Physiotherapy Services Market Review

Review for ACC and Physiotherapy New Zealand

David Moore, Rebecca Rippon, Ashley Milkop, Julius Ohrnberger, Angus White, Hamish Hann, Douglas Yee, Rohan Trill

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Contents

Glossary v

Acknowledgements vi

Overview: key findings and recommendations vii

1. Introduction 1
   - 1.1 Purpose of the market review 1
   - 1.2 About this report 1
   - 1.3 The ACC scheme and private physiotherapy market 2
   - 1.4 Scope of the market review 3
   - 1.5 Approach and methodology 5
2. Demand and needs analysis 8
   - 2.1 There is a need to better understand severity of injury 8
   - 2.2 We examine two aspects of physiotherapy demand 11
   - 2.3 The extensive margin – patterns and drivers of claims 11
   - 2.4 The intensive margin – how much treatment do people get once they have a claim? 16
   - 2.5 There has been a rapid increase in physiotherapy claims in the last few years 19
3. The physiotherapy provider market 23
   - 3.1 Physiotherapists in New Zealand 23
   - 3.2 The supplier landscape has shifted between 2021 and 2024 28
   - 3.3 Patient demographics vary by practice size 32
4. Practice characteristics and cost 33
   - 4.1 Cost modelling scenarios are illustrative of different business experiences 33
   - 4.2 Observations on sustainability 37
   - 4.3 The practice survey provided data to validate assumptions 37
   - 4.4 Feedback on ACC systems and contracts 42
5. Clear markers of inequity and a complex problem to address 43
   - 5.1 Inequity gradients in claims and treatments 43
   - 5.2 Equity of access, experience, and outcome is a complex issue 44
6. Learning from other ways of organising physiotherapy 49
   - 6.1 Areas of focus and information sources 49
   - 6.2 Key recommendations emerging from these models 50
   - 6.3 Opportunities to add value to the wider ACC scheme 51
   - 6.4 Assessment of potential options in the ACC context 52
   - 6.5 Four problems identified with the current commissioning arrangements 52
   - 6.6 Analysis of options against objectives 55

References 60

Appendices

Appendix A Detail of data sources 68
Appendix B Physiotherapists in New Zealand 72
Appendix C Understanding ACC claims data 78
Appendix D Deriving a severity measure 81
Appendix E Describing claimant population 84
Appendix F Additional claim characteristics 88
Appendix G Detail of regression analyses 97
Appendix H The relationship of physiotherapist supply and demand 103
Appendix I Alternative scenarios of demand 107
Appendix J Cost modelling 109
Appendix K Practice survey results: workforce 113
Appendix L Summary of physiotherapy commissioning models in targeted jurisdictions 117
Appendix M Examples of risk-based triaging tools and educational/self-management tools 129

Tables

Table 1: Findings across different domains of sustainability viii
Table 2: Steering group membership 6
Table 3: SA3-level regression results 15
Table 4: Regression results with number of treatment sessions as outcome 18
Table 5: Physiotherapists per 10,000 people by region (2021 to 2024) 26
Table 6: Average entry and exit rates by practice size (2022 to 2024) 30
Table 7: Physiotherapist experience by practice size 34
Table 8: Cost modelling scenarios for different practice types for a billable hour 36
Table 9: Fees range (including GST) - initial vs. follow-up sessions 38
Table 10: Average fees by practice location (including GST) 38
Table 11: Average fees by contract type (including GST) 38
Table 12: Range of appointment times - initial vs. follow-up (minutes) 39
Table 13: Average appointment time by practice setting, (minutes) 39
Table 14: Range of billable time reported 41
Table 15: Range of late cancellations or non-attendance 41
Table 16: Determinants of physiotherapy demand, for claims and number of sessions 43
Table 17: Modelled scenarios of demand for claims compared to observed demand for claims 44
Table 18: Modelled scenarios of demand for therapy sessions compared to observed demand of therapy sessions 44
Table 19: Summary of recommendations for controlling costs from our review of selected jurisdictions 50
Table 20: Options to adjust the current AH contract commissioning arrangements 54
Table 21: Analysis of adjustment options against objectives 56
Table 22: Analysis alternative commissioning options against objectives 58
Table 23: Identified limitations of ACC claims data 78
Table 24: Appropriateness of injury diagnosis inclusion as an ACC claim 79
Table 25: Selected variables for analysis 81
Table 26: Factor loadings of variables with selected principal components 82
Table 27: Summary statistics for physiotherapy patients - 2021 to 2024. 84
Table 28: Summary statistics across outcome variables by client 87
Table 29: Determinants of the extensive margin of demand which are included in the regression analysis 97
Table 30: Descriptive statistics of the sample used for the regression at the intensive margin 98

Table 31: OLS regression results with number of treatment sessions as outcome 102
Table 32: Alternative scenarios of demand 107
Table 33 Modelled scenarios of demand for claims compared to observed demand for claims 108
Table 34: Modelled scenarios of demand for therapy sessions compared to observed demand of therapy sessions 108
Table 35: Cost categories and cost drivers 110
Table 36: Physiotherapist experience by practice size 113
Table 37: Average time in months to recruit a physiotherapist by practice setting 114
Table 38: Funding model inflexibility and misalignment challenges 121
Table 39: Cost/price discrepancy and administrative burden challenges 122
Table 40: Demographic and condition-specific funding gap challenges 123

Figures

Figure 1: Estimate of ACC physiotherapy and other treatment and rehabilitation expenditure, 2024/25 3
Figure 2: Physiotherapy services – Allied Health Services Contract 4
Figure 3: Physiotherapy services – CoTR 5
Figure 4: Project workstream structure 7
Figure 5: Mean severity scores by age band, deprivation decile, ethnicity and gender 9
Figure 6: Mean severity score by type of injury diagnosis 10
Figure 7: Heatmaps of mean severity and mean treatment sessions per claim, by age and deprivation decile 11
Figure 8: Lodging provider by quarter of year, deprivation decile, ethnicity and age band 12
Figure 9: ACC physiotherapy claims lodgements by month of year between 2021 and 2024 13
Figure 10: Number of claims per 1,000 population 14
Figure 11: Boxplot of number of treatment sessions by age band and deprivation decile 17
Figure 12: Boxplot of number of treatment sessions by ethnicity 17
Figure 13: Relative growth across claims, sessions, and population (2015 base year) 20
Figure 14: Age-standardised claims per 1,000 population by lodgement year and ethnicity 20
Figure 15: Average number of treatment sessions per claim, by contract type, 2021 to 2024 21
Figure 16: Distribution of physiotherapy services sessions, 2020/21 to 2024/25 22
Figure 17: Forecast total physiotherapists in New Zealand per 100,000 population (2025 to 2035) 23
Figure 18: Physiotherapists claiming each month (January 2015 to December 2024) 24
Figure 19: Number of physiotherapists by contract type and month (2021 to 2024) 25
Figure 20: Physiotherapists per 10,000 people by territorial authority, 2024 calendar year 27
Figure 21: Physiotherapists per 10,000 by weighted deprivation decile 28
Figure 22: Number of practices by practice size 29
Figure 23: Entry and exit rates of physiotherapy businesses by practice size 30
Figure 24: Proportion of physiotherapists by practice size and contract type 31
Figure 25: Percentage of annual total claim costs by practice size (2021 to 2024) 31
Figure 26: Distribution of 2021 to 2024 average patient demographics by practice size 32
Figure 27: How time is spent (adjusted percentage of all responses) 40
Figure 28: Billable time by number of physiotherapists 41
Figure 29: Practice sample characteristics 70
Figure 30: Survey respondents by physiotherapy business size (number of physiotherapists) 71
Figure 31: Survey respondents by location of physiotherapy business 71
Figure 32: Physiotherapists holding annual practising certificate, by practising year (2016 to 2025) 72
Figure 33: Graduate and overseas-based new registrations by year (2016 to 2025) 73
Figure 34: APC holders in 2025 by age and gender 74
Figure 35: APC holders in 2022 by age and gender 74

Figure 36: Annual practicing certificate holders in 2024 75
Figure 37: Distribution of total sessions per year among AH contract physiotherapists (gold) and CoTR physiotherapists (purple), 2021 to 2024 average 76
Figure 38: Median length of a physiotherapy session by contract type 76
Figure 39: Distribution of estimated FTE among CoTR physiotherapists (2021 to 2024 average) 77
Figure 40: Scree plot of derived factors and their explained variance of the selected variables 83
Figure 41: Claim lodgements by ethnicity per month from 2021 to 2024 88
Figure 42: Claim lodgements by deprivation decile per month from 2021 to 2024 88
Figure 43: Claim lodgements by age band per month from 2021 to 2024 89
Figure 44: Number of claims per 1,000 population by territorial authority and deprivation decile 90
Figure 45: Number of claims by territorial authority and deprivation decile 91
Figure 46: Number of claims per 1,000 population by month and TA 92
Figure 47: Proportion of sport-related injury claims by age band and month 93
Figure 48: Proportion of sport-related injury claims by ethnicity and month 93
Figure 49: Proportion of injury claims by scene of injury and month 94
Figure 50: Boxplots of days from injury to first physiotherapy session, by age and deprivation 95
Figure 51: Boxplots of days from injury to first physiotherapy session, by rurality and ethnicity 95
Figure 52: Claims by physiotherapists: observed and adjusted for supply related demand 105
Figure 53: Relationship of supply and variations in demand 105
Figure 54: Importance of factors encouraging physiotherapists to stay with their practice, as ranked by survey respondents 114
Figure 55: Type of physiotherapist typically recruited by survey respondents. 115
Figure 56: Distribution of agreement levels across factors contributing to physiotherapist recruitment challenges 115
Figure 57: Distribution of agreement levels across factors contributing to physiotherapist recruitment challenges by practice location 116
Figure 58: JIGSAW-E: supported self-management for joint pain 129
Figure 59: Outline of SelfBack intervention. Tailoring questions presented in (Sandal et al., 2019) 130
Figure 60: SelfBack App 131
Figure 61: Screenshot of the SelfBack app: plan screen and a screen shot of the three main components of the self-management intervention: physical exercises, education, and physical activity 131

Glossary

Abbreviation	Stands for
ACC	Accident Compensation Corporation
ACL	Anterior cruciate ligament
AH contract	Allied Health Services Contract
APC	Annual practising certificate
CoTR	Cost of Treatment Regulations
FTE	Full time equivalent
GCH	Geographic Classification for Health https://rhrn.nz/gch/about-gch
GP	General practitioner
ICPMSK	Integrated Care Pathways Musculoskeletal
MBIE	Ministry of Business, Innovation and Employment
MELAA	Middle Eastern, Latin American, African
MRI	Magnetic resonance imaging
NHS	(United Kingdom) National Health Service
PBNZ	Physiotherapy Board of New Zealand
PCA	Principal components analysis
Physiotherapy supplier	Entity or business contracting with ACC to provide physiotherapy services
PNZ	Physiotherapy New Zealand
REoI	Request for expression of interest
SA2/3	Statistical Area 2/3 (a small geographical area) https://www.stats.govt.nz/information-releases/geographic-boundaries-annual-release-as-at-1-january-2025/
SECA	Health NZ Single Employer Collective Agreement
TGDNB	Transgender, gender diverse, or nonbinary
TI	Training for Independence
UK	United Kingdom
VRS	Vocational Rehabilitation Service

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The review team considered all input and feedback received through the project, however the views expressed in this report are those of the authors.

Ngā mihi nui.

Overview: key findings and recommendations

Accident Compensation Corporation (ACC) and Physiotherapy New Zealand (PNZ) commissioned Sapere to undertake an independent review of the physiotherapy services market in New Zealand, in the context of ACC services.

Both parties see potential to improve the system. ACC has observed the number of claims increasing and a year-on-year expenditure increase, for this part of physiotherapy, of 12 to 14 per cent per year since 2022. PNZ has observed cost pressures on physiotherapy market participants and pay equity settlements in the Health New Zaland – Te Whatu Ora (Health NZ) employed workforce. Both are concerned about inequity for ACC clients within the current settings.

Scope of review

The scope of this market review includes physiotherapy services delivered to ACC clients under the Allied Health Services Contract (the AH contract) (*excluding* maternal birth injuries, hand therapy, and physiotherapy specialist services) and the Cost of Treatment Regulations (CoTR). Physiotherapy services delivered under other ACC contracts are **out of scope**. However, the review observes the market impacts of these other services where they interact with physiotherapy practices.

In 2024, 348 suppliers, representing 2,472 physiotherapists over the course of the year, billed ACC $109 million under the AH contract for services within the scope of this review. The value of these services is greater when the patient copayment is included. The AH contract and CoTR generally provide services for ACC clients with less serious injuries, accessing only single-discipline input from a physiotherapist. In 2024, 1.3 per cent of claims with physiotherapy treatment under the AH contract or CoTR involved surgery, and 6.6 per cent were signed off work and received compensation from ACC. Rates of claims with either of these markers of high severity have decreased since 2021. This may reflect, in part, a shift toward treatment of people with more complex needs, under new models of care funded by ACC.

Understanding claims data and market structure

The review collects data and provides insights on how the market for in-scope ACC funded physiotherapy services is currently operating.

To better understand the ACC claims data, we used a method known as principal component analysis to develop a severity measure using 10 variables observed in the dataset provided by ACC. We visited 16 practices and collected, standardised and analysed cost structures and owner remuneration. We conducted further interviews focused on equity issues, surveyed practices and analysed workforce data. We also researched and engaged with international models for the commissioning of physiotherapy services.

We found several issues which we summarise below

Physiotherapy claims are now increasing more rapidly than population and slightly faster than other ACC claims. There will be a variety of factors driving this trend. Within this, there is a dynamic

relationship between supply and demand. There is a small but statistically significant increase (95 per cent confidence level) in claims caused by growth in workforce, and the effect continues over time. The highest claim growth has been among the European/Other ethnic group (based on age-standardised rates per population).

At the same time, there is statistically significant inequity of access and utilisation of physiotherapy services, by deprivation, ethnicity, and rurality. The Otago region has the highest workforce supply at 11.7 physiotherapists per 10,000 people, in 2024. Manawatū-Whanganui has the lowest rate at 4.2 per 10,000. The Auckland rate is close to the national rate, however there is a large amount of variation across the Auckland region. In 2024, North Shore had a rate of 11.5 physiotherapists per 10,000 people, compared to 9.3 per 10,000 in Central Auckland and just 3.9 per 10,000 in Manukau. Areas with higher deprivation and larger proportions of Māori or Pacific populations tend to have fewer physiotherapists per capita.

The structure of a small practice is straightforward. The physiotherapist undertakes both diagnosis (the initial visit) and delivers the intervention. There is limited capital or specialised equipment involved. Ability to collect copayments impacts profitability, and utilisation is key. There is variation across businesses, with different levels of efficiency and differing levels of copayment, but all exhibit small variations of the same characteristics.

Workforce issues are disruptive at the practice level (and can introduce additional cost with training), and practices may struggle to offer physiotherapists the same pay as Health NZ. But at the aggregate system level there is growth in physiotherapists, and many practices find their way through to a sustainable workforce model, relevant to their aims. However, there is a maldistribution of those physiotherapists with little incentive to locate businesses in underserved areas. Small businesses may struggle to bear the costs of a step up from sole (or very small) practice, and they are important for ensuring access, particularly in rural service locations.

Long-term sustainability is important for ongoing service provision

Sustainability is theme for both ACC and PNZ, seen through different lens. For ACC, sustainability is about achieving outcomes within a reasonable budget. For PNZ, sustainability is about member practice sustainability. Each needs the other to deliver on system sustainability. We summarise some of our detailed information and analysis using a simple framework that considers system and provider level findings, against different domains of sustainability.

Table 1: Findings across different domains of sustainability

Domain	System level	Provider level
Client access, equity & outcome	• Variation in physiotherapy capacity by region is mirrored by variation in claims per capita. Rural service gaps. • Significant equity gradients by deprivation and ethnicity— more deprived populations face inequity of access, and Europeans access at higher rates than other groups. • Outcomes such as return to work are less relevant for this cohort (low % receiving	• Some practices have a high proportion of patients from deprived areas or high Māori and Pacific populations, and sensitivity to copayments. • Cultural safety is an important factor in service acceptability and access.

Domain	System level	Provider level
	weekly compensation), hard to measure benefit.	
Workforce	• Physiotherapists leaving the profession at similar rates to clinicians in comparable disciplines. • Workforce modelling projects the total physiotherapy workforce to keep up with future population growth. The private practice workforce has exceeded population growth in past years. • Overall, a growth in the number of physiotherapists delivering ACC treatment.	• Ratio of senior to junior decreases with practice size— reduced reliance on seniors as practice grows; more capacity to mentor but need to triage patients to experience. • Turnover is common; recruiting physiotherapists is easier in urban centres.
System/ market	• Entry and exit rates are similar and relatively low (<5%, apart from sole traders), indicating new practices can enter. • Large practices are gaining market share. • Dynamic causal relationship between workforce growth and claims, beyond other factors (small but statistically significant).	
Financial	• Relatively high growth in expenditure year on year.	• Differing ability to collect sufficient copayments. • Variation in utilisation impacts individual profitability. • Small practices can be a challenge with a degree of administration, but no economies of scale.

Commissioning and recommendations

We conclude that the possible issues with the current commissioning arrangements, drawing on our interviews, analysis and engagement with ACC and PNZ, are:

- cost pressures, with growing claims costs and potential financial pressures on providers, noting the need to ensure there continues to be a sufficient market in future
- limited prioritisation and triage given the relative ease of access
- inequities of access and intensity of treatment where there is increased deprivation, more non-Europeans, and greater rurality
- limited incentives to collect/analyse data or consider innovations.

We reviewed literature and interviewed informants from New Zealand, Australia and the United Kingdom (UK), and identified a series of adjustments or alternative commissioning approaches that could be considered. Based on our analysis of potential options, we recommend the following:

1. Examining areas beyond our scope in relation to:

    a) supporting physiotherapists to operate at the top of their scope of practice and exploring further opportunities for potential workforce substitution (likely to be implemented outside the AH contract), including considering the potential role in relation to return to work certificates
    b) conditions under which treatment would not be eligible for funding, where educational resources and supported self-treatment options may be all that is required (noting the potential interface with CoTR service provision).

2. Where there is sufficient information:

    a) providing an ability for AH contract providers to have the option for a fixed payment per claim
    b) considering:
        i. the potential for encouraging patients to use risk-based self-assessment tools in circumstances where this may be possible, to improve information on risks, treatments, supports and outcomes (and the potential scope of artificial intelligence to support greater responsiveness and personalisation in self-management)
        ii. whether this opt-in approach would need to be for all claims made by a provider (to avoid cherry-picking) or by claim.

3. Exploring further the opportunities for making changes to the following aspects of existing commissioning arrangements:

    a) Improving educational and telehealth/application options.
    b) Providing incentives for both efficient case management (including further front-loading funding and differentiating funding across further sessions) and equitable access to support.
    c) Providing incentives for data collection, research, and targeting of programmes/pathways where evidence is identified.

4. Considering if there is a chance to examine the settings across ACC's physiotherapy purchasing models, particularly the AH contract together with the CoTR (given the requirements of the AH contract, and hourly billing under the CoTR, have implications for efficiency of service provision and incentive to opt into the AH contract). If so:

    a) deferring any consideration of alternative options until they can be considered within the context of these wider purchasing models (and possible complementary changes to the CoTR settings). Without this there is a risk of incurring the costs of change and simply transferring activity to other avenues of ACC funding and potentially with fewer levers to influence under the CoTR.

1. Introduction

The Accident Compensation Corporation (ACC) and Physiotherapy New Zealand (PNZ) commissioned an independent review of the physiotherapy services market in New Zealand, in the context of ACC services. Sapere was appointed following a limited competitive process and undertook the review between May and November 2025.

1.1 Purpose of the market review

The purpose of this review is to provide transparent information and analysis that can inform future decisions about the commissioning of physiotherapy services.

The project aims to:

- build a picture of service demand/need and, importantly, assess areas of inequity for Māori and other underserved groups
- provide an up-to-date understanding of the New Zealand physiotherapy market, current costs of treatment and business operations, and workforce challenges
- inform thinking about how revised pricing and/or the potential for other commissioning models might better support a sustainable market that delivers value for money, and equitable access and outcomes.

1.2 About this report

This main body of this report is structured into six main chapters:

1. Introduction (this part).
2. Demand and needs analysis.
3. The physiotherapy provider market.
4. Practice characteristics and cost.
5. Clear markers of inequity and a complex problem to address.
6. Learning from other ways of organising physiotherapy.

Technical detail of methods and outputs of analysis is provided in a series of appendices to the report.

A fully documented cost model is a standalone deliverable provided to ACC and PNZ as a tool for ongoing use.

1.3 The ACC scheme and private physiotherapy market

The ACC scheme is New Zealand's no-fault accident insurance scheme that provides cover for injuries from accidents to all residents and visitors. ACC is funded by levies from individuals, businesses, and motorists, as well as government funding.

Community-based primary care physiotherapy in New Zealand is primarily delivered in private clinics with a musculoskeletal health focus. The physiotherapy sector in New Zealand operates within a hybrid market structure. ACC is the main purchaser of injury-related physiotherapy services, setting rates and funding access to treatment. This creates a monopsony-like dynamic, as physiotherapists work with ACC's pricing framework for most injury cases.

At the same time, the market retains competitive characteristics. Patients are free to choose among registered physiotherapists, and providers differentiate themselves through copayment levels, service quality, specialist expertise, and convenience factors such as location and appointment availability. Beyond ACC-funded treatment, physiotherapists also deliver privately funded services (e.g. wellness, occupational health, sports performance), which are subject to normal competitive market forces.

Overall, the sector is best described as a mixed market. ACC's dominant purchasing role constrains pricing and shapes demand, while patient choice and privately paid services introduce competitive pressures. This dual structure influences both the sustainability of individual physiotherapy businesses and the accessibility of services for patients.

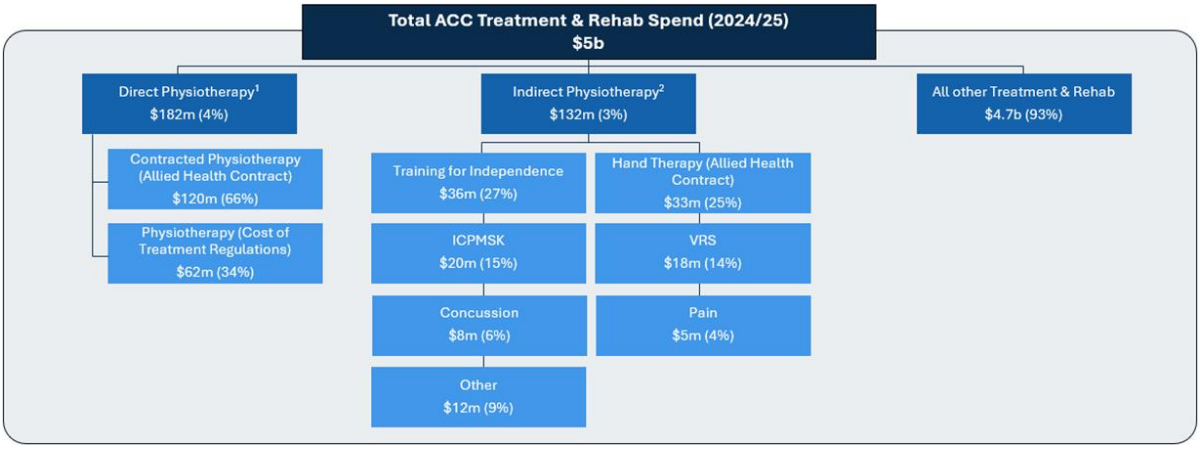
1.3.1 ACC physiotherapy purchasing models

Some physiotherapy treatment is delivered under pathway-specific contracts, usually as part of a multi-disciplinary package of service. This is identified as 'indirect' physiotherapy in Figure 1 below. These services are aimed at the cohort of people with more complex injury-related needs. Examples of these services include the Vocational Rehabilitation Service (VRS), Integrated Care Pathways Musculoskeletal (ICPMSK), and Training for Independence (TI) services.

For 'single discipline' physiotherapy, ACC has two main purchasing arrangements: the Allied Health Services Contract (the AH contract) and the Cost of Treatment Regulations (CoTR). Claims brought under the CoTR and AH contract are generally accepted.

Physiotherapy suppliers can be a private business owner or Health NZ. Physiotherapy suppliers may hold multiple ACC contracts.

Figure 1: Estimate of ACC physiotherapy and other treatment and rehabilitation expenditure, 2024/25



Source: ACC

Note: The percentages noted in the breakdowns of direct and indirect physiotherapy are the proportion of each category. Indirect physiotherapy includes payments to registered providers who are listed as physiotherapists outside of direct physiotherapy. Not all this invoicing has a physiotherapist identified due to multidisciplinary service provision in many of these services. This means the indirect spend is likely materially understated and represents a minimum indirect physiotherapy spend.

1.4 Scope of the market review

The scope of this market review includes physiotherapy services delivered to ACC clients under the AH contract (*excluding* maternal birth injuries, hand therapy, and physiotherapy specialist services) and the CoTR. Physiotherapy services delivered under other ACC contracts (e.g. TI, VRS, ICPMSK) are **out of scope**. However, the review observes the market impacts of these other services.

The project scope includes a detailed examination of client demand and need, market capacity and coverage, and equity of access and outcomes for patients. The scope also includes the development of a robust bottom-up cost model to inform potential future funding and pricing strategies. We were not asked to recommend prices within this review.

Discussion of commissioning and payment models considers how different approaches might apply to the AH contract only (as changes to the CoTR require legislative change). We consider how the two mechanisms work alongside each other and impacts from, or on, other parts of the ACC scheme.

1.4.1 The Allied Health Services Contract

The AH contract was established in late 2021, and brought together physiotherapy, podiatry, hand therapy and physiotherapy specialist services under a single contract. The contract is an open contract, which means suppliers may apply to join the contract at any time provided they are able to meet the quality requirements. Private businesses providing physiotherapy under the AH contract must be certified against the ACC Requirements for Physiotherapy, Hand Therapy and Podiatry (Accident Compensation Corporation, 2024b). Health NZ suppliers must be certified against the Ngā Paerewa Health and Disability Services Standard. Physiotherapy suppliers that have an AH contract are sometimes called 'accredited' providers.

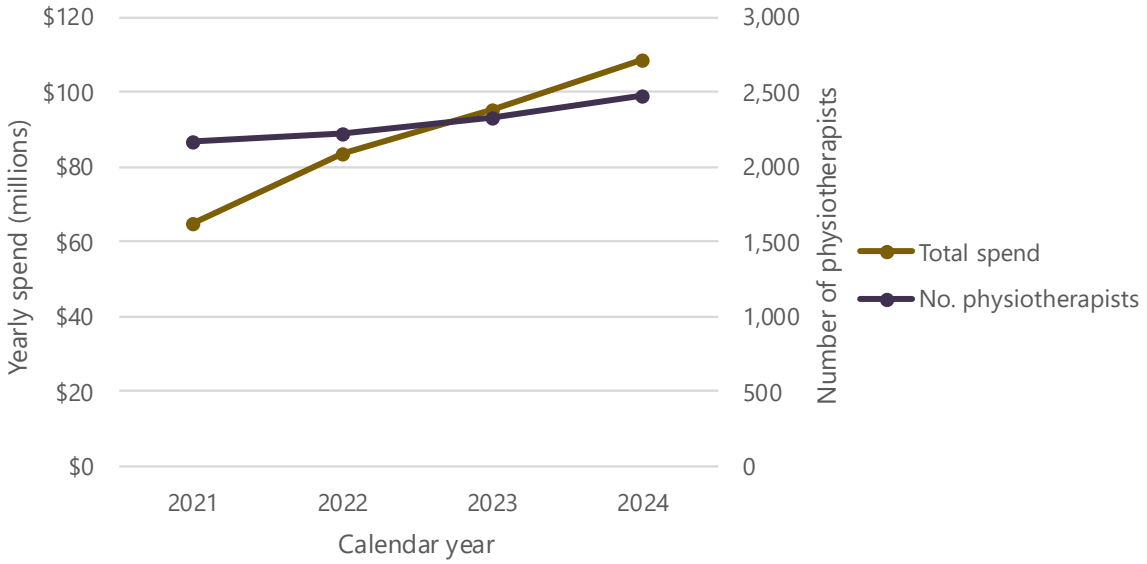
The contract operates on a fee-for-service basis. There are separate prices for initial consultations ($65.97 excl. GST per session) and follow up consultations ($49.47 excl. GST per session) (Accident

Compensation Corporation, 2025b). The higher initial consultation rate reflects the requirement to assess the patient and develop a treatment plan. Suppliers must ensure there is a clinical rationale for ongoing treatment related to the covered injury. Treatment sessions are capped at 50, after which additional approval from ACC must be sought.

Suppliers usually charge patient copayments, which are not capped. Individual businesses set their copayment based on their business costs, location, and client ability to pay.

In 2024, 348 suppliers, representing 2,472 physiotherapists over the course of the year, billed ACC $109 million for services under the AH Contract for services within the scope of this review (Figure 2).[1]

Figure 2: Physiotherapy services – Allied Health Services Contract



Source: Sapere analysis of ACC claims data

1.4.2 Cost of Treatment Regulations

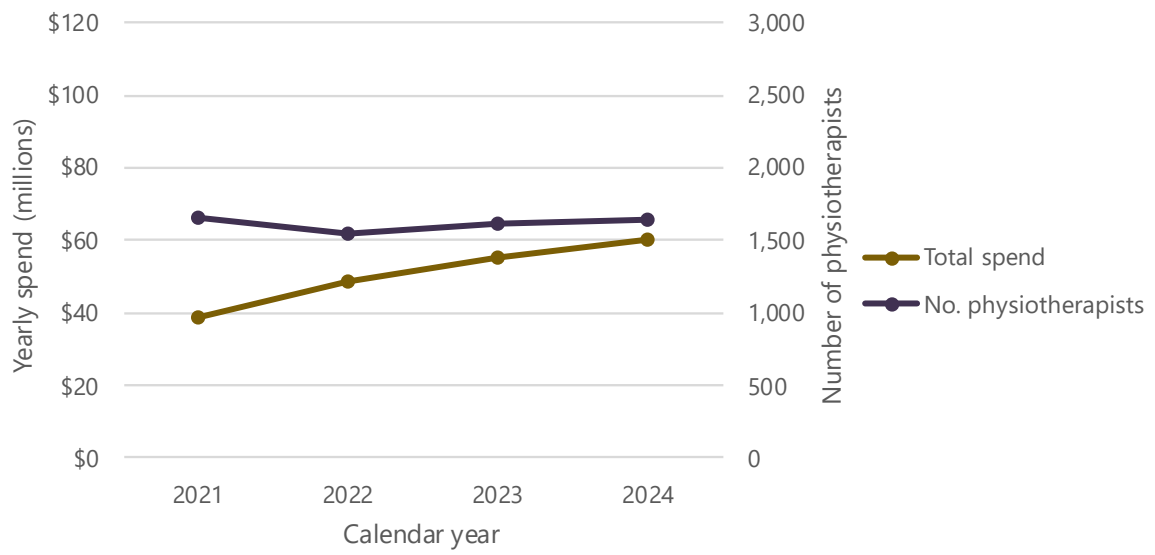
The CoTR is another mechanism by which physiotherapy suppliers can provide services to ACC clients. The regulations are administered by the Ministry of Business, Innovation and Employment (MBIE), which sets the treatment rates.

Suppliers claiming under the CoTR can choose whether to be paid on a per session basis or hourly rates set out in the regulations. Over 95 per cent of CoTR suppliers use the hourly rates (Accident Compensation Corporation, 2025a). The rate for a 60-minute session is $68.99 excl. GST (Accident Compensation Corporation, 2024a).

[1] Includes all physiotherapists and suppliers who billed under AH contract in 2024, so contains any physiotherapists or businesses who left during the year.

In 2024, 970 suppliers representing 1,642 physiotherapists, billed ACC $60 million for services under the CoTR (Figure 3).[2]

Figure 3: Physiotherapy services – CoTR



Source: Sapere analysis of ACC claims data

1.4.3 Both ACC and PNZ identify issues and opportunities

ACC has observed the number of claims increasing and a year-on-year expenditure increase, for this part of physiotherapy, of 12 to 14 per cent per year since 2022. PNZ has observed cost pressures on physiotherapy market participants and pay equity settlements in the Health NZ employed workforce.

There is concern from both partners that the current settings result in inequitable access to, and outcomes of, physiotherapy treatment.

PNZ notes that there are further opportunities for physiotherapy services that can add value within the wider ACC scheme (not necessarily limited to the AH contract or CoTR).

A joint review is an opportunity to build a shared understanding between ACC and PNZ, to help ensure that the two organisations are collaborating on the most important issues to improve outcomes and generate a sustainable market.

1.5 Approach and methodology

This section describes the governance, overall approach, and methodology used to undertake the physiotherapy services market review.

[2] Includes all physiotherapists and suppliers who billed under CoTR in 2024, so contains any physiotherapists or businesses who left during the year.

1.5.1 Project governance

The review has been overseen by a steering group with membership from both ACC and PNZ (Table 2). The ACC Manager of Health Sector Engagement and Performance and PNZ Chief Executive co-sponsored the project.

Table 2: Steering group membership

Grant Chittock, Motus Health	Mark Quinn, Auckland Physiotherapy
Antoinette Cooke, Health Partner, ACC	Larissa Roy, Allied Health Portfolio Manager, ACC
Kirsten Davie, President PNZ, Khandallah Physiotherapy Centre	Kara Thomas, Focused Physiotherapy
Simon Hoar, CEO, PNZ	Stafford Thompson, Manager Health Sector Engagement & Performance, ACC
Todd Krieble, NZIER, advisor to PNZ	Ulima Tofi, Vice President PNZ

The steering group met monthly throughout the course of the project and participated in three workshops:

1. Planning workshop (30 July 2025).
2. Information and analysis workshop (7 November 2025).
3. Commissioning models workshop (13 November 2025).

Outside of steering group meetings, the Sapere project manager met weekly with the project co-sponsors and ACC project manager. The communications advisors from ACC and PNZ were also invited to join this project working group.

1.5.2 Market review activities and methodology

The market review used a mixed methods approach, integrating both quantitative and qualitative data to provide a comprehensive understanding of the accident-related injury physiotherapy landscape. The methodology included:

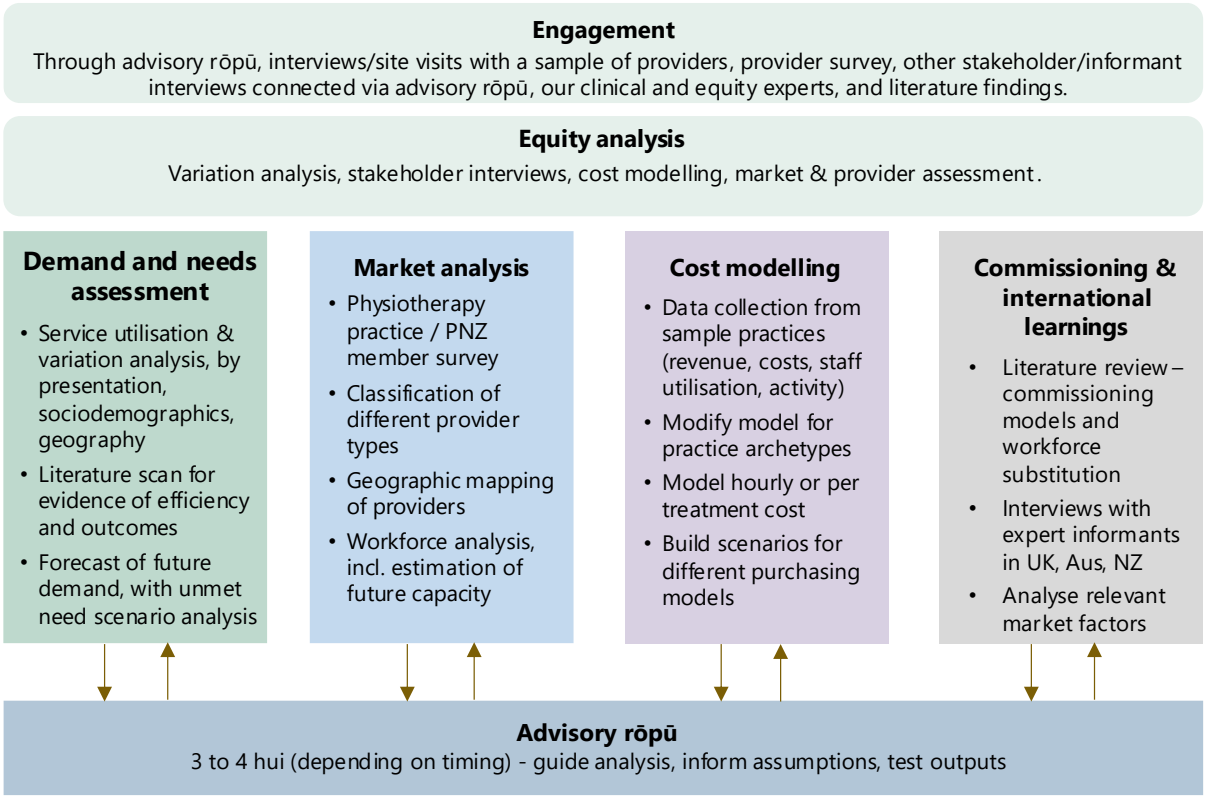
- **quantitative analysis** of secondary data sources including ACC claims and payment data, to identify trends, patterns and market dynamics.
- **primary data collection** via a physiotherapy supplier survey and request for financial information, to understand costs, workforce characteristics and perceived challenges.
- **qualitative interviews** with stakeholders and informants to explore contextual factors, emerging issues and perspectives not captured in quantitative data.
- **targeted literature scanning** to situate findings within the broader evidence base and explore other models.

Details of the primary and secondary data sources used are set out in Appendix A.

Triangulating different data sources ensured that the review was both data-driven and grounded in the realities of service delivery.

Figure 4 provides a high-level overview of the project workstreams. There were four main subject areas for data gathering and analysis: demand and needs analysis, market analysis, cost modelling, and commissioning. Across all subject areas, equity of access, experience, and outcome for ACC clients was a primary consideration.

Figure 4: Project workstream structure



1.5.3 Ethical considerations

We submitted this project to the ACC Ethics Committee. The committee considered the submission at its meeting on 16 June 2025 and provided written feedback to support the review processes.

ACC claims data was de-identified (i.e. all personal identifiers removed) before sharing with Sapere. ACC undertook its third-party due diligence process as assurance of Sapere's data privacy and security practices.

Sapere documented a data sharing agreement with each individual practice included in the sample for cost modelling and obtained written consent to participate. The agreement outlined our obligation and practices to keep information safe and confidential.

Interview notes were held confidential to the Sapere review team. Thematic analysis did not identify individual interviewees or respondents and comments are not attributed to individuals.

2. Demand and needs analysis

This section presents the findings of our demand and needs analysis, to provide an understanding of determinants of access and use of physiotherapy services.

2.1 There is a need to better understand severity of injury

The AH contract and CoTR generally cover ACC clients with less serious injuries, accessing only single-discipline input from a physiotherapist. In 2024, 1.3 per cent of claims involved surgery and 6.6 per cent were signed off work and received compensation from ACC. Both markers of high severity have decreased since 2021. This is likely to reflect, at least in part, a shift toward treatment of people with more complex needs, under new models of care.

At the same time, a growing proportion of claims with treatment under the AH contract and CoTR have high tech imaging associated with them (9.4 per cent in 2024, up from 7.5 per cent in 2021).

Approximately 90 per cent of claims were coded as soft-tissue injuries, both in terms of their share of total claim numbers and total claim costs. While other markers of complexity suggest that injuries are generally less complex, individual cases can still vary considerably in severity and treatment needs.

Understanding claim severity in the demand analysis is important for examining how clinical need relates to the treatment provided.

2.1.1 We derived a severity measure with good validity

We used a method known as principal component analysis (PCA) to develop a severity measure based on the available ACC claims data. The technical methodology is set out in Appendix D. In simple terms, PCA reduces the number of variables in the dataset, by transforming it into a smaller set of principal components (i.e. things that are not correlated). This captures the most important patterns and relationships in a complex dataset.

We derived a measure of severity using 10 variables observed in the dataset:

1. Total other services used
2. Number of radiology services used
3. Number of clinical services used
4. Direct claim cost
5. Lodging provider is a physiotherapist
6. Lodging provider is a GP
7. Lodging provider is a surgeon
8. Injury occurred at home

9. Injury occurred at recreational/sports ground

10. Days from injury date to first physiotherapy treatment (derived variable).

We looked at the distribution of the derived severity measure by age bands, ethnicity, gender, deprivation decile and recorded injury type. We further asked our external clinical advisor to review the distributions. Together, we conclude that we have derived a valid measure of severity.

Higher values of the severity measure indicate higher severity, and vice versa. The measure has a range from zero to 37, with a mean of 2.6 and a standard deviation of 1.7. The absolute units of the measure provide little insight. Only relative values matter, i.e. order of magnitude or in comparison.

