Escalated Care Pathways: A Retrospective Review of Patient-specific Outcomes Following Anterior Cruciate Ligament Injury

Joel Collett *BHSc (Phty Hons)*
Sports & Spinal Physiotherapy, Auckland, New Zealand

Duncan Reid *(DHSc)*
Active Living and Rehabilitation Research Centre: Aotearoa New Zealand, Health and Rehabilitation Research Institute, School of Clinical Sciences, Auckland University of Technology, Auckland, New Zealand

Daniel Harvey *MHSc (Hons)*
Sports & Spinal Physiotherapy, Auckland, New Zealand

Geoff Potts *MHSc*
KneeCare, Auckland, New Zealand

ABSTRACT

Due to increasing rehabilitation costs associated with anterior cruciate ligament (ACL) injury, the Accident Compensation Corporation instigated an innovative pilot scheme, the escalated care pathway (ECP). Introduced in 2019, ECPs were designed to improve patient outcomes through timely assessment and interdisciplinary treatment. The aim of this study was to quantify patient-reported outcome measures, functional measures, and treatment volumes for patients enrolled in one of the ECP pilots following ACL injury. Data including the Knee Osteoarthritis Outcome Score (KOOS), limb symmetry index (LSI), demographic information, number of physiotherapy visits, and overall treatment duration were extracted from the Careway ECP database for patients who completed the programme between 2020 and 2023. Data from 750 patients, surgical (n = 332 (43%); M (SD) age 33.1 (13.1) years) and non-surgical (n = 418, (55.7%); M (SD) age of 35.8 (15.1) years), were analysed. Mean (SD) treatment duration was significantly longer in the surgical (317.2 (141.5) days) vs non-surgical group (285.8 (156.0) days) (p < 0.01). Surgical patients had more physiotherapy visits (25.4 (19.6) vs 13.2 (15.3), p < 0.01). The KOOS improved in both groups; however, the M (SD) change scores between groups (surgical (29.1 (20.0); non-surgical (25.8 (18.4)) were not statistically significant (p = 0.052). Mean (SD) LSI increased from baseline to exit from the programme (surgical 72.3 (26.8) to 100.8 (29.7); non-surgical 77.1 (36.3) to 104.7 (33.3)) (p = 0.055). These findings provide insight for physiotherapists managing ACL injury and demonstrate that surgical and non-surgical patients achieve positive outcomes through the ECP.

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Key Words: Anterior Cruciate Ligament, Patient-reported Outcome Measures, Physiotherapy, Surgery

INTRODUCTION

Injury to the anterior cruciate ligament (ACL) is common in younger populations and individuals participating in sport. ACL injuries in New Zealand account for 80% of knee ligament surgeries, with 65% originating from sporting activities and 35% from non-sport related events – the majority of ACL injuries occur in non-contact sporting situations (Gianotti et al., 2009). Additionally, the incidence rate of ACL reconstructions (ACLR) in New Zealand is increasing, with a 58% rise over the decade from 2005 to 2016, and an overall incidence rate of 58.2 people per 100,000 (Sutherland et al., 2019). The incidence is higher in males compared to females, with rates of 72.2 (61.6% of total incidence) and 44.9 (38.4% of total incidence) per 100,000, respectively. The highest occurrence is observed in males aged 20 to 24 years and females aged 15 to 19 years (Sutherland et al., 2019). However, the most significant incidence rate increase was 120% as observed in 15- to 19-year-old females (Sutherland et al., 2019).

The most common treatment pathways following ACL injury include surgical and non-surgical (e.g., physiotherapy) management. A Cochrane systematic review by Monk et al. (2016) demonstrated that there is no definitive answer to which of these options is more effective. This view is also supported by a more recent systematic review that reported no difference in the functional outcomes for surgery compared to conservative care for patients with an ACL rupture (Jia et al., 2024). The Accident Compensation Corporation (ACC) covers ACL surgery and physiotherapy costs under New Zealand's no-fault accident insurance scheme. Over $100 million is spent by ACC on physiotherapy services for all ACL injuries and $25 million is spent on ACL surgery costs each year (Fausett et al., 2019).

As a result of these increases in injury rates and associated cost, in 2019, ACC proposed a new way of working, the escalated care pathway (ECP). The aim of these pathways was to develop innovative changes to the current management of significant musculoskeletal conditions, in particular ACL

ruptures, rotator cuff tears, shoulder dislocations, and low back pain. The objective of the pilot ECP scheme was to better manage these conditions and improve four key areas of engagement with ACC: faster return to work, improved access for Māori and Pasifika, enhanced access to surgery, and more effective utilisation of rehabilitation for both surgical and non-surgical patients (Accident Compensation Corporation, 2020).

