation through ACC. However, through ACC funding, there was a restriction on treatment modalities, sometimes limiting the patient's options. If ACC did not cover a patient, there were financial implications if a patient used private physiotherapy. Interviewees (*n* = 12) felt that musculoskeletal patients were grouped and treated depending on whether they fulfilled accident-related criteria. Interviewees stated that this duality encouraged unhealthy behaviours (accessing healthcare systems and treatment), in both the patients and clinicians: "This [dual healthcare system] drives behaviours, and that goes for the professionals, the patients, the users, and the services are driven by the funding models and the structures that we put in place" (APP5).

Reservation about the needs and benefits of APP role

Some (*n* = 5) interviewees stated that they could see the reasons for role development in the UK due to a predominant public-funded universal healthcare. While they agreed there were reasons to justify these roles in Te Whatu Ora, they failed to see how this could add value in the private sector, as it had no waiting lists. One interviewee felt that APP filling medical roles was not the way forward as the underlying issues needed to be addressed. This interviewee believed the physiotherapy workforce should focus on their key role as a physiotherapist rather than engaging in task or role substitution. Some (*n* = 5) interviewees considered the APP role should be developed; however, they expressed concern about the role being used without the appropriate recognition and remuneration.

Service development

The *service development* category highlights the APP engagement in the broader health context, delivering organisational service objectives. The key drivers in this category relate to the individual sectors' service needs and the surgeon as a driver; meanwhile, the barriers relate to inter-professional pushbacks and reservations.

Service needs in Te Whatu Ora

Several (*n* = 11) interviewees highlighted that the Te Whatu Ora requirements to meet the Ministry of Health objectives (waiting times, service quality, and patient-driven targets) were drivers for creating APP roles. The majority (*n* = 12) of interviewees considered that the APP's ability to provide a "one-stop shop" to differentiate surgical versus non-surgical conditions and manage non-surgical patient care would improve patient outcomes. These interviewees felt that this would streamline the patient journey, reduce the number of professionals seen, and shorten wait times or lengths of stay. Some (*n* = 6) stakeholders emphasised that the increased demand for healthcare in a Te Whatu Ora setting versus shortages of medical doctors (creating a lack of access to care, unmet need) and lack of surgical space provided an impetus for establishing an APP role. One participant stated: "What would be the drivers for it [APP]? I think the overwhelming need for medical treatment and the under-resourcing of medical staff and resources of theatre space" (ST4).

Some (*n* = 5) interviewees identified that APPs were necessary in the emergency department to triage and support the discharge of complex hospital admissions and reduce repeated admissions and presentations. Additionally, some (*n* = 6) interviewees recognised the inherent complexity of Te Whatu Ora patients and considered the ability to manage complex, long-term conditions essential for Te Whatu Ora clinicians.

Service needs in the private sector

Most (*n* = 8) interviewees stated that the drivers for creating APP roles in the private sector seemed to relate to the insurer's (ACCs) service needs. Interviewees thought other drivers for APPs in the private sector stemmed from patients seeking improved care outcomes, stakeholders seeking second opinions, and PBNZ specialists referring patients for rehabilitation (specialist ACC contract primarily funds assessment). Most (*n* =

9) interviewees believed that medical professionals (i.e., doctors) were striving for better standards of care for their patients.

> So, there is a driver to improve standard of care for their patients from an insurance company provider. Also, drivers, I guess from outside our profession but within the medical community looking for better standards of care for the patients. I think then there are probably drivers from the patients themselves … who have had substandard levels of care and they are looking for experts. (Physiotherapy Specialist 4)

Inter-professional barriers

Several (n = 15) interviewees suggested that APPs could complement surgeons and GPs to manage their musculoskeletal workload and improve the quality of patient care. However, they also highlighted that sometimes their medical and other health colleagues felt challenged by their skill sets and had concerns about their extension of scope of practice.