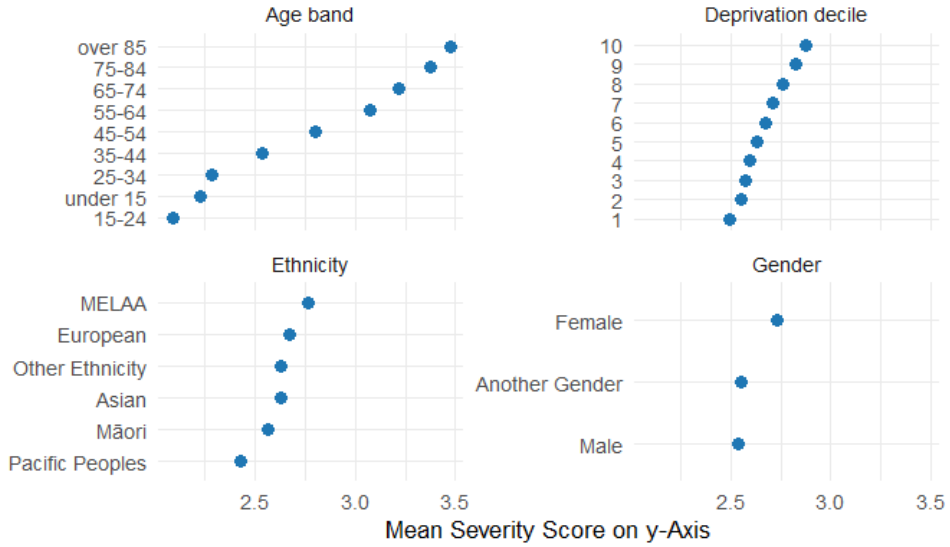
A caveat on potential under-servicing bias

While the variables used for capturing severity are useful for capturing treatment needs and intensity, they may also reflect underlying differences in access. Groups facing structural barriers to accessing services—including Māori, Pacific peoples, low-income groups, and rural populations—may receive fewer diagnostic or treatment services despite equivalent clinical need. Where this occurs, lower access may underestimate effective severity and create a potential underservicing bias.

Severity has a strong age and deprivation gradient

Figure 5 shows the mean severity score by key socio-demographic characteristics, including age band, gender, ethnicity, and deprivation decile. Decile 1 represents people living in the least deprived areas, while decile 10 those living in the most deprived areas. Higher values indicate higher severity.

Figure 5: Mean severity scores by age band, deprivation decile, ethnicity and gender



Source: Sapere calculation using ACC Claims data from 2021 to 2024
Note: MELAA stands for Middle Eastern, Latin American, African

Distinct gradients are observed: severity scores are higher among older people, those living in more deprived areas, and MELAA and European ethnicities. The observed increase in severity scores for older age bands may also reflect a mix of injury severity, and treatment intensity from age-related

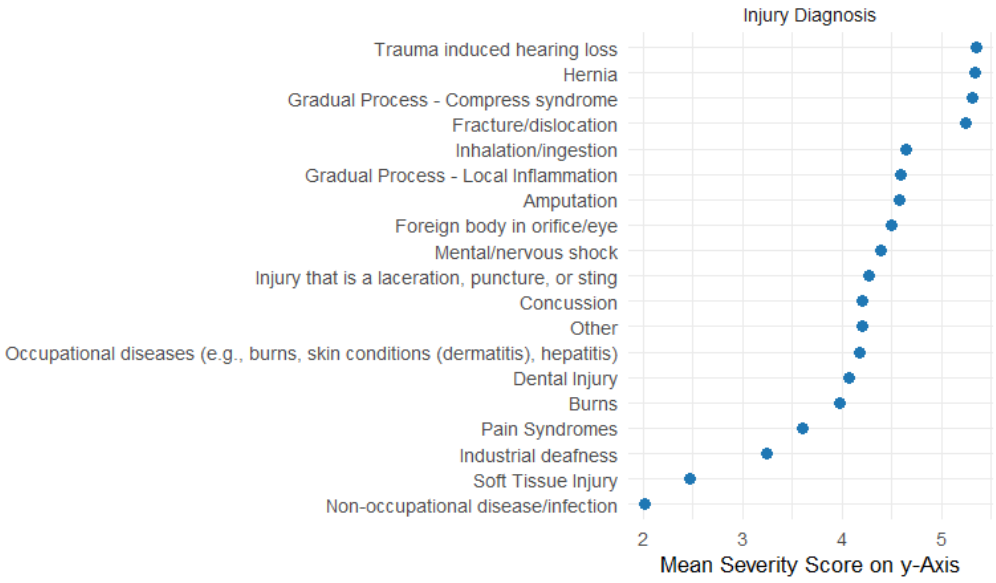
conditions. However, because these conditions directly increase treatment need and cost, they remain a meaningful component of the overall function of the severity index. The distribution is as would be expected following feedback from external expert review.

We note these findings are based on data from people who accessed services and may not fully reflect underlying need. For example, Māori and Pacific peoples may face barriers to accessing physiotherapy and other services, potentially resulting in under-representation of more severe cases.

Severity has expected gradients with reported injuries

Figure 6 presents the distribution of mean severity values by injury diagnosis. Again, feedback indicated the validity of severity (for example, with a higher mean for fractures and a lower mean for soft tissue injuries).

Figure 6: Mean severity score by type of injury diagnosis



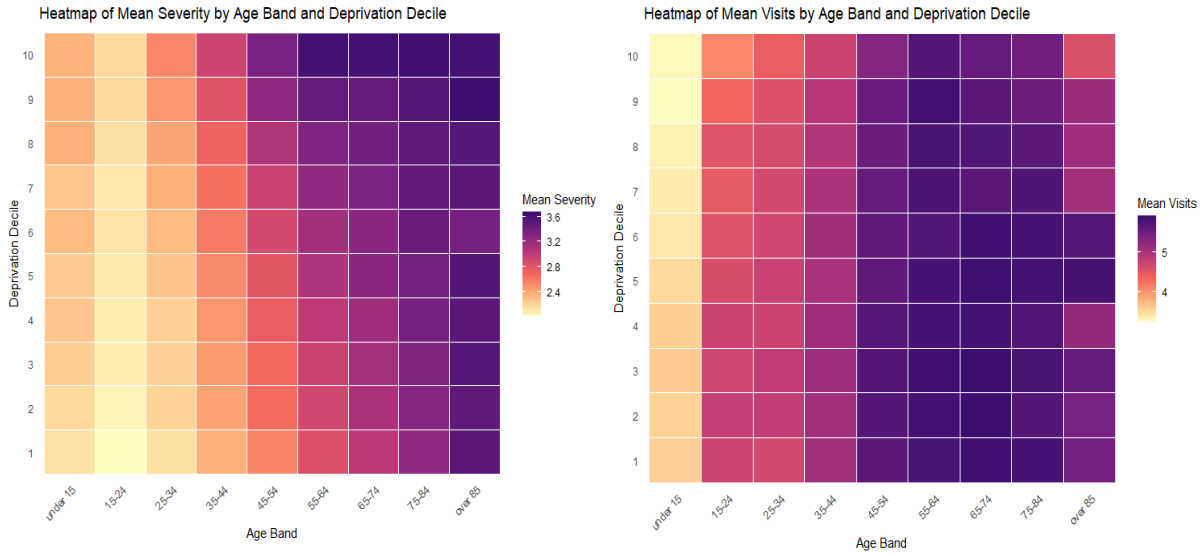
Source: Sapere calculation using ACC Claims data from 2021 to 2024

The severity measure helps isolate patterns in service use versus need

Figure 7 shows the heatmap distribution of mean severity scores and mean number of treatment sessions by deprivation decile and age band. Darker tones indicate higher severity/more treatment sessions per claim, and vice versa. Claim severity increases with increasing deprivation (higher deciles) and older age.

Again, the clear pattern supports the validity of the measure. Compared to severity, mean number of treatment sessions are more concentrated among mid and lower deprivation deciles and between 45 and 74 age bands.

Figure 7: Heatmaps of mean severity and mean treatment sessions per claim, by age and deprivation decile



Source: Sapere calculation using ACC Claims data from 2021-2024, including only closed claims.

2.2 We examine two aspects of physiotherapy demand

In this section, we examine physiotherapy demand in New Zealand over the past four years by considering two types of demand:

- **Extensive margin:** showing who has accessed physiotherapy services and how and why they have done so. The extensive margin is measured by unique ACC claims.
- **Intensive margin:** detailing how individuals use physiotherapy services once they have entered the system, including patterns of intensity. The intensive margin is measured by the number of treatment sessions per claim.

Appendix E provides descriptive statistics on the population and selected characteristics across 2021 to 2024.

2.3 The extensive margin – patterns and drivers of claims

Below, we present the findings of our analysis of physiotherapy claims.

2.3.1 Younger and less deprived people are more likely to access physiotherapy directly

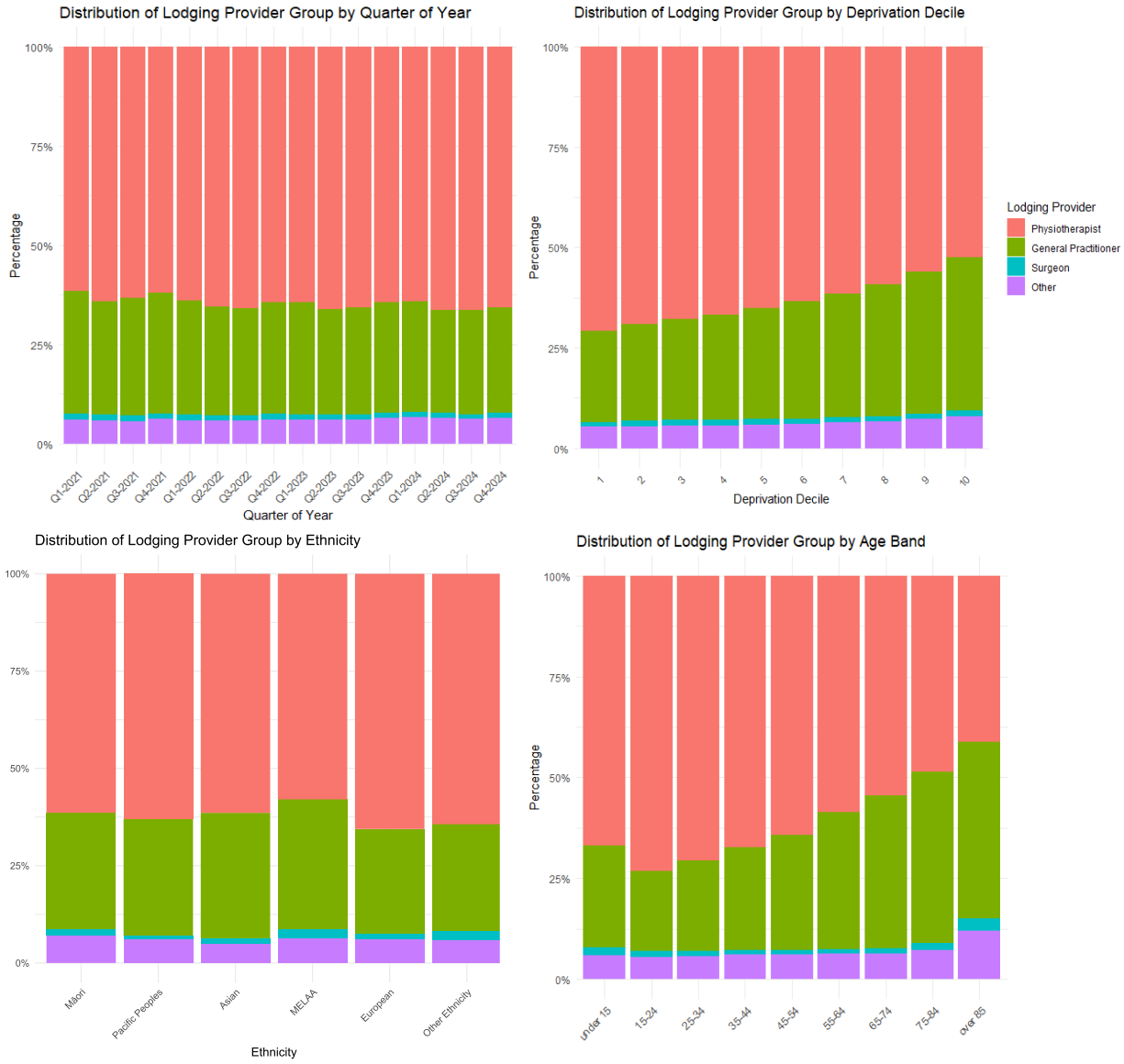
Figure 8 shows the distribution of lodging providers for claims including physiotherapy services, broken down by quarter, ethnicity, deprivation decile and age band. Most claims are lodged by physiotherapists, followed by GPs, other providers and surgeons.

A slight upward trend in physiotherapist-lodged claims is observed over time, while the proportion lodged by GPs rises significantly with both deprivation and age. This suggests variations in access pathways: more deprived and older groups tend to use GPs to guide them to physiotherapy, whereas

less deprived and younger people access it directly—possibly due to provider availability in affluent areas, service access barriers, awareness or affordability.

Some stakeholders noted an increasing physiotherapist presence in schools and sports clubs, offering direct pathways, while injury severity (higher in deprived and older groups) may also drive more GP referrals for complex cases. Across ethnic groups, lodging patterns show little variation.

Figure 8: Lodging provider by quarter of year, deprivation decile, ethnicity and age band

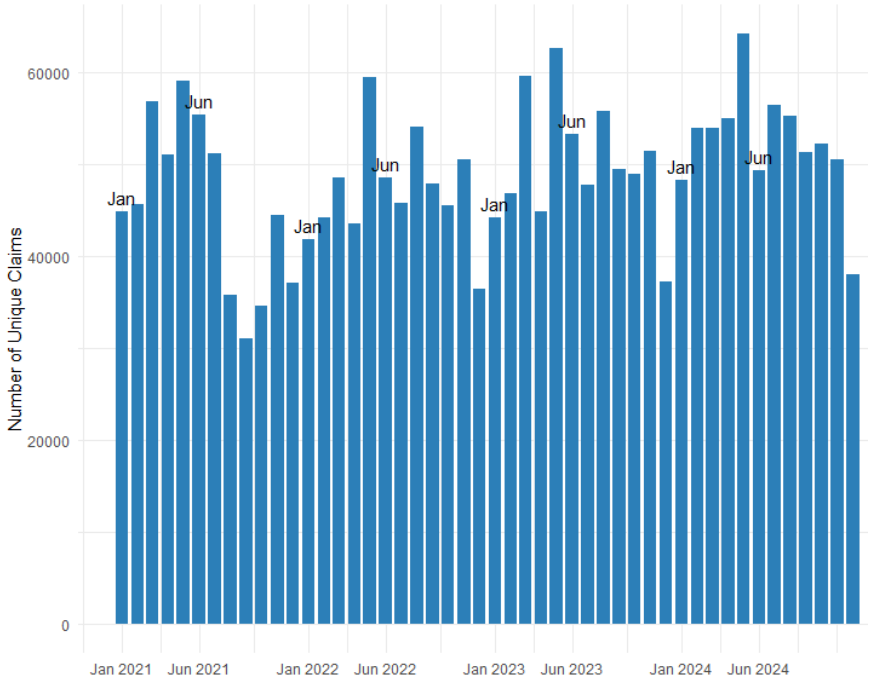


Source: Sapere calculation using ACC Claims data from 2021-2024

2.3.2 Strong seasonality in physiotherapy demand

Claim lodgements show strong seasonality, potentially affecting business utilisation depending on workforce engagement patterns. Figure 9 reveals an increase from May to August, peaking in May—a trend consistent across population characteristics (Appendix F) and likely associated with winter sports.

Figure 9: ACC physiotherapy claims lodgements by month of year between 2021 and 2024



Source: Sapere calculation using ACC Claims data from 2021 to 2024

2.3.3 Queenstown-Lakes stands out with the most claims per capita

The average number of claims sits at around 100 per 1,000 population. Figure 10 shows the claims rate in territorial authorities varied by year from 2021 to 2024.

Queenstown-Lakes district stands out with the most claims relative to its population, with close to 240 claims per 1,000 population in 2024. This mirrors the availability of physiotherapists. Additional analysis shows that close to half of these claims are sports related.

Some areas are materially above the average, such as Tauranga, Central Otago, Waipa and Dunedin. Rural districts see few claims being made relative to their populations, such as Wairoa, Whanganui, Grey, Buller and rural districts in the Taranaki region.

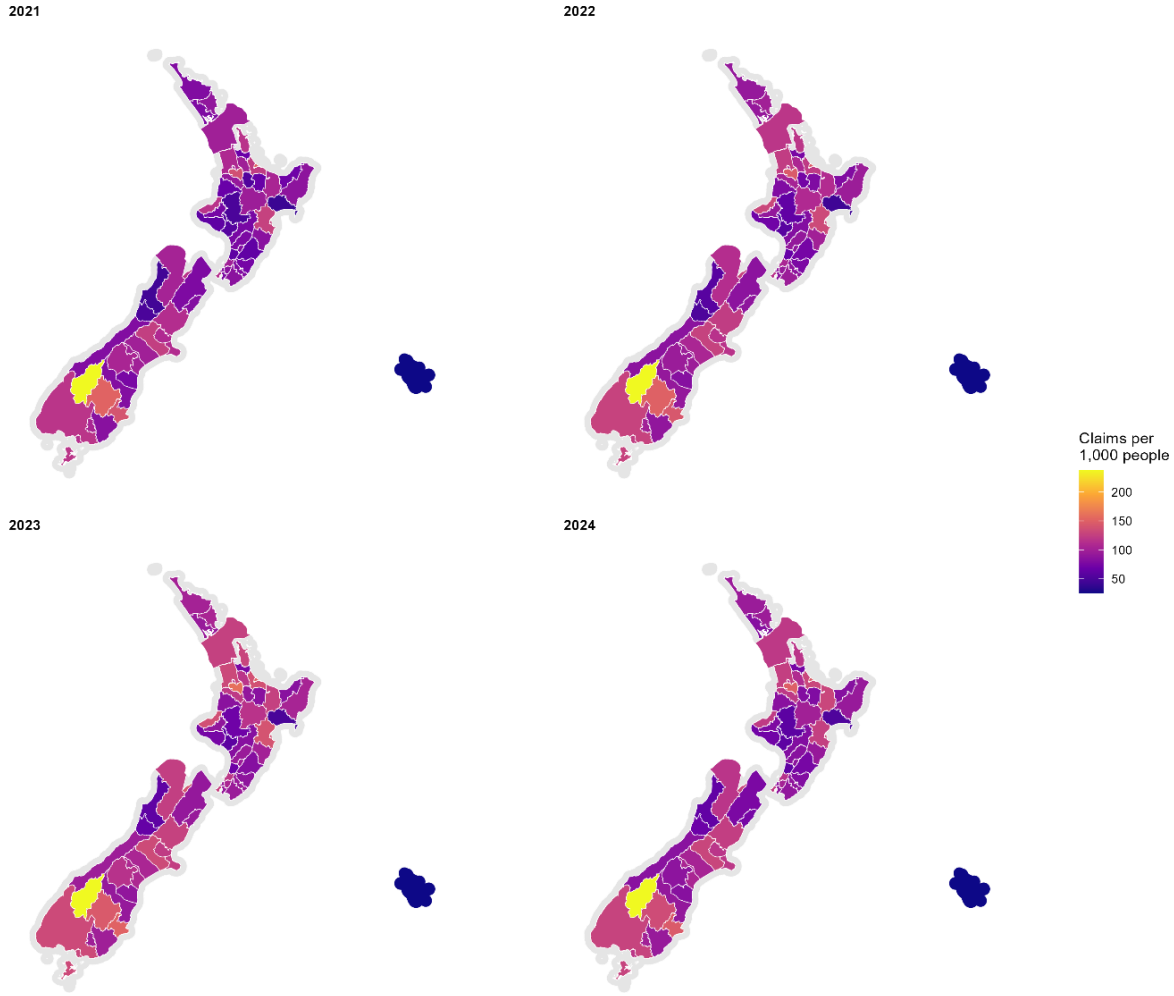
Certain urban areas, particularly in the lower North Island, also see significantly lower than average claims relative to their populations, such as Porirua, Upper Hutt, Lower Hutt, and Palmerston North.

Further analysis (Appendix F) found the following:

- There is higher representation in claims made by people living in less deprived areas. When examining the number of claims relative to the population, this is most clearly seen again in the Queenstown-Lakes district.
- Service use in less deprived areas is driven mostly by urban areas, such as Auckland, Wellington, Christchurch, and Tauranga. Variation within Auckland is described in Appendix F. However, the opposite relationship between deprivation and service use is observed in urban areas such as Hamilton and Dunedin.

- Most claims in Queenstown-Lakes are lodged during the winter months of July and August, coinciding with the snow sport season.

Figure 10: Number of claims per 1,000 population



Source: Sapere calculation using ACC Claims data from 2021 to 2024

2.3.4 Isolating the determinants of demand for physiotherapy claims

Our analysis first looked at the associations between various socio-demographic factors, claim pathways, and ACC claims for physiotherapy. We then used multivariate regression analysis to account for inter-relationships between determinants. Appendix G provides detail of our multivariate regression methods. The analysis identified the unique contributions of individual determinants of claims.

We highlight the following results from our regression analysis in Table 3:

- **Socioeconomic gradient**: higher-deprivation areas have fewer physiotherapy claims per 1,000 population than the least deprived areas.
- **Age differences**: claim rates are lower for ages 15 to 44 than for those under 15.

- **Ethnic differences**: Pacific peoples, Asian and MELAA groups have significantly lower claim rates than Europeans; Māori and other groups have lower rates, but the differences are not statistically significant.
- **Injury severity**: less severe injuries are linked to higher physiotherapy claim rates than more severe ones.
- **Physiotherapist density**: areas with more physiotherapists show higher claim rates, reflecting a positive supply-utilisation link.
- **Lodgement**: areas with more GP- or other-provider-lodged claims (e.g. surgeons) have lower overall claim rates than those dominated by physiotherapist lodgements.
- **Injury setting**: home or other settings yield lower claim rates than sport or recreation injuries.

Table 3: SA3-level regression results

Variable	Outcome: Claims per 1,000 population (standard error)
Age band (under 15 is reference)	
15-24	-2.81*** (0.64)
25-44	-1.95*** (0.56)
45-64	0.29 (0.56)
Over 65	0.52 (0.62)
Gender (Female is reference)	
Male	-0.07 (0.18)
Another Gender	3.66 (3.84)
Ethnicity (European is reference)	
Māori	-0.48 (0.62)
Pacific peoples	-3.53*** (0.67)
Asian	-5.87*** (0.96)
MELAA	-2.31** (1.03)
Other ethnicity	-0.25 (0.63)
NZDep2023 (Decile 1 is reference)	
Decile 2	1.36 (0.85)
Decile 3	0.53 (0.83)
Decile 4	-0.56 (0.94)
Decile 5	-2.07*** (0.77)
Decile 6	-1.03 (0.81)
Decile 7	-0.86 (0.87)
Decile 8	-2.35*** (0.8)
Decile 9	-1.76** (0.69)

Variable	Outcome: Claims per 1,000 population (standard error)
Decile 10	-3.18*** (0.64)
Severity (Least severe is reference)	
Low severity	-0.82*** (0.24)
Moderate severity	-0.68** (0.3)
High severity	-1.41*** (0.35)
Contract Type (CoTR is reference)	
AH contract	-3.23** (1.37)
Log of number of physiotherapists	1.38*** (0.14)
Lodging provider (Physiotherapist is reference)	
GP	-1.62*** (0.21)
Other	-0.75*** (0.27)
Injury location (Place of recreation/sport is reference)	
Home	-1.95*** (0.32)
Other	-1.4*** (0.3)
Fixed effects	
TA	Yes
Lodgement year	Yes
Lodgement month	Yes

Note: Based on Sapere calculations using ACC claims data 2021 to 2024. Robust standard errors clustered at territorial authority level; p-values indicating level of statistical significance: *p<0.1; **p<0.05; ***p<0.01

2.4 The intensive margin – how much treatment do people get once they have a claim?

Based on closed claims, there is an average of 5.1 sessions per claim from 2021 to 2024. The average sessions per claim decreases by lodgement year, with 5.65 in 2021, 5.49 in 2022, 5.14 in 2023 and 4.11 in 2024. We note that 2024 may still have open claims (still to receive further treatment) which likely downward-biases 2024 numbers.

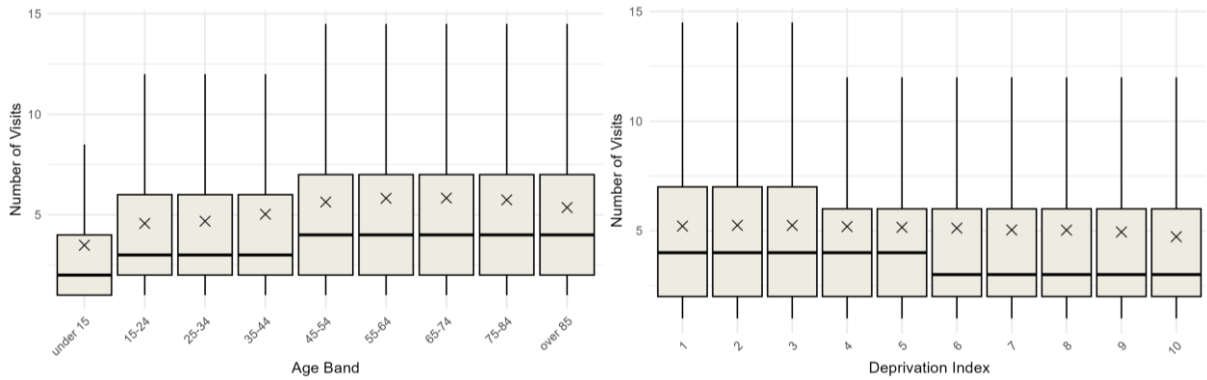
2.4.1 Treatment sessions increase with age, lower deprivation and European ethnicity

The left panel on Figure 11 shows that the number of treatment sessions gradually increases with age until about 65 to 74 years, before stabilising or slightly falling. Children under 15 years have the fewest treatment sessions on average. Adults aged 45 to 74 years are the highest users with the largest spread. Older people aged 85 and above do not show higher intensity compared to those in their 50s

to 70s, possibly reflecting either lower capacity for extended physiotherapy or tendency towards different care pathways.

The right panel in Figure 11 shows that people living in deciles 1 to 5 (least deprived areas) have a median of four sessions, with a mean slightly above five. For those living in deciles 6 to 10 (more deprived areas), the median is three sessions. The mean is still close to five, suggesting some people with a high number of sessions in more deprived areas. There is more variability in lower deprivation areas, although most claims have fewer than 14 treatment sessions.

Figure 11: Boxplot of number of treatment sessions by age band and deprivation decile

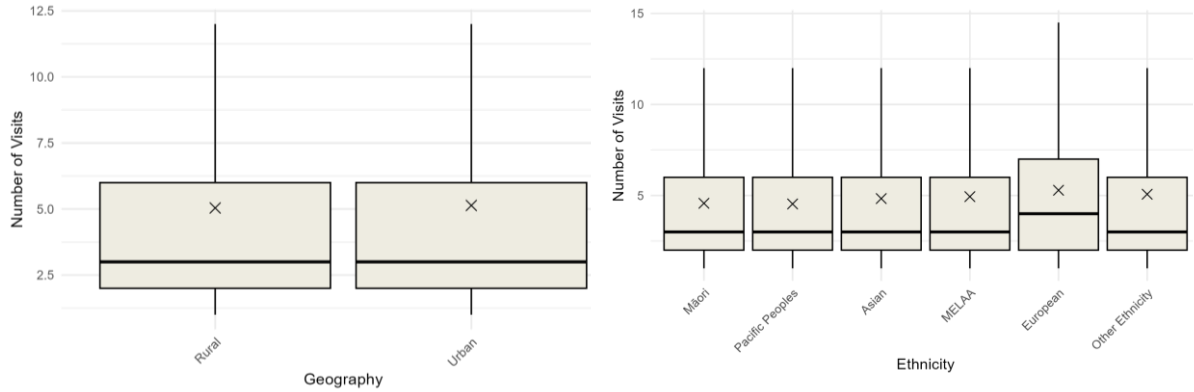


Source: Sapere calculation using ACC Claims data from 2021-2024

We did not find a noticeable difference in the number of treatment sessions between rural and urban (Figure 12 left panel).

The right panel in Figure 12 shows that the median number of treatments is highest for European (four sessions) compared to other ethnic groups (three sessions). European has the widest spread, indicating a subset with a very high number of treatment sessions.

Figure 12: Boxplot of number of treatment sessions by ethnicity



Source: Sapere calculation using ACC Claims data from 2021-2024

2.4.2 Regression findings – a strong deprivation gradient

We performed a multivariate regression analysis to identify the unique contributions of different variables to number of treatment sessions. For this analysis, we ran two models, with the second controlling for supplier level factors (e.g. availability of supply or practice-level behaviour). Detailed methods of the regression model are set out in Appendix G.

Key findings from the results (Table 4) are as follows:

- **Deprivation**: people in more deprived areas have fewer treatment sessions, even after controlling for confounders and practice fixed effects—this could indicate access inequities for ongoing treatment.
- **Age**: treatment sessions increase with age, peaking at 45 to 64 years and before declining after age 65. Treatment intensity is lower in childhood.
- **Gender:** Females have more sessions on average than males.
- **Ethnicity:** All non-European groups have fewer sessions than Europeans, even after practice fixed effects adjustment—possibly indicating treatment inequities or service preferences.
- **Geography:** Urban residents have slightly more sessions than rural ones, which may reflect convenience through proximity of service.

Table 4: Regression results with number of treatment sessions as outcome

Variable	Model 1 Number of treatment sessions (Standard errors)	Model 2 Number of treatment sessions (Standard errors)
Age (reference is age under 15)		
Age 15–24	1.262*** (0.0625)	1.200*** (0.0447)
Age 25–44	1.166*** (0.0615)	1.217*** (0.0380)
Age 45–64	1.455*** (0.0656)	1.528*** (0.0467)
Age 65+	1.176*** (0.0648)	1.323*** (0.0477)
Gender (reference is male)		
Female	0.1731*** (0.0216)	0.2065*** (0.0173)
Other	0.1718 (0.3209)	0.1942 (0.2915)
Ethnicity (reference is European)		
Māori	-0.3976*** (0.0330)	-0.3827*** (0.0274)
Pacific peoples	-0.4752*** (0.0714)	-0.4443*** (0.0434)
Asian	-0.7149*** (0.0588)	-0.6162*** (0.0344)
MELAA (Middle Eastern/Latin American/African)	-0.5765*** (0.0479)	-0.5786*** (0.0414)
Other ethnicity	-0.2247*** (0.0298)	-0.2335*** (0.0291)
Geography (reference is rural)		
Urban	0.1642*** (0.0340)	0.1244*** (0.0162)
Deprivation deciles (reference is decile 1)		
Decile 2	-0.0499* (0.0212)	-0.0499* (0.0165)
Decile 3	-0.0638* (0.0234)	-0.0629** (0.0181)

Decile 4	-0.1175*** (0.0269)	-0.0994*** (0.0195)
Decile 5	-0.1647*** (0.0288)	-0.1409*** (0.0198)
Decile 6	-0.1871*** (0.0282)	-0.1448*** (0.0196)
Decile 7	-0.2911*** (0.0323)	-0.2171*** (0.0209)
Decile 8	-0.3402*** (0.0369)	-0.2422*** (0.0249)
Decile 9	-0.4330*** (0.0431)	-0.3175*** (0.0279)
Decile 10	-0.6591*** (0.0616)	-0.4965*** (0.0400)
Injury		
Severity of injury (log)	3.629*** (0.0669)	3.866*** (0.0726)
Payment mechanism (reference is AH contract)		
CoTR	0.4305*** (0.1142)	0.1683 (0.1030)
Fixed effects		
Month of lodgement	Yes	Yes
Year of lodgement	Yes	Yes
Territorial Authority	Yes	Yes
Practice	No	Yes
Number of observations	1,863,091	1,863,091

Note: Based on Sapere calculations using ACC claims data 2021-2024. Robust standard errors clustered at practice level; p-values indicating level of statistical significance: *p<0.1; **p<0.05; ***p<0.01

2.5 There has been a rapid increase in physiotherapy claims in the last few years

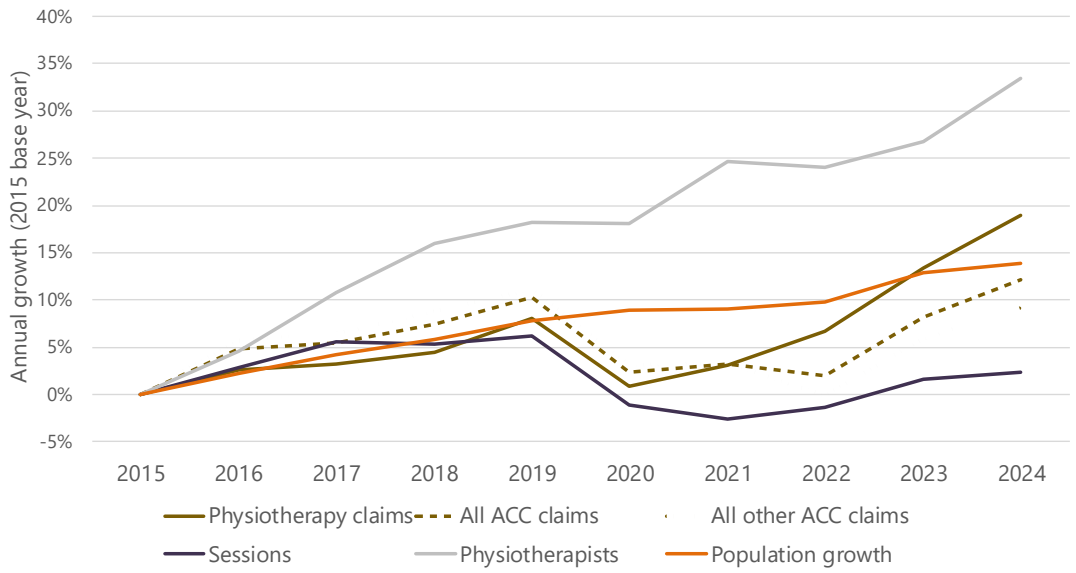
Demand, defined as lodged and approved ACC claims for AH contracts and CoTR physiotherapy services in New Zealand, has increased steadily over the past four years, rising from 546,580 claims in 2021 to 627,870 claims in 2024. This is an average growth of around 5 per cent per year.

Figure 13 plots growth in physiotherapy claims relative to all ACC claims and New Zealand population (2015–2024, indexed to 2015). The New Zealand population increased by 13.9 per cent from 2015 to 2024, which is slightly higher than the growth in all ACC injury claims (12 per cent) but below the increase in physiotherapy claims (19 per cent).

The time series is interrupted by COVID-19 impacts in 2020 and 2021. Prior, physiotherapy claims were roughly aligned with population growth. By 2022/23, the volume of physiotherapy claims had returned to what might have been expected based on the earlier rate of growth. However, continued rapid growth in claims has outpaced population growth, resulting in a per capita physiotherapy claim rate that is higher than before COVID-19.

Recent claims growth is not limited to physiotherapy. For all other ACC claims there has been a similar, although less steep, uptick in recent years.

Figure 13: Relative growth across claims, sessions, and population (2015 base year)

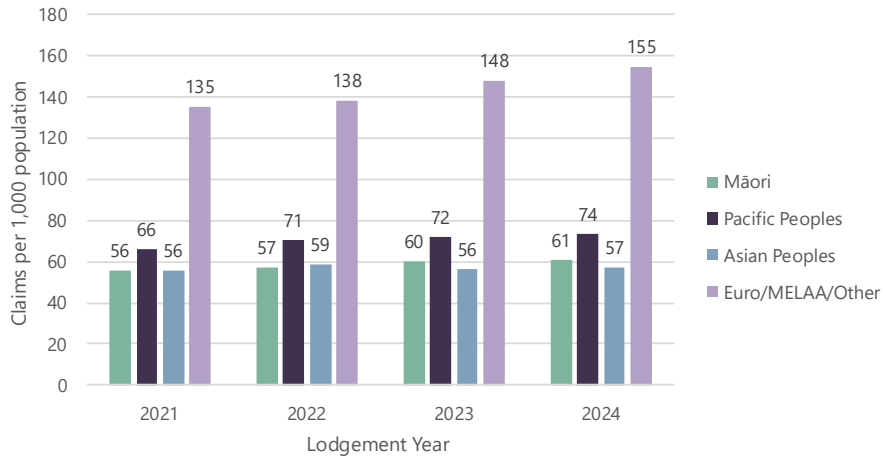


Source: Sapere calculations based on ACC-provided data from 2015-2024

2.5.1 Growth has been highest for European/Other

Figure 14 shows that age-standardised [3] claim rates have increased between 2021 and 2024 for all ethnic groups except Asian peoples. However, the growth was highest for European and Other, with an increase of 15 per cent between 2021 and 2024. Pacific peoples had around 12 per cent growth and Māori an increase of around 9 per cent.

Figure 14: Age-standardised claims per 1,000 population by lodgement year and ethnicity



Source: Sapere calculations based on ACC claims data
Note: Age-specific rates in each ethnic group are standardised to the Census 2023 NZ total population

[3] Age-standardisation adjusts for differences in the age composition of each group.

2.5.2 The number of physiotherapists has a small but cumulative effect on demand growth

Figure 13 showed an increase in the number of physiotherapists delivering treatment to ACC clients much higher than population growth. Workforce growth and the potential limitations of this measure are discussed further in section 3.1.1.

There are multiple factors driving growth in claims. However, our regression analysis finds that an increase in the number of physiotherapists uniquely induces a small amount of additional demand *beyond* other factors. There is a dynamic causal relationship between workforce growth and the number of claims.

When the number of physiotherapists available in the previous quarter increases by 1 per cent, their growth uniquely contributes to a 0.2 per cent rise in claims lodged by physiotherapists in the following quarter. This is a statistically significant finding at the 95 per cent confidence level.

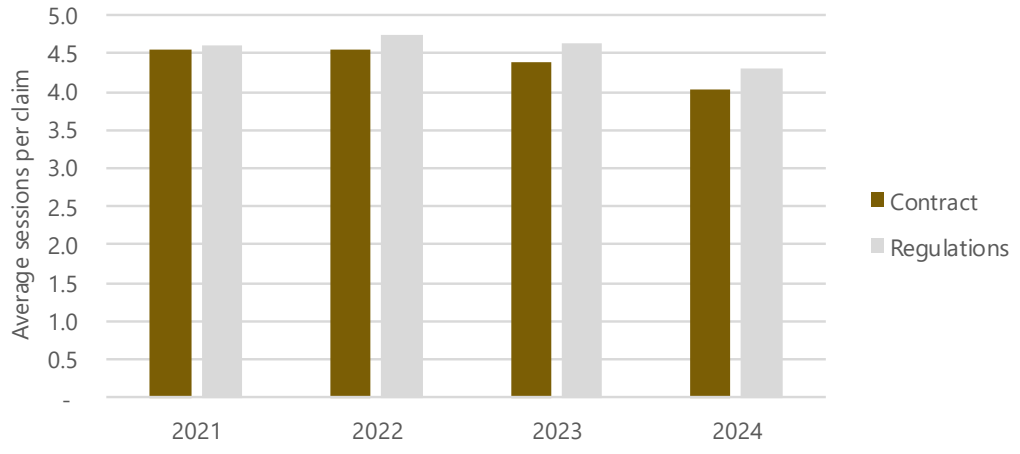
This effect continues over time. By 2024, approximately 2 per cent of claims lodged by physiotherapists can be attributed to supply-related effects. Looking ahead to 2029, this effect is projected to increase to around 5 per cent. These projections assume that supply effects only apply from 2021 onwards, as earlier data was not analysed. Initially, observed claims and supply-adjusted claims are aligned, but over time the cumulative effect of workforce availability causes a small divergence. We have used a conservative approach in estimating forward projections, which likely provides a lower-bound estimate.

We discuss our estimation approach in detail in Appendix H.

2.5.3 Slower growth in the number of treatments but a change in composition over time

The number of treatment sessions has increased at a much slower rate than claims, as the average number of sessions per claim has decreased (Figure 15).

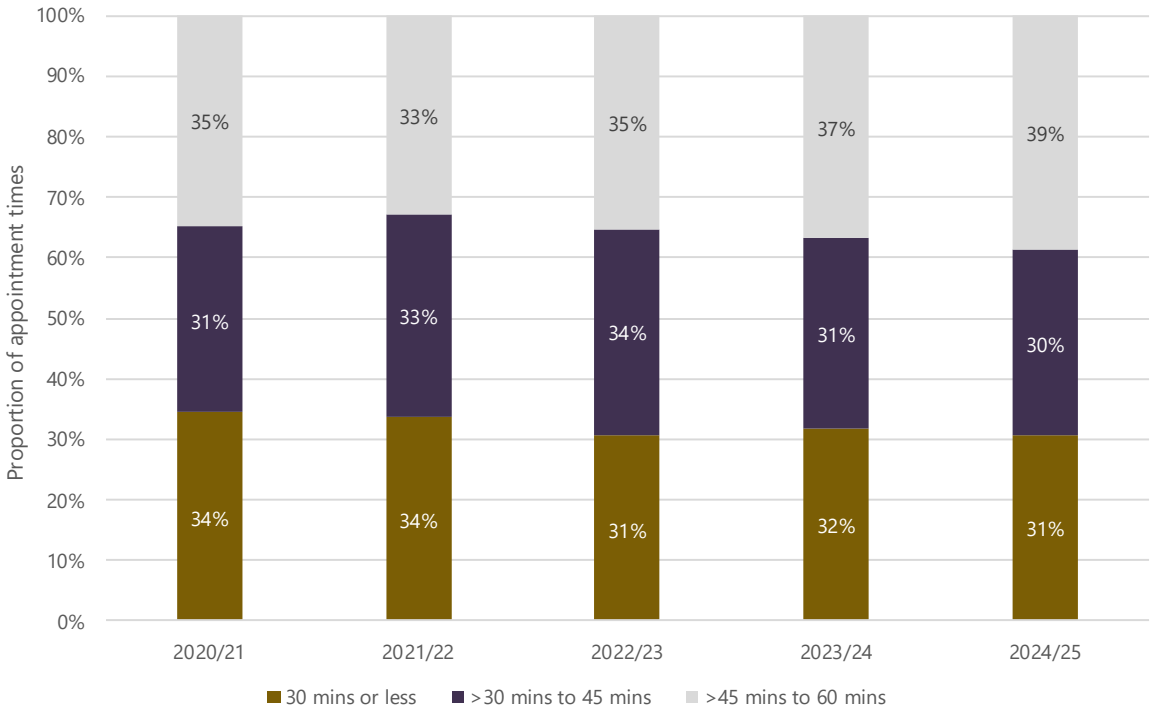
Figure 15: Average number of treatment sessions per claim, by contract type, 2021 to 2024



Source: Sapere calculation using ACC claims data

The composition, and hence cost, of those treatment sessions has changed. Under the AH contract, there are more initial consultations as the number of claims has increased. Under the CoTR, ACC billing data indicates a gradual shift toward longer treatment times (Figure 16).