Careway (based in Auckland) was one of the five consortia offered a contract by ACC to develop the ECPs. Careway subsequently designed and implemented new care pathways for the aforementioned four body sites. These pathways were evidence-based and developed in collaboration with a team of clinical experts including orthopaedic surgeons, sports physicians, and physiotherapists. A key area of improvement was the requirement to measure patient-reported outcome measures (PROMS) and functional strength assessments, as well as improved access to vocational rehabilitation to support return to work. Regular strength assessment and documentation of condition-specific PROMS was not a requirement of the ACC service contract before the initiation of the ECP (Accident Compensation Corporation, 2009).

ECPs also differed from the current physiotherapy treatment under ACC regulations as they include stringent entry criteria for eligibility into the pathway and clinical exit criteria (Accident Compensation Corporation, 2020) (Table 1). This was accompanied by removal of the patient co-payment (that clinics may have charged in addition to the payment they received from ACC), and the inclusion of a gymnasium membership for patients to enhance the rehabilitation pathway. There was also a permissive treatment phase with no limit on treatment numbers, and treatment was primarily dictated by guidelines and clinical milestones, supported by the clinical judgment of physiotherapists. Finally, strict exit criteria of achieving 100% limb symmetry index (LSI), restoration of functional goals and effective return to sport and/or work were used to discharge patients from the programme (Reid, 2023). The overall pathway is described in Figure 1.

The ACC has historically required physiotherapists to evaluate treatment using evidence-based outcome measures. Two measures, the Patient Specific Functional Scale (PSFS) (Stratford et al., 1995) and the Numeric Pain Rating Scale (NPRS) (Breivik et al., 2000), were required for routine use as part of the ACC Physiotherapy Services contract (Accident Compensation Corporation, 2009). While these outcome measures have been implemented in physiotherapy private practice and outpatient settings since 2009, no formal analysis of these data have been undertaken by ACC. Specific to the ACL pathway, the modified KOOS (Gandek et al., 2019) was selected as the PROM, and the functional strength outcome measure was the one-repetition max (1RM) knee extensor strength test, used to determine LSI. The ECP represents an opportunity to assess the utilisation of objective measurement of PROMs and function within the ACL rehabilitation pathway, which was not previously used within the ACC system.

Prior to the introduction of the ECP, data from Fausett et al. (2019) demonstrated the average number of treatments provided post ACLR ranged from 6 to 16 visits. The introduction of ECPs has allowed for more sessions, and this raises the question of how many treatment sessions are needed for optimal recovery, which is currently unknown in New Zealand – both for patients who undergo ACLR or those who are managed through non-surgical rehabilitation.

The ECP pathways ran from 2019 to 2023. At the end of this time, ACC reviewed the ECP pilot, to establish if these models of care had improved patient outcomes, and whether they would become the business-as-usual model for the future. However, further exploration of the PROMs or functional measures would be useful from a physiotherapy perspective. Using data from the ACC Careway ECP, the key research question to address in this study was: Are there differences in PROMs, functional measures, and treatment volumes between surgical vs non-surgical ACL patients? The aims were to:

1. Quantify the PROMs and functional measures of knee extensor strength.
2. Investigate any differences between treatment volumes (length of treatment and numbers of treatments) for surgical and non-surgical patients.

METHODS

A retrospective database analysis of the PROMs, strength measures, and treatment volumes collected from the Careway pathway was undertaken. Ethics approval was granted