> Other barriers may be from other health professionals such as GPs or maybe specialists if they do not have the confidence in physiotherapists taking on more extended roles … I know that there were issues in terms of GPs concerned about patients going directly to physios that potentially they were going to miss a diagnosis and red flags. (New Zealand College of Physiotherapy APP1)

All interviewees described the pushbacks and attitudes of medical and non-medical professionals. A few (n = 3) interviewees expressed that the medical professionals possibly felt comfortable referring patients to another doctor rather than an APP. They also felt that integrating new APP roles into the existing teams could be perceived as disruptive. Two Te Whatu Ora physiotherapy interviewees reported institutional barriers in the form of rejection of non-medical prescribing for high-tech medical imaging. In contrast, interviewees with medical backgrounds were more supportive of APPs' investigative and injection scope of practice, provided this was appropriately supervised. They expected good governance and strong academic and supervisory underpinning of these advanced skills. The two medical stakeholders discussed the importance of these roles being complementary to the current medical roles as opposed to "instead of" to avoid pushbacks and resistance from medical practitioners concerned about encroachment on their scope of practice.

> There will always be resistance to people wanting to extend scope if you are going into what is seen as a scope of someone else because there is an automatic threat to that professional group's role and their identity and purpose and then ultimately their financial security around that. (ST5)

Surgeon drivers and barriers

All Te Whatu Ora interviewees identified the surgeon as an important driver of change. In their experience, the surgeon advocated for the role within the medical profession and supported the establishment and development of these roles: "At this stage, the individual surgeon is the driver. Judging by the other centres doing it, it has one surgeon who has an interest or assumes that role of supervising, and they must be willing to take that time" (APP3).

In contrast, the surgeons' lack of willingness to engage in an alternative care model was also flagged as one of the main barriers: "Some surgeons are very open to it, and some are not very open to it and, in fact, are overtly obstructive to the process" (Physiotherapy Specialist1).

Professional development

Professional development explores the physiotherapy profession's views on APP roles at a professional development level. The key drivers and barriers for the category professional development were the development of/or lack of a career pathway, training opportunities, and recognition. A unique intra-professional barrier was also identified.

Career pathway

Several (n = 10) interviewees stated that the current specialist pathway was unachievable for some senior clinicians due to its academic and research requirements. They outlined that the APP role development would provide recognition for clinicians with considerable experience and qualifications striving to excel clinically, create career pathways for the profession, and provide clinical leadership opportunities. They believed that developing a career framework within both sectors with an additional scope of APP would reduce attrition in the profession. However, barriers in the form of lack of recognition, career pathway, funding, and title limited the opportunities for growth and development of the physiotherapy workforce in New Zealand. One participant noted: "Our job description is … physio, so it is given that these people need title recognition. …There is hopefully a career progression and pay scale as well" (APP1).

Training opportunities and barriers

Most (n = 16) interviewees considered an APP role the epitome of clinical competence. They believed robust training, such as master's level training was essential for critical thinking and reasoning. Additionally, on-job training and bespoke standardised APP courses would further augment the role. However, the lack of relevant master's and targeted accredited post-graduate courses limited the APP role development.

> Currently, there appears to be on-the-job training, which obviously is very variable between DHB or whoever is providing the training for us. None of it is standardised. I think there needs to be a specific course set up for training these [APP] roles. (APP3)

Difficulties in accessing continuing education, funding, and time for this commitment and the ability to do research were also reported as barriers.

Recognition

Nearly all interviewees indicated that different stakeholders expected different things from role recognition. In their opinion, physiotherapists wanted recognition of their skills, but patients wanted clarity on advanced physiotherapy skills; on the other hand, funding bodies wanted cost-effective physiotherapists with advanced skills who would deliver on health targets. Interviewees thought that recognition of the APP by the medical profession might give the APP credibility.