Figure 16: Distribution of physiotherapy services sessions, 2020/21 to 2024/25



Source: ACC

3. The physiotherapy provider market

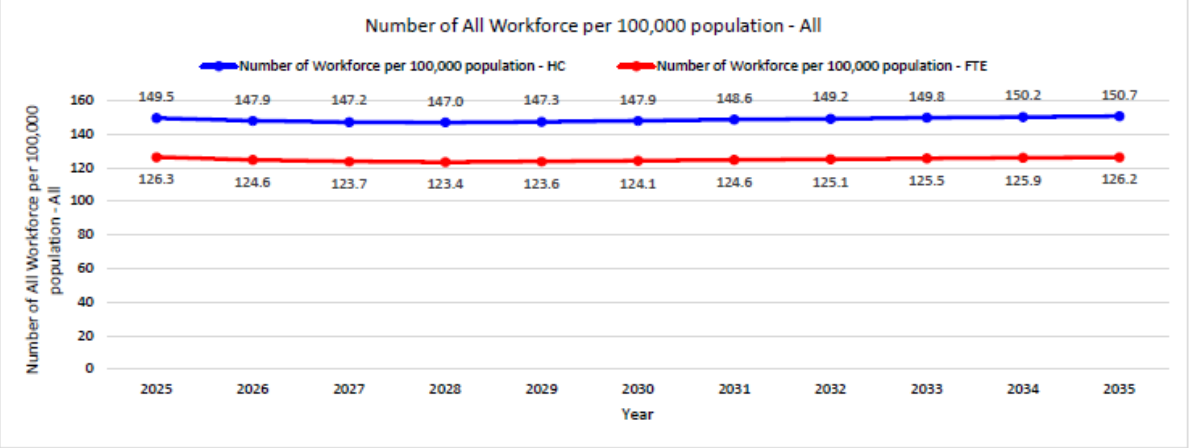
In this section we describe the information gathered and analysis of the physiotherapy supplier landscape.

3.1 Physiotherapists in New Zealand

In 2025, there were 8,093 physiotherapists registered in New Zealand,[4] a rate of 149.5 physiotherapists per 100,000 population (Figure 17).

Health NZ's Workforce Forecast Model accounts for entry and exit rates of physiotherapists using Physiotherapy Board registration data.[5] The number and FTE of physiotherapists in New Zealand is expected to grow with the population. By 2035, there will be a projected 8,820 physiotherapists in New Zealand (a rate of 150.7 physiotherapists per 100,000 population). The FTE rate is lower than the headcount rate due to part-time work within the workforce.

Figure 17: Forecast total physiotherapists in New Zealand per 100,000 population (2025 to 2035)



Source: Health NZ

We provide a description of the physiotherapist workforce characteristics in Appendix A.

Physiotherapists mainly work in private practice (estimated at just over half) or within Health NZ hospital and specialist services (estimated at just under one-third) (Physiotherapy Board of New Zealand, 2023). Community-based primary care physiotherapy in New Zealand is primarily delivered in private clinics with a musculoskeletal health focus.

[4] The Physiotherapy Board registration data includes individuals who have registered in New Zealand but are not living and practising here. In May 2023, there was a change in New Zealand immigration settings which meant that internationally qualified physiotherapists could apply for a Straight to Residence visa. There was then a dramatic increase in the number of new entries of internationally qualified physiotherapists between 2023 and 2024. However, there was a corresponding dramatic increase in 2024 exits (i.e. exits between 2024 and 2025).

[5] To account for the new patterns of entry and exit from 2023, Health NZ's forecasting model uses the average entry rates for 2023 to 2025. This has been adjusted to use the age-specific 2024 exit rates rather than the average exit rates for 2022 to 2024.

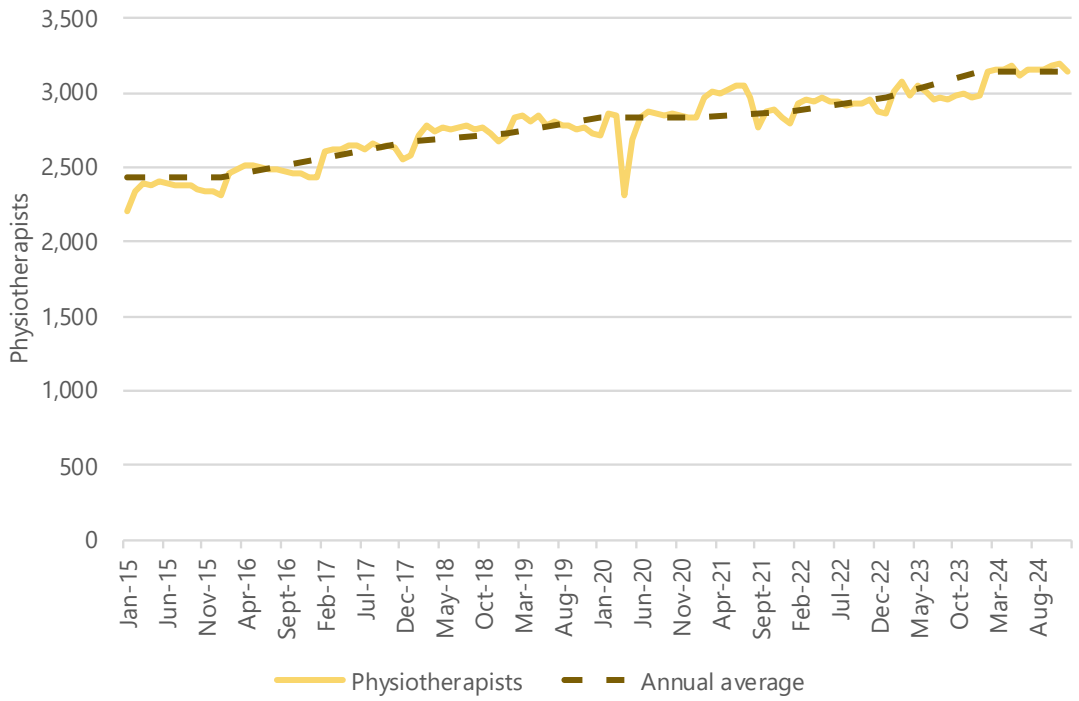
3.1.1 The number of physiotherapists treating ACC clients has grown markedly

We estimate there were on average around 3,140 physiotherapists working in private practice in 2024.[6]

ACC provided the number of unique physiotherapists delivering AH contract and CoTR treatment sessions each month. In Figure 18, we show the monthly number (solid line) and an average monthly number over a year, to approximate the workforce.

Figure 18 also shows the effect of COVID-19: the number of physiotherapists billing decreased dramatically coinciding with the two nationwide lockdowns in March 2020 and August 2021.

Figure 18: Physiotherapists claiming each month (January 2015 to December 2024)



Source: Sapere analysis of ACC claims data

The headcount of physiotherapists is an imprecise proxy for the availability of physiotherapist services. Unfortunately, there is no national time series data on the FTEs worked by physiotherapists in private practice. In the absence of accurate FTE information, we use other available data to form a view about whether increased part-time working has a material impact on physiotherapist availability.

We reviewed PNZ annual remuneration surveys, the Physiotherapy Board annual workforce survey (until 2023) and used information from our supplier survey. These data sources indicate minimal

[6] Calculated as the average of total physiotherapists who billed for AH contract or CoTR services each month in 2024.

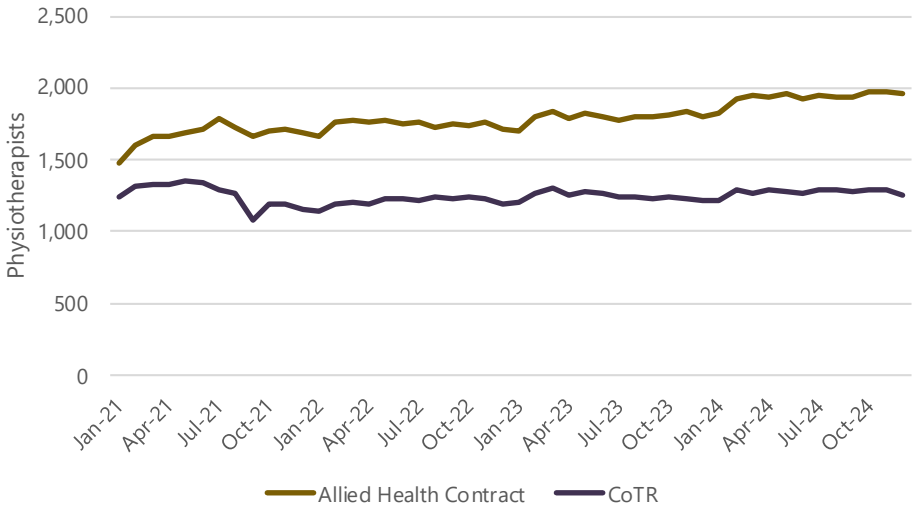
change in the FTE to headcount ratio between 2015 and 2024, which suggests that assessing change in headcount over time is a reasonable proxy to use to assess changing availability of physiotherapy services over time.

According to PNZ remuneration surveys between 2015 and 2022, the average FTE/headcount ratio was 0.83 (Physiotherapy New Zealand, 2025). Health NZ workforce modelling data indicates a 2025 FTE/headcount ratio of 0.85 (which aligns with the rate we obtained from our supplier survey) and a ratio of 0.84 in 2035.

PNZ annual remuneration surveys have shown that females are more likely to work part time than males (Physiotherapy New Zealand, 2025). The proportion of females in the workforce has decreased from 76 per cent in 2021 to 70 per cent in 2024 (and in 2015, 78 per cent of APC holders were female) (Physiotherapy Board of New Zealand, 2025b).

Between 2021 and 2024, physiotherapists on the AH contract delivered an average of 58.7 per cent of sessions, while those on CoTR accounted for 41.2 per cent. As shown in Figure 19, the number of physiotherapists working under the AH contract rose steadily over this period—from 1,674 in 2021 to 1,939 in 2024, an increase of 15.8 per cent. In contrast, the number of physiotherapists billing under CoTR remained relatively stable. This gradual shift suggests that new physiotherapists may have commenced under the AH contract or that some CoTR physiotherapists transitioned to it.

Figure 19: Number of physiotherapists by contract type and month (2021 to 2024)



Source: Sapere analysis of ACC claims data

3.1.2 Substantial variation in physiotherapist availability across the country

There are approximately 7.2 physiotherapists per 10,000 people in New Zealand delivering treatment under the CoTR or AH contract.

Our method to assign practitioners to location is set out in Appendix A. We note that geographical comparisons may be impacted by variation in part-time working in different parts of the country. The

Otago region has the highest rate in 2024 at 11.7 physiotherapists per 10,000 people. Manawatū-Whanganui has the lowest rate at 4.2 per 10,000.

Table 5 shows the Auckland rate is close to the national rate. However, there is a large amount of variation across the Auckland region. In 2024, North Shore has a rate of 11.5 physiotherapists per 10,000 people, compared to 9.3 per 10,000 in Central Auckland and just 3.9 per 10,000 in Manukau.

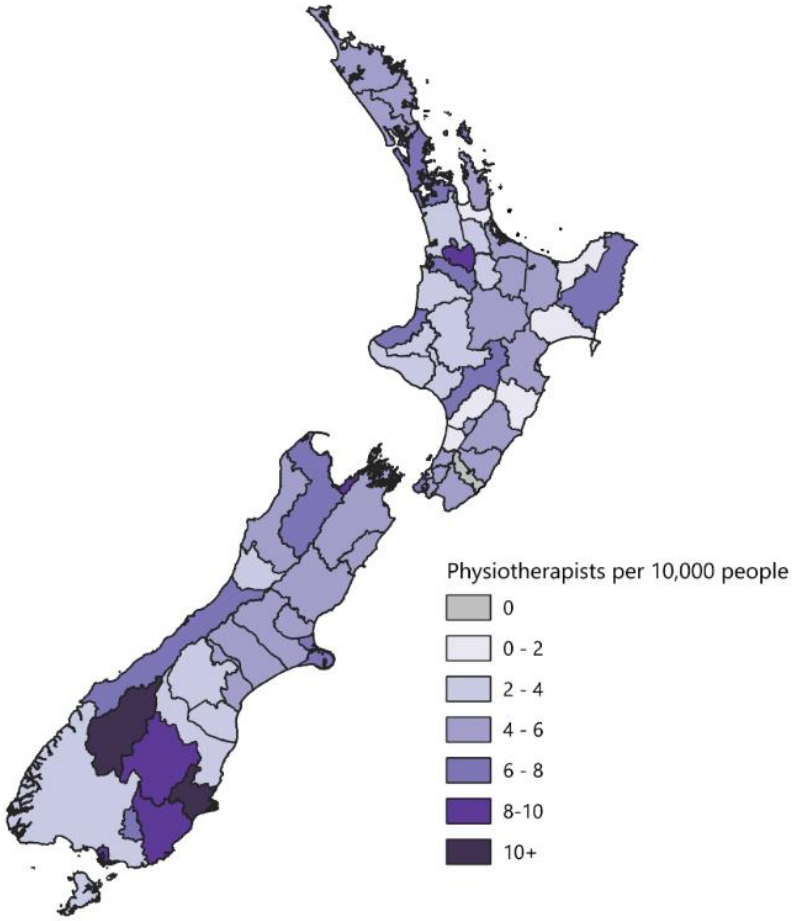
Table 5: Physiotherapists per 10,000 people by region (2021 to 2024)

Region	2021	2022	2023	2024
Otago	10.7	10.9	11.1	11.7
Nelson	7.8	8.3	10.5	8.3
Southland	7.1	7.3	7.0	7.3
Tasman	5.2	5.7	5.8	7.2
Bay of Plenty	6.9	6.8	7.6	7.1
Auckland	6.7	6.7	6.6	6.8
Canterbury	6.3	6.3	6.5	6.7
Gisborne	5.4	6.2	6.1	6.4
Taranaki	5.5	5.7	5.7	6.4
Wellington	5.1	5.2	5.7	5.6
West Coast	4.5	4.8	5.3	5.5
Waikato	5.0	5.1	5.2	5.5
Hawke's Bay	5.6	5.5	5.7	5.1
Marlborough	4.7	4.8	5.1	5.0
Northland	4.4	4.4	4.6	4.8
Manawatū-Whanganui	3.5	3.8	4.0	4.2
New Zealand	7.0	7.1	7.2	7.2

Source: Sapere analysis of ACC claims data, Statistics New Zealand (2025)

Rates by territorial authority highlight more of the variation in physiotherapist availability within regions. Figure 20 shows physiotherapists per 10,000 people by territorial authority in 2024. Queenstown-Lakes District has 21.7 physiotherapists per 10,000 people, which is almost double Dunedin's rate (10.1 per 10,000)—the territorial authority with the second highest rate. Wairoa, Kawerau, Horowhenua, Manawatū, Hauraki, and Central Hawke's Bay districts have rates below two per 10,000.

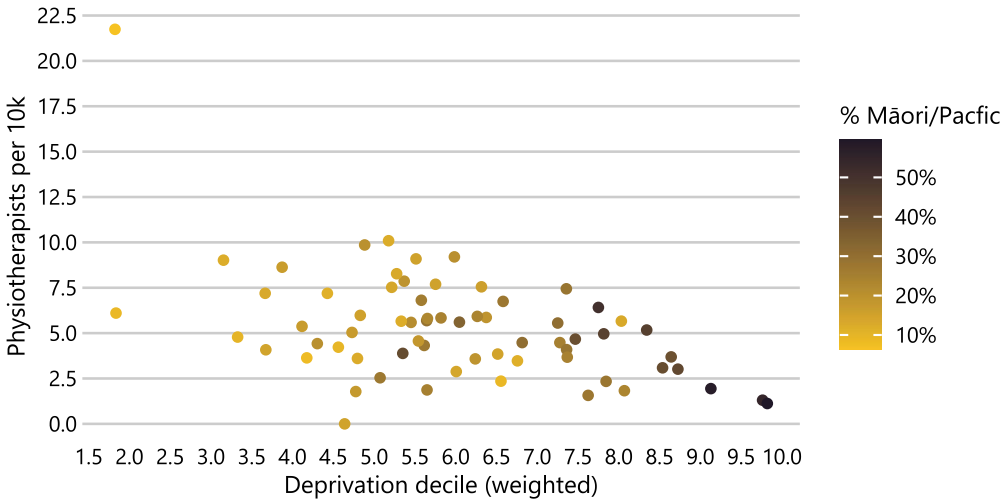
Figure 20: Physiotherapists per 10,000 people by territorial authority, 2024 calendar year



Source: Sapere analysis of ACC claims data, Statistics New Zealand (2025)

Areas with higher deprivation and larger proportions of Māori or Pacific populations tend to have fewer physiotherapists per 10,000 population. This aligns with Buhler et al. (2024) who found the physiotherapy workforce is unevenly distributed relative to the population, with low accessibility associated with a high proportion of Māori ethnicity and rural location. Figure 21 plots physiotherapist rates against the population-weighted deprivation decile for each territorial authority. The colour gradient indicates the percentage of the territorial authority's population identifying as Māori or Pacific peoples. The chart shows that territorial authorities with more deprived populations and a higher percentage of Māori or Pacific residents generally have lower physiotherapist rates.

Figure 21: Physiotherapists per 10,000 by weighted deprivation decile



Source: Sapere analysis of ACC claims data

3.2 The supplier landscape has shifted between 2021 and 2024

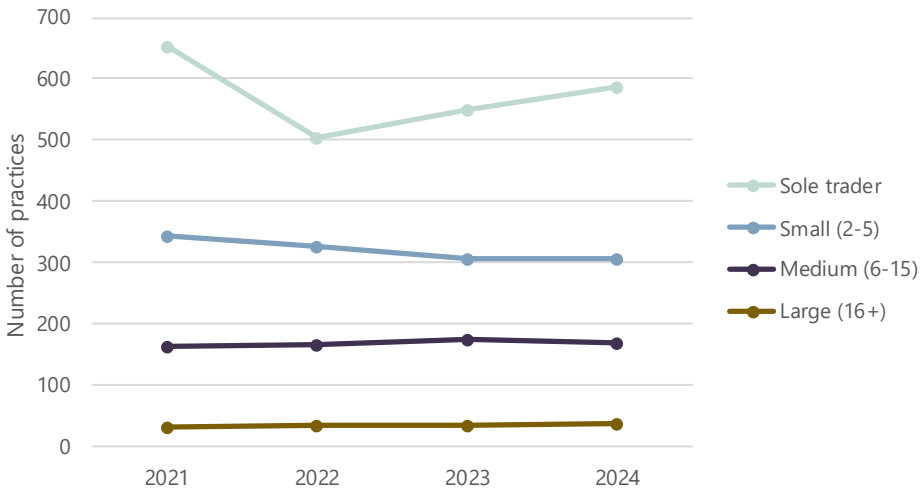
In the 2024 calendar year, there were 1,098 unique suppliers that delivered physiotherapy treatment under the AH contract and CoTR.

We grouped suppliers into categories based on their number of physiotherapists:

- Sole traders: one physiotherapist
- Small practice: two to five physiotherapists
- Medium practice: six to 15 physiotherapists
- Large practice: 16 or more physiotherapists.

The total number of suppliers was highest in 2021 (1,186) and then declined in 2022 to 1,025, driven by a 22.9 per cent decrease in sole traders and 4.7 per cent decrease in small practices. The number of small practices continued to decrease until 2023. The number of medium and large practices have slightly increased between 2021 and 2024 by 4.3 per cent and 16.1 per cent, respectively (Figure 22).

Figure 22: Number of practices by practice size



Source: Sapere analysis of ACC claims data

In 2024, medium sized practices accounted for the largest patient share at 33 per cent patients, compared to 28 per cent for large practices, 24 per cent for small practices and 15 per cent for sole traders.

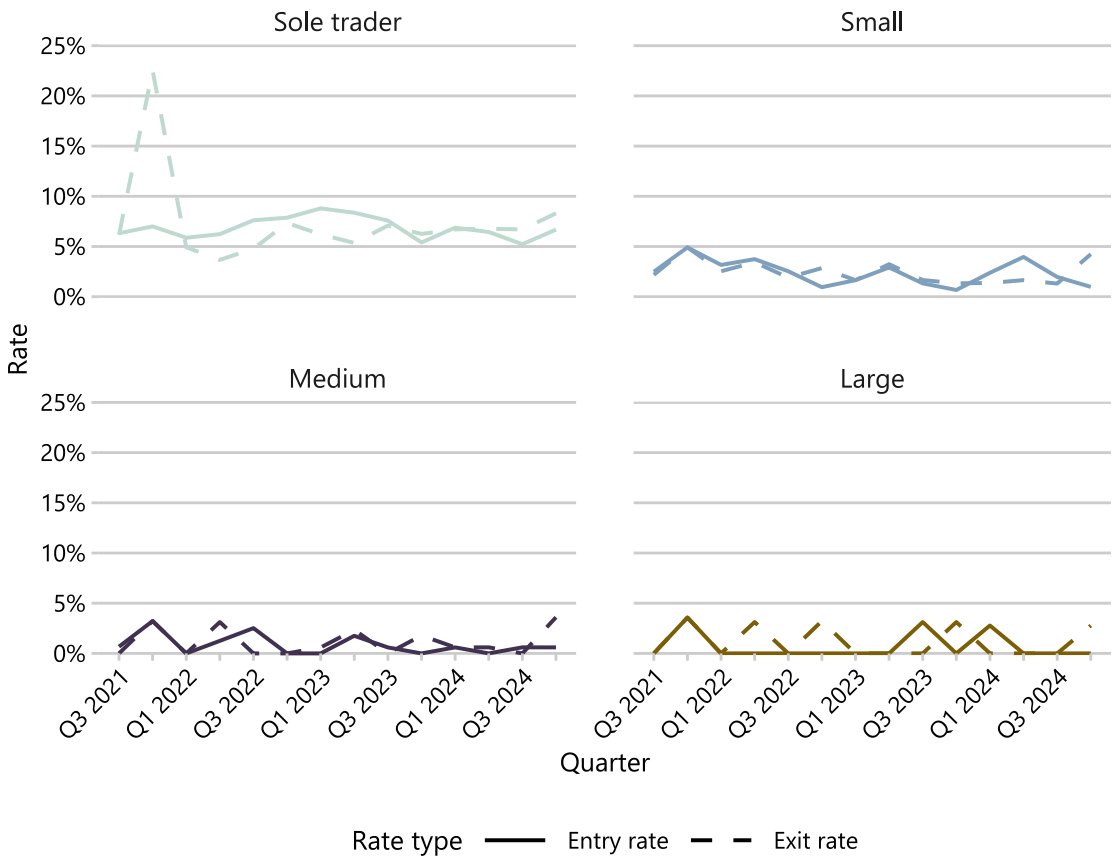
3.2.1 Suppliers are entering and exiting the market at similar rates

We used ACC claims data to estimate the entry and exit rates of suppliers assuming they:

- entered the market when billing ACC for the first time (and their first treatment was at least six months after the start of the dataset)
- exited the market when billing ACC for the last time (and their last treatment was at least 6 months before the end of the dataset).

Figure 23 shows entry and exit rates by quarter. The decline in sole traders between 2021 and 2022 mentioned above can be seen as the spike in Q4 2021 when the exit rate was 22.5 per cent. This decline coincides with the introduction of the extended COVID-19 vaccine mandate in October 2021 (Aotearoa New Zealand Royal Commission COVID-19 Lessons Learned, 2024).

Figure 23: Entry and exit rates of physiotherapy businesses by practice size



The average quarterly entry and exit rates between 2022 and 2024 indicate more sole traders, medium practices, and large practices entered the market than exited (Table 6). Over the same period, slightly more small practices exited than entered.

Table 6: Average entry and exit rates by practice size (2022 to 2024)

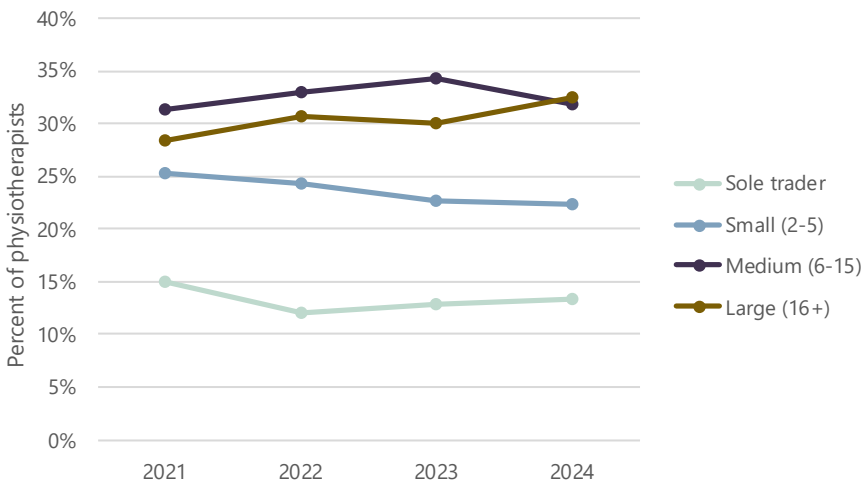
Practice size	Entry rate	Exit rate
Sole trader	6.9%	6.2%
Small (2-5)	2.2%	2.3%
Medium (6-15)	0.7%	1.1%
Large (16+)	0.5%	1.0%

3.2.2 More physiotherapists work in large practices than other sizes for the first time in 2024

The shift in the proportion of physiotherapists working in practices by size indicates a consolidation of physiotherapists into larger practices. Figure 24 shows a year-on-year decline in the proportion of physiotherapists working in small practices and growth in the number of physiotherapists working in

large practices. The proportion of physiotherapists in medium practices grew from 2021 to 2023 and then declined in 2024, when large practices became the largest employer of physiotherapists.

Figure 24: Proportion of physiotherapists by practice size and contract type

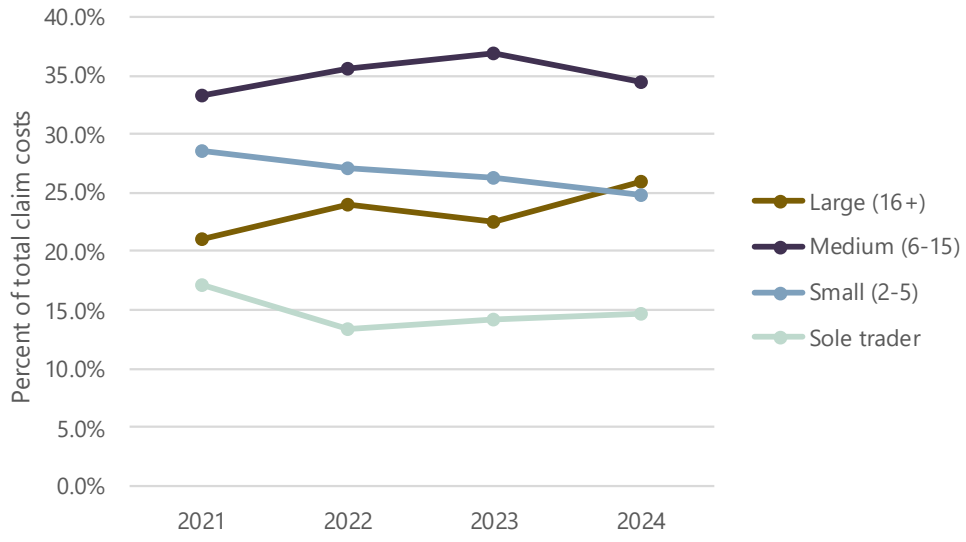


Source: Sapere analysis of ACC claims data

3.2.3 Large practices are growing market share

Medium sized practices accounted for the largest share of annual claim costs each year ranging between 33 per cent to 37 per cent over the four years (Figure 25). Small practices accounted for the second largest share between 2021 and 2023. However, the small practice share of total claims decreased year-on-year, and 2024 marks the first year when large practices make up the second largest share of total claim costs. Although sole traders represent the smallest share, their share gradually increased from 13.4 per cent in 2022 to 14.7 per cent in 2024, rising in tandem with growth in the number of sole traders in private practice.

Figure 25: Percentage of annual total claim costs by practice size (2021 to 2024)



Source: Sapere analysis of ACC claims data

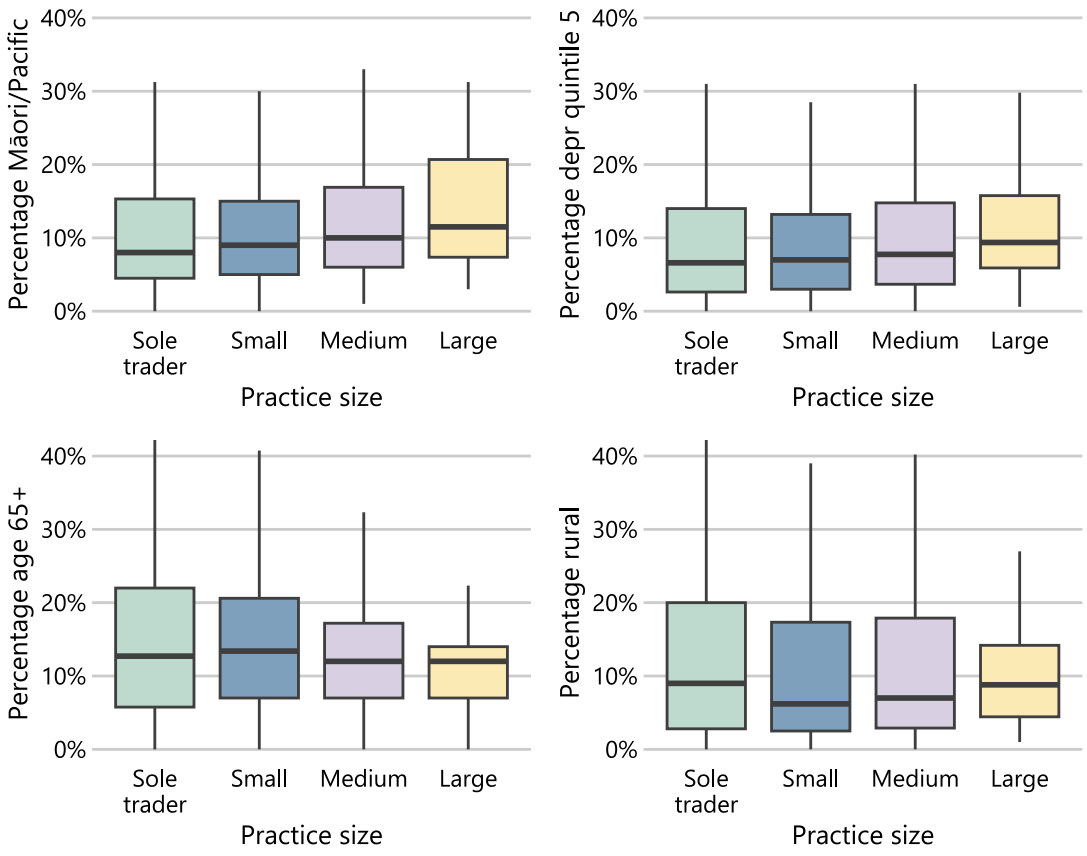
Stakeholders indicate consolidation is seen as inevitable, with corporates acquiring smaller practices.

3.3 Patient demographics vary by practice size

The demographic characteristics of patients showed some variation depending on the practice size. Figure 26 presents four boxplots comparing 2021 to 2024 average values for select patient demographics across practices by size. The thick horizontal line represents the median for all practices in that group:

- The percentage of patients identifying as Māori or Pacific peoples increases with increasing size.
- Large practices tend to have slightly higher proportions of Māori/Pacific patients and those from deprivation quintile 5 areas.
- Sole traders and small practices tend to have more patients aged 65 and over.
- Sole traders tend to have more rural patients. Although, the interquartile range (coloured boxes) indicate significant variation within each practice size for rural populations.

Figure 26: Distribution of 2021 to 2024 average patient demographics by practice size



Source: Sapere analysis of ACC claims data

4. Practice characteristics and cost

In this section we summarise our findings related to the cost of providing physiotherapy services under the AH contract and CoTR, as well as workforce and other practice level experiences. We also describe a cost model of physiotherapy practice. The key data informing this section includes financial data and interviews with 16 physiotherapy businesses, and a physiotherapy practice survey with 348 responses. Further detail on data sources is provided in Appendix A.

4.1 Cost modelling scenarios are illustrative of different business experiences

Delivering physiotherapy practice widely has several compelling common features, and some salient differences. The key differences we cover are:

- businesses operating under the CoTR versus the AH contract
- location of the practice: urban, provincial and rural
- socioeconomic status of patients
- size of the practice
- efficiency (captured by utilisation).

The modelling shows most practices are able to generate sufficient revenue to pay for the costs of employment, overheads, capital, and owner remuneration. There are some exceptions:

- Some practices in urban areas of low socioeconomic status pay higher costs, have more difficulties in retaining staff, and are less able to generate higher copayments to cover costs.
- Practices in rural areas may spend significantly more on recruitment and may also have a proportion of clients who have difficulties paying a copayment.
- Practices where demand is highly seasonal will have lower utilisation in off season times and may find it difficult to match the seasonal revenue profile with the seasonal cost profile.

Graduate physiotherapists will normally become cost neutral to a practice within six months and generate positive returns from around that time. Most larger practices are eager to bring in graduates, who also provide the opportunity for more experienced physiotherapists to add to their skills by taking on mentoring and supervision duties.

According to our survey results, the distribution of physiotherapist workforce experience in private practice trends towards more senior physiotherapists.

Senior physiotherapists (eight or more years of experience) make up 59 per cent of the workforce in the 346 businesses who provided experience information. Intermediate physiotherapists (four to seven years of experience) make up 23 per cent of the workforce, and graduate/junior physiotherapists (up to three years of experience) make up the remaining 19 per cent. The ratio of senior to junior physiotherapists decreases with practice size (Table 7).

Table 7: Physiotherapist experience by practice size

Practice size	Graduate / Junior (%)	Intermediate (%)	Senior (%)	Senior to junior ratio
Sole Trader	5%	7%	89%	19.5
Small (2-5)	20%	15%	65%	3.3
Medium (6-15)	20%	25%	56%	2.8
Large (16+)	23%	34%	43%	1.9

Source: Sapere analysis of online practice survey (n=346)

4.1.1 A fair profit margin

We have been asked what a fair profit margin for a physiotherapy practice is or what might be an appropriate return to owners. Based on our practice visits and analysis of accounts, we focus on owner remuneration rather than profit margin. This is for the following reasons:

- The current physiotherapy market is clearly dependent on professionals delivering therapeutic interventions to patients requiring those interventions. There is very little capital required in delivering this service.
- A therapy room is required and that may be a room in a person's home, in a fitted out suburban office, in a sports facility, or in a room in a city office building. Those premises are leased or owned and attract their own depreciation and rate of return. That is allowed for the analysis of the cost structure for delivering services.
- Beyond that, there is a higher level of remuneration for the owner for management and supervision that we calculate—income from clinical time is assumed to be remunerated at the same level as other physiotherapists.
- We make no allowance for goodwill as, if the physiotherapist were to stop practising, then likely the patients using that practice would find another physiotherapist.

This situation is quite unlike that of, for instance, private sector provision of a magnetic resonance imaging (MRI) service, or radiation therapy cancer services, where there is considerable capital investment in plant and equipment.

The remuneration for the owner can become compressed in practices with patients who have low incomes and complex needs. Generally, in these instances, these practices appear to survive through hourly rate funding (and lower overheads) or by being part of another more mainstream practice, or being part of a group of practices, where the owner is remunerated from that wider array of activity.

4.1.2 Different business models have different challenges

We observed a wide variety of business models across the practices within our sample ranging from sole practitioners to large multi-site operations. Some small businesses, particularly those that are sole practitioners, operate under the CoTR, choosing to have more autonomy, a paid hourly rate, and less compliance costs, but less access to specialist contracts.

Anecdotally, and by indirect observation, larger entities benefit from the margin from other ACC contract work which complement the less profitable single discipline physiotherapy services. The information we gathered suggests that revenue streams, in order of priority, are:

- ACC-funded treatments
- copayments by patients
- contract work (e.g. VRS, ICPMSK, TI)
- sub-leasing rooms to other health professionals
- private consultations and group classes.

Ownership structures vary depending on the scale of operation. Most are in a company structure. The smaller and medium sized organisations are incorporated, with ownership drifting from physiotherapists to private equity capital as scale increases. In smaller practices, expansion is often limited by rental costs, staffing, and contractual obligations.

Succession is an issue for smaller businesses. For instance, some practices are transitioning ownership to clinical directors, and medium sized and large practices are acquiring distressed businesses selectively. Anecdotally, medium sized practices attract a healthy multiple of earnings (before interest, taxes, depreciation, and amortisation) if acquired. Anecdotally, a well-run suburban practice attracts a modest $100,000 to $200,000 for goodwill.

Successful smaller practices have low non-attendance rates, committed owner-operators, a good workforce (sometimes under a pay-per-patient or bonus arrangement) and strong utilisation. Medium and larger practices provide a range of career pathways including management and senior clinical roles not available to small practices.

Technology adoption is uneven and in early days. Online booking is common, with most clinics preferring phone-based systems for triage. Some use artificial intelligence tools to streamline notetaking, but integration with practice management systems is limited. Substantial productivity gains are unlikely given the hands-on nature of physiotherapy.

4.1.3 Patient demographics influence access but also businesses

Patient populations vary, with each practice attracting a particular demographic:

- Urban clinics (e.g. Wellington, Auckland) serve diverse, multicultural communities, depending on suburbs and disposition of clinics. In these areas, patients are generally able to pay the copayment through a course of treatment.
- Rural clinics face access barriers due to distance and transport. Local industry often means work is labour intensive, pay rates are lower, and travel times longer. Also, some rural activities are weather and season dependent meaning, at times, cancellations. Patients are reported to be more complex and often present later.
- School-based services target youth but face challenges with attendance and scheduling.

Physiotherapy is more sensitive to affordability pressures than other health services, as repeat visits are often needed. Affluent areas have fewer issues with copayments, while low socioeconomic areas

struggle with affordability and awareness of ACC entitlements. For those clinics in lower income areas, copayments of $20 to $25 are reportedly common, and may not always be collected. However, every physiotherapist we talked with mentioned they felt some level of copayment was required otherwise patients may not value the service offered.

Some practices offer pro bono services, discounts for community services card holders, or low-cost clinics. However, these low-cost practices pay physiotherapists less or rely on external funding.

4.1.4 Costs for different practice scenarios

We have modelled a central cost scenario and three alternative scenarios:

- an urban practice in a low socioeconomic area
- a rural practice with higher recruitment costs
- a practice with high seasonality and lower utilisation.

Table 8: Cost modelling scenarios for different practice types for a billable hour

Practice type	Cost per billable hour	Note
Central	$126	A representative practice should be able to generate sufficient copayments to cover its costs of delivering ACC-funded sessions.
Urban practice, low socioeconomic demographic	$156	A practice in an urban area will have higher costs and will often struggle to charge higher copayments to cover costs; lower utilisation (with higher did not attend rates) may well be a feature of the practice even where nominal copayments are levied.
Rural practice	$131	While the actual cost per billable hour is not materially higher than most practices, rural practices may well find themselves at capacity and unable to recruit staff even with higher salaries on offer. Some parts of the community will not be able to meet even nominal copayments.
High seasonality practice	$147	The high seasonality practice will have lower utilisation. The effect of utilisation is a highly material variable in determining the costs of a billable hour.

There is confusion for some that, under these contracts, ACC sets a price—it does not. Rather, ACC subsidises practices for treatment and physiotherapists charge a copayment (the visible price to the patient). The ACC payment is effectively just under $100 per hour (assuming 30-minute follow-up consultations and modest time for consultation-related administration). At that level, the subsidy looks reasonable if there is a patient demographic able to pay a reasonable copayment. We noted high seasonality practices manage their labour costs through contracts which might have winter overtime and summers off.

Practices have differing proportions of work that fall outside the ACC-funded standard service items so will experience quite different revenue structures across the entirety of their business.

4.2 Observations on sustainability

The cost curve for provision of physiotherapy services is not linear. For those on the CoTR, there are low overheads. A small practice under the AH contract is more difficult to make work, as there are additional costs of audit. As the practice steps up in size, administration costs increase particularly if subcontracting to VRS and ICPMSK contracts. If juniors are taken on—and they often are to give a balance of seniority and continue to grow the practice—then there are clinical supervision costs. At around six physiotherapists, the practice seems to balance out and then grow in ability to remunerate the owner as it becomes a medium sized practice. Those practices can be more lucrative, particularly if they hold other ACC contracts.

Practices operating with a low socioeconomic catchment are difficult to bring into balance. Typically, they are small, and reliant on personal effort of the owner. The level of copayment is lower and often difficult to collect. Patients are more likely to present later, with more complex issues, possibly working in heavy labour industries. Social issues are complex. Therefore, for the practice, there are issues of reduced revenue, sometimes longer appointments, and more active management of late cancellations and non-attendance. Those practices often have lower utilisation. We have also observed practices where owners have experienced low remuneration in recent years, which would be unsustainable over the long term. Those practices may become acquired by larger entities or may need to expand to take in a different client population.

4.3 The practice survey provided data to validate assumptions

We set out data gathered via the physiotherapy supplier survey, which we used to validate modelling assumptions. Survey data includes responses from both AH contract and CoTR suppliers unless identified separately.

4.3.1 The median reported patient copayment is around $40

Table 9 shows the survey statistics for fees for ACC services at physiotherapy suppliers. Unsurprisingly, fees are higher for (longer) initial appointments.