Table 1

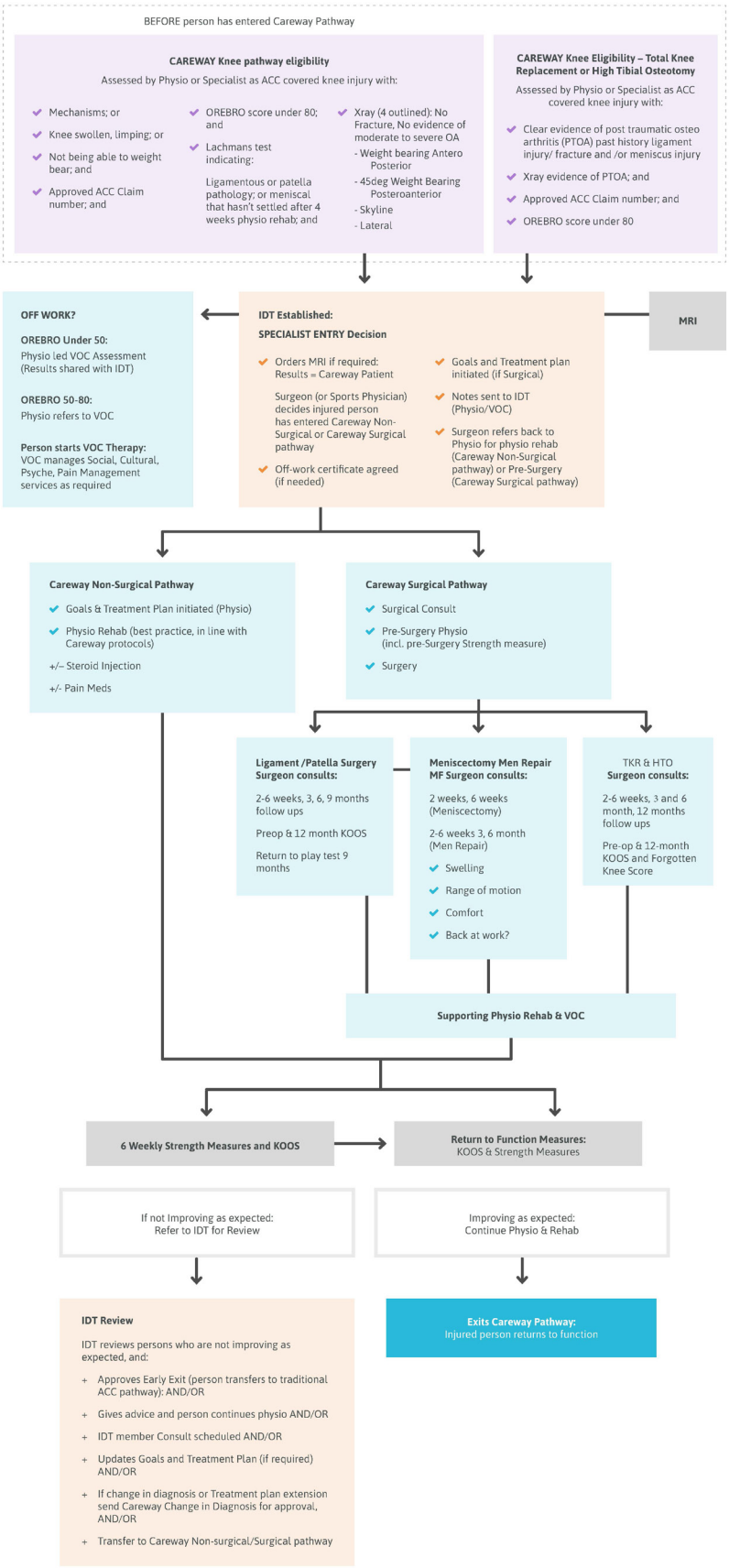
Entry and Exit Criteria into the Careway Pathway

Entry criteria	Exit criteria
Approved ACC claim (ACC45). ACL rupture confirmed by an orthopaedic surgeon and a positive MRI scan. Radiograph clear of moderate to severe osteoarthritis. Positive clinical examination of ruptured ACL (positive Lachman test).	100% limb symmetry index for quadriceps. Met functional goals as indicated by the Patient Specific Functional Scale. Returned to work or independence.

Note. ACC = Accident Compensation Corporation; ACL = anterior cruciate ligament; MRI = magnetic resonance imaging.

Figure 1

Careway Knee Pathway



by the Auckland University of Technology Ethics Committee (AUTEC) (reference number 23/293). The study adhered to the STROBE guidelines (von Elm et al., 2008) for reporting of this retrospective observational study.

Recruitment

A meeting was conducted with the Careway database manager to discuss the data points relevant to this research project. The inclusion criteria for participants considered were patients who (1) completed the Careway programme between January 1 2020 and December 31 2023; and (2) experienced an ACL rupture, followed by either non-surgical rehabilitation or surgery followed by rehabilitation. Exclusion criteria for this study were patients who were not engaged in physiotherapy rehabilitation and therefore had an early discharge from the programme. Participants with other injuries, such as meniscal and medial collateral ligament pathologies associated with their ACL injury, were excluded from this study.

Data extraction

The participants' data were extracted from the database by the Careway administrator and imported into a password-protected Excel sheet in such a way that the researchers could not link these data to the Careway database. The data were anonymised and de-identified of all demographic data and participants' outcome measures, and each participant was allocated an identification (ID) number that consisted of random numbers and letters.