> So, hearing from the medical fraternity that we strongly support the ESP [extended scope practitioner] pathway, we are part of it, we communicate with it, we agree with it, and these

> people are trusted and knowledgeable, and experts in the area are all types of things that would be very helpful. (APP4)

All interviewees perceived that legislative titling of the APP role would offer it recognition in the wider healthcare, with stakeholders and the public. They also believed that APP role recognition by key funding bodies Te Whatu Ora, insurers, and ACC would align it with appropriate remuneration.

Intra-professional barrier

Some (n = 10) interviewees expressed an unexpected, unique barrier to the APPs' role; they believed some physiotherapists resisted seeking second opinions from APPs or specialist physiotherapists as they feared colleagues and patients would lose confidence in their skills.

> There is always that fear in the process that if I send the patient to another physio, they will keep hold of the person, and I will lose them as a patient. Possibly again, that fear of passing somebody to someone else that person is going to lose their confidence in me and then might not come back and see me. (APP4)

Several (n = 7) interviewees warned of the potential for professional jealousy and turf wars within the profession if the APP role was established, as they perceived a rift over remuneration.

DISCUSSION

This research is the first to investigate the drivers and barriers to developing musculoskeletal APP roles in New Zealand. The findings from semi-structured interviews with 19 purposively sampled interviewees provide a unique multi-perspectival insight into the APP roles and their working practices, which may be valuable to stakeholders, organisations, and physiotherapists. This research identified various drivers and barriers to APP role development in New Zealand. Most drivers echoed international drivers (Desmeules et al., 2012; Kersten et al., 2007); however, some country-specific drivers, such as surgeon as a champion, legislative requirements, and profession-led catalysts, were identified. Similarly, the unique New Zealand barriers were related to structural barriers in terms of the duality of the health system and intra-professional barriers. There was consensus that barriers to APP role development currently outweighed the drivers. Nevertheless, most interviewees supported the development of the APP role as a solution to its evolving musculoskeletal health needs. They attributed this to the APP's clinical expertise, their ability to work across sectors and manage patients holistically (through the application of non-pharmacological pain management strategies, non-surgical rehabilitation approaches, knowledge of indications for surgical options, and escalation of care) using a biopsychosocial lens. Interviewees emphasised that addressing barriers to APP role development may enable APPs to optimise their impact on the healthcare burden by reducing waiting times, freeing surgeons' time, and improving access to care.

The findings of this research show that APPs could potentially add value to the musculoskeletal patient pathway by providing holistic care to patients, supporting acute and chronic illness management, and delivering continuity of care in a timely manner. These findings echoed the opinions of the international community of physiotherapists, who state that APP role development aims are patient-focused (World Physiotherapy, 2019). World Physiotherapy's recent policy statement stated that the growing body of evidence for APP roles suggested the role is clinically effective, economical, and delivers desirable improved patient outcomes (World Physiotherapy, 2019). Interviewees argued that new APP roles should be created, to complement the musculoskeletal work undertaken by surgeons and GPs.

Improving access to care and meeting patient needs were identified as key drivers for developing APP roles in New Zealand. Stakeholders highlighted that the shortage of GPs and specialists impacted patients' access to care and created a service need. This is supported by findings from the Association of Salaried Medical Specialists, which indicate that the estimated shortfall of medical specialists in Te Whatu Ora in 2019 was 21.8% (Association of Salaried Medical Specialists, 2019). Internationally, this workforce shortage and lack of access to GPs and specialists have been demonstrated to be a main driver for developing the APP role (Desmeules et al., 2012; Goodwin & Hendrick, 2016).

New Zealand's unique dual health system was identified as a key structural barrier as it shaped each sector's operational and funding streams, influencing its physiotherapist's practices, patient behaviours, and expectations of care in individual sectors. A lack of funding negatively impacts the APP role's establishment, implementation, and sustainability in both sectors. Factors such as a lack of recognition, lack of career pathway, and lack of title for senior clinicians across both sectors were further identified as organisational barriers. Some of these findings are congruent with international literature, which states that the development of APP roles is hindered by structural, cultural, and administrative barriers (existing legislation, organisational rules, regulations, and differences between professions and organisations) (Wiles & Milanese, 2016). Nevertheless, an intra-professional barrier is unique to New Zealand and not mentioned in international literature.