The median copayment is $40 for a follow-up appointment, meaning that half of practices have a fee of greater than or equal to $40 and half of practices have a fee that is lower than or equal to $40. In fact, 38 practices we surveyed had a fee of exactly $40 for a follow-up appointment. We can also conclude that 50 per cent of the practices surveyed have a fee of between $31 and $50.

Table 9: Fees range (including GST) - initial vs. follow-up sessions

Range	Initial	Follow-up
Maximum	$150	$150
Upper quartile	$62	$50
Median	$49	$40
Average	$53	$35
Lower quartile	$38	$31
Minimum	$0	$0

Source: Sapere survey of physiotherapy suppliers

Table 10 shows the fees by location. Fees are higher on average in urban locations. Possible reasons for higher fees would include higher lease costs of premises and in some areas, a greater ability for patients to pay. The need to pay higher salaries may or may not be a factor as rural practices report difficulties in recruiting staff.

Table 10: Average fees by practice location (including GST)

Copayment	Urban (large city, metropolitan area)	Provincial town / small city	Rural (small town or community, outside main centres)	Remote / isolated area
Average initial	$55.70	$51.10	$48.50	$34.00
Average follow-up	$47.60	$41.90	$40.50	$30.70

Source: Sapere survey of physiotherapy suppliers

Table 11 shows there is only a small difference in average copayments between businesses using the AH contract and the CoTR.

Table 11: Average fees by contract type (including GST)

ACC payment mechanism	Initial	Follow-up
Allied Health Services Contract	$53.40	$45.60
Cost of Treatment Regulations	$52.00	$43.70

Source: Sapere survey of physiotherapy suppliers

4.3.2 The average appointment time was 45 minutes for an initial and 30 minutes for a follow up

The median times for appointments align with the practice visit feedback—45 minutes for an initial consultation and 30 minutes for follow up (Table 12). The average is higher than the median because it has been skewed by several higher observations. It is possible that some of the responses factor in the administration time that is required to complete all the work associated with the appointment.

Table 12: Range of appointment times - initial vs. follow-up (minutes)

Range	Initial	Follow-up
Maximum	66	65
Upper quartile	60	45
Median	45	30
Average	46	35
Lower quartile	40	30
Minimum	20	15

Source: Sapere survey of physiotherapy suppliers

The length of a consultation does not differ materially by setting (Table 13). However, practices in remote areas do report the shortest consultation time. The differences are not large, and the number of practices involved does not allow us to make any meaningful observations.

Table 13: Average appointment time by practice setting, (minutes)

Copayment	Urban (large city, metropolitan area)	Provincial town / small city	Rural (small town or community, outside main centres)	Remote / isolated area
Average initial	47	47	45.3	40
Average follow-up	37	33.7	34.2	31.7

Source: Sapere survey of physiotherapy suppliers

CoTR appointments are typically longer, suggesting differences in how time is allocated under each model:

- Medians of 40 minutes for an initial and 30 minutes for a follow-up under the AH contract.
- Medians of 60 minutes for an initial and 45 minutes for a follow-up under the CoTR.

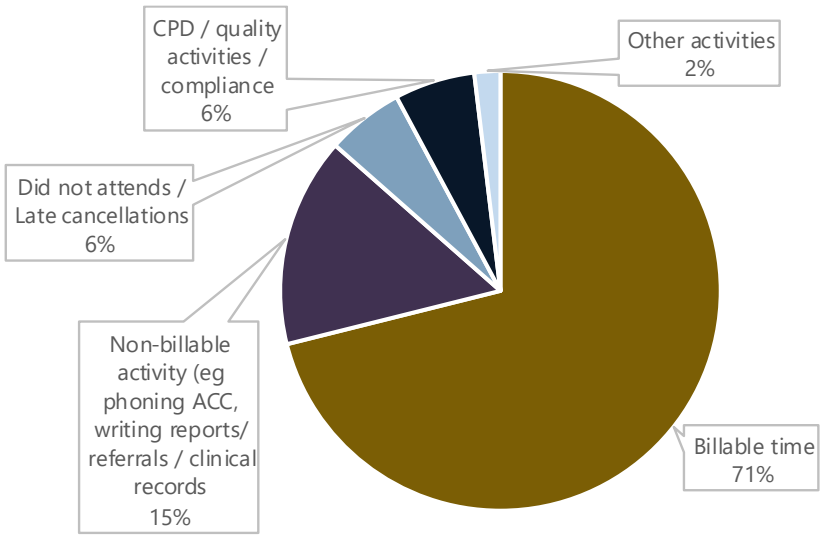
Comparison with ACC CoTR invoicing data shows that, although the median times are the same, there is a greater proportion of 60-minute appointments invoiced than reported in our survey.[7]

4.3.3 Around 71 per cent of billable time reported

One of the most important productivity measures is how much time can be charged, and how much time is needed to support the billable time. On average, 71 per cent of time was reported as billable, with another 15 per cent of time required for activities directly related to supporting a consultation. Another 6 per cent of time is taken up in activities directly supporting the ongoing education of physiotherapists and the compliance of the practice. Adding these three categories together indicates that, on average, 92 per cent of all time is accounted for in direct and indirect support. This leaves 8 per cent of time that is under-utilised, with three-quarters of that time related to late cancellations and non-attendance at booked appointments.

[7] Calculated by weighting initial and follow-up appointment times reported in the survey, by the ratio indicated by average treatments per claim from ACC claims data for CoTR (3.3 follow-ups to every initial).

Figure 27: How time is spent (adjusted percentage of all responses)



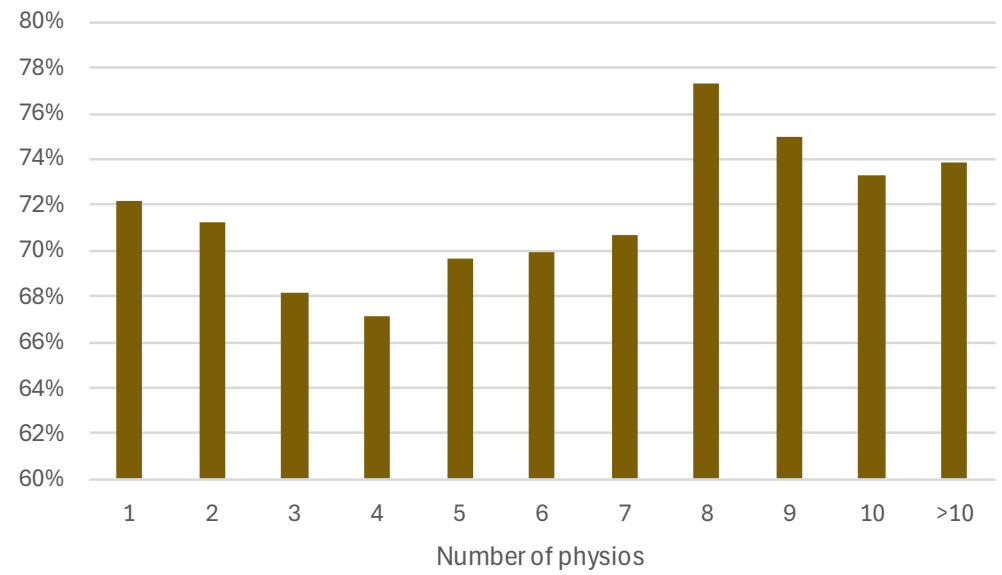
Source: Sapere survey of physiotherapy suppliers

Overall, there was minimal difference in billable time reported between AH contract (71.5 per cent) and CoTR suppliers (70.7 per cent).

Interestingly, there is some variation in billable time depending on practice size (as measured by number of physiotherapists). Looking through the chart below, we speculate that there is somewhat of a 'j-curve' with the smallest businesses being more productive than practices with three or four physiotherapists. Practices with a larger number of physiotherapists appear more productive.

We suggest that one explanation for this relationship is that the smallest practices are run by experienced and well-established physiotherapists with high demand for their services—running these businesses is less complex. A practice with three or four physiotherapists may have more of a range of experience and will have to incorporate administration staff which adds a layer of complexity without economies of scale. As practices become larger, they can undertake specialisation to achieve higher levels of productivity.

Figure 28: Billable time by number of physiotherapists



Source: Sapere physiotherapy supplier survey
Note the broken vertical axis for clarity (does not start at zero)

The range of billable time does differ significantly across practices. A full quarter of practices reported billable time percentages greater than or equal to 80 per cent (Table 14).

Table 14: Range of billable time reported

Range	Billable time
Minimum	50%
Lower quartile	65%
Average	71%
Median	70%
Upper quartile	80%
Maximum	100%

Source: Sapere survey of physiotherapy suppliers

Late cancellations and non-attendance at booked appointments are an important driver of inefficiency (Table 15). Some businesses can and do recover fees from patients who fall into these categories, but others report that this is not possible.

Table 15: Range of late cancellations or non-attendance

Range	Late cancellations/non-attendance
Minimum	0%
Lower quartile	2%
Average	6%

Range	Late cancellations/non-attendance
Median	5%
Upper quartile	10%
Maximum	27%

Source: Sapere survey of physiotherapy suppliers

The challenges we observed include:

- high overheads (e.g. information technology, human resources, compliance, need for reception), particularly if a practice is small
- limited economies of scale as the therapeutic intervention requires the physiotherapist to be hands-on
- inconsistent profitability across sites, largely depending on the patient population
- complex billing systems (e.g. multiple Gensolve instances) requiring practice administration even for relatively small organisations.

4.4 Feedback on ACC systems and contracts

ACC is central to all businesses we visited, and all see the ACC scheme as "a good thing." We acknowledge that some business owners have chosen not to provide ACC funded physiotherapy services where they are able to achieve an acceptable private revenue stream.

Second level issues raised by stakeholders include the following:

- Administrative processes particularly when working with the regional holders of other ACC contracts, although this is an issue with practice management systems rather than ACC.
- Lack of recognition in payment structures for experienced clinicians (which is not dissimilar to other health providers) and no differentiation based on outcomes.
- Some raised the issue of inflexible session limits in the context of complex patients under CoTR.
- From a few, concerns about the time to call ACC, although this may relate to ACC's previous case management approach (which has subsequently changed).
- Some people noted high costs of audit and compliance for the AH contract.

5. Clear markers of inequity and a complex problem to address

ACC, PNZ, and other stakeholders we spoke with hold material equity concerns, including underservicing of some populations and cultural training not impacting utilisation. These concerns are supported by our quantitative analysis and in literature. We consolidate the commentary in this section.

5.1 Inequity gradients in claims and treatments

Our analysis found there are inequities in access to physiotherapy services and in how services are used once an individual has entered the system.

Our multivariate regression analysis provides a robust assessment of the unique contributions of different variables on physiotherapy utilisation. **Key findings are the socioeconomic and the ethnicity gradients identified for both making a claim and the number of sessions per claim**. The more deprived a geographic area, the less likely claims are lodged and the lower the average sessions per claim. All other ethnic groups have fewer claims and fewer treatments compared to Europeans. We restate some of the key findings in Table 16 below. Females have more treatment sessions than males, but we do not have enough data to quantify gender diverse access issues.

Table 16: Determinants of physiotherapy demand, for claims and number of sessions

Factor	Effect on making a physiotherapy claim	Effect on number of treatment sessions (once in treatment)
Socioeconomic deprivation	Increased deprivation associates with fewer claims per capita.	Increased deprivation associates with fewer sessions and a strong gradient.
Age	Ages 15 to 44 have fewer claims on average compared to younger people.	Service use increases with age, peaking in mid-life (45 to 64); demand is lower in childhood and tapers slightly after age 65.
Ethnicity	Pacific peoples, Asian, and MELAA groups have significantly fewer claims than Europeans. Māori and Other have fewer, but not statistically significant.	Relative to European, all other ethnic groups have significantly fewer treatment sessions on average.
Injury severity	Higher injury severity is associated with fewer claims (relative to minor injuries). An explanation is that more severe injuries are not treated under the AH contract or CoTR.	Higher severity associates with more sessions (as expected).
Geography (urban vs rural)		People living in urban areas have slightly more sessions (better access) compared to rural

5.1.1 Alternative scenarios of demand

While we observe statistically different levels of access and treatment intensity, the difficulty, as with many health services, is determining the 'right' level of intervention for a given level of need. We model alternative 'what-if' scenarios to estimate service volumes if everyone had the same level of access as different benchmark groups. A description of this method is provided in Appendix I.

If all people used physiotherapy at the same rate as people in medium deprivation areas, there would be a redistribution across population groups, but little overall change at an aggregate level.

Claims would increase materially if everyone accessed at the same rate as European or the least deprived groups (Table 17), although the increase in number of treatment sessions would not be as marked.

Table 17: Modelled scenarios of demand for claims compared to observed demand for claims

Scenario	2021	2022	2023	2024
1: European	11.96%	12.33%	12.01%	14.46%
2: Least deprived	11.95%	11.80%	11.36%	12.95%
3: Medium deprived	-1.23%	-1.28%	-1.27%	-1.49%

Table 18: Modelled scenarios of demand for therapy sessions compared to observed demand of therapy sessions

Scenario	2021	2022	2023	2024
1: European	2.30%	2.49%	2.66%	3.49%
2: Least deprived	2.60%	2.67%	2.84%	3.55%
3: Medium deprived	0.04%	0.04%	0.03%	0.04%

Note: Based on Sapere calculations using ACC claims data 2021-2024

5.2 Equity of access, experience, and outcome is a complex issue

Inequities in access are complex, multifactorial, and often interconnected. Barriers span across economic, structural, geographical, and sociocultural attributes. Barriers suggested through practice interviews were:

- geographical isolation
- lack of understanding of the ACC scheme and its entitlement (especially among migrants)
- copayment fees, particularly across multiple sessions
- cultural safety
- limited appointment availability
- cultural and language barriers.

Barriers to accessing physiotherapy services often compound for high needs groups. There is an interplay between an individual's characteristics (determinants) and systematic and structural issues in the health system. ACC funded treatment operates in a broader context in the New Zealand health system where these systematic and structural issues persist.

5.2.1 Financial barriers limit access to treatment

Cost is a significant determinant of physiotherapy access for people, particularly for Māori, Pacific peoples, and people from more deprived communities.

Copayments—even when reduced—create inequities, as those unable to pay often forgo treatment or delay care, particularly as copayments accumulate over multiple treatment sessions. Providers report that patients frequently choose GP visits over physiotherapy because of lower costs, despite physiotherapy being clinically appropriate. However, even when physiotherapy services are free, indirect costs such as travel time to an appointment and taking time off work can deter attendance, especially for low income groups (Perry et al., 2015).

Literature highlights that Māori experience cost barriers at higher rates than non-Māori, even at similar income levels. These financial constraints intersect with cultural and system factors, compounding inequities in access. Jeffreys et al. (2023) found that "at each level of deprivation, Māori were more likely than non-Māori to have reported a cost barrier to care." Neville et al. (2022) also highlighted affordability challenges (in this case in relation to general practice appointments), noting that "associated costs had to be factored in" when considering turning up for an appointment. Increased copayments have shifted service distribution towards areas where people can afford care (Buhler et al., 2024).

Physiotherapists find that charging a small copayment aligns with people taking ownership of their care. Some physiotherapists felt that people are more likely to miss appointments if it is free.

A 2015 pilot study found that placement of a fully funded health centre within a high needs area can improve access, particularly for minority ethnic groups (Perry et al., 2015). Attendance by Māori and Pacific patients increased by over 120 per cent and 130 per cent respectively, and ethnic distribution at the heath centre aligned more closely with local demographics, indicating improved equity. The study suggests location and funding models are levers for reducing inequities.

5.2.2 Geographic isolation and rural access challenges

Rural communities face compounded barriers due to distance, transport costs, and limited work availability. People from rural communities must often travel longer distances to visit a physiotherapy practice and so must balance the decision to attend against work commitments, family responsibilities and travel costs, which lead to more frequent delayed or missed appointments. Travel time is an acknowledged barrier to treatment (Perry et al., 2015).

> "A lot of farmers live 30 to 40 minutes or more away so it's a long way to come to make a round trip. Usually working on a farm so can't stop work for that long."

Physiotherapists in rural settings noted there is a longer time between injury and treatment in rural areas compared to urban areas.

> "Average time from injury to first appointment was ridiculous...gets worse the further away from the main centres."

Some injuries are self-limiting or may not cause long-term problems. However, when care is postponed and people present later with more complex conditions, it becomes more expensive to manage.

> "If you get access to stuff then can manage your way out. When they don't access services, they modify their lifestyle because of the injury and then five to ten years later present with much more complex issues as a result."

Recruitment challenges in rural areas exacerbate access inequities for physiotherapy businesses. Many businesses report difficulty attracting qualified physiotherapists to rural areas—a challenge shared by other healthcare providers. In our supplier survey, one respondent noted receiving no applications for an advertised role, while others indicated they had been trying to fill vacant positions for two or more years without success.

> "Workforce is an issue in rural areas. Challenging to recruit a workforce in many rural communities."

Our geographic coverage analysis shows how the ratio of physiotherapists to population is lower in more rural territorial authorities. Buhler et al. (2024) found the workforce is "unevenly distributed relative to the population," leading to workforce shortages in rural areas and areas where people are less able to pay.

5.2.3 Some people do not understand the role of physiotherapy

Some people lack understanding of physiotherapy's role, delaying care or defaulting to general practice visits. It was pointed out that physiotherapy exists in a Western paradigm, meaning some cultures do not understand it as a profession. Misconceptions persist for some that physiotherapy is limited to massage or pain-inducing treatments.

> "People still don't know what physio can and should be doing for them...most think it's getting a rub or causing pain."

These gaps in awareness reduce timely access and can worsen health outcomes. Individuals may attempt to deal with the pain themselves or do not know what to access, how to access it, or whether it is appropriate to their needs.

> "In the city people are highly health literate and come in and have good income and know what they need then be gone. Across the hill, people are less health literate and have less confidence in the system...haven't accessed in timely way so more challenging for clinicians who end up with a big list of complex cases compared to me here in the city."

People lacking a good understanding of the healthcare system was one of three main themes in a study about barriers to participation in healthcare services for older Pacific people (Neville et al., 2022). People will go to a general practice because they do not know they can go straight to a physiotherapist. Others believe physiotherapy is too expensive so will go to a general practice because it may be cheaper but end up being directed to physiotherapy anyway.

> "They don't know they can go to physio so they sit and wait to go to GP because they don't know they can go to physio or its cheaper to see GP here than a physio even with the ACC surcharge."

Providers report that public awareness campaigns and direct access pathways could improve equity. Literature also highlights that culturally and linguistically appropriate communication strategies are essential for improving health literacy among diverse populations.

5.2.4 Cultural safety and trust in care

All ACC providers must embed cultural safety into their services and work towards understanding and addressing cultural differences and biases to improve the quality of service and access for clients (ACC, 2025). Cultural safety is about more than sensitivity to the cultural needs of a patient. It is about critically examining how to be patient-centred, and address and remove bias and discrimination to provide an appropriate level of care (Curtis et al., 2019).

People whose cultural backgrounds or gender identities fall outside dominant Western and cisnormative norms frequently encounter culturally unsafe care, which leads to disengagement with physiotherapy services. This is particularly evident for Māori and Pacific peoples, who report experiencing racism, discrimination, and culturally incompetent care. Such experiences can leave individuals feeling unworthy of treatment, disempowered, or reluctant to access care (Neville et al., 2022; Sheehy et al., 2025). Trans, gender diverse and nonbinary individuals also experience significant stigma and inequity from real and perceived discrimination, body discomfort during physiotherapy interactions, and lack of transgender specific health knowledge (Neish et al., 2025).

Research from Australia and Canada reports similar experiences of discrimination and racism towards indigenous people and people with migrant backgrounds when receiving physiotherapy services, which result in care that is not culturally safe (Arcobelli, 2021; Nelson et al., 2025).

Although Māori have higher rates of injury-related health loss from transport accidents and have a higher workplace injury claim rate (Perry et al., 2015), their ACC claim rates are lower than the European population (see section 2.3.4). Several factors contribute to this inequity, one of which is the expectation and subsequent experience of culturally unsafe care. This unsafe care discourages Māori from accessing the system (Sheehy et al., 2025).

Māori and Pacific peoples, as well as other population groups, may be unlikely to see themselves represented in the provider workforce. Māori account for 5 per cent and Pacific peoples for 1.9 per cent of physiotherapists (Appendix A). Increasing cultural alignment would support efforts to improve the broader concept of cultural safety.

Delivering culturally safe care requires physiotherapists to have a level of cultural competency—having the skills, knowledge, and attitude needed to work effectively and respectfully with people from different cultures (Arcobelli, 2021). Culturally safe care includes spending time building trust with patients through creating connections (deeper than simply introducing oneself), acknowledging and respecting culture by incorporating tikanga (cultural practices), and creating culturally safe and welcoming clinical spaces (Nelson et al., 2025; Sheehy et al., 2025).

A kaupapa Māori service we interviewed has trouble finding competent staff who meet the criteria and are willing to work within a te ao Māori practice model. The staff they do find require training to practise within a te ao Māori context.

Successful models of culturally safe care for Māori integrate kaupapa Māori approaches, whānau involvement, and whakawhanaungatanga (relationship building). These practices enhance trust, improve engagement, and ensure care aligns with cultural values and expectations (Sheehy et al., 2025). Māori patients may prefer traditional Māori healing practices (such as manual therapy over exercise education). Appropriate services need to encompass cultural needs, such as incorporating Māori models of health like Te Whare Tapa Whā and Pacific models like Fonofale, alongside physical health (Saywell et al., 2024).

Successful models of culturally safe care for trans, gender diverse and nonbinary individuals include using gender-neutral language, signposting and clinic processes that ensure inclusivity, and respectful staff that enable individuals to "feel safe to be their whole selves within consultations" and feel comfortable disclosing their identity (Aird et al., 2024).

The Physiotherapy Board of New Zealand has standards of cultural competence incorporated in the Aotearoa New Zealand Physiotherapy Code of Ethics and Professional Conduct, and the Physiotherapy practice thresholds in Australia and Aotearoa New Zealand (*Cultural Competence Standard*, 2024). However, there don't appear to be any studies on whether the requirement is making physiotherapy more culturally safe. As Arcobelli (2021) noted, safety is defined by people receiving the service, not those who provide it.

Lessons from a practice providing a safe inclusive clinic for trans, gender diverse and nonbinary people

A case study practice provides useful insights on how to successfully deliver safe care to people who are transgender, gender diverse or nonbinary (TGDNB). While some of the services the practice delivers (e.g. gender affirming services) are not funded by ACC, the practice demonstrates how safe care can be fostered through clinic design, website communication, therapist training and affirming attitudes.

People who are TGDNB experience stigma and inequity in healthcare interactions (Neish et al., 2025), and will not come back if they have a bad experience. The practice wanted to lower barriers to care to make its practice a safe space for the TGDNB community.

Barriers begin at entry to the service. From looking at the website or entry to the practice a person who is TGDNB can determine whether it will be a safe space for them. Safe clinical processes the practice implement include:

- including nonbinary signage and identifying locations of nearest gender-neural bathrooms
- inclusive clinic intake forms which ask for chosen name, and self-describing gender options, and pronoun data collection
- respectful physiotherapists with knowledge of TGDNB-specific health issues
- safe referrals to and from trusted healthcare providers (Aird et al., 2024; Neish et al., 2025).

The practice has worked with academics to publish two journal articles on experiences of people who are TGDNB, which found that "safe and affirming experiences in physiotherapy are related to inclusive communication from knowledgeable practitioners, holistic approaches to care, and safe and accessible environments" (Aird et al., 2024; Neish et al., 2025).

6. Learning from other ways of organising physiotherapy

In the context of our scope of work, and existing issues and opportunities identified by ACC and PNZ as set out in section 1.4, we undertook analysis of other commissioning models that were used in as broadly analogous a setting as possible (with overall fit of this work shown earlier in Figure 4). We are focused on those related to physiotherapy services under the AH contract when considering commissioning models.

6.1 Areas of focus and information sources

Our work investigated insights from international markets in relation to commissioning models and drew on:

- a rapid literature review
- direct contact with clinical experts and practice owners
- interviews with practices and academics in New Zealand, Australia and the United Kingdom.

Additional examples, models, research, and tools were identified and explored in addition to our initial literature scan, following engagement with those other stakeholders as well as ACC and PNZ. Collectively these formed key information sources.

6.1.1 Initial literature scan looked at relevant insurance and health context in selected countries

The focus of our initial literature scan included:

- purchasing models/systems/fee structure
- how commissioning happens with insurance companies/insurance service commissioning models
- country comparisons: Australia, UK (NHS), Wales, Scotland, New Zealand and Canada.

We also considered literature on commissioning in healthcare that was not physiotherapy focused, as well as commissioning under aged care models.

6.1.2 International models are considered noting there are differences in context

Here we present learnings from the most relevant international models. In doing this, we note that current context and systems are different for commissioning approaches in other countries, as well as their funding and commissioning environments and incentives. Additionally, some of the research and examples we reference are not injury specific and relate to health conditions. We include these as there is a richer tapestry of commissioning models due to publicly funded health programme cost constraints.

As a result, care is needed in considering the potential applicability in the context of this project.

6.2 Key recommendations emerging from these models

Appendix L provides a summary of the physiotherapy commissioning models examined in our literature scan and interviews for selected jurisdictions. Here we focus on some of the commissioning approaches observed in other countries. We focus on the most analogous examples where possible, but a number relate to operation in a wider health context and more acute injury cases rather than the accident-specific cases of focus under the AH contract.

Our research identified methods for controlling costs that centred on reforming financing models, leveraging prevention, and optimising the healthcare workforce (summarised in Table 19). As noted in Appendix L, the research also identified potential positive and negative implications in terms of access.

Table 19: Summary of recommendations for controlling costs from our review of selected jurisdictions

Areas to explore	Examples to give effect to this
Reforming funding and payment models to move away from transactions-based payments to incentivise holistic values and outcomes	• **Shift from volume to value:** shifting away from fee-for-service and activity-based funding, which rewards the volume of care delivered and incentivises over-servicing, towards models that reward value and outcomes. • **Implement alternative funding structures:** where appropriate, considering bundled payments for episodes of care (as ACC do in some instances, e.g., for pain services), capitation, blended funding, and pooled funding. • **Focus on outcomes-based commissioning:** changing incentives for providers to focus more on achieving defined patient outcomes rather than measuring clinical activity or processes. An example of which is GLA:D, though this applies to services that fall outside the AH contract. • **Use benchmarking for fair pricing:** benchmarking pricing limits. • **Have balanced and effective financial systems:** supported by robust institutional structures to ensure financial incentives result in the intended behavioural changes. We note that a critical enabler of these kinds of shifts is ensuring there is data and research on which to base such shifts (which we address further in the subsequent section).
Prioritising prevention and early intervention to enable long-term cost saving through shifting expenditure upstream to prevent the need for expensive secondary care	• **Invest in prevention:** such as preventative exercise programmes to strengthen product offerings, increase value, and address premium pricing pressures. • **Fund physiotherapy as first-line care,** (which we noted is already the case in New Zealand). • **Reduce hospitalisations:** insurers can broaden their roles to focus on chronic and complex disease management to reduce hospitalisations (which we note would not be covered under ACC).
Optimising workforce roles and referral pathways	• **First contact physiotherapy, (**which as noted above is the case in New Zealand).

Areas to explore	Examples to give effect to this
through funding models that ensure patients access the most appropriate, cost-effective support first	• **Grant direct referral and imaging rights:** allow physiotherapists to directly *refer patients* to orthopaedic surgeons and *request digital imaging*. • **Stratify the highest risk:** tools have been used in some cases to channel patients based on risk.[8] An example of a risk-based triaging tool is set out in Appendix M. • **Support self-management:** tools have been used to provide education and support self-management. An example of this is set out in Appendix M. • **Incentivise advanced practice:** consider reimbursement models that recognise advanced expertise and/or aspects related to costs and access.
Specific pricing controls	• **Adjust divergent prices:** to align with the broader market. • **Considering wider incentives:** including funding for travel, administration, patient types and locations to support objectives. Consider input controls such as allowances for travel. • **Control market entry** to control the number of providers and price/cost. These and other aspects above have potential implications for access that are discussed further in Appendix L.

6.3 Opportunities to add value to the wider ACC scheme

The literature describes evidence of the potential for physiotherapy as an input substitution for treatment of some more serious injuries. Opportunities for less invasive physiotherapy intervention could be explored further, with a focus on wider ACC scheme sustainability.[9]

A key example is the treatment of acute cruciate ligament (ACL) ruptures, where non-surgical management using exercise-based rehabilitation has been shown to be a viable alternative to the ACL reconstruction surgery (Filbay, Dowsett, et al., 2023; Filbay, Roemer, et al., 2023). Studies revealed that ACL healing occurred spontaneously in patients treated with rehabilitation alone, and this healing was associated with more favourable patient-reported outcomes, specifically better sport or recreational function with knee-related quality of life scores at two years, compared with surgical groups (Filbay, Roemer, et al., 2023). When patients with acute ACL rupture were managed with Cross Bracing Protocol, which incorporates physiotherapist-supervised goal-oriented rehabilitation, a high rate of

[8] Such as the use of "risk-based stratified care" which has instances of demonstrated cost-effectiveness relative to usual primary care for non-specific low back pain with potential small quality-adjusted life year gains looking across the five most common musculoskeletal pain presentations in the UK (Kigozi et al., 2024; Stevenson et al., 2025). However, as with certain other areas, we note that this particular application would fall outside the AH contract and be considered under other pathways.

[9] The low proportion of people having surgery in the AH contract and CoTR client cohort means that the benefits of such approaches would be realised in other parts of the ACC scheme.

ACL healing was observed on MRI at three months, and this healing correlated with better functional scores, reduced laxity, and higher rates of return to pre-injury sport (Filbay, Dowsett, et al., 2023).

6.4 Assessment of potential options in the ACC context

To understand whether there is a case to consider adjustments to or alternative commissioning models for the AH contract, we focus in this section on:

- the specific problems identified with commissioning under the AH contract
- objectives for what to achieve from the commissioning model
- potential options for commissioning informed by the research and understanding of other models internationally
- an assessment of the options against objectives
- recommendations for commissioning of physiotherapy services under the AH contract.

6.5 Four problems identified with the current commissioning arrangements

We conclude that the possible issues with the current commissioning arrangements under the AH contract, drawing on our interviews, analysis, and engagement with ACC and PNZ, are as follows:

- Cost pressures, where projections indicate claims could increase from $168 million in 2024, to around $210 million to $240 million in 2034, before considering any impacts of inflation. This also needs to be considered alongside potential financial pressures on providers, noting the need to ensure there continues to be a sufficient market in future.
- Limited prioritisation and triage given the relative ease of access (when considered combined with CoTR).
- Inequities of access, where there is increased deprivation, more non-Europeans, and greater rurality, all of which are associated with fewer claims, sessions, and length of time from injuries to first sessions.
- Limited incentives to collect/analyse data or consider innovations as financially, this is effectively disincentivised if it may be at the expense of an additional paid session.

Without change there is a risk that:

- costs to scheme are not sustainable
- parts of the population continue to receive less access to service
- services continue to be untargeted to those in the most need
- there are limited incentives to collect data or innovate to understand and realise potential opportunities to improve the impact of physiotherapy services under the AH contract.

6.5.1 Eight objectives for commissioning arrangements were identified

We developed the following objectives for AH commissioning arrangements. These draw on objectives seen in other settings from our literature scan, focusing on the specific AH contract setting in the context of the issues identified above, and following discussion and input from ACC and PNZ.

- **Scheme sustainability**: future AH costs are managed while ensuring sufficient recompense to providers to ensure patients have ability for ongoing access into the future.
- **Value for money for levy holders through**:
    - **clinical merit:** treatment provision is linked to where there are clear therapeutic merits to interventions
    - **treatment variation limited to justified ACC coverage**: variation in treatment covered under the contract is driven by the nature and severity of the injury and patient circumstances, with any additional preferences of the patient funded privately
    - **resource efficiency:** physiotherapists align with broader ACC outcomes
- **Equitable access**: patients in different location and different levels of socioeconomic deprivation have access to services
- **Administrative efficiency/ease**: the cost of administering the scheme is limited to those necessary to achieve system objectives
- **Ease of implementation**: the cost and difficulty of implementing any changes to the AH contract is minimised (and should be manageable and justified)
- **Minimises risk of unintended outcomes**: the risk of not achieving the described objective incurring unexpected costs or creating other service failures.

6.5.2 Options to adjust or change models were identified

Based on the issues and context of our research we identified options in two ways:

- Adjustments that might address particular issues identified. These could be considered as a package if there were more than one with merit or, as a collective, they might best balance achieving multiple objectives and addressing the various problems.
- Alternative commissioning models that may better achieve objectives, drawing on our research and applying in the AH contract context noting its fit within the wider landscape of physiotherapy services funded by ACC.

6.5.3 Possible adjustments to address specific issues

Table 20 sets out potential levers and resulting options that could address specific problems identified under the current arrangements.

Two potential levers under "cost pressures" we have italicised and will not separately assess. They relate to aspects of what commissioning is and who can provide certain services, consideration of which is beyond the scope of this project.

We have also italicised and will not separately assess the "limited prioritisation" option of better matching funding to complexity, as we suggest further work is needed to consider whether, or in what circumstances, information may be available to make this change. Again, we suggest this may have merit but do not consider it further as it is difficult to assess without knowing the potential and scope for implementation. We note this would have the potential to either help address and widen inequities depending on the approach (for instance, if a severity measure is based on historical utilisation data, this could reinforce/"lock-in" existing inequities).

The "inequities of access" option to fund time-out/off, cover for self-employed, and transport costs for patients is not considered further as these supports are already possible under other avenues of ACC support.

Table 20: Options to adjust the current AH contract commissioning arrangements

Existing problems	Levers/options
Cost pressures	1. Improve educational resources and telehealth/app options that may not require in-person treatment (e.g. base treatment plans/exercises where in-person physio is not required and note when escalation is needed). 2. Adjust funding to incentivise early resolution or referral of claims – could extend the initial engagement further or increase co-funding for subsequent appointments to check initial treatment plan is valid/adjust or share in the value of early, well-diagnosed referrals. For simplicity, this option will be adjusting funding levels to gradually decrease funding per session, with higher funding for initial and second treatments. *3. Support workforce to operate at top of scope and reduce barriers across medical professionals (e.g. where able to undertake/refer for imaging or prescribing and refer to specialists, plus medical certificates for return to work).* *4. Set limits (if not constrained) on when treatment would not be funded or where education/self-treatment would be the only supported intervention covered by ACC.*
Limited prioritisation	*5. Consider potential for better matching funding to complexity of cases (not just number of treatments but value for each).*
Inequities of access	6. Provide differentiated (greater) financial incentives to supply high needs areas/services. 7. Promote awareness of the value and utility of physiotherapy as a service suited to particular injuries across different groups (including broadening out engagement). 8. Limit copayments in cases of deprivation/barriers to access. *9. Fund time-out/off, cover for self-employed, and transport costs for patients.* 10. Provide differentiated funding areas where there is low supply (could also be high cost—suggest limiting to low supply as if supply is not constrained in a high-cost area, it may not be an issue as this may be able to be passed on to patients).
Limited incentives to collect/analyse data or innovate	11. Provide funding for data collection and quality assurance of existing data collected and the targeted collection of additional data on cases, interventions and outcomes where appropriate (noting that the latter may require further consideration of what information is gathered on this and how). 12. Provide access to data and funding for research on effective treatments/programmes. 13. Where there is evidence, support targeted programmes/treatments.

6.5.4 Potential alternative commissioning models

The following are potential high-level alternative commissioning models that could be considered for the AH contract:

1. **Fixed-payment/bundled episode funding** – under this scenario, under the AH contract, physios would receive a fixed payment for a particular claim based on the nature and severity of the injury. The physio would then take on the risk that more sessions are needed than expected but would be incentivised to reduce sessions, as they will gain if fewer sessions than expected are required.
2. **Determining clinical appropriateness** for treatment and limiting treatment to those circumstances where this is deemed appropriate – if this requires a separate prior session with a medical professional to determine appropriateness, there is a risk this adds to cost and reduces access. However, if there are risk-based assessment tools that support low cost of this being separately assessed (which may limit its potential application), this could potentially reduce overall cost (though may still act as a potential barrier to access).
3. **A population-based funding mechanism** where funding is linked to the population base able to be served rather than (solely) to claims or treatments. As discussed with ACC and PNZ, there could be some complexities in implementing this in practice given there are not currently physiotherapy patient registrations like there are for capitation payments for general practice.

We note that further consideration would be needed as to the exact design and mechanisms by which these may be undertaken, but suggest first considering them, at least at a conceptual level, against our identified objectives to determine if they warrant further consideration as possible alternatives and if so, how they might best work.

6.6 Analysis of options against objectives

Below, each of the options from the prior section are assessed relative to the current arrangements using the scale of assessment set out in the box below. The reasoning for the assessment is described in each of the assessment tables.

++	Much better than doing nothing/the status quo/counterfactual
+	Better than doing nothing/the status quo/counterfactual
0	About the same as doing nothing/the status quo/counterfactual
-	Worse than doing nothing/the status quo/counterfactual
- -	Much worse than doing nothing/the status quo/counterfactual

Analysis of adjustment options

Table 21 shows our assessment of the adjustment options we have indicated to consider further against objectives. These options include (with some options excluded thus the numbering is interrupted):

Cost-pressure related

1. Improve educational resources and telehealth/app options that may not require in-person treatment (e.g. base treatment plans/exercises where in-person physio is not required and noting when escalation is needed).

2. Adjust funding to incentivise early resolution or referral of claims—could extend the initial engagement further or increase co-funding for subsequent appointments to check initial treatment plan is valid/adjust or share in the value of early, well-diagnosed referrals. For simplicity, this option will be adjusting funding levels to gradually decrease funding per session, with higher funding for initial and second treatments.

Inequities of access related

6. Provide differentiated (greater) financial incentives to supply high needs areas/services.

7. Promote awareness of the value and utility of physiotherapy as a service suited to particular injuries across different groups (including broadening out engagement).

8. Limit copayments in cases of deprivation/barriers to access.

10. Provide differentiated funding areas where there is low supply (could also be high cost but suggest limiting to low supply, as if supply is not constrained in a high-cost area, it may not be an issue as this may be able to be passed on to patients).

Limited incentives to collect/analyse data or innovate

11. Provide funding for data collection and quality assurance of existing data collected and the targeted collection of additional data on cases, interventions, and outcomes where appropriate (noting that the latter may require further consideration of what information is gathered on this and how).

12. Provide access to data and funding for research on effective treatments/ programmes.

13. Where there is evidence, support targeted programmes/treatments.

Table 21: Analysis of adjustment options against objectives

Option	Scheme sustainability	Clinical merit	Treatment variation is limited	Resource efficiency	Equitable access	Administrative efficiency	Implementation	Risk
1	+/++ Depending on the degree to which this is able to substitute for more expensive in person session, this would reduce future pressures at a system level, potentially significantly.	+ As long as this was implemented in a way that it minimised the risk of more serious cases not being treated, this is focused on directing treatment to where there is clinical merit.	+ As with the clinical merit, this should support similar cases being treated the same way.	+ This should support the use of physio in cases of highest need and for physios to operate at the top of their scope of practice.	+ A key benefit of this is that it should reduce barriers to accessing services, though risks of patients receiving a lower level of service may need to be managed.	0 There could be some costs of maintaining new materials and telehealth systems, but this may well be offset by opportunities for potential operational savings.	- There would be additional costs to set up and implement these tools and embed in ways of operating.	0 Risks around patient mix or misuse of tools are possible but seem manageable in how this option could be implemented.
2	It depends. Depending on how these changes are structured, this could reduce, be neutral, or increase overall cost pressures (and incentives for providers).	+ To the extent that this results in better triaging and early testing of treatment plans, this should support improvements in directing to the appropriate pathway and aligning treatment with need.	+ As with clinical merit, this enables further improvement in triaging and early testing of treatment plans and should support greater consistency for similar presentations.	+ This should provide additional incentives to invest more heavily in getting the course of treatment right early on, supporting efficiency in use of resources.	0/+ May not materially impact but could provide at the margin incentives to support treatment of those that may not otherwise access rather than further treatments where relationships already exist.	0 Administration should be much the same as at present.	0 Should not be difficult to implement at least in theory.	- There is a slight risk that in rebalancing the incentives that the balance is not quite reached and either providers or patient outcomes are riskier or there are additional costs to ACC.
6	It depends If this is done through a rebalance of incentives where	+ If structured right, this would support greater treatment	Uncertain This is intended to reduce variation by improving access	+ This should support efficient in use of resources by	+ This should support more equal access to services by	0/- There could be a bit more administration to	- There would be cost in setting up and	0/- There is a risk of unintended consequences

Option	Scheme sustainability	Clinical merit	Treatment variation is limited	Resource efficiency	Equitable access	Administrative efficiency	Implementation	Risk
	higher needs/deprivation are paid more and lower less, then this would be neutral, otherwise there is a risk to scheme costs.	where there is most need (at a population level)	where it is most needed so better meet this objective but by introducing variation in funding, there is a risks that this leads to additional/different variation.	providing additional support to where need is expected to be highest at a population level.	looking to rebalances areas of need where access may be an issue.	supporting the scheme to work	implementing this approach including determining the exact design.	or not getting the design right that could impact provision of services in some areas.
7	- On its own this would place additional cost pressures on the scheme	0 By targeting certain injuries this should support matching of any additional demand to where there is clinical merit but there is a risk that any additional demand is brought on that is not as well matched to where there is clinical merit	0/- While it shouldn't impact treatment, any additional demand could place greater risks to unwanted variation in treatment.	Uncertain It may have little effect, or additional demands may better (or worse) match with physios operating at the top of where they can add value. The targeting of the scheme should make it more likely to be positive though.	+/0 If well targeted, this could support improvements in the equity of access.	0/- Could make little difference or place additional pressures that need to be managed.	0/- There would be some additional cost to determine where and how to promote as well as in the promotion itself.	0/- Risks are most likely to cost or not reaching the target audience.
8	- On its own this would place additional cost pressures on the scheme	+/0 In improving access / lowing costs in areas of high deprivation this could support better matching with clinical merit or could simply bring additional demand with little change in merit overall.	Uncertain This is intended to reduce variation by improving access where it is most needed so better meet this objective but by introducing variation in funding, there is a risks that this leads to additional/different variation.	Uncertain It could make no difference, improve or reduce resource efficiency	+ This should improve equity of access by design.	0 Should make little difference to how this is administered	0/- There would be some implementation costs to design and implement this, but these could also be quite contained.	0/- There could be a risk that this brings on demand beyond genuine need, but this could also be managed in the settings.
10	It depends This should be neutral by design but how it is structured could ultimately reduce or increase cost pressures.	+/0 In improving access / lowing costs in areas of high deprivation this could support better matching with clinical merit or could simply bring additional demand with little change in merit overall.	Uncertain This is intended to reduce variation by improving access where it is most needed so better meet this objective but by introducing variation in funding, there is a risks that this leads to additional/different variation.	Uncertain It could make no difference, improve or reduce resource efficiency	+ This should improve equity of access by design.	0/- There could be a bit more administration to supporting the scheme to work	- There would be cost in setting up and implementing this approach including determining the exact design and settings.	0/- There is a risk of unintended consequences or not getting the design right that could impact provision of services in some areas.
11	- On its own this would place additional cost pressures on the scheme	+ This should support better matching treatment with where this is clinical merit.	+ This should support better greater consistency of treatment for similar cases.	+/0 This should support better use of physiotherapy operating at the top of scope at least at the margins.	+/0 This should support better information on access and outcomes and ultimately equity of access as a result, but the direct link may be minimal.	- Adds administrative cost.	- There would be some implementation costs but the extent of these may depend on the extent of intervention.	- There is a risk of costs with the intention of achieving benefits that do not result.
12	Uncertain	+	+	+	+/0	Uncertain	Uncertain	0/-

Option	Scheme sustainability	Clinical merit	Treatment variation is limited	Resource efficiency	Equitable access	Administrative efficiency	Implementation	Risk
	There could be some cost associated with enabling (and/or supporting) access to data, but this could also pay back in terms of insights that result.	This should improve understanding and targeting of where there is clinical merit.	This should improve understanding of treatment variation and support better greater consistency of treatment for similar cases.	At least at the margins this could provide understanding and incentives to operate at top of scope and apply resources efficiently.	This should support better information on access and outcomes and ultimately equity of access as a result, but the direct link may be minimal.	Could add to or should support reducing administrative cost, though could have little impact too.	The implementation costs may depend on the degree of support provided.	There is a risk of costs with the intention of achieving benefits that do not result.
13	Uncertain Unclear the degree of additional opportunity and whether this may simply shift an AH contract cost elsewhere but have the potential to help manage costs.	+ This should support targeting of where there is clinical merit.	+/0 This treatment variation in some cases though could be at the margin.	+ At least at the margins this could provide understanding and incentives to operate at top of scope and apply resources efficiently.	+/0 This should support equity of access at least in these cases.	+/0 Where there is evidence and programmes this should support administrative efficiency.	Uncertain While this should be marginal it may depend on the extent of future research identifying opportunities.	0 So long as evidence based risks appear manageable.

Combinations of options

In the following section on recommendations, we pick up suggestions for combinations of these options to be considered further. We note also that while none of the individual options above are assessed as significantly improving equity of access, for each there are options about the relative incentives to address inequity. Efforts across a number of these options would add up to a more significant change in terms of equity of access, noting that equity of outcomes may be more difficult to achieve and require additional considerations.

Analysis of alternative commissioning options

Table 22 shows our assessment of the alternative commissioning options against objectives. As completely different models that have not been fully designed, there is some uncertainty around some assessments. However, the fixed payment option offers expected improvements in scheme sustainability, clinical merit, administrative efficiency, and particularly treatment variation, while there are risks that it is worse than the current arrangements in terms of risk and costs to implement. The other models each had potential for benefits in the first three to four objectives and scored worse on the last three, however the population-based funding mechanism is most uncertain at this point with the greatest potential for implementation and administration costs and high risk.

Table 22: Analysis alternative commissioning options against objectives

	Scheme sustainability	Clinical merit	Treatment variation is limited	Resource efficiency	Equitable access	Administrative efficiency	Implementation	Risk
Fixed payment	+ Contains costs to ACC by setting a known payment for an episode of care and may reduce the risk of future no-shows to the physio but they take on the risk of additional treatment needs.	+ This provides additional incentives for the treatment to match estimates of need for the complexity and injury.	++ By design this is the direct area it is expected to achieve.	0/+ Does not directly impact. Where allowed though and covered it would increase the incentive for this to occur.	0 In itself this should not directly impact access unless physios that currently remind patients about sessions where for instance disincentivised to do this (by that seems extremely marginal), noting this will also depend on how severity is calculated and assessed.	+ This should in itself actually reduce administrative costs	0/- As noted under risks, this depends on the ability to appropriately set the number of sessions required and may also need mechanisms for exceptional circumstances to be considered – the more comment these are, the less	0/- Depends on the ability to appropriately set the expected number of sessions and/or having mechanisms for exceptional circumstances to be considered.

	Scheme sustainability	Clinical merit	Treatment variation is limited	Resource efficiency	Equitable access	Administrative efficiency	Implementation	Risk
							would be the administrative efficiency.	Could also be a risk of "early discharge" or incentives to reduce the level of service.
Clinical appropriateness	Uncertain. If this requires a separate prior session with a medical professional to determinate appropriateness there is a risk this adds to cost and reduces access, however if there are risk-based assessment tools that support low cost of this being separately assessment (which may limit its potential application), this could potentially reduce overall cost (though may still act as a potential barrier to access).	+ Assuming effective, this is the specific focus for the arrangements to ensure.	+ Assuming effective, this should limit variation (though there is a risk without support that it could simply come from another source).	0 Does not directly impact. Where allowed though, this potentially be an additional consideration when checking for appropriateness (though we'd expect that to be patient-based rather than provider-based).	Uncertain. If this is also associated with adding forms or channels of support such as educational, self-help, and forms of telehealth then this could increase access (though risk a reduction in level of service if no in-person). Otherwise it could be seen as a further hurdle that could have the effect of reducing access.	- This is likely to involve some additional level of administrative cost which if reliant on the already stretched GP workforce could be a significant barrier.	- There would be additional costs to implement a change to this model in addition to the ongoing administrative costs.	- There are risks that this relies on a separate stretched workforce or that the tools required to support it cannot support the span of application or take longer to develop the data base for than may be envisaged.
Population-based funding mechanism	+ Predictable expenditure – providers bear some financial risk, creating incentives to manage demand efficiently.	Uncertain. The model could encourage preventative and self-management support but could lead to under-servicing, over-servicing or patient selection if need adjustment is weak.	+/0 This could well be the case under a population-based mechanism and there may be greater incentives for this, but it is uncertain.	+/0 This could be an aspect that is factored into any financial support mechanism but would not have to be the case.	Uncertain. As noted under clinical merit, this would likely depend on how it was designed/implemented but if linked to PHO registration, this could improve access, noting that those most at risk around access may not be registered with a PHO though.	-/-- This seems likely to involve a greater degree of administration costs but will depend on the design.	-- This would involve significant changes, likely including what data is collected, by whom and where, and how it is shared, and is likely to involve a significant cost to implement.	-- This model would be a significant change and require quite different models and information flows which increases the risk of unintended consequences.

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Appendices

Detailed information & analysis

Appendix A Detail of data sources

This section describes the main data sources we drew upon to inform the market review.

Secondary data sources

ACC claims data

ACC provided detailed data for claims that included treatment within the scope of this review

The dataset includes claims lodged between 1 January 2021 and 31 December 2024. It includes 2.3 million claims for about 1.3 million individuals. The data provides information on:

- **lodgement of claim:** date and discipline of lodging practitioner (e.g. general practitioner (GP), physiotherapist)
- **demographics of claimant**: gender, ethnicity, age band, place of residence (statistical area level two), urban/rural
- **socio-economic factors**: NZ index of socioeconomic deprivation decile, employment status, occupation, work type (e.g. sedentary/light to heavy/very heavy)
- **injury:** date of injury, injury diagnosis, read code of injury, injury cause
- **physiotherapy treatment**: date of each treatment session, payment mechanism (AH contract or CoTR), supplier ID, physiotherapist ID, payment amount
- **other services/support** delivered under the claim: e.g. surgery, imaging, home support, etc.
- **work compensation**: number of days receiving compensation for being off work
- **claim status**: closed or open.

There are limitations to the ACC claims data, and we describe these in Appendix C.

Despite the noted caveats, opportunities in using the data should outweigh its limitations. We found the data had very few missing data points. The data provides unique insights in claims and their change in patterns by socio-demographics, by place, over time, and by time of year. This detailed dataset enabled us to undertake robust multivariate regression analyses.

ACC also provided an aggregated dataset for the 10-year period 1 January 2015 to 31 December 2024, which included number of claims, number of treatment sessions, and number of unique physiotherapists delivering treatment, each month. This aggregated dataset enabled descriptive analysis of broad trends over a longer period.

Literature scanning

We undertook targeted literature scanning for two main topics:

1. Equity and barriers to access for population groups.
2. Commissioning models.

The equity literature scan was limited to literature from 2015 onwards and used a search for key words related to:

- ethnicity, gender, rural, disabled, disadvantaged, or other minority groups
- barriers to access
- cultural safety
- outcomes.

The focus of the commissioning literature scan was:

- purchasing models/systems/fee structures
- commissioning by insurance companies
- New Zealand, Australia, United Kingdom, Canada.

As well as our own literature scanning, we received literature from our expert advisors and reviewed documents provided by PNZ and ACC.

Primary data sources

Practice sample and financial data

We issued a request for expressions of interest (REoI) to recruit a sample of practices to participate in site visits, interviews, and collection of financial information to inform the review. The REoI was issued by ACC to its supplier list and by PNZ to its membership and was open from 11 to 18 August 2025. Physiotherapy businesses submitted their expression of interest directly to Sapere, and respondent names were not shared by Sapere with ACC or PNZ.

The REoI sought a purposive sample to explore diversity and uncover common patterns. A purposive sample captures a range of experiences by selecting participants who are different from one another on key characteristics.

Thirteen physiotherapy businesses were selected from the expressions of interest. To increase representation of small rural practice, we invited five businesses suggested by members of the steering group to participate—two agreed. One further business was recruited via a PNZ event. The final sample included 16 physiotherapy businesses, with characteristics summarised in Figure 29. Within the sample, three practices were heavily sports focused and two operated clinics in schools.

Figure 29: Practice sample characteristics

SAMPLE CHARACTERISTICS	16
Contract type	
Allied health contract	13
CoTR	3
Size	
Sole	1
Small (2-5/6 physios, may have another site)	6
Medium (6/7 -15 physios, multi-site)	4
Larger (16+ physios, multi-site)	3
Network (15+ sites)	2
Predominant setting	
City	9
Rural town	1
Rural (>25% clients rural on GCH)	4
Many sites	2
High Māori and Pacific	3
High deprivation	5
Low deprivation	7

From each of these businesses we requested:

- annual financial reports, for the past three to five years where available
- monthly management accounts (if available)
- FTE report by position.

We had a good response from the practices we visited. We also added some productivity reports from patient management systems such as the provider capacity report and the clinician appointment summary report.

In practice, it became necessary to focus much more on recent financial data rather than trying to take a long view because of the disruption of the COVID-19 period to many businesses and the high inflation experienced in New Zealand across this period.

Physiotherapy supplier survey

We developed an e-survey aimed at physiotherapy business owners and practice managers, to gather information on workforce recruitment and retention and to help validate cost modelling inputs. The survey was tested with the project working group and then distributed by ACC (to its supplier list) and by PNZ (to its membership). The survey was open from 20 to 29 October 2025.

There were 348 responses. Around half of respondents used the AH contract (49 per cent) and the other half used the CoTR (54 per cent). [10] There was a good spread among respondents of different business sizes (Figure 30) and across urban, provincial and rural areas (Figure 31). Sole traders are under-represented in the survey, however responses from small, medium, and large businesses are proportionate to the number of businesses of those sizes according to ACC claims data.

Figure 30: Survey respondents by physiotherapy business size (number of physiotherapists)

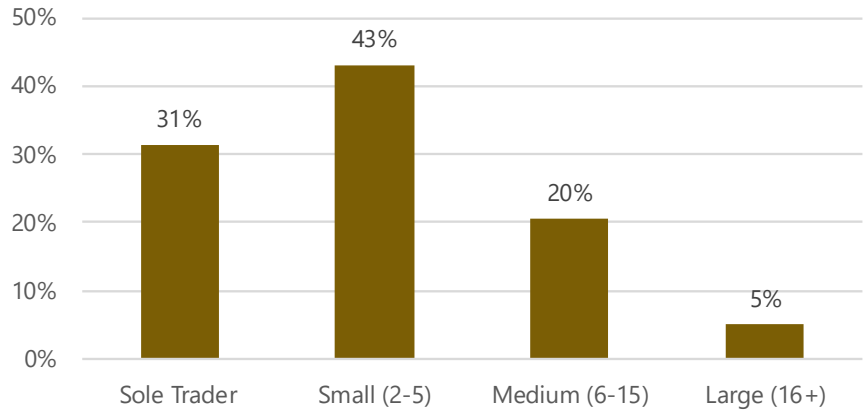
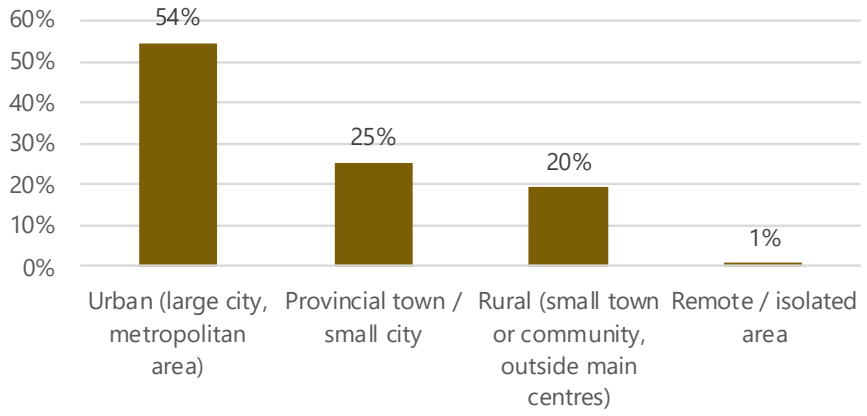


Figure 31: Survey respondents by location of physiotherapy business



Interviews

We undertook semi-structured interviews with the sample of physiotherapy businesses as well as other practitioners, business owners, overseas informants, and key stakeholders. The interviews explored general topics relevant to their operations and experiences. We took contemporaneous written notes during interviews, which were analysed using an inductive thematic analysis. This means we reviewed notes to identify recurring patterns and themes without imposing a pre-existing framework.

[10] Some survey respondents indicated they used both the AH contract and CoTR, presumably for different parts of their business.

Appendix B Physiotherapists in New Zealand

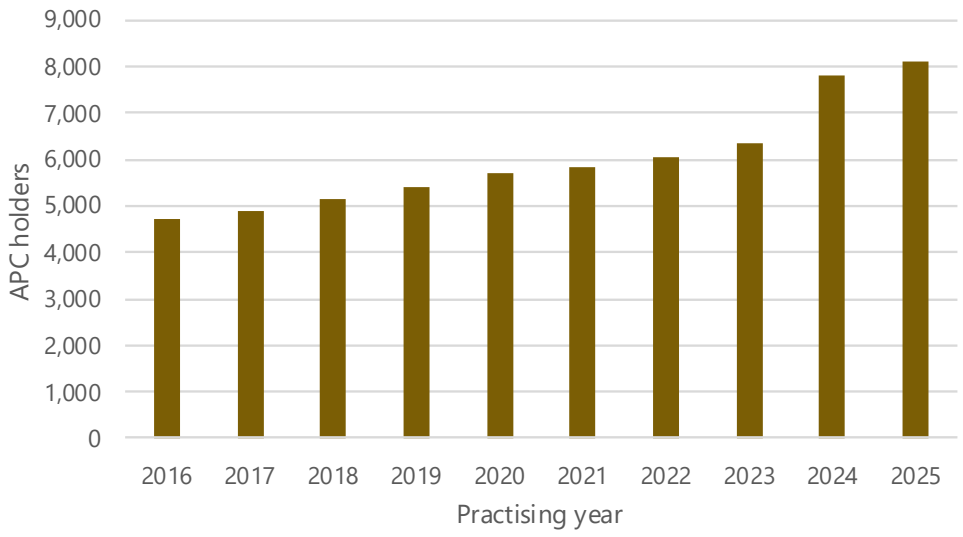
This appendix describes the total physiotherapist workforce in New Zealand, not just those delivering ACC funded services.

Physiotherapists registered with the Physiotherapy Board of New Zealand

In 2025, 8,093 physiotherapists held annual practising certificates (APC) to practise physiotherapy in New Zealand (Physiotherapy Board of New Zealand, 2025a). This includes all physiotherapists working in all fields in New Zealand.

Over the last 10 years, the number of APC-holding physiotherapists increased at a steady rate prior to the introduction of an express pathway for internationally trained practitioners in late 2022 (Figure 32). From 2016 to 2023, the number of APC holders increased by 35 per cent, or an average annual rate of 4.4 per cent. From 2016 to 2025 the increase was 72.1 per cent, or an average annual rate of 6.7 per cent.

Figure 32: Physiotherapists holding annual practising certificate, by practising year (2016 to 2025)



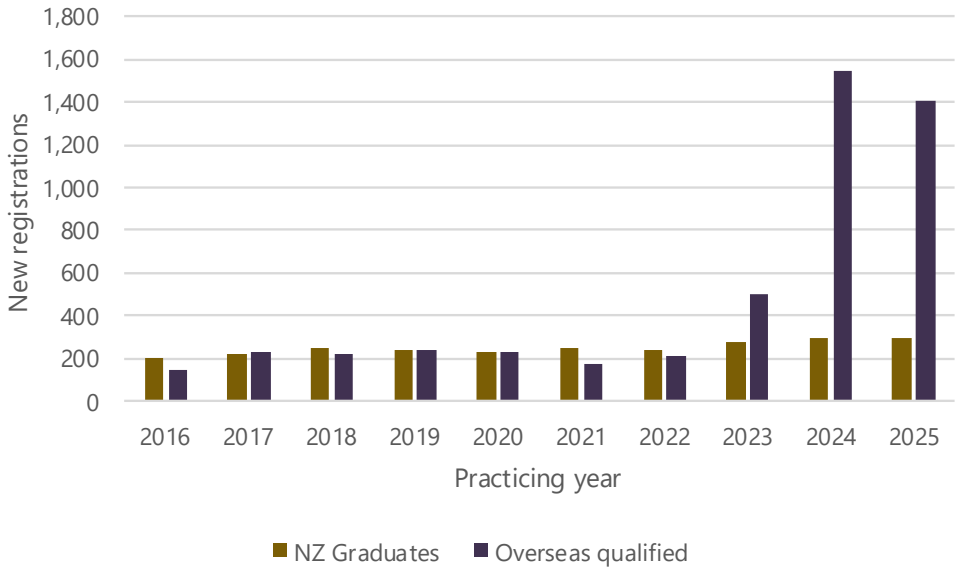
More registrations but the same workforce

The 2025 count of physiotherapists with an APC is a significant increase from three years prior (e.g. 6,038 APC holders in 2022). This is due to the huge influx of overseas-qualified physiotherapists registering in 2024 and 2025 coinciding with the introduction of the International Express Pathway, introduced in late 2022 (Physiotherapy Board of New Zealand, 2022b).

Figure 33 shows that new registrations from New Zealand graduates and overseas-qualified physiotherapists remained relatively stable between 2016 and 2022. From 2023, the number of internationally-qualified physiotherapists began to rise, with a marked increase in 2024 and 2025—

representing a 574 per cent growth in overseas-qualified new registrations in 2025 compared with 2022. The proportion of overseas-qualified new registrants rose from around 43 per cent in the decade prior to the introduction of the express pathway to 81 per cent in 2024 and 2025.

Figure 33: Graduate and overseas-based new registrations by year (2016 to 2025)



Source: Physiotherapy Board (2025)

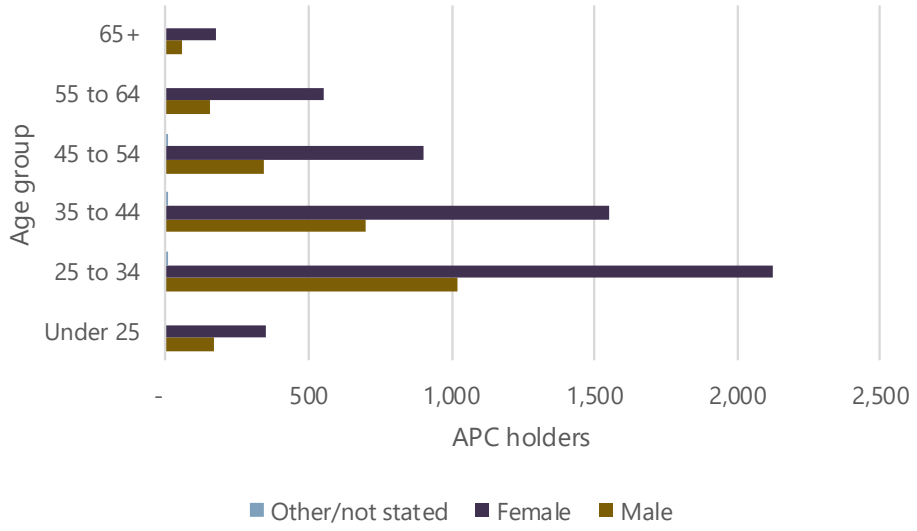
We understand that the increase in overseas-qualified registrations does not reflect a corresponding rise in the actual physiotherapy workforce. Most newly registered overseas-qualified physiotherapists are not relocating to New Zealand to work; rather, they appear to be using New Zealand registration as a conduit to Australia. This approach allows them to take advantage of lower registration costs compared with Australia and other countries, as well as the faster processing times made possible by the express pathway.

Physiotherapy workforce is mostly female and relatively young

Around 70 per cent of registered physiotherapists are female and 30 per cent male, with the ratio of females to males increasing with age.

Almost 75 per cent of registered physiotherapists are under the age of 45. While the steady decline in APC holders with increasing age could indicate a retention issue, it is also likely to be affected by the large number of young overseas-trained physiotherapists taking advantage of the express pathway.

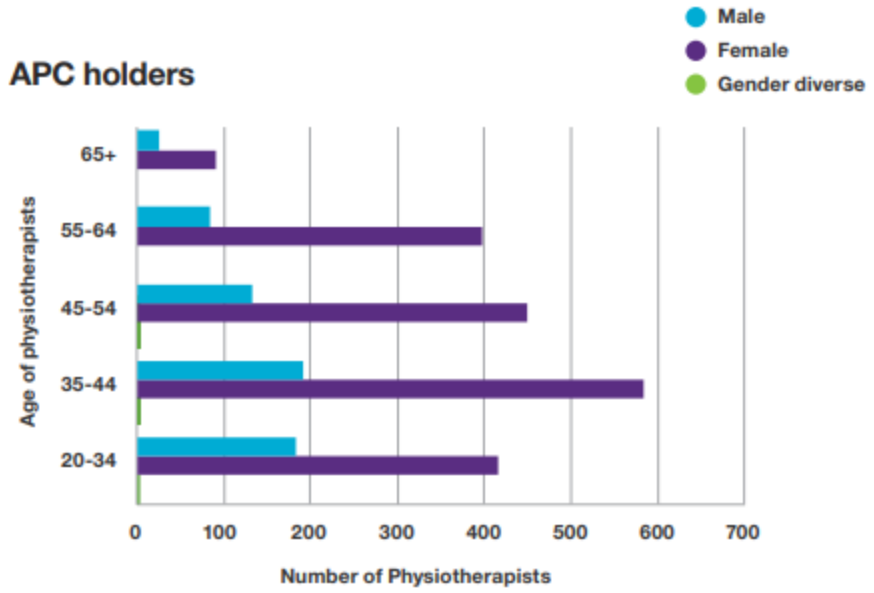
Figure 34: APC holders in 2025 by age and gender



Source: Physiotherapy Board (2025)

Looking at the same graph from the Physiotherapy Board's 2021/22 Annual Report (Figure 35) shows a similar trend, although less pronounced, suggesting retention is of some concern.

Figure 35: APC holders in 2022 by age and gender



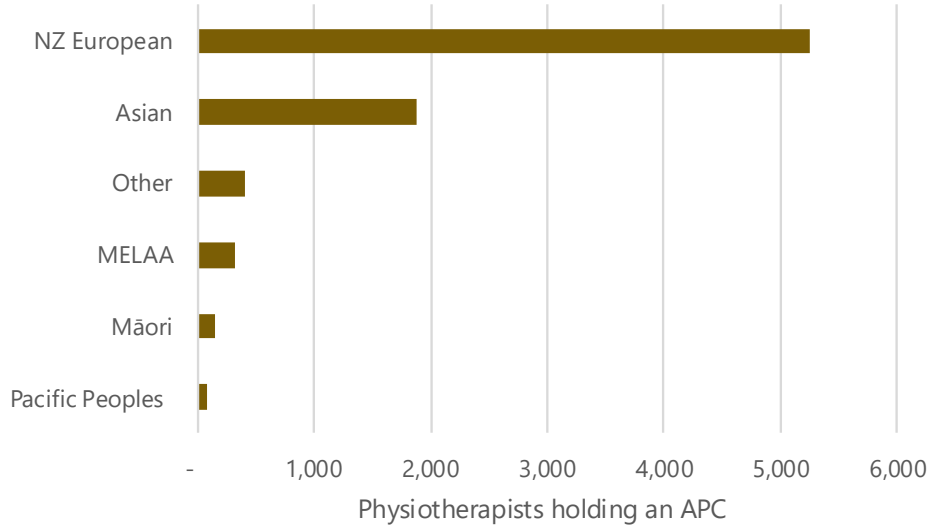
Source: Physiotherapy Board (2022a)

Physiotherapist workforce is not representative of the population

Figure 36 shows the number of physiotherapists holding an APC in 2024 by ethnicity. Māori and Pacific peoples are underrepresented in the physiotherapy workforce compared to the New Zealand population. Less than 2 per cent of APC holders listed their primary ethnicity as Māori (1.9 per cent) and less than 1 per cent as Pacific peoples (0.9 per cent). Including physiotherapists who listed Māori

or Pacific as their secondary or tertiary ethnicity increased the proportion of Māori APC holders to 5.0 per cent and Pacific APC holders to 1.9 percent.

Figure 36: Annual practicing certificate holders in 2024



Source: Physiotherapy Board (2025)

An estimated number of physiotherapists working in private practice

The Physiotherapy Board does not collect information on place of work, making it difficult to identify which registered physiotherapists work in private practice. Until 2023, the Physiotherapy Board conducted a workforce survey. In 2023—the final year the Physiotherapy Board reported on practice setting—56 per cent of respondents to the survey were either self-employed or employed in private practice (Physiotherapy Board of New Zealand, 2023), which could give some indication to the number of physiotherapists in private practice.

Using ACC data, we estimate around 3,138 physiotherapists work in private practice and claim under the AH contract or CoTR. This translates to a rate of approximately 7.2 per 10,000 people, indicating that roughly half of registered physiotherapists are in private practice.

Hours worked by physiotherapists

We used data on physiotherapist claims under the AH contract or CoTR to estimate the number of physiotherapists practising privately in New Zealand.

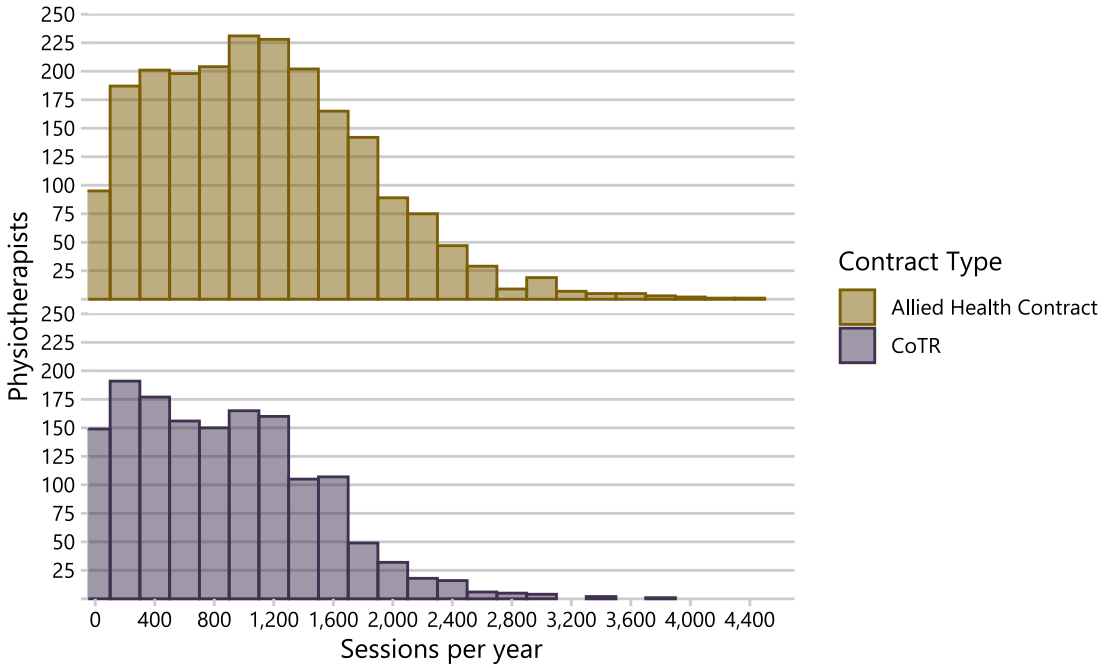
Figure 37 shows the annual average distribution of total sessions delivered by AH contract physiotherapists and CoTR physiotherapists between 2021 and 2024. Only physiotherapists who claimed at least one session per month during this period were included.

The distribution for AH physiotherapists peaks at around 1,000 to 1,200 sessions per year, with a median of 1,057. In contrast, CoTR physiotherapists reveal two peaks: the first around 200 to 400

sessions per year, and the second slightly lower peak around 1,000 to 1,200 sessions. The median for CoTR physiotherapists is 794 sessions per year.

Both contract types show a right-skewed distribution, indicating that most physiotherapists deliver fewer sessions per year, while a small proportion account for a high volume of sessions. Overall, AH contract physiotherapists are more likely to have higher volumes of sessions than CoTR physiotherapists.

Figure 37: Distribution of total sessions per year among AH contract physiotherapists (gold) and CoTR physiotherapists (purple), 2021 to 2024 average



CoTR physiotherapists are likely to get through fewer sessions in a day compared to AH contract physiotherapists because CoTR physiotherapists tend to have longer sessions. Our survey found the median session length for CoTR physiotherapists is 60 minutes for an initial session and 45 minutes for a follow-up session, compared to 40 minutes for an initial and 30 minutes for a follow-up for AH physiotherapists.

Figure 38: Median length of a physiotherapy session by contract type

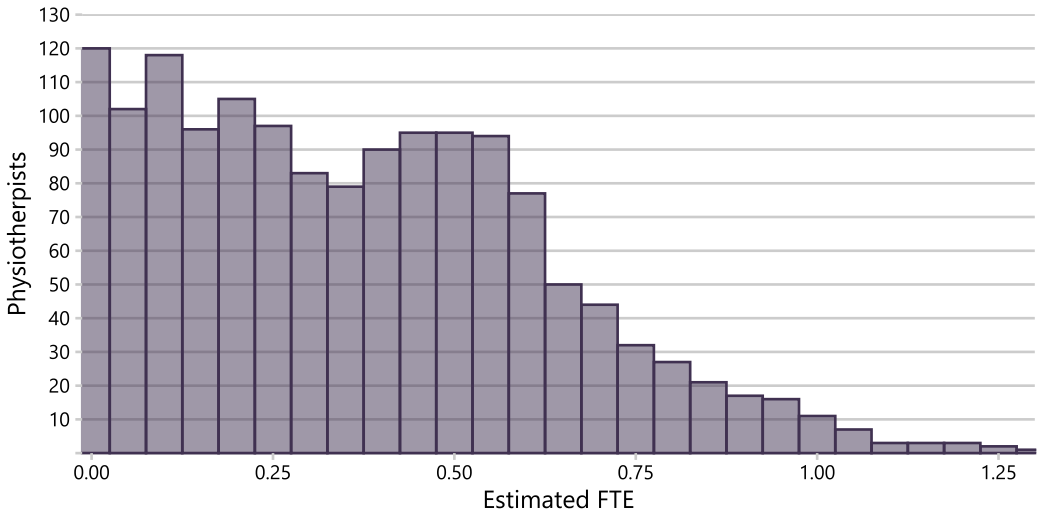
Contract type	Initial session	Follow-up session	No. respondents
AH contract	40	30	147
CoTR	60	45	161

Source: Sapere analysis of survey results

Between 2021 and 2024, the median length of time a CoTR physiotherapist spent on a session was 46 minutes. We cannot calculate a median session length for AH contract physiotherapists from the claims data because physiotherapists must not submit session time information as part of their claim under the AH contract.

We calculated estimated FTE spent on claims by CoTR physiotherapists using the claims data. Figure 39 shows that many CoTR physiotherapists spend 25 per cent or less of an FTE on claims. There is a cluster of physiotherapists who spend around half of an FTE on claims.

Figure 39: Distribution of estimated FTE among CoTR physiotherapists (2021 to 2024 average)



Methodology for estimating physiotherapist location

Our analysis examined the number of physiotherapists per capita across different geographical areas of New Zealand.

The ACC claims dataset includes an address linked to each physiotherapist; however, this is the supplier's business address and cannot always be used reliably to determine a physiotherapist's actual location when a business operates clinics in multiple areas. For example, in 2024, 262 physiotherapists employed by Habit Health submitted claims. Although these physiotherapists work in clinics nationwide, the registered business address for all 262 is listed as the organisation's head office in Wellington.

To estimate each physiotherapist's likely location, we assumed they are based in the area where most of their clients reside. This approach was applied across four years, from 2021 to 2024, to determine each physiotherapist's most likely location in each year. The claims dataset records the Statistical Area 2 (SA2) for each client. For each physiotherapist, we identified the area with the highest concentration of clients by aggregating client SA2s by territorial authority and region.

A clear limitation of this method is that a physiotherapist may be located in one area but serve clients primarily based elsewhere. For instance, Carterton District appears to have no physiotherapists, yet some practitioners are based there; because most of their clients reside in neighbouring districts such as Masterton, they are assumed to be Masterton-based.

We estimated physiotherapist rates by territorial authority and region to strike a balance between providing detailed information (which may be less reliable in some cases) and broader patterns that offer greater overall accuracy.

Appendix C Understanding ACC claims data

In Table 23 we describe caveats to the data, identified through our review.

Table 23: Identified limitations of ACC claims data

Caveat		Implication
Lack of information	Treatment outcomes/success	• Required to establish an understanding of the appropriateness of treatment intensity. May be difficult to assess for this patient group (as less severe and some self-limiting conditions).
	Physical health status/injury history of claimant	• Would enable estimation of demand conditional on individuals' health status and prior injury history, thereby allowing us to better control for these factors and understanding appropriate recovery periods and intensity of treatment need.
	Injury severity and complexity	• Read codes are included in claims data, however, may not capture varying severity within broad diagnosis groupings. • Would allow demand to be conditioned on injury severity and complexity, an important determinant of treatment sessions. • We derive a severity measure.
	Treatment need/treatment appropriateness	• The raw data provides no information on whether the prescribed treatment, or its duration, is appropriate. • This creates uncertainty in assessing the appropriateness of service utilisation.
	Population needs/equity of access	• Claims data provides information on people accessing the service. However, unmet need in treatment access (i.e. equity of access) cannot be determined from this data alone.
Coding errors/data limitation	Read codes	• Read code for primary diagnosis was provided in the ACC data set. • Some Read coding may be inaccurate.
	Number of physiotherapist treatment sessions	• Meetings with ACC indicated the need for caution in interpreting this variable. • In the absence of information on treatment severity, injury coding, and claimants' physical health and injury history, our ability to judge the appropriateness of the number of sessions is limited. • We address this by developing a severity measure and undertaking a regression-based approach to treatment session analysis.
	Time of lodgement vs time of injury	• We found a small number of coding inconsistencies where the date of claim lodgement preceded the date of injury. • Implications are minimal for our analysis.
	Work type	• Inconsistency in work type measures when compared across like-for-like occupations or employment status. • Likely driven by subjectivity in reporting.

Caveat		Implication
Time of data frame	COVID-19 ripple impacts	• Our ACC claims data spans the past four years. It is likely that ripple effects from COVID-19 may influence demand estimates. • We considered using pre-COVID-19 data; however, due to changes in data recording, linking datasets would offer limited benefit. • We provide a macro-level analysis of demand using aggregate monthly demand figures pre-and post-COVID-19.

Source: Sapere assessment with ACC and steering group and external physiotherapist advisor feedback, where indicated

The data does not provide sufficient information to assess the appropriateness of the type of injury or the extent of treatment received under each claim. We engaged with our external clinical advisor to review the appropriateness of claims by injury diagnosis, as presented in Table 24, using the following categories: yes (appropriate to make a claim), no (not appropriate), and unclear (insufficient information to assess).

It is evident that approximately 90 per cent of claims fall into the soft-tissue injury category, both in terms of the total number of claims and their total cost, although this is a broad grouping that includes substantial variation in injury severity and treatment needs. The data also shows that, while a considerable number of injury diagnoses are assessed as not suitable for claims, their contribution to the overall number and cost of claims is minimal.

Table 24: Appropriateness of injury diagnosis inclusion as an ACC claim

Injury diagnosis – at lodgement	Share in total number of claims (%)	Share in total costs of claims (%)	Appropriateness (Yes = ✓; No = ✗; Unclear = ?)
Amputation	<0.1	<0.01	✓
Burns	<0.1	<0.1	?
Concussion	0.5	0.54	✓
Dental Injury	<0.1	<0.1	✗
Foreign body in orifice/eye	<0.01	<0.01	✗
Fracture/dislocation	4.5	5.8	✓
Gradual process - compress syndrome	<0.01	<0.01	✓
Gradual process - local inflammation	<0.1	<0.1	✓
Hernia	<0.01	<0.01	?
Injury that is a laceration, puncture, or sting	0.8	0.84	✗
Industrial deafness	<0.01	<0.01	✗
Inhalation/ingestion	<0.01	<0.01	?

Injury diagnosis – at lodgement	Share in total number of claims (%)	Share in total costs of claims (%)	Appropriateness (Yes = ✓; No = ✗; Unclear = ?)
Mental/nervous shock	<0.01	<0.01	✗
Non-occupational disease/infection	<0.01	<0.01	✗
Occupational diseases (e.g., burns, skin conditions (dermatitis), hepatitis)	<0.01	<0.01	✗
Pain syndromes	0.2	0.3	✓
Soft tissue injury	**92.3**	**90.8**	✓
Trauma induced hearing loss	<0.01	<0.01	✗
Other	1.5	2.0	?

Source: Assessed by physiotherapy expert; data from ACC claims 2021-2024. The data are based on primary diagnosis with the limitation of secondary diagnoses absent from the data. There is potential for coding errors where secondary diagnosis is coded as primary diagnosis, and vice versa.

Appendix D Deriving a severity measure

ACC claim data does not provide a varied singular measure of severity while it includes a flag indicating severity (Y/N) however about 99 per cent are coded as non-severe. While not directly observed, ACC claims data is rich in derived and non-derived variables that can together explain the severity of a claim. Such variables are set out in Table 25 (as discussed in a meeting with the steering group):

Table 25: Selected variables for analysis

Derived variables from claims data	Observed variables in claims data
Days to first physiotherapy treatment from reported injury date	• Total other services used • Number radiology service use • Number clinical service use • Claim cost • Lodging provider is a physiotherapist compared to all others • Lodging provider is a GP compared to all others • Injury occurred at home compared to all others • Injury occurred at recreational/sports ground compared to all others

Note: Natural logarithms are applied to correct for skewness in data where appropriate.

We use principal component analysis to derive the claim severity measure

An appropriate method for estimating a joint construct from multiple variables is principal component analysis (PCA). PCA is a data-reduction technique that derives principal components (PCs), which can be understood as new variables that capture the main underlying patterns of variation in the data.

The interpretation of PCs depends on their strength of association (factor loadings) with the input variables, including both derived and non-derived measures. PCA typically yields several PCs, but only those that together explain at least 50 per cent of the total variation and have an eigenvalue greater than or equal to 1 are retained. In addition, only components with meaningful variance are kept, identified using a scree plot by selecting the components that appear before the visible "elbow" point where the slope of the curve levels off.

Selection of principal components

The first three principal components from the analysis were used (out of a total of 10, corresponding to the 10 input variables), in line with the criteria described above and the scree plot in Figure 40. The crucial step is interpreting the PCs, as they represent latent constructs such as severity. PC3 displays strong positive loadings for lodging provider: GP and injury scene: recreation/sport, while showing strong negative loadings for injury scene: home, lodging provider: physiotherapist, and claim cost. This suggests the

data is divided into different treatment pathways, where GP lodging aligns with sports-related injuries, whereas physiotherapist lodging is associated with home injuries and higher claim costs.

Table 26 lists the factor loadings of each included variable for each PC. These loadings, which range from -1 to 1, are interpreted within each principal component, with larger absolute values indicating greater importance of a variable in describing that construct.

PC1 describes severity

PC1 is described by:

- total other services used
- radiology service used
- clinical service used
- lodging provider is a GP.

All four variables have strong negative loadings. A feasible interpretation for PC1 is thus severity of the claim, meaning that individuals with more other service use and having an injury lodged by a GP are more likely to have a serious injury claim.

PC2 describes the injury context

Other service use: clinical settings and recreation or sport-related injuries show strong negative loadings, while injuries occurring in the home show a strong positive loading. PC2 can therefore be interpreted as capturing the injury context: one end reflects injuries associated with recreation, sport and higher clinical service use, while the opposite end reflects injuries that occur in the home.