Inter-professional barriers from some GPs, consultants, and other medical specialists were also identified. Interviewees recognised the medico-legal concerns, working practices, and reservations of the medical and wider workforce to the development and implementation of the APP role; nevertheless, they also identified the possible impact of the APP role on their medical colleagues' professional identity and financial security. While interviewees recognised this might sometimes be the case, they also recognised the surgeon as a champion of the APP role. This is comparable to the evidence from a review by (Dawson & Ghazi, 2004), which identified that physiotherapists reported the surgeon as both a mentor and a barrier.

A lack of relevant education for the "advanced aspects" of the APP role impacts the creation of APP roles and was identified as another barrier. The findings from the research suggest that establishing accredited tailored post-graduate education courses would result in greater credibility for the role. This supports the findings of Pryor (2012) and Fennelly et al. (2020).

In New Zealand, the regulatory role of the PBNZ to protect public health and safety generates a legislative driver. The PBNZ defines scopes of practice and regulates them and accordingly

has created a scope for the advance practice physiotherapist. Governance of APP roles was identified as a vital regulation standard to counteract the intra-professional barriers identified in this research. This contrasts with the UK's Health & Care Professions Council (HCPC), which has not regulated the APP scope since its inception over the last 30 years (Health & Care Professions Council, 2020). Nonetheless, similar to the PBNZ, HCPC is now considering regulating the APP roles in the UK. In their independent report, HCPC identified that advanced practice reflected the complexity of scope. Some participant groups advocated regulation to assure practice standards and reduce the risk of misuse of titles. However, there was an equal lack of appetite for regulation, which inhibited the profession from rapidly responding to evolving healthcare and advanced scope practice (Hardy et al., 2021). The HCPC perceives it may have a central role in unifying the four UK countries concerning future APP role expectations, educational standards, and governance at advanced levels.

In summary, there is a dominant theme of a perceived need to create an APP role in the New Zealand health context as it adds value to patient care across various settings. However, there were a few reservations. These reservations are related to the task or role substitution by the APP. Some interviewees clearly understood the scope of the APP role and identified a lack of structured career pathways, mentoring, or training to develop the advanced practice. Others identified the lack of recognition for these clinicians. Nevertheless, interviewees in this study believe the clinical expertise of APP practitioners in New Zealand positions them to function as a single point of entry for musculoskeletal services to reduce fragmentation, streamline services, and provide timely, effective, and efficient care.