PC3 describes route to treatment

PC3 displays strong positive loadings for lodging provider: GP and injury scene: recreation/sport, while showing strong negative loadings for injury scene: home, lodging provider: physiotherapist, and claim cost. This suggests the data is divided into different treatment pathways, where GP lodging aligns with sports-related injuries, whereas physiotherapist lodging is associated with home injuries and higher claim costs.

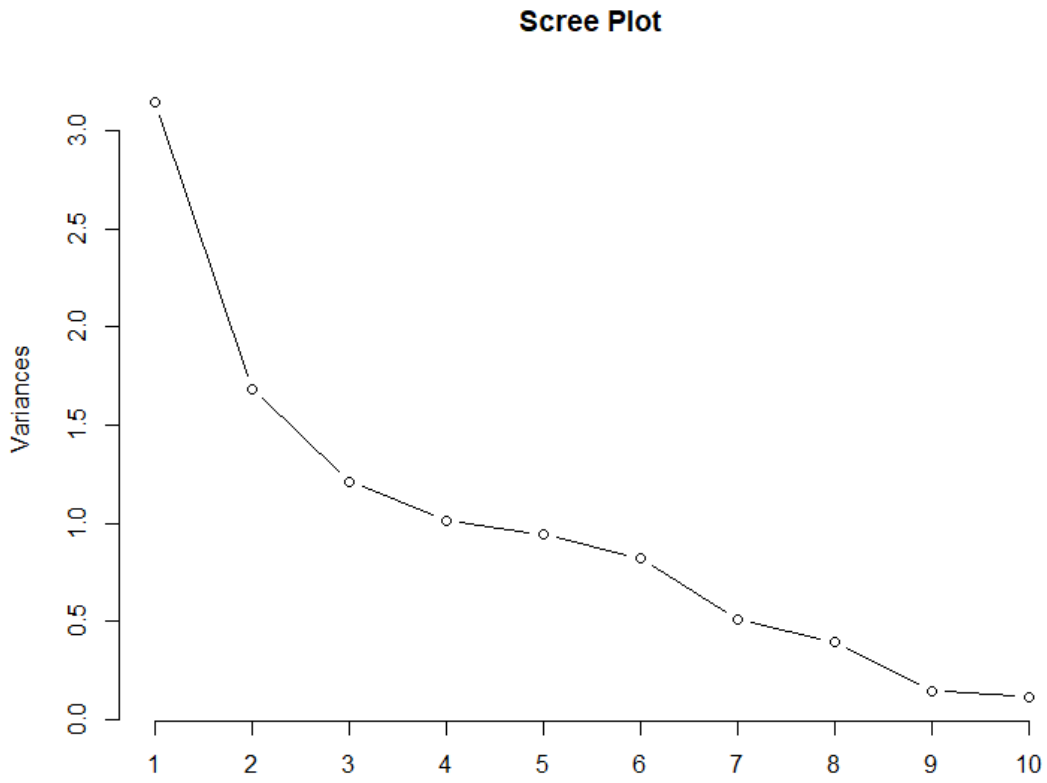
Table 26: Factor loadings of variables with selected principal components

Variable	**PC1** ***Severity***	**PC2** ***Injury context***	**PC3** ***Treatment route***
Other service use: total	-0.473	-0.286	-0.133
Other service use: radiology	-0.426	-0.233	-0.094
Other service use: clinical	-0.385	-0.317	-0.175
Claim cost	-0.180	-0.211	-0.357
Lodging provider: physiotherapist	0.415	-0.244	-0.441
Lodging provider: GP	-0.380	0.281	0.494
Lodging provider: surgeon	-0.085	-0.067	-0.114

Variable	PC1 *Severity*	PC2 *Injury context*	PC3 *Treatment route*
Injury scene: recreation/sport	0.195	-0.536	0.393
Injury scene: home	-0.161	0.537	-0.439
Time to treatment	-0.163	0.012	0.131
Statistical measures of PC relevance			
Proportion of variance	**32%**	**17%**	**12%**
Eigenvalue	**3.1**	**1.7**	**1.2**

Source: Sapere calculation using ACC Claims data from 2021-2024

Figure 40: Scree plot of derived factors and their explained variance of the selected variables



Source: Sapere calculation using ACC Claims data from 2021-2024

Appendix E Describing claimant population

This section presents descriptive statistics for the key variables and population of interest in our dataset. The data covers lodgements made between January 2021 and December 2024.

Table 27 presents summary statistics of the 1.3 million claimants and their selected characteristics. The dataset reflects a large and diverse cohort of physiotherapy patients, with gender distribution close to parity, and very few people identifying as gender diverse/other besides male or female. Ethnically, the majority identify as European, followed by Asian, and Māori, with smaller proportions of Pacific peoples, MELAA and other ethnicities. Only 0.01 per cent have unknown ethnicity recorded.

There is higher representation of people residing in less deprived areas compared to more deprived areas. This could potentially reflect accessibility barriers to physiotherapy services for more deprived populations.

Geographically, patients are concentrated in urban centres, particulaly Auckland, Christchurch City, Wellington City, Hamilton City and Tauranga City. Collectively, these five districts (out of a total 67) account for 53 per cent of physiotherapy patients.

Employment status data shows just over half of patients are employed, with the remainder not employed. Work type patterns indicate most patients are in sedentary/light occupations (61 per cent), followed by medium (19 per cent), and heavy/very heavy work (17 per cent). A small proportion of patients have an unknown work type. We note, however, a number of inconsistencies between employment status, work type and occupation, that may render employment data somewhat unreliable.

Table 27: Summary statistics for physiotherapy patients - 2021 to 2024.

Group	Count	Proportion
Gender		
Gender diverse/other	235	0.02%
Female	675,170	51.21%
Male	642,887	48.76%
Ethnicity		
Unknown	121	0.01%
Asian	141,661	10.74%
European	873,667	66.27%
Middle Eastern/Latin American/African (MELAA)	19,343	1.47%
Māori	120,331	9.13%
Other ethnicity	49,487	3.75%
Pacific peoples	61,564	4.67%
Deprivation decile		
Unknown	52,360	3.97%
1	142,017	12.39%

Group	Count	Proportion
2	138,993	12.12%
3	131,546	11.47%
4	126,937	11.07%
5	120,554	10.51%
6	114,271	9.97%
7	108,460	9.46%
8	101,294	8.83%
9	89,641	7.82%
10	72,959	6.36%
District of residence		
Ashburton District	8,584	0.68%
Auckland	422,654	33.61%
Buller District	1,431	0.11%
Carterton District	2,122	0.17%
Central Hawke's Bay District	3,338	0.27%
Central Otago District	8,079	0.64%
Chatham Islands Territory	20	0.00%
Christchurch City	103,035	8.19%
Clutha District	4,006	0.32%
Dunedin City	39,990	3.18%
Far North District	14,616	1.16%
Gisborne District	10,998	0.87%
Gore District	3,041	0.24%
Grey District	2,045	0.16%
Hamilton City	41,288	3.28%
Hastings District	23,052	1.83%
Hauraki District	3,733	0.30%
Horowhenua District	5,577	0.44%
Hurunui District	3,796	0.30%
Invercargill City	14,840	1.18%
Kaikoura District	895	0.07%
Kaipara District	5,041	0.40%
Kapiti Coast District	14,281	1.14%
Kawerau District	1,691	0.13%
Lower Hutt City	21,756	1.73%
Mackenzie District	1,217	0.10%
Manawatu District	6,513	0.52%
Marlborough District	9,989	0.79%
Masterton District	5,384	0.43%
Matamata-Piako District	8,891	0.71%

Group	Count	Proportion
Napier City	17,862	1.42%
Nelson City	14,900	1.18%
New Plymouth District	24,891	1.98%
Opotiki District	1,842	0.15%
Otorohanga District	2,541	0.20%
Palmerston North City	17,530	1.39%
Porirua City	12,157	0.97%
Queenstown-Lakes District	23,985	1.91%
Rangitikei District	2,980	0.24%
Rotorua District	13,688	1.09%
Ruapehu District	1,871	0.15%
Selwyn District	22,870	1.82%
South Taranaki District	4,699	0.37%
South Waikato District	4,220	0.34%
South Wairarapa District	2,560	0.20%
Southland District	9,066	0.72%
Stratford District	2,003	0.16%
Tararua District	3,295	0.26%
Tasman District	15,030	1.20%
Taupo District	9,793	0.78%
Tauranga City	48,479	3.86%
Thames-Coromandel District	8,631	0.69%
Timaru District	11,483	0.91%
Upper Hutt City	10,312	0.82%
Waikato District	23,028	1.83%
Waimakariri District	17,986	1.43%
Waimate District	1,608	0.13%
Waipa District	18,564	1.48%
Wairoa District	928	0.07%
Waitaki District	5,003	0.40%
Waitomo District	1,799	0.14%
Wellington City	54,771	4.36%
Western Bay of Plenty District	16,211	1.29%
Westland District	1,796	0.14%
Whakatane District	9,075	0.72%
Whanganui District	6,757	0.54%
Whangarei District	21,268	1.69%
Employment status		
Employed	709,106	53.78%
Not employed	609,286	46.21%

Group	Count	Proportion
Unknown Status	21	0.00%
Work type		
Heavy/very heavy	221,399	16.79%
Medium	253,951	19.26%
Sedentary/light	802,327	60.86%
Unknown status	40,736	3.09%

Source: Sapere calculation using ACC Claims data from 2021-2024

Table 28 shows that, on average, each client makes 1.69 claims over the four-year observation period. The mean number of physiotherapy services received by a client per claim is 8.61, though the large standard deviation suggests some claims involve significantly more extensive service use. The average total claim cost was approximately $392.52, again with substantial variation, reflecting a mix of low-cost and high-cost claims.

The use of other rehab services varies widely across categories. Home and community services had the highest average use but with extreme variability, suggesting they are concentrated among a small subset of high-need clients. Radiology and clinical services were also commonly used.

Table 28: Summary statistics across outcome variables by client

Outcome variables	Mean (standard deviation)
Number of claims per client	1.69 (1.33)
Number of physiotherapy sessions per client	8.61 (11.44)
Cost per client	392.52 (521.30)
Other rehab services received under contract	
Concussion	1.88 (34.66)
Pain management	0.60 (20.82)
Training for independence	4.43 (221.85)
Vocational rehabilitation	1.28 (11.93)
Radiology	7.41 (19.90)
Home and community	16.16 (470.09)
Clinical services	7.30 (32.26)
High tech imaging	2.48 (11.41)
Non-acute rehab	0.29 (13.29)
Social rehab need assessment	0.32 (8.47)

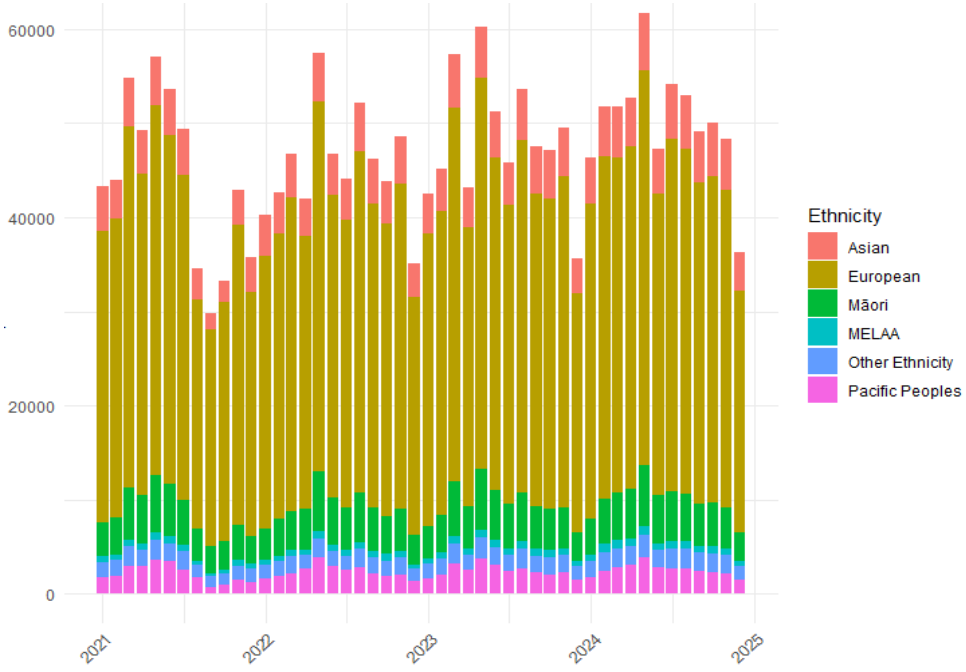
Source: Sapere calculation using ACC Claims data from 2021-2024

Appendix F Additional claim characteristics

Lodged claims over time

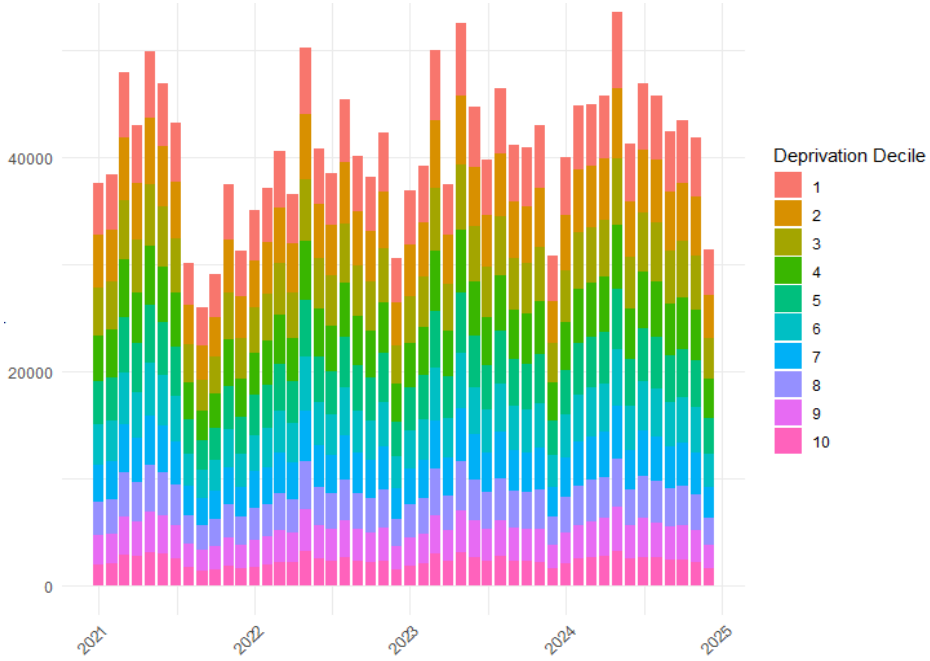
We present in the following lodged ACC physiotherapy claims between 2021 and 2024 by ethnicity, age band, and deprivation decile.

Figure 41: Claim lodgements by ethnicity per month from 2021 to 2024



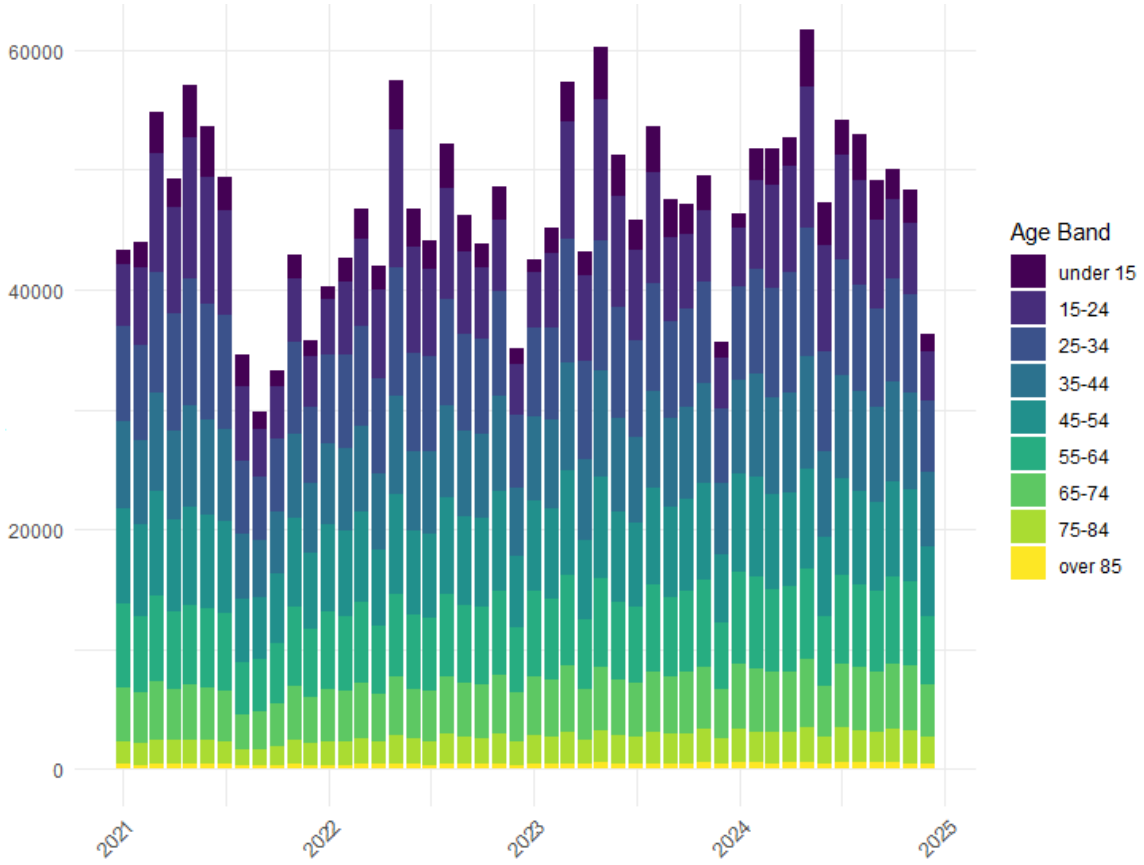
Source: Sapere calculation using ACC Claims data from 2021 to 2024

Figure 42: Claim lodgements by deprivation decile per month from 2021 to 2024



Source: Sapere calculation using ACC Claims data from 2021 to 2024

Figure 43: Claim lodgements by age band per month from 2021 to 2024



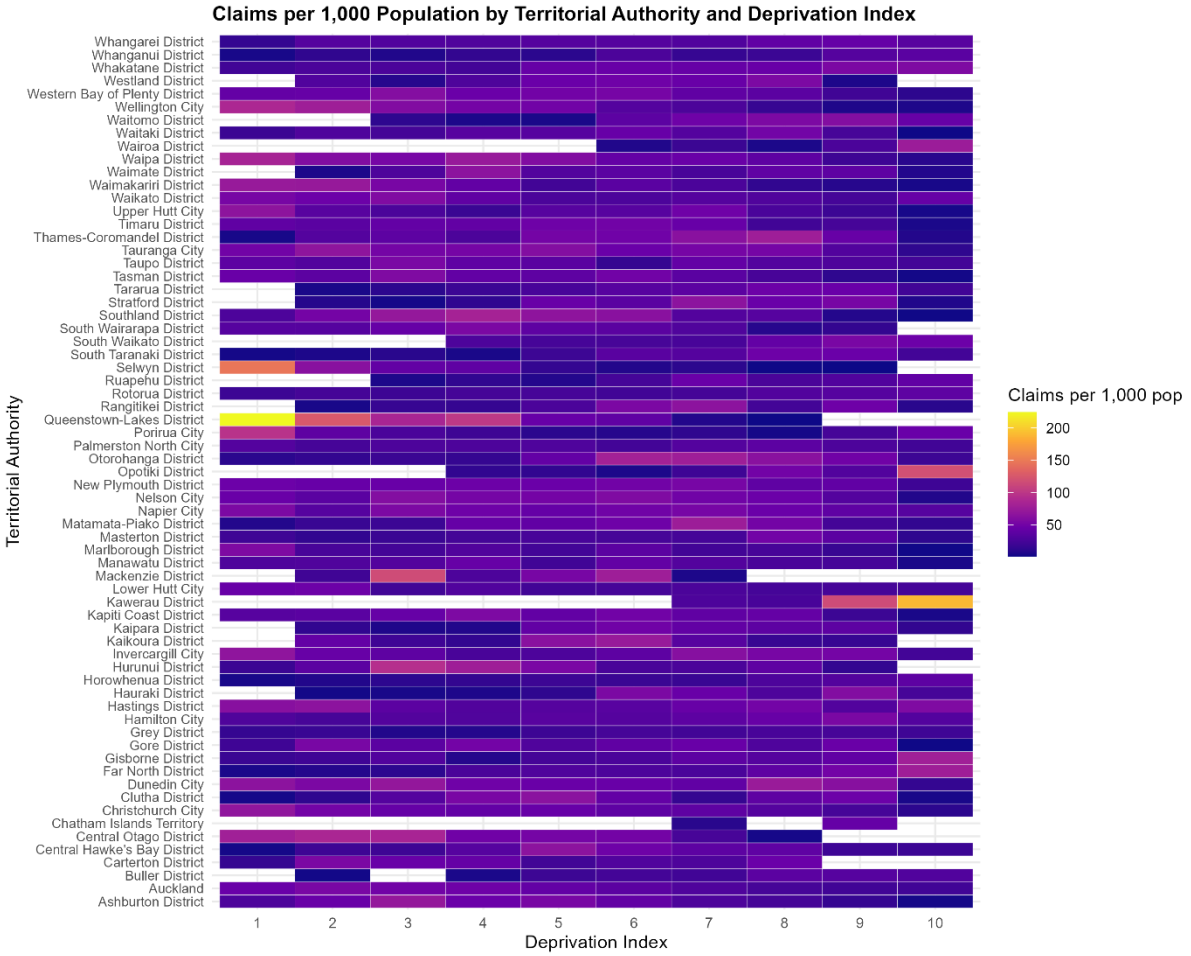
Source: Sapere calculation using ACC Claims data from 2021 to 2024

Distribution of claims by territorial authorities

The deprivation disparity appears to be driven by urban districts

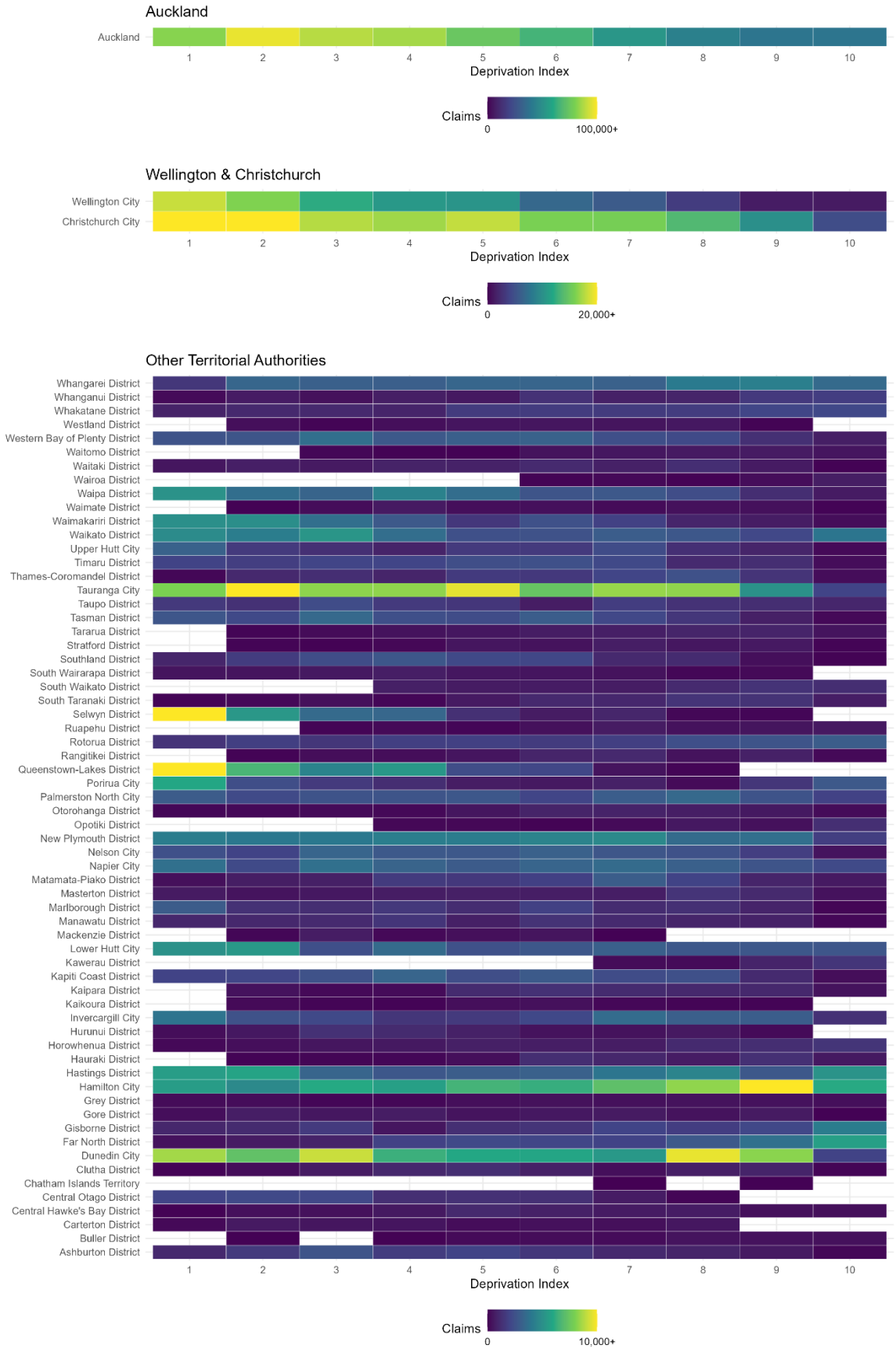
There is higher representation in claims made by people living in less deprived areas. When examining the number of claims relative to the population, this is most clearly seen in the Queenstown-Lakes district (Figure 44).

Figure 44: Number of claims per 1,000 population by territorial authority and deprivation decile



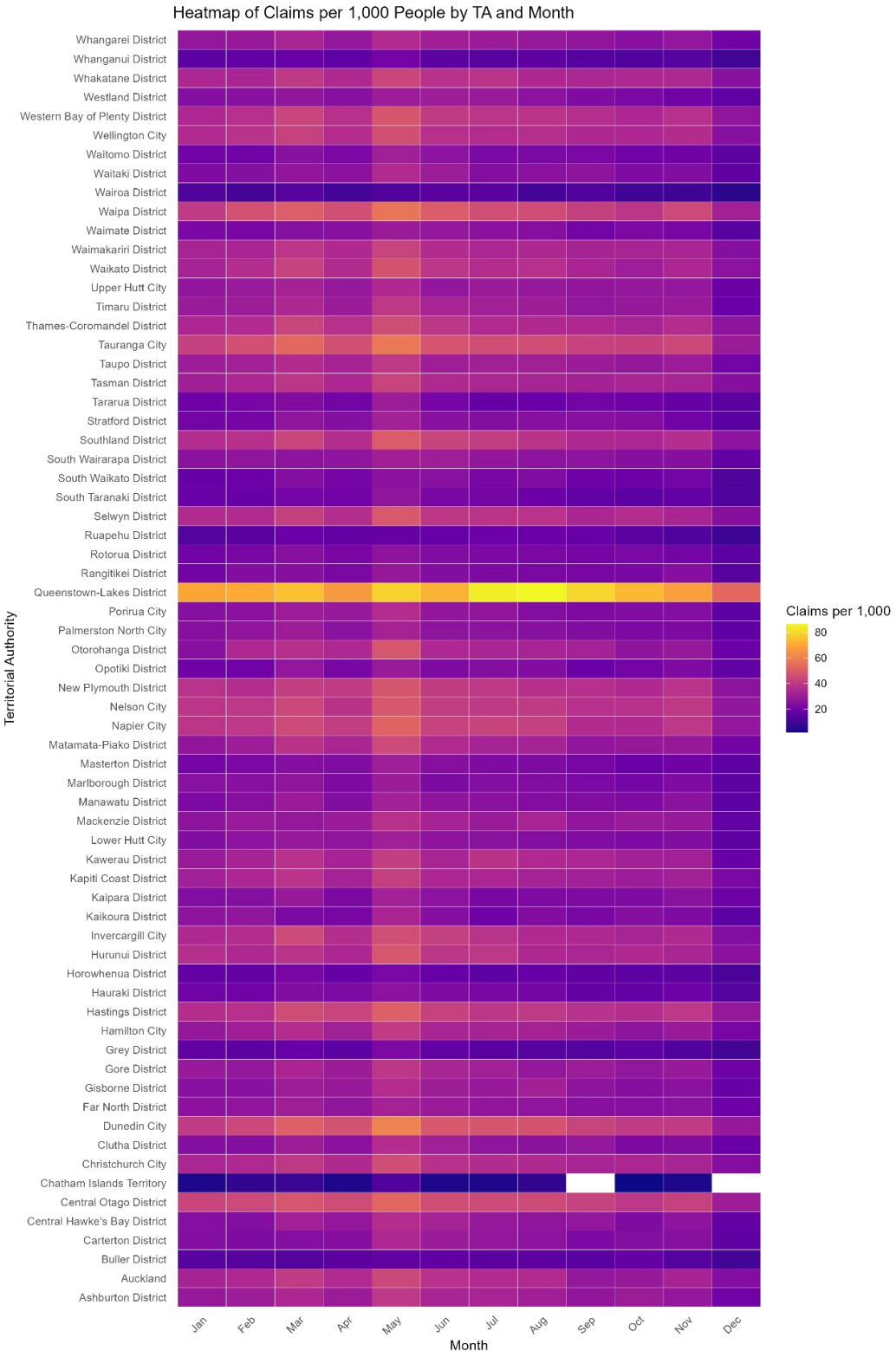
Examining the total number of claims by deprivation and territorial authority reveals that service use in less deprived areas is driven mostly by urban districts, such as Auckland, Wellington, Christchurch, and Tauranga (Figure 45). However, the opposite relationship between deprivation and service use is observed in urban districts such as Hamilton and Dunedin.

Figure 45: Number of claims by territorial authority and deprivation decile



The monthly breakdown of claims per capita shows that most claims in Queenstown-Lakes are lodged during the winter months of July and August, while for other districts, May stands out as the month during which most claims are lodged (Figure 46).

Figure 46: Number of claims per 1,000 population by month and TA

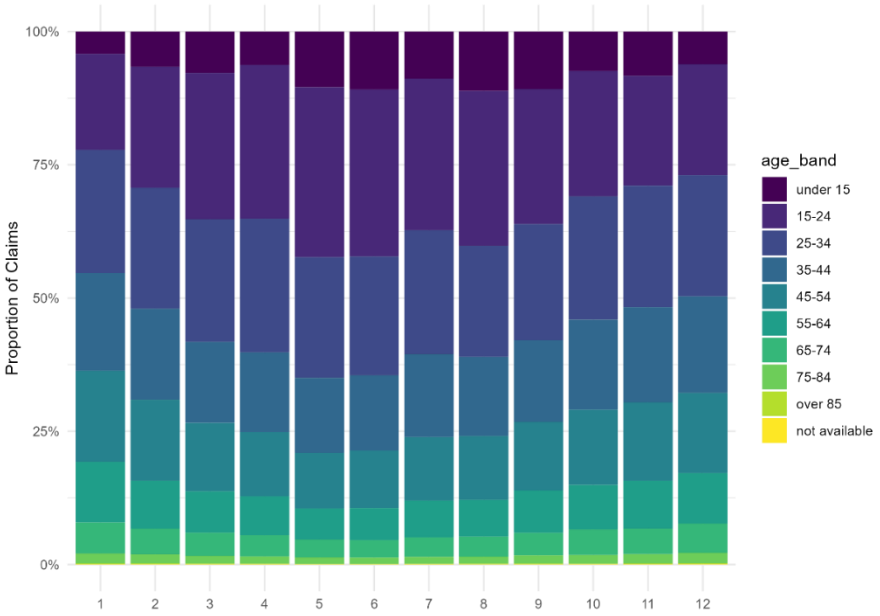


Note: The figure aggregates the claims for the same month across all years and uses 2024 population estimates to calculate the per capita rate. Claims lodged during 2021 are excluded from this analysis to avoid anomalies arising from COVID lockdown.

Sport-related injuries

Figure 47 shows sport-related injury claims by age-band and month of year. Most sport-related injuries are attributed to people aged under 44, exacerbated in the months from May to August.

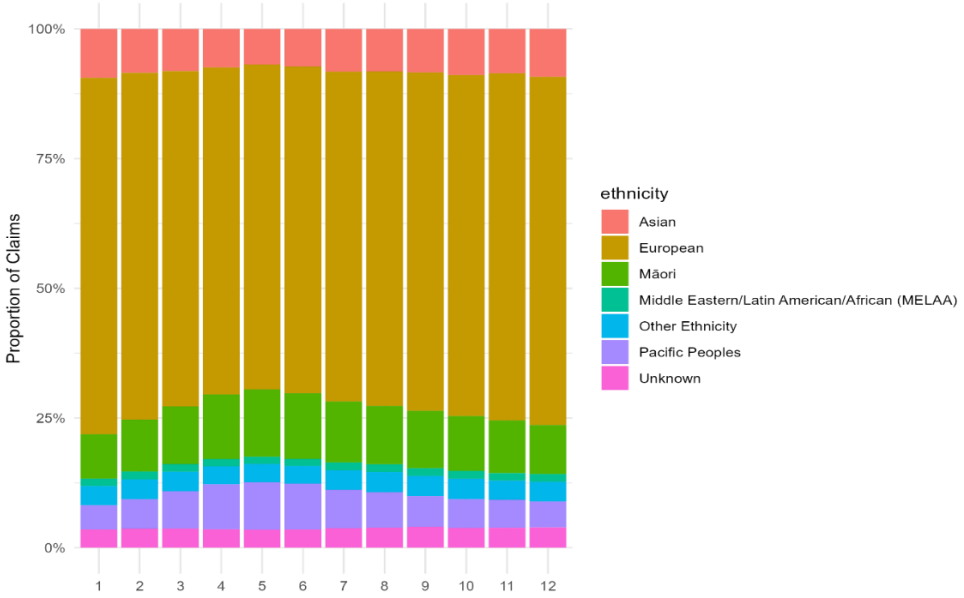
Figure 47: Proportion of sport-related injury claims by age band and month



Source: Sapere calculation using ACC Claims data from 2022 to 2024; the figure aggregates the claims for the same month across all years. Claims lodged in 2021 are excluded to avoid anomalies arising from the pandemic-related lockdown.

Figure 48 shows sport-related injury claims by ethnicity and month of year. The share in the total proportion of sport-related injuries significantly increase among Pacific peoples and Māori and decreases in all other ethnic groups from May to August.

Figure 48: Proportion of sport-related injury claims by ethnicity and month

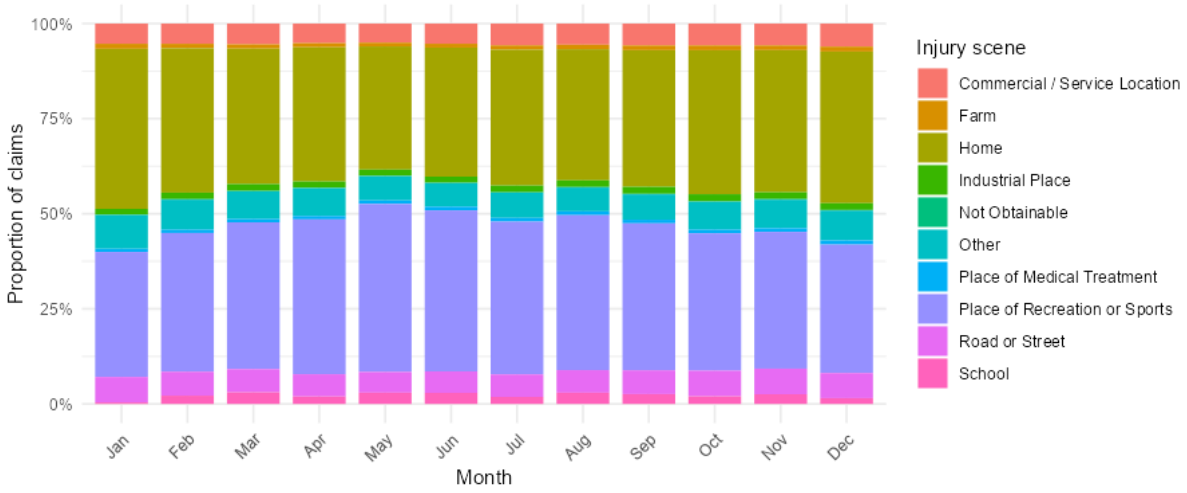


Source: Sapere calculation using ACC Claims data from 2022 to 2024; the figure aggregates the claims for the same month across all years. Claims lodged in 2021 are excluded to avoid anomalies arising from the pandemic-related lockdown.

Most injuries occur at home or at place of recreation or sport

Figure 49 shows that most injuries resulting in a claim occur at home, in recreational settings, or on the street. The monthly distribution also highlights a seasonal pattern in sports injuries between April and August, with a noticeable peak in May. Our external expert confirmed that this pattern is typical, as sports injuries tend to be more frequent early in the rugby and netball seasons, which begin around April and May.

Figure 49: Proportion of injury claims by scene of injury and month



Source: Sapere calculation using ACC Claims data from 2022 to 2024; the figure aggregates the claims for the same month across all years. Claims lodged in 2021 are excluded to avoid anomalies arising from the pandemic-related lockdown.

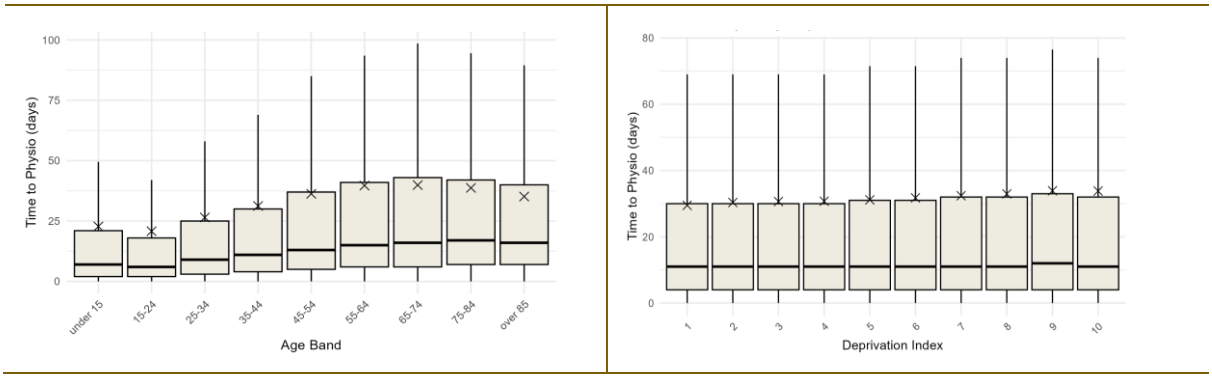
Time to access therapy from injury varies by age, deprivation, and ethnicity

Figure 50 shows in the left panel that the time taken to see a physio after an injury rises with age bands. [11]

Younger claimants typically reach physiotherapy within one week, while older claimants average two to three weeks. Mean values are much higher than medians indicating a long right-skewed distribution. The data shows that a small group waits months or even years, although these could also be attributable to data entry errors, as negative values are also recorded. The spread of time between injury to physiotherapy also increases with age, indicating that older age groups not only wait longer on average, but have greater variability in time to first physio.

[11] We use boxplots to show the distribution of the variable. The cross (X) indicates the mean; the horizontal line inside the box represents the median; the top and bottom edges of the box correspond to the 75th and 25th percentiles (interquartile range); and the whiskers extend to the minimum and maximum values.

Figure 50: Boxplots of days from injury to first physiotherapy session, by age and deprivation



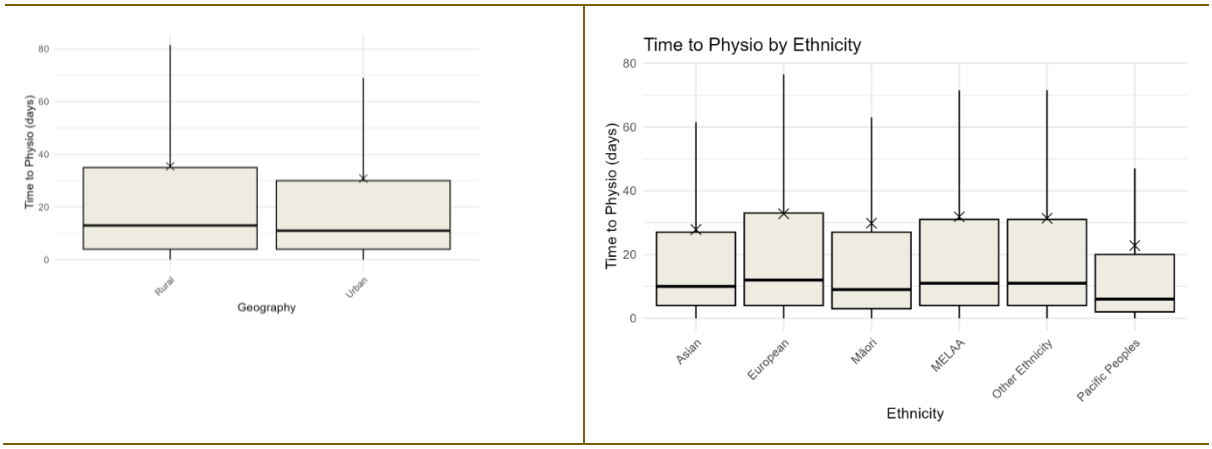
Source: Sapere calculation using ACC Claims data from 2021 to 2024

A gradual delay associated with deprivation and rurality

The right panel in Figure 50 shows that median time to physiotherapy is stable across deprivation groups, hovering around 11 to 12 days for all. The mean time, however, shows a gradual upward trend from approximately 29.5 days in deprivation quintile 1 to 33.8 days in deprivation deciles 9 and 10. The implication is that while most patients are seen in similar timeframes, individuals from more deprived areas are disproportionately represented among those experiencing very long delays.

The left panel in Figure 51 shows that a similar relationship is exhibited with geography. Median times across rural and urban areas are relatively stable, being only slightly higher in rural areas (13 days versus 11 days), while there is a relatively more substantial disparity in means (35.5 days versus 30.8 days).

Figure 51: Boxplots of days from injury to first physiotherapy session, by rurality and ethnicity



Source: Sapere calculation using ACC Claims data from 2021 to 2024

The urban centres tend to have quick access, with Auckland, Hamilton, Tauranga and Dunedin all showing quick access with lower medians and narrower spread. Queenstown-Lakes shows relatively short delays as well, possibly due to strong provider presence. Grey District, Buller, Whanganui, Westland, Marlborough, Wairoa and Ruapehu all show substantially delayed access; these are smaller or more remote areas where geography and service shortage may slow access.

Quicker turnaround for Māori and Pacific peoples

The right panel in Figure 51 shows median wait times to first physiotherapy session were shortest for Pacific peoples (six days), followed by Māori (nine days), Asian patients (10 days), and Europeans (12 days). While Pacific, Māori and Asian patients generally access physiotherapy sooner, Europeans face not only the longest medians but also the widest variation; these patterns may partly reflect differences in diagnostic and specialist access rather than injury complexity.

Appendix G Detail of regression analyses

Regression analysis at the extensive margin – claims

We conducted our analysis at the statistical area level 3 (SA3), which represents medium sized geographic areas such as towns, rural areas or clusters of suburbs, typically with populations between 5,000 and 10,000. Using SA3-level data provides sufficient local variation while allowing for spatial aggregation that reduces noise and variance, enhancing the stability and interpretability of our regression results.

The outcome of the regression is the number of monthly claims per SA3, adjusted per 1,000 population to account for differences in SA3 population sizes. We modelled the association between monthly claims. Table 29 lists determinants of demand, aggregated at the SA3 level.

Table 29: Determinants of the extensive margin of demand which are included in the regression analysis

Type	Description
Patient characteristics	1. Age band, gender, ethnicity, deprivation decile (higher deciles indicate greater deprivation), and injury severity (from lowest to highest).
Provider and claim characteristics	2. Whether the claim was treated by a registered or contracted provider. 3. Provider density proxied by the number of unique providers treating patients from a given SA3 (log-transformed to account for right-skewness of the variable). 4. Claim source: physiotherapist, GP, or other (e.g., surgeon). 5. Injury location: sport/recreation, home, or other locations.
Trends and contextual factors	6. Monthly and seasonal trends, alongside annual trends (e.g., post-COVID impacts). 7. Territorial authority-level factors or also referred to as fixed effects which can account for rurality, population and provider factors, and other local healthcare provision.

We therefore estimate the following:

$$(1)\ Y_{s,t} = \beta_0 + \boldsymbol{X}_{s,t}\beta + \gamma_r + \delta_t + \theta_t + \epsilon_{s,t}$$

Where:

- $Y_{i,t}$ is the number of claims per 1,000 population at an SA3 s at lodgement of claim month and year t.
- $\boldsymbol{X}_{s,t}$ are the covariates listed in the table above as patient, provider, and claim characteristics.
- γ_r are territorial authority fixed effects capturing broader area-level characteristics such as differences in population, access, or socioeconomic factors.
- δ_t and θ_t are month and year of lodgement fixed effect controlling for seasonal and annual trends.

- $\epsilon_{s,t}$ is the error term of the regression using robust clustered standard errors on the TA-level.

We note that our outcome distribution approximates a normal distribution (and thus likely our regression residuals). We therefore do not require correction to account for the count data nature.

Regression analysis at the intensive margin – treatments

The sample of our analysis includes 1,863,091 individual claims lodged between 2021 and 2024 which is about 80 per cent of the full claim dataset. We only use 'complete' claims proxied by the ACC as no service use over the last three months. Therefore, five per cent or 118,532 claims are excluded because they are not yet complete. 360,166 or 15 per cent of claims are excluded due to missing information in one of the covariates.

We present in Table 30 the descriptive statistics of our sample by outcome and covariates used in the regression analysis for the intensive margin of demand.

Table 30: Descriptive statistics of the sample used for the regression at the intensive margin

Outcome variable	Description / categories	Mean (standard deviation)
Number of treatment sessions per client	Continuous	5.12 (5.3)
Continuous variables		
Severity	Continuous	2.65 (1.78)
Categorical variables		**Claim distribution (in %)**
Age band	Under 15	5.9%
	15-24	16.2%
	25-44	33.1%
	45-64	30.1%
	Over 65	14.8%
Gender	Female	49.9%
	Male	50.1%
	Other	<0.1%
Ethnicity	European	70.2%
	Māori	9.9%
	Pacific peoples	5.3%
	Asian	9.5%
	MELAA	1.4%
	Other	3.7%
Geography	Urban	87.4%
	Rural	12.6%
Deprivation index	1 (lowest deprivation)	13.1%
	2	12.6%
	3	11.8%
	4	11.3%
	5	10.6%
	6	9.9%
	7	9.2%

	8	8.5%
	9	7.4%
	10 (highest deprivation)	5.8%
Service delivery type	Physio services provided under contract	65.6%
	Physio services provided under cost of treatment regulations	34.4%

Note: The total number of observations/unique claims used in the analysis is 1,863,091

The level of analysis is the individual claim. The outcomes are the total number of treatment sessions per claim. We estimate in the regression the impact of the following determinants of demand on the outcome:

- **Socio-economic**: deprivation deciles of area of residence.
- **Demographic:** gender (male, female, other), ethnicity (European, Māori, Pacific peoples, Asian, Middle Eastern/Latin American/African (MELAA), Other), age bands (Under 15 years of age, 15-24, 25-44, 45-64, 65 and older).
- **Injury:** natural logarithm of the severity of injury.
- **Provider:** practice fixed effects and service delivery type (if under the AH contract or CoTR).
- **Geographic:** Urban and rural, territorial authority.
- **Time:** lodgement of claim by month of year and year effects.

We leverage the panel data provided by ACC to account for variations over time and systematic impacts from provider-specific behaviours. The regression models control for temporal and regional variation by including fixed effects for territorial authorities, claim lodge year, and claim lodge month. Two models are reported:

- **Model 1** includes demographic characteristics (age band, gender, ethnicity, geography), socioeconomic status (deprivation index), injury severity, and contract registration flag.
- **Model 2** extends Model 1 by adding practice-level fixed effects, which capture any time-invariant practice-specific effects.

We illustrate the preferred Model 2 in equation (1) below:

$$(2)\ Y_{i,t} = \beta_0 + \boldsymbol{X}_{i,t}\beta + \gamma_r + \delta_t + \theta_t + \pi_p + \epsilon_{i,t}$$

Where:

- $Y_{i,t}$ is the count of total physiotherapy services per claim for the claim of individual i at lodgement of claim time t.
- $\boldsymbol{X}_{i,t}$ are the covariates.
- γ_r are territorial authority fixed effects capturing broader area-level characteristics of individual residence such as differences in population, access, or socioeconomic factors.
- δ_t and θ_t are month and year of lodgement fixed effect controlling for seasonal and annual trends.

- π_p are practice fixed effects controlling for any time-invariant difference across providers such as practice-level characteristics or behavioural patterns influencing demand.
- $\epsilon_{i,t}$ is the error term of the regression.

The outcome of interest is count data, which is typically modelled using Poisson or negative binomial regression. However, given the very large sample size available for this analysis (N >= 1.8 million), we estimated models using ordinary least squares (OLS) which provides an easier interpretation of estimates. By the Central Limit Theorem—with sufficiently large data—OLS estimators remain approximately unbiased and normally distributed even when the outcome departs from normality. To address heteroscedasticity commonly present in count data, we report robust standard errors clustered at the practice level.

Findings from the regression analysis

Table 31 below (see following page) provides the analysis for two models – Model (1) without and Model (2) with provider fixed effects. Findings by explanatory variables are:

Deprivation deciles:

- Comparing Model 1 and Model 2 highlights a clear socioeconomic gradient in service use. Across both models, more deprived individuals consistently have fewer treatment sessions on average, and the magnitude of this reduction increases with higher deprivation levels. For example, in Models 1 and 2, patients in the most deprived decile (10) have on average, approximately 0.66 and 0.50 fewer treatment sessions compared to the least deprived decile (1), respectively.
- This shows that deprivation is associated with reduced access or uptake of physiotherapy services. It can indicate inequity of access since we control for other confounders such as practice fixed effects, ethnicity or the severity of injury.

Age effects

- The regression analysis reveals strong age-related patterns in service utilisation. Compared to the youngest group (under 15), all other age bands have on average significantly higher service utilisation, with the largest effect seen in the 45–64 age group.
- Even those aged over 65, while still having significantly more treatment sessions than children, record a slightly smaller increase than the middle-aged cohort, indicating that service demand peaks in mid-life rather than late life.

Gender effects

- Females have a statistically significant higher number of treatment sessions on average compared to males.
- Patients identifying as gender diverse/other also show a positive coefficient, though this effect is not statistically significant, likely reflecting the relatively small number of individuals in this category and the resulting imprecision in estimates.

Ethnicity

- Clear disparities are also visible across ethnic groups. Relative to New Zealand Europeans, all other ethnic groups examined are associated with significantly fewer treatment sessions on average.
- These gaps persist across both model specifications, even after accounting for practice-level fixed effects, suggesting inequities in access or utilisation among these populations.

Geography

- Individuals living in urban areas are associated with slightly higher treatment sessions rates on average compared to those in rural areas.
- This likely reflects differences in geographical accessibility, with urban populations benefiting from greater proximity to providers, reduced travel times, and possibly a wider range of available services.

Severity

- The log severity coefficient in both models is large and highly significant, indicating a strong positive relationship between the severity of individuals and the number of treatment sessions.
- The coefficient can be interpreted as the approximate change in treatment sessions associated with a proportional change in severity. Specifically, a 1 per cent increase in severity is associated with an increase of about 0.036-0.039 treatment sessions, holding all other factors constant. To put this in practical terms, if severity increases by 10 per cent, the expected number of treatment sessions rises by roughly 0.36-0.39 treatment sessions on average.
- This highlights that more severe individuals predict higher service use, which is an expected outcome and can be seen as a validation of the measure.

Service delivery type

- In Model (1), Regulations service delivery types show a strong and statistically significant effect, with an average of half a treatment session more under Regulations compared to the AH contract. However, this effect disappears once provider fixed effects are included in Model (2).
- This reflects the setup of practices as either contract or regulations providers and demonstrates that practice-level fixed effects effectively control for structural provider differences on the intensive margin of demand.

Impacts of controlling for practice-level effects

- Introducing practice-level fixed effects in Model 2 reduces the deprivation gradient compared with Model 1.
- This suggests that part of the observed differences in service use is explained by provider-level factors such as availability of services, supply-related demand, or practice-level behaviour.

Table 31: OLS regression results with number of treatment sessions as outcome

Variable	Model 1 Number of treatment sessions (Standard errors)	Model 2 Number of treatment sessions (Standard errors)
Age (Baseline is Age under 15)		
Age 15–24	1.262*** (0.0625)	1.200*** (0.0447)
Age 25–44	1.166*** (0.0615)	1.217*** (0.0380)
Age 45–64	1.455*** (0.0656)	1.528*** (0.0467)
Age 65+	1.176*** (0.0648)	1.323*** (0.0477)
Gender (Baseline is Male)		
Female	0.1731*** (0.0216)	0.2065*** (0.0173)
Other	0.1718 (0.3209)	0.1942 (0.2915)
Ethnicity (Baseline is European)		
Asian	-0.7149*** (0.0588)	-0.6162*** (0.0344)
Māori	-0.3976*** (0.0330)	-0.3827*** (0.0274)
MELAA (Middle Eastern/Latin American/African)	-0.5765*** (0.0479)	-0.5786*** (0.0414)
Other Ethnicity	-0.2247*** (0.0298)	-0.2335*** (0.0291)
Pacific peoples	-0.4752*** (0.0714)	-0.4443*** (0.0434)
Geography (Baseline is rural)		
Urban	0.1642*** (0.0340)	0.1244*** (0.0162)
Deprivation deciles (Baseline is Decile 1)		
Decile 2	-0.0499* (0.0212)	-0.0499* (0.0165)
Decile 3	-0.0638* (0.0234)	-0.0629** (0.0181)
Decile 4	-0.1175*** (0.0269)	-0.0994*** (0.0195)
Decile 5	-0.1647*** (0.0288)	-0.1409*** (0.0198)
Decile 6	-0.1871*** (0.0282)	-0.1448*** (0.0196)
Decile 7	-0.2911*** (0.0323)	-0.2171*** (0.0209)
Decile 8	-0.3402*** (0.0369)	-0.2422*** (0.0249)
Decile 9	-0.4330*** (0.0431)	-0.3175*** (0.0279)
Decile 10	-0.6591*** (0.0616)	-0.4965*** (0.0400)
Injury		
Severity of injury (log)	3.629*** (0.0669)	3.866*** (0.0726)
Service delivery type (Baseline is Contract)		
Registration	0.4305*** (0.1142)	0.1683 (0.1030)
Fixed Effects		
Month of lodgement	Yes	Yes
Year of lodgement	Yes	Yes
Territorial Authority	Yes	Yes
Practice	No	Yes
Number of observations	1,863,091	1,863,091

Note: Based on Sapere calculations using ACC claims data 2021-2024. Robust standard errors clustered at practice level; p-values indicating level of statistical significance: *p<0.1; **p<0.05; ***p<0.01

Appendix H The relationship of physiotherapist supply and demand

Methodological approach: Arellano-Bond estimator

Drawing on our ACC claims data from 2021–2024, we create a panel of territorial authority level observations for each quarter of each year. We use this setup to then implement the Arellano–Bond (AB) estimator to understand the dynamic relationship between workforce growth and claim growth.

AB estimator in a nutshell

The AB estimator is a dynamic panel model used when data are available for the same groups over multiple time periods. It is particularly useful when past outcomes may influence current results. In this analysis, it helps identify how changes in the number of physiotherapists available within each territorial authority affect the number of physiotherapy claims over time.

The estimator takes advantage of the repeated nature of the data to control for unobserved local characteristics, such as differences in population health, service accessibility, or regional management practices, which do not change much over time. It also adjusts for the fact that past claim levels can affect current ones. This makes the AB estimator well-suited to isolating the underlying relationship between physiotherapist availability and physiotherapy demand while minimising bias from omitted or persistent local factors.

We estimate the following equation

$$(3)\ Log(Claims_{i,t}) = \beta_0 + \beta_1 Log(Claims_{i,t-1}) + \beta_2 Log(Nb_Physios_{i,t-1}) + \boldsymbol{X}_{i,t}\beta + \mu_i + \delta_t + \epsilon_{i,t}$$

Where $Log(Claims_{i,t})$ is the logarithm of the number of claims lodged by physiotherapists in territorial authority i at time t, with t being the quarter of a year. $Log(Claims_{i,t-1})$ is the logarithm of the lagged number of claims (capturing persistence over time) reflecting claims in the previous quarter. Likewise, $Log(Nb_Physios_{i,t-1})$ is the logarithm of the lagged number of unique physiotherapists accessed by people living in territorial authority i in the previous quarter.

$\boldsymbol{X}_{i,t}$ are the time-variant covariates population growth and the median claims per physiotherapists in a territorial authority i at time t. μ_i captures unobserved, time-invariant characteristics of each territorial authority (e.g. demographic or health system differences), δ_t capture time fixed effect for each quarter of year which relates to shocks or trends common to all territorial authorities, such as national policies, economic cycles, or seasonal trends. $\epsilon_{i,t}$ is the residual of the estimation the idiosyncratic error term.

We use the logarithm as it provides us with an estimate of supply and demand elasticities, e.g. that for every percentage increase in the number of physiotherapists β_2 provides an estimate of the percentage increase in the number of claims.

We model a lagged effect of physiotherapist availability on physiotherapy claims, allowing for a more realistic adjustment period. To ensure robustness, we also estimate instantaneous effects of the number of physiotherapists on claims and compare the results.

Because both $Log(Claims_{i,t-1})$ and the $Log(Nb_Physios_{i,t-1})$ are correlated with μ_i and hence with the composite error $\mu_i + \epsilon_{i,t}$, standard estimation methods (like fixed effects) would produce biased results. The AB estimator addresses this by differencing the equation and using lagged levels of the variables as instruments. This approach allows us to isolate the causal effect of physiotherapist availability on claims while controlling for both persistence over time and unobserved local characteristics. We provide test statistics alongside our coefficient estimates. Prefacing, test statistics support the appropriateness of the AB estimator in all our estimated models.

There is a dynamic relationship between supply and demand

We provide in the table findings from our AB estimations using different specification. In summary we find that:

- **Supply related demand**: For a one per cent increase in physiotherapists in the past quarter, demand in the form of lodged claims increases at present by 0.2 per cent.
- **Cumulative effects**: The estimate is robust to different specification and shows a stickiness of the effect over time, reflected in the significant impact of t-2 physios on present demand while retaining the impact of t-1 physiotherapists on lodged claims in Model 3.
- **Present impact**: The strongest impacts are observed in Model 4, for a one per cent increase in the number of physiotherapists at present claims increase by about 0.4 per cent.

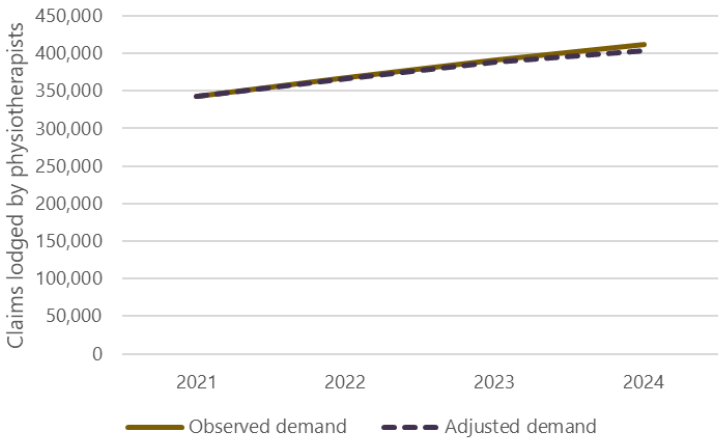
Variable	Model 1 Base model	Model 2 Population growth	Model 3 Deeper lags	Model 4 Present impact
Effects of access and supply of physiotherapist				
Physios present quarter				0.363***(0.116)
Physios past quarter (t-1)	0.205** (0.098)	0.16** (0.077)	0.13** (0.064)	
Physios past quarter (t-2)			0.26***(0.094)	
Effects of claims				
Claims past quarter (t-1)	0.89*** (0.062)	0.54*** (0.179)	0.553***(0.109)	0.775***(0.074)
Claims past quarter (t-2)			0.121 (0.084)	
Other control variables				
Median claims per physio (t-1)	Yes	Yes	Yes	Yes
Population growth	No	Yes	No	No
Fixed Effects				
Year and quarter of year	Yes	Yes	Yes	Yes
Territorial authority	Yes	Yes	Yes	Yes
Test statistics				
Sargan test	*p-value = 0.19*	*p-value = 0.07*	*p-value = 0.147*	*p-value = 0.108*
Autocorrelation test (1)	*p-value = 0.04*	*p-value = 0.000*	*p-value = 0.002*	*p-value = 0.000*
Autocorrelation test (2)	*p-value = 0.33*	*p-value = 0.242*	*p-value = 0.716*	*p-value = 0.209*
Number of observations	1,064	1,064	1,064	1,064

Note: Based on Sapere calculations using ACC claims data 2021-2024. The outcomes are the logarithm of the number of claims. Robust standard errors in brackets and clustered at the territorial authority level; p-values indicating level of statistical significance: *p<0.1; **p<0.05; ***p<0.01

Adjusting demand at the extensive margin for supply factors

Figure 52 shows the observed claims made by physiotherapists and claims adjusted for supply effects as estimated in the previous section. Importantly, we assume that supply effects apply only from 2021 onwards since we did not analyse data prior to 2021. Accordingly, the lines diverge due to the cumulative effect over time. By 2024, the data show that about 2 per cent of observed demand is related to workforce related demand.

Figure 52: Claims by physiotherapists: observed and adjusted for supply related demand



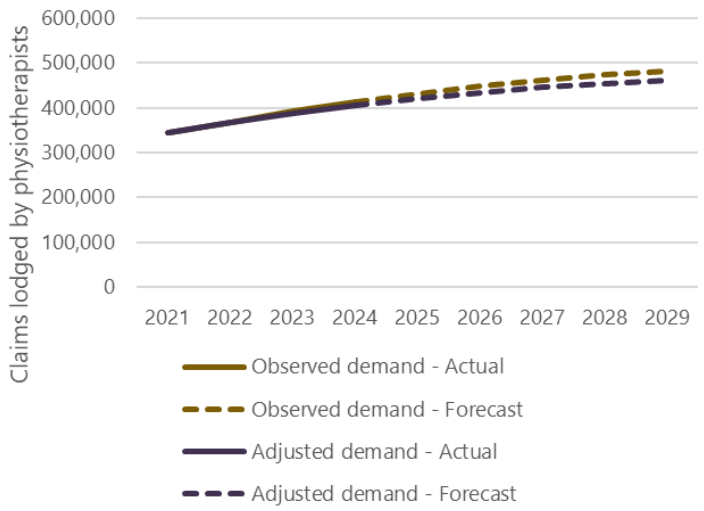
Demand related to supply effects:

2021: 0 %
2022: 0.3%
2023: 0.9%
2024: 2.0%

Note: Based on Sapere calculations using ACC claims data 2021-2024

Figure 53 provides hypothetical projections of claims lodged by physiotherapists, to illustrate the potential longer-term implications relating to the cumulative nature of supply effects. By 2029, we assume that the supply effects have grown to about 5 per cent.

Figure 53: Relationship of supply and variations in demand



Demand related to supply effects:

2021: 0%
2022: 0.3%
2024: 0.9%
2024: 2.0%
2025: 2.5%
2026: 3.0%
2027: 3.5%
2028: 4.1%
2029: 4.6%

Note: Based on Sapere calculations using ACC claims data 2021-2024

We use a conservative estimation approach which likely predicts lower ceiling effects, which has caveats:

- We extrapolate observed demand over the next five years based on a fitted quadratic function. There is inherent uncertainty in future demand. A quadratic function showed a good fit for the short period of observed data from 2021 to 2024; it assumes that while demand is still growing, the growth factor decreases over time. This may underestimate demand growth.
- We estimate future workforce growth using exponential smoothing over annual physiotherapy workforce data from 2021 to 2024. Exponential smoothing adds more weight on more recent events. The expected workforce growth lies between 2.7 per cent and 3.1 per cent per annum. We thereby assume a muted workforce growth, with market saturation increasing due to the past extended growth of the workforce. This may underestimate workforce growth.
- We estimate adjusted demand based on extrapolated observed demand and estimate future workforce growth; we thus are providing a lower ceiling estimate.
- We assume that our elasticities remain constant over time, over the next five years and retain cumulative properties in their impact on claims.

Appendix I Alternative scenarios of demand

Our regression analyses for both the intensive margins of demand allow us to isolate the effects of individual determinants of demand. For example, we can estimate the contribution of ethnic group or deprivation to ACC physiotherapy demand while controlling for other factors that might otherwise bias these estimates, such as injury severity, age, gender, provider practice behaviours, seasonal or annual trends and shocks, and regional, rural, or urban differences in service provision or access.

As a recap of our findings:

- For both lodged claims and the number of therapy sessions, more deprived people are less likely to use and access services
- Likewise, compared to Europeans all other ethnicities are less likely to use and access services

We can leverage our regression analyses to estimate how claims and the number of sessions would have looked between 2021 and 2024 if populations had the same access to services as the least deprived, medium deprived, Europeans, or combinations of these groups. This approach relies on the assumption that the observed discrepancies primarily reflect differences in service access rather than underlying population need.

Table 32 below presents the three demand scenarios we estimate for both the number of claims and the number of treatment sessions provided between 2021 and 2024.

Table 32: Alternative scenarios of demand

Scenarios – similar access as	Consideration
1: Europeans	Strong assumption as potential overuse from Europeans; lifts all non-Europeans to the same levels of demand (i.e. claims and therapy sessions) as Europeans.
2: least deprived in society (decile 1)	Strong assumption as potential overuse from least deprived; lifts all living in more deprivation compared to least deprived (deciles 2-10) to the same levels of demand as the least deprived.
3: medium deprivation (decile 6)	Could be more realistic; shift in distribution from least to more deprived (i.e. redistribution); Reduces demand among less deprived (deciles 1-5) and increases demand among more deprived (deciles 7-10).

Estimation approach

For the modelling, we adjust key variables using our regression estimates. In Scenario 1 (Europeans), for example, all individuals are assigned as European, and the regression outputs are used to predict claims and treatment sessions. This raises predicted demand for all groups except Europeans, whose levels remain unchanged. We then present the relative change compared with observed demand.

Strong variations in demand for claims dependent on scenario

Table 33 below present findings from our analysis modelling the three scenarios for the number of claims. Scenarios simulating comparable population-wide access as least deprived and European populations show substantial potential increases in physiotherapy demand compared to observed demand. The scenario reflecting moderate deprivation (Decile 6) predicts reductions compared to current demand levels.

Table 33 Modelled scenarios of demand for claims compared to observed demand for claims

Scenario	2021	2022	2023	2024
1: European	11.96%	12.33%	12.01%	14.46%
2: Least deprived	11.95%	11.80%	11.36%	12.95%
3: Medium deprived	-1.23%	-1.28%	-1.27%	-1.49%

Note: Based on Sapere calculations using ACC claims data 2021-2024

Only subtle variations are observed for therapy sessions

Table 34 below presents findings from our modelling of the three scenarios for the number of sessions per claim. The variation is significantly lower compared to the scenario modelling of claims. Scenarios simulating comparable population-wide access to physiotherapy sessions as among least deprived and European populations show moderate increases in utilisation relative to observed levels. The scenario reflecting moderate deprivation (Decile 6) shows little to no change, indicating alignment with current service use patterns from redistribution.

Table 34: Modelled scenarios of demand for therapy sessions compared to observed demand of therapy sessions

Scenario	2021	2022	2023	2024
1: European	2.30%	2.49%	2.66%	3.49%
2: Least deprived	2.60%	2.67%	2.84%	3.55%
3: Medium deprived	0.04%	0.04%	0.03%	0.04%

Note: Based on Sapere calculations using ACC claims data 2021-2024

Appendix J Cost modelling

This section provides an overview of the detailed bottom-up cost model that we have provided as a separate output. The cost model provides an estimate of the cost of providing an hour of consultation/treatment and has been validated using co-payment data from a survey of practices.

Purpose

> The bottom-up cost model is a deliverable of the project and requires that (from CSO):
>
> The Provider shall develop a transparent and auditable cost model capturing operational costs across different physiotherapy business types (e.g., urban vs rural, mono- vs multi-disciplinary).
>
> The model must include analysis of wage structures, staff utilisation (billable vs non-billable time), leases, equipment, compliance obligations, and other business expenses.
>
> The cost model must:
>
> - Allow sensitivity analysis of key cost drivers;
> - Enable scenario testing for pricing strategies and funding models;
> - Reflect regulatory and compliance burdens under the Allied Health Services Contract.
>
> Data must be collected directly from a representative sample of providers, with clear documentation of methodology and any data limitations.

Method

We undertook a series of interviews with physiotherapy practices. During these interviews we discussed how the practice operated and identified the resources that were required to support physiotherapists in their provision of services. We were particularly interested in the utilisation rates (of available hours, how many were filled with paid consults) of physiotherapists according to their level of experience (from graduate through to a physiotherapist with several years of work experience).

We obtained from each practice three pieces of information that were of central importance:

- Recent practice financials (going back three years if possible)
- A count of staff full time equivalent (FTE) by role and noted hours of work performed by business owners throughout a normal week
- Utilisation measures (how many paid consultations undertaken as a proportion of total hours available).

We then built up a model detailing the costs of providing an hour's worth of consultations. By comparing this number to the ACC payments we were able to work out the required copayment for a practice to break even on an hour's consultation. We then compared the actual copayments that are levied to test that the model was providing results that matched the experiences of actual practices.

Building blocks

The model is centred around the costs of employing a physiotherapist for an hour. There are several variables that can be modified throughout the analysis which we will detail as we go through.

Non-staff expenses

The first step was to gather accounts information for each practice we visited. We then broke the information into the following categories:

- Rent/lease repairs and maintenance [12]
- Power
- Insurance
- Subscriptions
- Compliance (including accounting, legal, accreditation)
- IT and communication, banking (including computers, software, internet, banking fees, telephone and tolls)
- Consumables
- Advertising
- Staff training courses
- Other (including an interest allowance for maintaining working capital)

We stripped out from these figures any travel (except for staff courses), and interest and tax. We included depreciation where it was linked to essential equipment (e.g. beds and fit out).

FTE count and non-staff costs per physiotherapist

The next step was to divide the numbers by the number of full time equivalent (FTE) physiotherapists employed at each practice to place each practice on the same basis.

The results for this exercise (including the range of results) and the cost driver we have assumed are:

Table 35: Cost categories and cost drivers

Category	Lower quartile	Median	Upper quartile	Cost driver
Rent/lease/repairs and maintenance	$11,635	$12,956	$16,498	Space requirement
Power	$525	$598	$747	Space requirement
Insurance	$787	$1,106	$1,575	Full time physio
Subscriptions	$1,314	$2,159	$2,940	Full time physio

[12] Noting that if the premises were owned by the practice, we factored in a market rent.

Category	Lower quartile	Median	Upper quartile	Cost driver
Compliance (accounting, legal, accreditation)	$744	$1,558	$2,319	Full time physio
IT and communication (per physio)	$2,023	$3,162	$3,770	Physio headcount
IT and communication (per admin)	$506	$791	$942	Admin headcount
Consumables	$448	$700	$834	Full time physio
Advertising	$671	$883	$1,751	Full time physio
Staff training courses	$552	$705	$1,457	Physio headcount
Other (includes interest costs)	$3,896	$4,803	$6,128	Full time physio
Capital items	$2,164	$2,981	$3,857	Space requirement
Total	**$25,266**	**$32,401**	**$42,818**	

Explanation for cost drivers:

Space requirement: a calculation of how many treatment rooms are required depending on the number of physiotherapists are employed. A single physiotherapist practice will have one room for one physiotherapist, whereas a larger practice will be able to use space more efficiently.

- Full time physio: The FTE calculation of physiotherapists.
- Physio/admin headcount: the number of people employed (e.g. two half-time physios would represent one FTE physio, but a headcount of two).

All the costs are scalable. We had wondered if there would be a fixed cost component, but this was not to be the case.

Staff costs

The next step is to calculate the staff costs. For our analysis, we consider four principal types of participants:

1. Owners/managers – these are the participants who run the practice and conduct supervision. In a smaller practice this role will be undertaken by a physiotherapist who has a high number of billable hours

2. Experienced physiotherapists – these are employees or contractors with at least two years' experience who require limited supervision

3. Graduate physiotherapists – employees who require more significant supervision

4. Administration/reception – employees, allocated on a ratio of 1 per 4 FTE physiotherapists.

We note that this list does not account for much larger practices where other positions in specialties such as human resources, accounting, team leaders, business development, compliance and others. In smaller practices, these functions are performed either by the business owner or manager or are outsourced. We assume that larger practices may obtain economies of scale through in- housing those functions, but it is not necessary to get into the details.

There is an important note to be made on profit. Feedback from our practice visits shows that that practices have very few assets: the premises are mostly leased, and the main capital items are IT equipment, treatment beds, and fit out. The value of the business lies partly in these assets but almost entirely in the skills and experience of the business owner. The model is easily replicable and the value of a business when sold will mostly be attributed in securing the services of the owner for a period of time after the ownership changes. For these reasons we have not modelled a "profit" but have instead expressed this notion within the take-home earnings of the business owner. These earnings increase as the owner takes on increasing management and supervision functions (instead of delivering services). These supervision functions have been valued at the opportunity cost of the owner delivering those services directly, i.e. at the combined value of the ACC payment and the copayment. Thus owners do achieve an income that matches the complexity of running a business. These earnings are not inconsistent with other business owners.

Utilisation

Utilisation is the key variable for deriving the costs of delivering appointments. Low utilisation (or fewer billable hours) means that the costs of delivering appointments are allocated to fewer hours and the cost of an individual appointment is higher. Utilisation can be managed by addressing the reasons for late cancellations and finding ways to automate administration processes. Low utilisation can also be mitigated from a financial point of view by charging cancellation fees. Our model allows for varying utilisation (which, it should be noted is lower for graduates than for experienced physiotherapists).

Results are presented in the standalone cost model

The cost model provides ranges for discrete cost areas and for different types of practices.

Appendix K Practice survey results: workforce

This appendix sets out practice survey results related to physiotherapist recruitment and retention.

Distribution of physiotherapist experience in practices

According to our survey results, the distribution of physiotherapist workforce experience in private practice trends towards more senior physiotherapists.

Senior physiotherapists (8+ years of experience) make up 59 per cent of the workforce in the 346 businesses who provided experience information. Intermediate physiotherapists (4 to 7 years of experience) make up 23 per cent of the workforce and graduate / junior physiotherapists (up to 3 years of experience) make up the remaining 19 per cent.

The ratio of senior to junior physiotherapists decreases with practice size (Table 7). Only 5 per cent of sole traders are junior physiotherapists. We would expect a high proportion of sole traders to be senior physiotherapists because they are more likely to have accumulated the clinical skills needed to run a practice on their own.

The ratio of senior to junior physiotherapists is much lower in small (3.3 seniors for every junior), medium (2.8 seniors for every junior), and large (1.9 seniors for every junior) practices. Larger practices tend to employ a higher proportion of junior and intermediate physiotherapists, suggesting a reduced reliance on senior staff as practice size grows.

Table 36: Physiotherapist experience by practice size

Practice size	Graduate / Junior (%)	Intermediate (%)	Senior (%)	Senior to junior ratio
Sole Trader	5%	7%	89%	19.5
Small (2-5)	20%	15%	65%	3.3
Medium (6-15)	20%	25%	56%	2.8
Large (16+)	23%	34%	43%	1.9

Source: Sapere analysis of online practice survey

High turnover in physiotherapy staff is common

Slightly over 51 per cent of the 189 practices who responded to the survey and employ more than one physiotherapist had a physiotherapist leave the practice in the last 12 months.

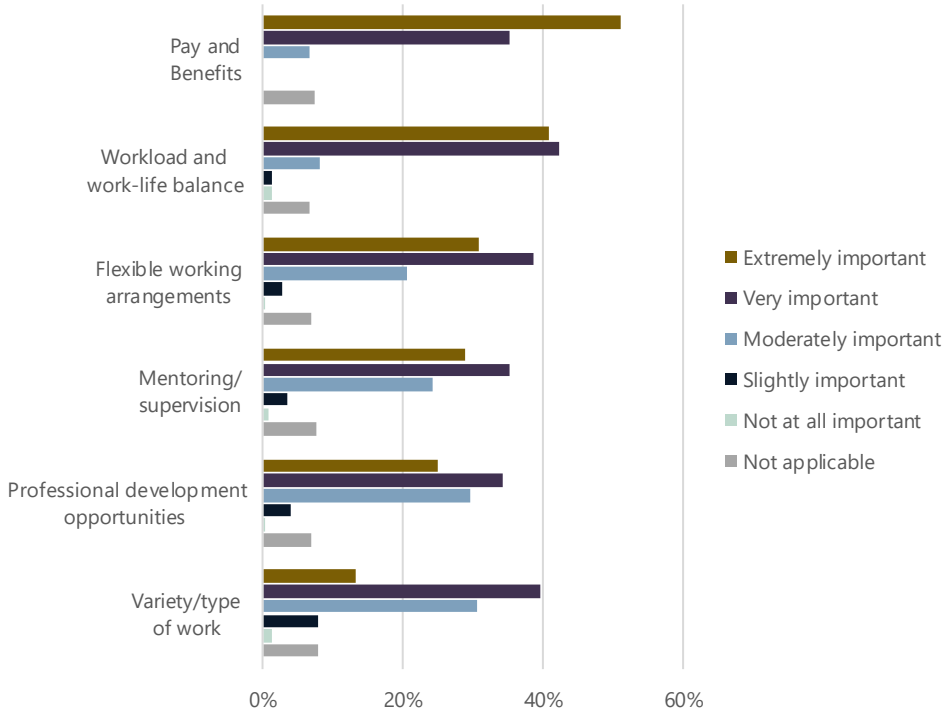
We asked survey respondents to rank how important they believe a list of factors are to encourage physiotherapists to stay at their practice (Figure 54). The factors were identified from practice visits.

Unsurprisingly, pay and benefits was considered by respondents as the most important factor to encourage retention, with 86 per cent of respondents rating this factor as very important (35 per cent) or extremely important (51 per cent).

The second most important factor was workload and work-life balance, with 83 per cent of respondents ranking this factor as very important or extremely important, followed by flexible working arrangements (69 percent). These findings indicate a reasonable workload with a work-life balance and potential to work flexibly are important to retaining physiotherapists.

Mentoring/supervision, and professional development opportunities were also ranked as important, though to a lesser extent. Variety and type of work was ranked as less important with only 13 per cent of respondents believing it is extremely important.

Figure 54: Importance of factors encouraging physiotherapists to stay with their practice, as ranked by survey respondents



Source: Sapere analysis of online practice survey results (n=262)

Recruiting physiotherapists is easier in urban centres

Practices in rural and regional settings reported struggling to attract new staff. In our survey, rural businesses reported taking almost twice as long, on average, to recruit physiotherapists compared to businesses operating in large cities and metropolitan areas (Table 37).

In a question about how long it takes to recruit, several practices reported finding it incredibly difficult to recruit staff to their rural practice.

Table 37: Average time in months to recruit a physiotherapist by practice setting

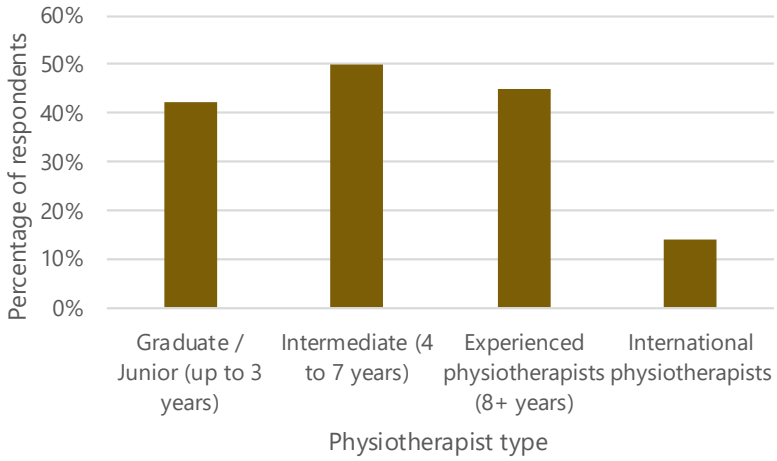
Practice setting	Months (average)
Urban (large city, metropolitan area)	5.5
Provincial town / small city	8.7

Practice setting	Months (average)
Rural / remote	10.2

Source: Sapere analysis of online practice survey results (n=132)

Figure 55 shows that survey respondents recruit physiotherapists across all experience levels roughly evenly, with a slight preference for intermediate physiotherapists (50 per cent). This is followed by experienced physiotherapists (45 per cent) and graduate or junior physiotherapists (42 per cent). Several respondents noted they will recruit any physiotherapist who fits their practice. Only 14 per cent of respondents reported recruiting physiotherapists from overseas.

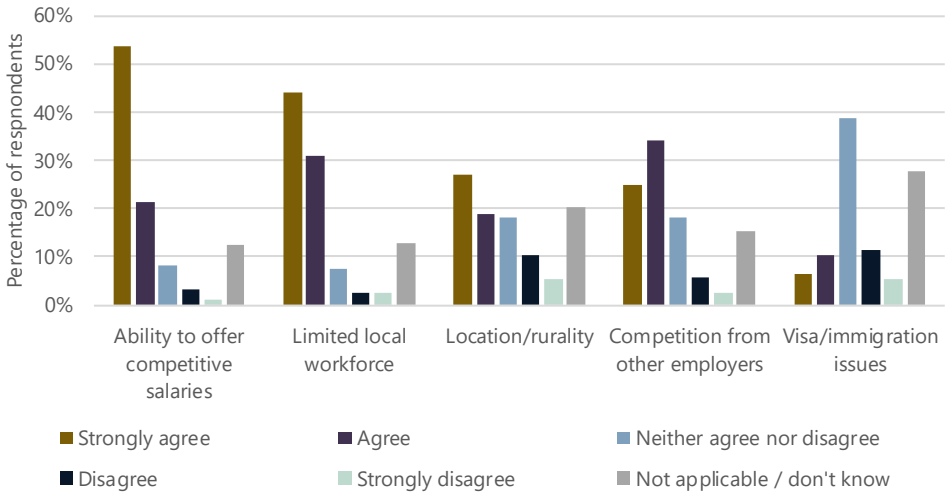
Figure 55: Type of physiotherapist typically recruited by survey respondents.



Source: Sapere analysis of online practice survey results (n=238)

Figure 56 presents responses to the survey question asking practices to indicate their level of agreement with factors contributing to recruitment challenges. We identified these factors during our practice visits.