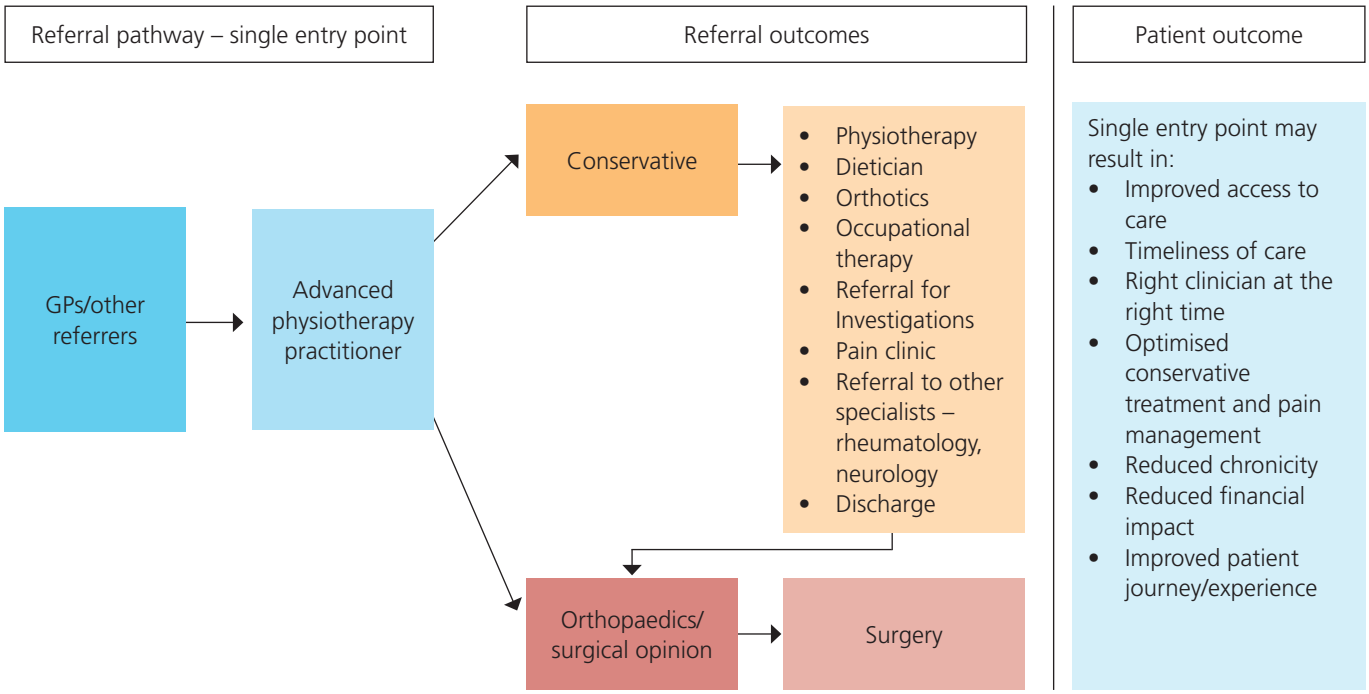
Recommendations

Based on the research findings and recent development of the Advanced Practice Physiotherapist scope by the PBNZ, the following recommendations are made for the success of the APP role in the New Zealand context. This research has explored the reasons for the limited uptake of APP roles in New Zealand despite strong drivers and these findings need to be considered by the stakeholders when considering the development and implementation of APP roles. Complementary working and development of strong partnerships with medical and the wider healthcare workforce, and organisational stakeholders are recommended. This would ensure sound mentoring and clinical governance for the role, development of appropriate funding streams for the sustainability of the position, and organisational and operational support for the APP. A change in practice and delivery of a new model of care with APP as a first-contact practitioner working in collaboration with the orthopaedic surgeon is recommended. The proposed model is depicted below in Figure 2.

Advocacy of the APP role by PNZ is suggested to improve its recognition. Further research is recommended to be carried out into advanced delivery models in New Zealand in varied specialities, clinical and cost-effectiveness of these APP services and education needs of APP. Developing tailored post-graduate courses in conjunction with universities and PNZ is recommended. Finally, to overcome the intra-professional barrier, a peer-review framework for the physiotherapy profession is recommended to augment APP roles across sectors. Utilising the APP in a supervision model and as a source of second opinion would support the generalist physiotherapists.

Figure 2

Proposed Model for Delivery of Musculoskeletal Healthcare with APP as a First-Contact Practitioner



Strengths and limitations

The strengths of this study lie in its purposive sampling, interviewee checks of transcripts, diary, and use of a template to guide multi-perspectival analysis of the research question. This research purposively sampled APPs (generalist physiotherapists working in advanced roles but not accredited by the PBNZ as Advanced Practice Physiotherapists), New Zealand College of Physiotherapy accredited APPs, and PBNZ Physiotherapy Specialists. All participants interviewed worked in the area of musculoskeletal physiotherapy. Therefore, the findings of this research are limited to the population sampled and cannot be applied to other specialities in physiotherapy or differing health systems. This research had a relatively small sample of medical or operational stakeholders, APPs working within Te Whatu Ora, and no patients, which is a limitation and a bias. Lastly, as this case study is qualitative research, the researcher's assumptions associated with having worked as an APP must be acknowledged, and they may be a strength and limitation of this study.