Figure 56: Distribution of agreement levels across factors contributing to physiotherapist recruitment challenges



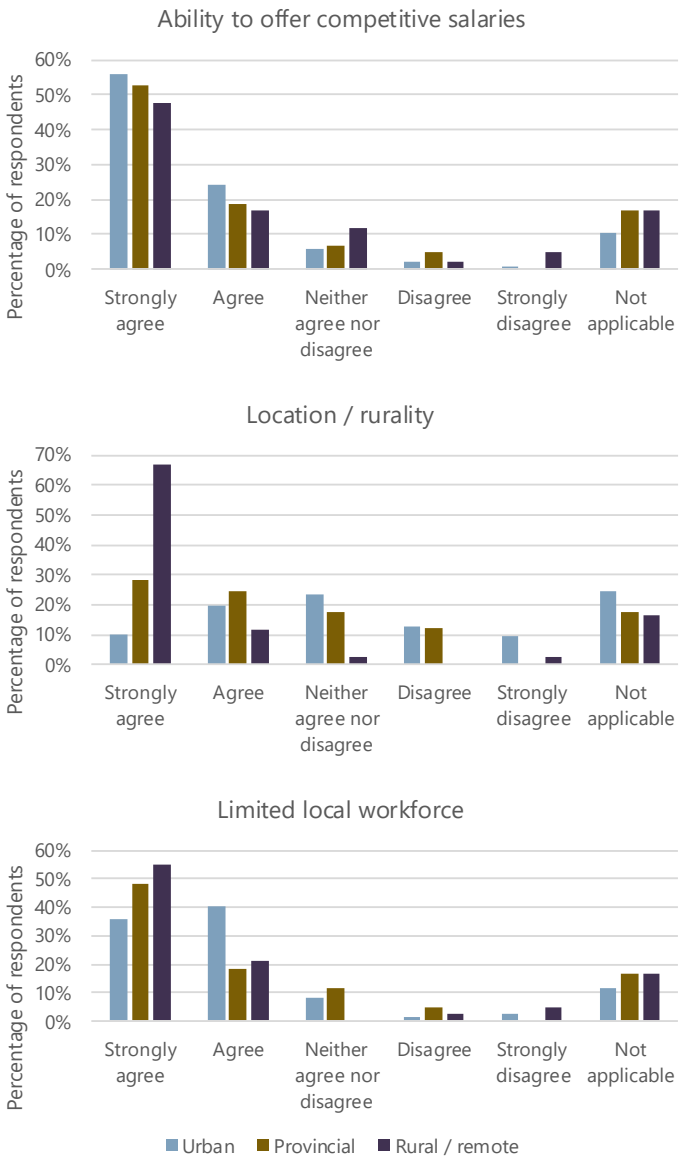
Source: Sapere analysis of online practice survey results (n=258)

Salary constraints and limited local workforce were highlighted as the dominant recruitment challenges. Similarly to factors affecting retention, the ability to offer competitive salaries stands out as the most significant barrier to recruitment, with over half of respondents (54 per cent) strongly agreeing and another 21 per cent agreeing.

Limited local workforce is the next biggest recruitment challenge, with 44 per cent of respondents strongly agreeing and another 31 per cent agreeing. Practice location / rurality and competition from other employers were notable issues with nearly half of respondents agreeing (19 per cent) or strongly agreeing (27 per cent) that they make recruitment difficult. Visa and immigration issues appear less of a factor.

Agreement differs depending on where the practice is located (Figure 57).

Figure 57: Distribution of agreement levels across factors contributing to physiotherapist recruitment challenges by practice location



Source: Sapere analysis of online practice survey results (n=258)

Appendix L Summary of physiotherapy commissioning models in targeted jurisdictions

Below we provide a summary of the physiotherapy commissioning models in targeted jurisdictions based on our literature scan and interviews. While we try to focus on the most analogous examples where possible, it is important to note when considering the detail below that:

1. the context and systems are different for the commissioning approaches overseas, and
2. some of the research and examples we reference are not accident specific. A number relate to operation in a wider health context and more acute cases rather than the subset of accident-specific cases we are focusing on in this project.

Australia

Australia's health system features a complex mix of public and private funding, creating a fragmented landscape for physiotherapy commissioning and service delivery (Speerin et al., 2020). Physiotherapists operate under various public insurance schemes like Medicare, the National Disability Insurance Scheme (NDIS), and state-based compensable schemes, as well as through private health insurance (PHI) (Australian Physiotherapy Association, 2021; Carr et al., 2017). Further detail on Australia and professional indemnity is included at the end of this appendix; key elements of note include examples of:

- price limits
- caps of claimable travel time
- calls to allow for the ability to directly refer to medical specialists and request imaging
- some insurers initiating pilot programmes offering prevention services.

Our discussions highlighted the variation in coverage, access, and length of engagement depending on the application scheme. The GLA:D programme originally developed in Denmark also had some application in Australia for osteoarthritis. [13]

Workers' compensation

Physiotherapy is routinely covered under Australian workers' compensation schemes when it is clinically justified and contributed to recover from a work-related injury:

- WorkSafe Victoria pays reasonable costs for physiotherapy services if they promote rehabilitation and functional improvement, including group and restricted consultation for complex cases such as spinal injuries or amputations (WorkSafe Victoria, 2025)

[13] See: https://gladaustralia.com.au/

- Workers' compensation in NSW is regulated by the State Insurance Regulatory Authority, who have outlined the maximum payable fees for physiotherapists, chiropractors and osteopathists, effectively paying for medical treatments for work related injuries for by these professions (Workers Compensation (Physiotherapy, Chiropractic and Osteopathy Fees) Order 2020, No.3, 2020). *icare* can also cover reasonable and necessary [14] rehabilitation costs for severe injuries at work in NSW, including for physiotherapy and occupational therapy (icare, n.d.-b).
- Queensland mandates work-related accident insurance through WorkCover, which can cover physiotherapy as an intervention. The maximum fees covered vary by the type of consultation (WorkCover Queensland, 2024).

Road accident insurance

- Physiotherapy treatment is covered for injuries cause by a motor-vehicle accident under compulsory third-party (CTP) insurance in New South Wales. If the injured party is at-fault, however, then they are only entitled to early intervention and statutory benefits, unless they have more severe injuries (State Insurance Regulatory Authority, 2025). Severe injuries involving motor vehicles can also be covered by icare (n.d.).
- The Transport Accident Commission (TAC) is the statutory insurer of third-party personal liability for road accidents in Victoria, and they are able to help pay for physiotherapy treatment in the first 90 days after an accident (TAC, n.d.).
- Similar provisions exist in other states, for example, Queensland's CTP insurers routinely fund physiotherapy for rehabilitation and pain management. This is regulated by the Motor Accident Insurance Commission (MAIC, 2024).

Sporting and Recreational injuries

- *icare* provides benefits for people who are seriously injured playing sport. Sporting organisations and schools may be eligible for this scheme which provides financial benefits under the Sporting Injuries Scheme and the Supplementary Sporting Injuries Benefits Scheme (benefits paid are not specific to physiotherapy rehabilitation) (icare, 2024).

United Kingdom

In the UK, the National Health Service (NHS) is the dominant public funder and commissioner of health services, including physiotherapy. Commissioning is largely handled by Clinical Commissioning Groups (CCGs) in England, which are responsible for planning and purchasing services for their local populations (NHS England, 2016).

Key aspects of the UK's insurance and commissioning models for physiotherapy include:

- **Commissioning by CCGs:** CCGs commission a wide range of community services, including physiotherapy, often through ***block contracts*** that provide a ***fixed-sum annual payment*** to a provider for a range of services (NHS England, 2016). This model can lack incentives for

[14] Reasonable and necessary are defined in the Lifetime Care and Support Guidelines (icare, n.d.-a)

providers to ensure quality, as payment generally does not vary with activity levels or performance (ibid.).

- **Integrated Care Models:** There is a trend towards commissioning ***integrated care pathways*** that bring different providers (primary care, community services, hospitals) together under 'prime' or 'alliance' contracts to improve coordination for patients, particularly those with complex needs (NHS England, 2016).
- **First Contact Physiotherapy (FCP):** Physiotherapists are the first point of contact for patients with ***musculoskeletal*** conditions in primary care settings, without needing a GP referral (Australian Physiotherapy Association, 2021; NHS England, n.d.-a). FCP roles created from March 2019 are funded by the Additional Roles Reimbursement Scheme (ARRS). Through ARRS, ***NHS England reimburses employment on-costs, and 70 per cent of ongoing salary costs*** (NHS England, n.d.-b).

As discussed below, our discussions highlighted:

- Positive examples: targeted programmes; research on intervention practices and effectiveness; educational material and online triaging tools; and integrated services as well as enabling prescribing and referrals
- Potential issues: coverage/access (with many private parties capping rates/providers), quality of services (with caps leading to shorter sessions), consistency of practices and knowledge of models, changing requirements and the need for signoffs to undertake the same functions in different setting.

Canada

Physiotherapy is funded through a mix of public and private insurance, with significant variations across provinces and territories (Canadian Physiotherapy Association, 2024; Cumming, 2016). Public funding for outpatient physiotherapy has been curtailed in several jurisdictions, impacting access and equity (Crawford et al., 2022).

Public funding and commissioning

Canada does not have widespread government-led health commissioning for physiotherapy outside of specific programmes (Boer et al., 2025). Public health insurance systems generally do not mandate coverage for community-based physiotherapy beyond inpatient care (Crawford et al., 2022).

Private health insurance

A substantial portion of physiotherapy services is funded through private sources including out-of-pocket payments and private/extended health benefits plans (Crawford et al., 2022). However, these plans may not cover all physiotherapy services that are within the profession's scope of practice, creating barriers to care (Canadian Physiotherapy Association, 2024). Some examples include funding systems and insurance policies through extended health benefits plans that ***do not subsidise or cover certain physiotherapy services*** that are within scope as per legislation, or workplace policies that constrain practice (ibid.).

Direct access

Physiotherapists in all Canadian jurisdictions are regulated as direct access or 'first contact' professionals, where a physician (general practitioner) referral is not required to see them (Canadian Physiotherapy Association, 2024). However, some third-party payers, such as insurance companies, may still require a physician's referral for reimbursement, creating a financial barrier to direct access for patients (Canadian Physiotherapy Association, 2024).

Pathways for specific conditions

The use of specific, structured models of care is an increasingly common approach in several jurisdictions as a way to implement evidence-based, high-value care (e.g., Speerin et al., 2020a). A review of literature has demonstrated the following examples:

- **The GLA:D programme**: has been implemented in multiple countries, including Denmark, Canada, China and Australia, demonstrating cross-jurisdictional adoption of a specific model for osteoarthritis (Speerin et al., 2020).
- **UK 'First Contact Practitioner' (FCP) Model:** the FCP model is an innovation where physiotherapists work directly within the General Practice to treat patients with musculoskeletal problems as the first point of contact (Australian Physiotherapy Association, 2021). Funded trials have shown that this approach *helps patients* and *avoids hospital admissions and costly surgery* for conditions like arthritis and back pain (Australian Physiotherapy Association, 2021). This model is supported by the British Medical Association and is also used in Canada with similar success (ibid.). NHS England has published detailed implementation guides for FCP services, indicating a structured, nationwide approach (NHS England, n.d.-b).
- **Australian Models of Care:** The Austrian Physiotherapy Association has advocated for similar models to the FCP mode, and point to existing advanced physiotherapy models in Australian hospitals (e.g., in emergency rooms and orthopaedic screening clinics) that streamline care for specific patient groups (e.g., musculoskeletal conditions) (Department of Health, Disability and Ageing, 2025).
- **Mobility Action Programme (MAP) in NZ:** New Zealand has trialled the MAP, which uses targeted interventions from allied health specialists, including physiotherapists, to improve outcomes for people with musculoskeletal conditions (NZIER, 2020).
- **Commissioning in the UK:** Clinical Commissioning Groups (CCGs) are increasingly moving towards commissioning specific pathway of care for certain populations, such as older people, using contracting models that bring different providers together to achieve defined patient outcomes (Monitor, 2015).

Financial sustainability

Evidence on financial sustainability for specific implementation models are mixed. The commissioning models highlight challenges experienced in relation to financial sustainability that can be grouped into three primary categories:

1. Funding model inflexibility and misalignment
2. Cost/price discrepancy and administrative burden
3. Demographic and condition-specific funding gaps.

On the other hand, some sources state that through some pathways, the models are not only financially sustainable but often result in significant cost savings for the broader health system by reducing more expensive downstream costs and reducing the burden of disease.

Challenges to financial sustainability

Funding model inflexibility and misalignment

These challenges relate to how health services are structured and paid for, where the payment mechanism itself can contradict the goals of implementing effective, evidence-based care models (models of care). These are outlined in more detail in Table 38.

Table 38: Funding model inflexibility and misalignment challenges

Challenge area	Details and impact
Dominance of block contracts	Most MSK services in the UK are funded under block contracts with fixed-sum payments that do not vary by activity or quality (Monitor, 2015; Walker et al., 2021). The structure provides little incentive to understand the cost of specific services or for commissioners to assess value for money (Monitor, 2015).
Impacting evidence-based care	Fixed contracts cannot respond to fluctuations in demand, such as those caused by implementing a successful new intervention (Igwesi-Chidobe et al., 2021). Implementing intensive, evidence-based programmes (like ESCAPE-pain [15]) is particularly challenging because the fixed budget often does not cover the associated activities or session frequency (e.g., the standard duration of the ESCAPE-pain programme is 12 sessions over 6 weeks).
Prioritising activity over outcomes	Commissioners are often perceived as focusing on short-term savings and activity-based performance (e.g., maximising initial contacts) rather than clinical outcomes (Walker et al., 2021). This could discourage investments that require greater upfront costs but yield long-term, system-wide benefits.
Primary Health Network (PHN) funding constraints	In Australia and New Zealand, PHNs and Whānau Ora Commissioning Agencies have a limited pool of flexible funding, constraining their ability to respond to local needs through innovative models (Boer et al., 2025). Most PHN funding is allocated to operational requirements or specific programmes, creating inflexibility (ibid).
Short-Term Contracts	Providers, especially those serving Indigenous populations in Australia and New Zealand are often reliant on multiple short-term contracts (Boer et al., 2025). This can create uncertainty, add high transaction costs, and limit the ability to retain a stable workforce or plan long-term service continuity (ibid).

[15] ESCAPE-pain is a group rehabilitation programme for people with chronic joint pain that integrates educational self-management and coping strategies with an exercise regimen individualised for each participant.

Cost/price discrepancy and administrative burden

These issues arise when fixed pricing mechanisms fail to cover the true cost of service delivery, or when non-clinical overheads (like administration and compliance) consume excessive resources, particularly affecting workforce stability. These are outlined in more detail in Table 39.

Table 39: Cost/price discrepancy and administrative burden challenges

Challenge area	Details and impact
Uncompetitive NDIS Price limits	National Disability Insurance Scheme (NDIS) price limits are reported to hinder the recruitment and retention of staff because they limit the ability of providers to offer salaries competitive with the broader private market (National Disability Insurance Scheme, 2023).
High administrative costs	Providers face high transaction and compliance costs related to NDIS registration, frequent audits, and detailed administrative tasks, which consume time that could otherwise be used providing clinical service (National Disability Insurance Scheme, 2023). This should be considered in the context of conclusions by (Nozedar & O'Shea, 2023) that "Non-clinical hours have a direct impact on burnout and every effort is needed by employers to increase non-clinical time". Services in regional and remote areas, including for First Nations health providers, face higher transaction costs due to factors like managing multiple contracts and geographical barriers (Boer et al., 2025).
Lack of pricing differentiation	The NDIS applies limited differentiation in pricing across various therapy types, often setting them at the same hourly rate (National Disability Insurance Scheme, 2023). The approach is perceived to not reflect the specialised value or variable costs observed in the broader private health market (ibid.). In contrast, our discussions with the UK noted that the private insurers would recognise differences in costs of operating in different postcodes but not differences in experience or qualification of the physios themselves.
Inconsistent job evaluation	In the UK, inconsistent application of the Agenda for Change Job Evaluation scheme is perceived to lead to unequal pay across geographical areas or between settings (e.g., in FCP roles), which may hinder recruitment efforts (Chartered Society of Physiotherapy, n.d.-a).
Workforce progression barriers	Budget constraints are perceived to place downward pressure on job banding decisions for new roles, while structural issues in the NHS pay scale can disincentivise staff from taking on critical leadership roles (Chartered Society of Physiotherapy, n.d.-a).

Demographic and condition-specific funding gaps

These issues relate to where funding mechanisms fail to meet the specific or complex needs of vulnerable populations, such as those with chronic conditions or disabilities, leading to unsustainable service models. These are outlined in more detail in Table 40.

Table 40: Demographic and condition-specific funding gap challenges

Challenge area	Details and impact
Aged care funding restriction	Australia's residential aged care funding model is perceived to be severely restrictive, focussing on outdated, passive treatments and excluding evidence-based reablement, restorative care, and crucial services like fall prevention (Australian Physiotherapy Association, 2021, 2022c; Brett & Ilhan, 2022).
Funding embedded with outdated data	The replacement funding model, AN-ACC, aims for reablement but does not currently fund the Allied Health Professionals required to provide high-quality restorative care (Australian Physiotherapy Association, 2022c). There is concern that funding remains tied to outdated usage data rather than patient needs (ibid.).
Risk of cherry-picking	If commissioning shifts toward outcome-based or differentiated funding, there is a risk that providers may only treat "easy cases" where outcomes are more certain, thereby penalising participants with complex, degenerative, or challenging conditions (National Disability Insurance Scheme, 2023).
Exclusion of at-risk groups	Non-NDIS-eligible individuals who are still at risk of becoming eligible lack funded preventive models to support mobility and capacity (Australian Physiotherapy Association, 2022c).

Savings to broader health system

Reducing downstream costs through avoided surgery and hospital admissions

Reducing more expensive downstream interventions. For example, the UK's FCP model has been found to lead to fewer referrals to secondary care, reduced demand for orthopaedic surgery, and lower prescription costs (Australian Physiotherapy Association, 2021; Chartered Society of Physiotherapy, n.d.-b). One service evaluation in Scotland showed self-referral to physiotherapy was 25 per cent less expensive than traditional GP referral per episode (NHS England, 2016).

In Australia, it is estimated that as many as 80% of patients referred to orthopaedic outpatient services can be managed without surgery (Australian Physiotherapy Association, 2022b). Physiotherapy-led screening clinics provide a cost-effective option for these patients, with one analysis estimate an average net benefit of $9,798 per patient, while similarly, physiotherapy-led interventions to reduce emergency department readmissions for high-risk patients have an estimated net benefit of $24,028 per patient per month (Australian Physiotherapy Association, 2022b).

For certain conditions it may also be possible to reduce the burden of disease.

Recommendations for controlling costs

Methods for controlling costs centre on reforming financing models, leveraging prevention and optimising the healthcare workforce.

Reforming Funding and Payment Models

Our scan of the literature would tend to advise insurers move away from transaction-based payments to models that incentivise holistic value and outcomes, including:

- **Shift from volume to value:** shifting away from fee-for-service and activity-based funding, which rewards the volume of care delivered and incentivises over-servicing, towards models that reward value and outcomes (Australian Physiotherapy Association, 2022b; Department of Health, Disability and Ageing, 2025).
- **Implement alternative funding structures:** Where appropriate, placing bundled payments for episodes of care, capitation, blended funding, and pooled funding on their reform agenda (Australian Physiotherapy Association, 2021, 2022c; Department of Health, Disability and Ageing, 2025).
- **Focus on outcomes-based commissioning:** changing incentives for providers to focus more on achieving defined patient outcomes rather than measuring clinical activity or processes (Monitor, 2015; Walker et al., 2021).
- **Use benchmarking for fair pricing:** public schemes like the NDIS are advised to use comprehensive data (including rates from the Medicare Benefits Schedule and Private Health Insurance) to benchmark their regulated price limits (National Disability Insurance Scheme, 2025).
- **Having balanced and effective financial systems:** Eriksson (2023) show that the introduction of a Value-Based Reimbursement Programme (VBRP) must be supported by robust institutional structures to ensure financial incentives result in the intended behavioural changes. Transparency and coordination between clinicians are critical to avoid resistance against a VBRP.

We note that a critical enabler of these kinds of shifts is ensuring there is the data and research on which to base such shifts (which we pick up in our potential levers below).

Prioritising prevention and early intervention

The literature discusses long-term cost saving through shifting expenditure upstream to prevent the need for expensive secondary care, including:

- **Investing in prevention:** with suggestions that PHI reforms focus on prevention to strengthen product offerings, increase value, and address premium pricing pressures (Australian Physiotherapy Association, 2022b). Preventive exercise programmes have been shown to have a significant impact on reducing the need for downstream activities such as surgery (ibid.).
- **Funding physiotherapy as first-line care:** investing in proven, cost-effective physiotherapy interventions (such as for musculoskeletal conditions and chronic pain) which could reduce the need for secondary care, including hospital admissions, unnecessary surgery, and pharmaceutical spending (Australian Physiotherapy Association, 2022b, 2022c; Department of Health, Disability and Ageing, 2025).
- **Reduce hospitalisations:** insurers can broaden their roles to focus on chronic and complex disease management to reduce hospitalisations, which could save an estimated $1 billion across

both private and public hospital systems (Australian Physiotherapy Association, 2022b). Additionally, lifting restrictions on care to replace inpatient care with lower-cost out-of-hospital care can result in cost savings (ibid.).

Optimising workforce roles and referral pathways

The literature suggests Insurers could achieve cost savings by funding models that ensure patients access the most appropriate, cost-effective clinician first:

- **First contact physiotherapy:** Publicly funded FCP in primary care (like the UK model) is recommended to improve efficiency to reduce GP workload, have fewer referrals to secondary care, and results in more efficient use of imaging and prescribing (Australian Physiotherapy Association, 2022b, 2022c; Chartered Society of Physiotherapy, n.d.-b; Department of Health, Disability and Ageing, 2025).
- **Grant direct referral and imaging rights:** Simple solutions like reforming the MBS to allow physiotherapists to directly *refer patients* to orthopaedic surgeons and *request digital imaging* are highlighted as fiscally responsible measures that cut red tape and optimise the patient journey (Australian Physiotherapy Association, 2022c; Department of Health, Disability and Ageing, 2025).
- **Incentivise advanced practice:** Reimbursement models should be adjusted to recognise advanced expertise (e.g., higher rebates for highly-qualified physiotherapists) to ensure specialist skills are utilised efficiently and effectively (Australian Physiotherapy Association, 2022b).

We also identified examples particularly in the UK where tools were used to stratify the highest risk patients and offer educational and self-help tools, with some evidence of small potential benefits in specific use cases (Kigozi et al., 2024; Stevenson et al., 2025). Examples include STarTBack (stratified care approach shown to decrease disability from back pain, reduce time off work and save money by making better use of health resources); JIGSAW-E used to support patients to self-manage osteoarthritis in the UK, Netherlands, Denmark, Portugal, and Norway; and the SelfBack app which asks a series of questions and then allows the app to create specific exercises and advice (Keele University, n.d.). as noted, potential benefits from these approaches/tools include patient outcomes, time at work, spending and efficient use of medical resources/prioritisation of efforts; while issues to consider include ensuring sufficient training, considerations around access to services, and coordination/sharing of information.

Specific pricing controls (NDIS model)

The Australian NDIS pricing review offers specific recommendations for regulating price limits to improve financial sustainability:

- **Adjust divergent prices:** Price limits should be incrementally lowered for supports (like physiotherapy, dietetics, and podiatry) where they significantly exceed prevailing market rates observed in MBS and PHI data (National Disability Insurance Scheme, 2025). Conversely, prices should be raised where they fall below market rates (e.g., psychology) (ibid.).

- **Restricting travel and administrative costs:** The claimable rate for the labour component of provider travel should be capped at a proportion of the hourly limit to align travel funding with cost and incentivise efficient scheduling (National Disability Insurance Scheme, 2025).

Implications of cost controls on access

The implications that the recommended cost controls have on access are varied, depending on whether the cost control measures facilitate a structural shift towards high-value care or simply implement punitive funding cuts.

Potential positive implications for access

Strategies focussed on optimising pathways and addressing system inefficiencies generally improve access:

- **Improved timeliness:** Models supporting Direct Access and FCP provider earlier access to effective services (Demont et al., 2022; Department of Health, Disability and Ageing, 2025; Speerin et al., 2020). This avoids delays in diagnosis and treatment that occur when patients must first see a GP due to cost barriers (Australian Physiotherapy Association, 2022c, 2022b).
- **Reduced financial barriers:** expanding public funding mechanisms, such as increasing rebated MBS items for allied health, helps to reduce high out-of-pocket fees that currently underpin low utilisation, particularly for rural and vulnerable groups (Australian Physiotherapy Association, 2022c).
- **Enhanced geographic access:** Innovative models using *telerehabilitation* strategies or *integrated care models* funded through PHNs can help bridge geographical access gaps and improve service availability in regional and remote areas (Australian Physiotherapy Association, 2022b; Boer et al., 2025; Igwesi-Chidobe et al., 2021).
- **Appropriateness of service delivery:** Expanded roles for physiotherapists ensure patients are quickly directed to the most clinically appropriate and cost-effective health care pathway, rather than defaulting to unnecessary imaging or medication (Australian Physiotherapy Association, 2022b).

Potential negative implications for access

Cost control measures may negatively impact access if poorly implemented or focused strictly on short-term savings:

- **Rationing of services:** when commissioning is rigid, such as the fixed block contracts in the UK, providers may be forced to ration the availability of intensive, evidence-based, high-value programmes (such as ESCAPE-pain) to meet contractual activity targets, potentially limiting access for eligible patients (Walker et al., 2021).
- **Threat to complex needs:** if cost savings and expenditure reduction are allowed to dominate policy, such as in uncapped schemes like the NDIS, supports perceived as too expensive or complex could be overlooked (Australian Physiotherapy Association, 2022b). The development of outcome-based funding models risk providers choosing to only treat "easy cases", penalising

participants with complex, degenerative, or challenging conditions (National Disability Insurance Scheme, 2023).

- **Equity gaps (under-explored dimensions):** The majority of studies evaluating new models focus heavily on cost and efficiency, leading to a notable lack of focus on affordability, approachability, and acceptability. The lack of evaluation means that the impact of interventions on known access inequities, such as financial or cultural barriers, is often unclear (Crawford et al., 2022).
- **Rural/remote disadvantages:** Removing regional or remote pricing premiums for services (like plan management) that are critical to supporting thin markets may compromise access, even if the removal is justified by the possibility of virtual delivery at scale (National Disability Insurance Scheme, 2025).
- **Workforce instability:** Price limits that are set too low or are uncompetitive can limit the ability of providers to offer attractive salaries, which in turn hinders the recruitment and retention of skilled staff, leading to waitlists and service gaps (National Disability Insurance Scheme, 2023).

Further information on arrangements in Australia

Public insurance and commissioning

- **Private Health Networks (PHNs):** PHNs are regional bodies funded by the Australian Government to commission primary healthcare services, including First Nations health, mental health, and population health (Boer et al., 2025).
- **National Disability Insurance Scheme (NDIS):** The NDIS is a major public insurance scheme that funds physiotherapy for eligible participants with disabilities.
    - The National Disability Insurance Agency (NDIA) sets price limits for therapy supports, including physiotherapy, which have not been indexed since July 2019 (National Disability Insurance Scheme, 2023). For the 2025-26 financial year, the NDIA has recommended a reduction in the national price limit for physiotherapists by $10 to $189.99 per hour, based on benchmarking on against other schemes like the Medicare Benefits Schedule and the PHI (National Disability Insurance Scheme, 2025).
    - The amount claimable for travel time for therapy supports is capped at 50 per cent of the applicable hourly price limit (National Disability Insurance Scheme, 2025).
- **Medicare Benefits Schedule (MBS):** Public funding for physiotherapy through Medicare is limited, with restricted access to a small number of item numbers for chronic disease, disability, aged care, and telehealth (Australian Physiotherapy Association, 2022b). The Australian Physiotherapy Association advocates for expanding MBS items to allow physiotherapists to directly refer patients to medical specialists and request imaging (Australian Physiotherapy Association, 2022c, 2022b).
- **State-Based Schemes:** Physiotherapists provide services under state-based schemes like workers' compensation and Compulsory Third Party (CTP) motor accident schemes (Australian Physiotherapy Association, 2022a, 2022b).

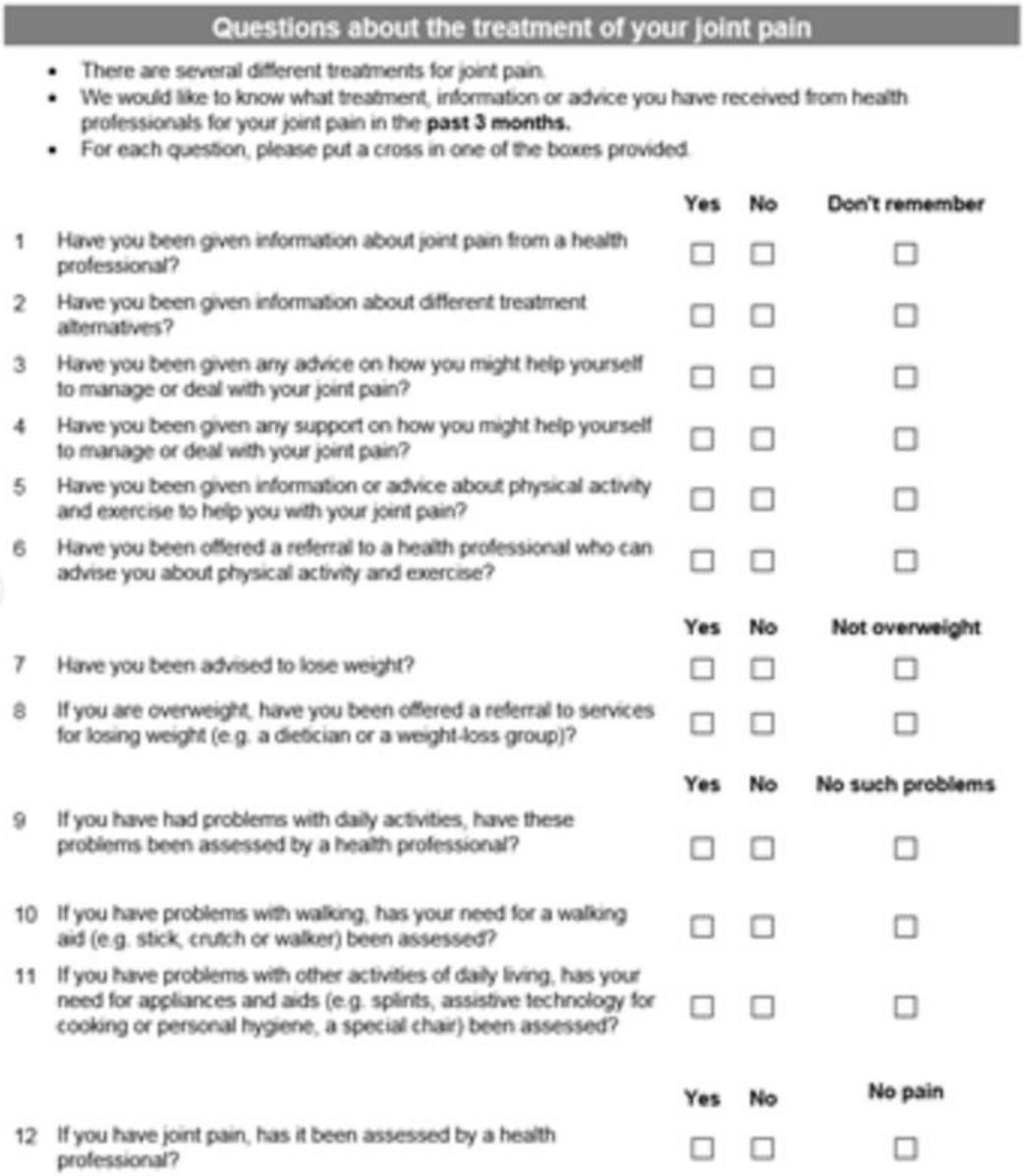
Private health insurance (PHI)

PHI plays a significant role with over 13.9 million Australians having general treatment coverage (Australian Physiotherapy Association, 2022b). The Australian Physiotherapist Association argues that PHI reform is needed to increase the value of physiotherapy by focusing on prevention, out-of-hospital services, and chronic disease management, which could reduce hospital admissions and unnecessary procedures (Australian Physiotherapy Association, 2022b). Currently, some insurers are initiating pilot programmes offering prevention services, but there is no consistent mechanism to ensure evidence-based preventive activities are widely available (Australian Physiotherapy Association, 2022b).

Appendix M Examples of risk-based triaging tools and educational/self-management tools

Questionnaires to determine risk for allocation of highest need

Figure 58: JIGSAW-E: supported self-management for joint pain



Questions about the treatment of your joint pain

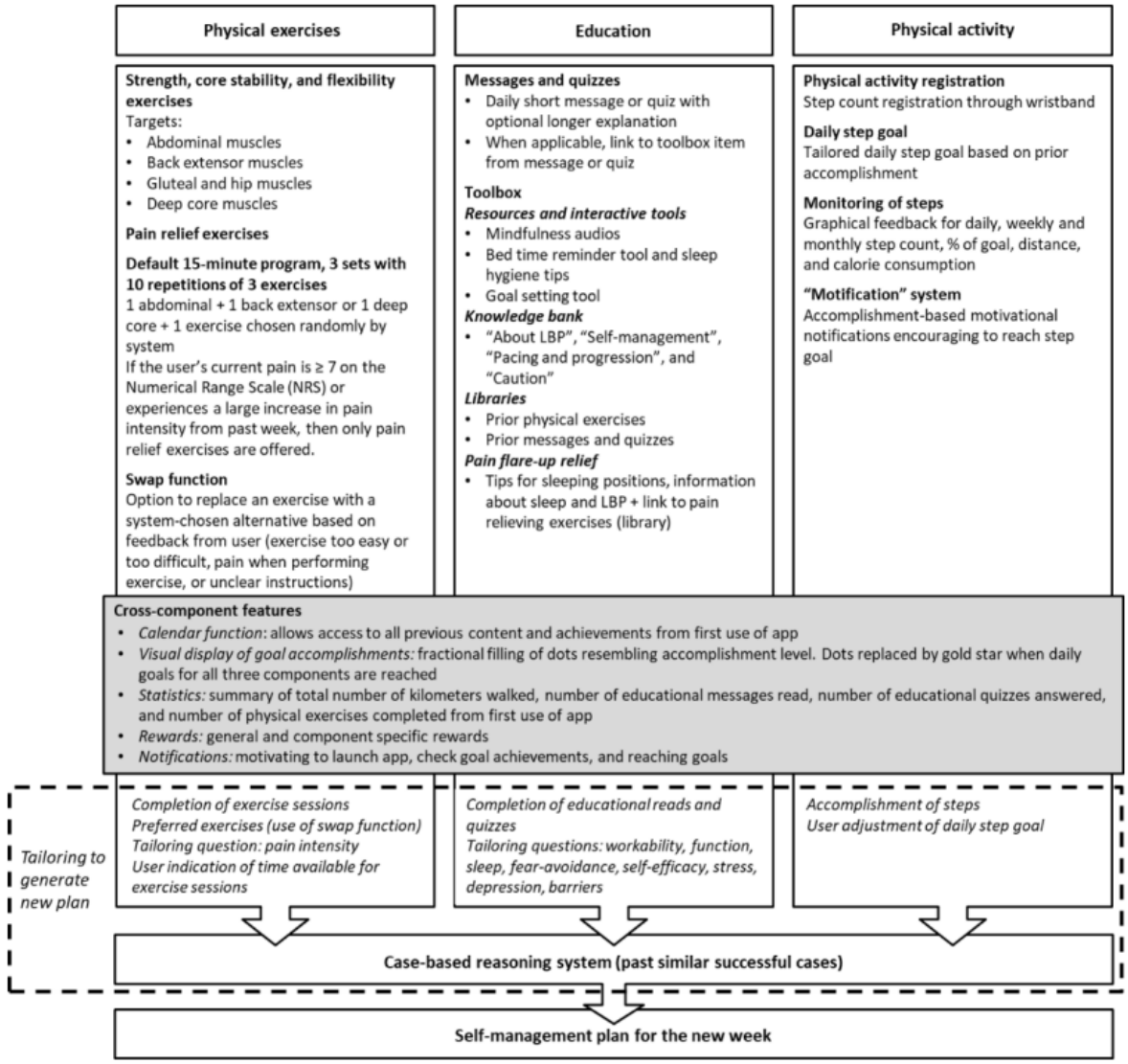
- There are several different treatments for joint pain.
- We would like to know what treatment, information or advice you have received from health professionals for your joint pain in the **past 3 months.**
- For each question, please put a cross in one of the boxes provided.

		Yes	No	Don't remember
1	Have you been given information about joint pain from a health professional?	☐	☐	☐
2	Have you been given information about different treatment alternatives?	☐	☐	☐
3	Have you been given any advice on how you might help yourself to manage or deal with your joint pain?	☐	☐	☐
4	Have you been given any support on how you might help yourself to manage or deal with your joint pain?	☐	☐	☐
5	Have you been given information or advice about physical activity and exercise to help you with your joint pain?	☐	☐	☐
6	Have you been offered a referral to a health professional who can advise you about physical activity and exercise?	☐	☐	☐
		Yes	**No**	**Not overweight**
7	Have you been advised to lose weight?	☐	☐	☐
8	If you are overweight, have you been offered a referral to services for losing weight (e.g. a dietician or a weight-loss group)?	☐	☐	☐
		Yes	**No**	**No such problems**
9	If you have had problems with daily activities, have these problems been assessed by a health professional?	☐	☐	☐
10	If you have problems with walking, has your need for a walking aid (e.g. stick, crutch or walker) been assessed?	☐	☐	☐
11	If you have problems with other activities of daily living, has your need for appliances and aids (e.g. splints, assistive technology for cooking or personal hygiene, a special chair) been assessed?	☐	☐	☐
		Yes	**No**	**No pain**
12	If you have joint pain, has it been assessed by a health professional?	☐	☐	☐

Source: https://jigsaw-e.com/delivery-toolkit/quality-indicator-questionnaires/

Intervention Logic

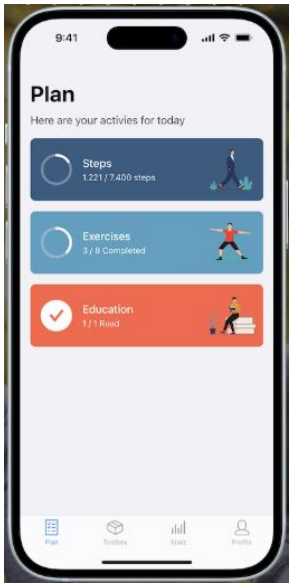
Figure 59: Outline of SelfBack intervention. Tailoring questions presented in (Sandal et al., 2019)



Source: (Svendsen et al., 2022). LBP: Low Back Pain

Self-management Apps

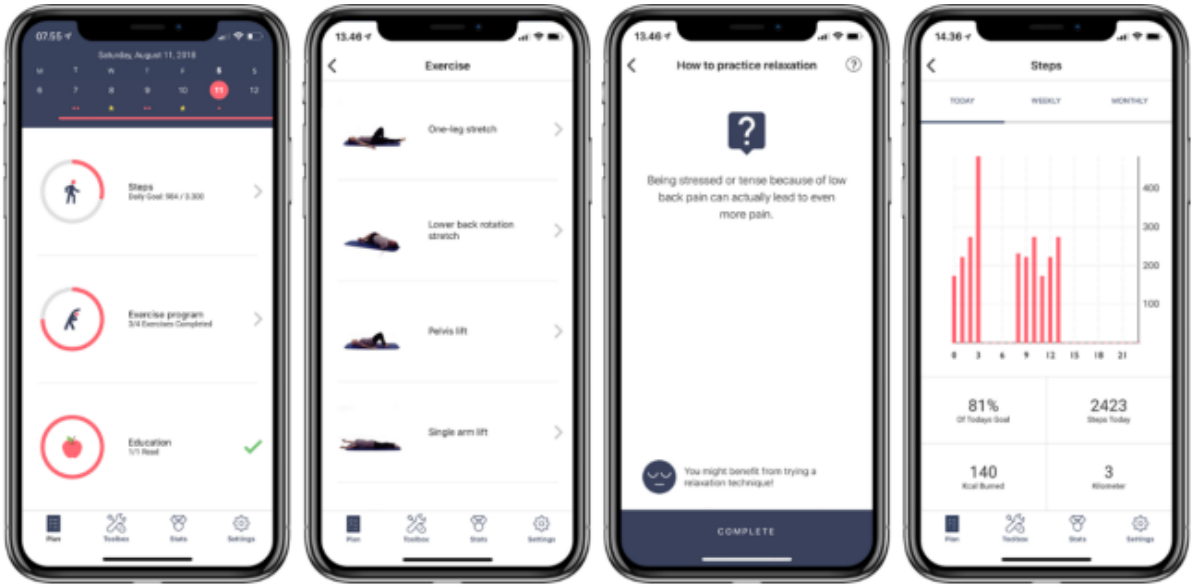
Figure 60: SelfBack App



Source: https://www.selfback.dk/en/home

Earlier versions also looked like below:

Figure 61: Screenshot of the SelfBack app: plan screen and a screen shot of the three main components of the self-management intervention: physical exercises, education, and physical activity



Source: (Svendsen et al., 2022)

The JIGSAW-E system also has patient information leaflets and guides and links to a pain management app, the Keel Pain Recorder.

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For more information, please contact:

Rebecca Rippon

Mobile: +64 21 938 314

Email: rrippon@thinkSapere.com

Wellington	Auckland	Melbourne	Sydney	Canberra	Perth	Brisbane
Level 9 1 Willeston Street PO Box 587 Wellington 6140	Level 20 151 Queen Street PO Box 2475 Shortland Street Auckland 1140	Level 11 80 Collins Street Melbourne VIC 3000	Level 18 135 King Street Sydney NSW 2000	GPO Box 252 Canberra City ACT 2601	PO Box 1210 Booragoon WA 6954	Level 18 324 Queen Street Brisbane QLD 4000
+64 4 915 7590	+64 9 909 5810	+61 3 9005 1454	+61 2 9234 0200	+61 2 6100 6363	+61 8 6186 1410	+61 7 2113 4080

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