CONCLUSION

This timely study provides a thought-provoking analysis of APP roles in New Zealand by examining their drivers and barriers. Currently, the drivers for creating the APP roles are much stronger in a government-funded system due to inherent issues of long waiting lists, unmet needs, and staff shortages. These drivers are not applicable to the private sector. Instead, the profession visualises the APP role in the private sector to offer a second opinion and backfill the void created by the ACC-PBNZ specialist contract, which primarily funds assessment. This study also highlights the shortcomings of the current model of care offered to musculoskeletal patients in New Zealand, contributing to compromised access to care leading to long wait times, increased chronicity, and financial burden to the country. Interviewees believe introducing an APP role as a first contact practitioner would improve patient flow, patient journey, and associated patient experience. Stakeholders, policymakers, and professional and legislative bodies need to recognise these findings when considering developing and implementing the APP roles in the New Zealand context. In conclusion, there are strong drivers for the creation of APP roles, such as improving patient outcomes, timely access to musculoskeletal care, and being responsive to patient needs; nevertheless, the structural, intra-professional lack of recognition and training barriers need to be overcome to adopt these roles widely in New Zealand.

KEY POINTS

1. There are drivers and barriers to developing APP roles in New Zealand.
2. The APP role adds value within New Zealand's unique healthcare context.
3. The APP role in New Zealand can improve outcomes for patients presenting with musculoskeletal complaints by being the right clinician in the right place at the right time.

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PERMISSIONS

Ethical approval for this research was granted by the Auckland University of Technology Ethics Committee (reference number 19/141).

CONTRIBUTIONS OF AUTHORS

Design conceptualisation and methodology; validation; formal analysis, LN, DR, SW, and SN; Data curation, LN; Writing – original draft, LN; Writing – review and editing, LN, DR, SW, and SN.

ADDRESS FOR CORRESPONDENCE

Leena Naik, Physiotherapy Department, North Shore Hospital, Te Whatu Ora (Waitematā), Takapuna, Auckland 0620, New Zealand.

Email: leena.naik@waitematadhb.govt.nz

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Appendix A

INTERVIEW PROTOCOL

Starting the interview

- Check consent
  - Written and verbal consent form.
  - To record and transcribe interview.
- Inform about duration of interview.
- Provide overview of project and purpose.

Interview

Indicative interview questions for physiotherapists:

1. Tell me about your current extended/ advanced physiotherapy practitioner role/ practice.
2. Tell me your thoughts about the extended/ advanced physiotherapy practitioner role/practice.
3. What do you think should be included in the scope of practice of an extended/advanced physiotherapy practitioner role?
4. What are the facilitators to this role development in New Zealand context?
5. What are the barriers to this role development in New Zealand context?
6. How do you foresee the clinical pathway for this role development?
7. Do you anticipate the extended/advanced physiotherapy clinician needing additional training? If so, how should the training be delivered?
8. What are your thoughts on recognition of the role?
9. How do you envisage the clinical governance for this role?
10. How do you envisage the legislative governance for this role?
11. How should the clinical liability in this role be managed?
12. How should the autonomy in this role be managed?
13. Do you perceive a niche for this role in New Zealand? If yes, state where; if no, explain why?
14. What are your thoughts on remuneration for the role?

Ending interview

- Thank participant.
- Check:
  - Anyone else who I should talk to about this topic.
  - specific documents that participant recommend.
  - Participant aware of verbatim transcript.
  - Transcript will be sent to participant for correction and approval.
  - Can I come back to you if I need further clarification?