The retrieved data points included the participants' entry and exit criteria into the programme, their age, ethnicity, and gender, as well as their specific injury type related to the ACL. The participants' rehabilitation pathways, whether non-surgical or surgical treatment, the number and results of KOOS scores, LSI scores, and the total number of visits and treatment durations were recorded. The 1RM was recorded by the treating physiotherapists using a hand-held dynamometer or leg extension machine (Sinacore et al., 2017). For the purposes of calculating the LSI (1RM affected limb/1RM unaffected limb x 100), the baseline 1RM was taken of the unaffected leg at entry into the programme. The affected leg was first tested at 6 weeks from entry for those who were being managed conservatively or at 16 weeks post-surgery for patients who underwent ACL surgery (to allow the graft to settle, as per surgeon advice). All the outcome measures were recorded at baseline and repeated every 6 weeks (with the exception of

the affected leg in the surgical group, as noted above) until discharge. All outcome measures were uploaded and tracked in Careway's patient management system.

Statistical analysis

All statistical analyses of the extracted data were performed using SPSS (v30). For all data variables collected, the *M*, *SD*, 95% confidence intervals (CI), and frequencies were calculated. Where data was normally distributed, independent t-tests were applied to key demographic data to determine statistical significance, with the alpha level set at < 0.05. The Kolmogorov-Smirnov test of normality was applied to the KOOS and LSI data. This test was statistically significant, indicating the data were not normally distributed. Therefore, the Mann Whitney U test was used for the change scores for these variables, with the alpha level set at < 0.05. The minimal clinically important difference (MCID) was calculated using the distribution method of 0.5 x *SD* on the change score (Franceschini et al., 2023).

RESULTS

Data from 750 patients who were treated surgically (n = 332; 44.3%) and non-surgically (n = 418; 55.7%) were collected. Values are presented as *M* (*SD*).

Demographics

The *M* (*SD*) age of patients treated surgically was 33.1 (13.1) (95% CI [31.7, 34.6]) years, while for those undergoing non-surgical treatment, it was 35.8 (15.1) (95% CI [33.8, 37.8]) (p < 0.05). Both surgical and non-surgical groups had a higher percentage of males (58.7% and 57.9 % respectively). Regarding ethnicity, 26.5% (n = 88) in the surgical group and 21.1% (n = 88) in the non-surgical group were Māori or Pasifika (Table 2).

Outcome measures

The KOOS scores improved in both groups. In the surgical group, the *M* (*SD*) baseline score was 45.7 (17.1); 95% CI [44.7, 48.3]), compared to a discharge score of 74.7 (20.4) (95% CI [72.4, 76.9]) (Table 3). Those in the non-surgical group had a *M* (*SD*) score of 55.3 (18.0) (95% CI [53.9, 58.1]) at baseline, compared to an exit score of 81.2 (16.0) (95% CI [78.4, 82.5]). The change scores for the KOOS in the surgical (29.1 (20.0)) and non-surgical (25.8 (18.4)) groups were not statistically significant (p = .052).

With respect to the mean LSI scores, these increased from baseline to exit from the programme. The *M* (*SD*) LSI scores for the surgical group increased from 72.3 (26.8) (95% CI [68.3, 76.1]) to 100.8 (29.7) (95% CI [96.4,105.1]). The non-surgical group increased from 77.1 (36.3) (95% CI [71.2, 82.8]) to 104.7 (33.3) (95% CI [99.4, 109.9]). The *M* (*SD*) change scores for the surgical group were 28.9 (28.6), and for the non-surgical group 27.6 (31.2), with no statistically significant difference between groups (p = .055).

Duration and number of physiotherapy visits

There was a statistically significant difference in the duration of treatment between both groups (p < .01), with a longer duration of care for the surgical group. The *M (SD)* duration of treatment for the surgical group was 317.2 (141.5) (95% CI [301.9, 332.5]) days, compared to the non-surgical group, 285.8 (156) days (95% CI [265.2, 306.4]) days.

There was a statistically significant difference between both groups for the total number of physiotherapy visits, which were higher in the surgical group (p <.01). The *M* (*SD*) for the surgical group was 25.4 (19.6) (95% CI [23.4, 27.4]) visits, while for the non-surgical group it was 13.2 (15.3) (95% CI [11.1, 15.2]) visits.

DISCUSSION

This is the first time in the New Zealand ACC system that PROMs have been undertaken in a meaningful way to enable quantification of outcomes. The present study was designed to analyse and present these PROMs and treatment volumes (duration and number of treatments) of patients who completed the ECP following an ACL injury or ACLR. The overall findings indicate that both surgical and non-surgical pathways achieved high levels of LSI score, improved functional outcomes, and improved PROMs. This also includes a clear description of the frequency and duration of treatment that has not previously been presented in the New Zealand ACC system. This information will help guide

Table 2

Demographic Characteristics of Participants

Variable	Surgical group N = 332		Non-surgical group N = 418	
	n [a]	%	n [a]	%
Age, *M (SD),* 95% CI, years *	33.1 (13.1) 95% CI [31.7, 34.6]		35.8 (15.1) 95% CI [33.8, 37.8]	
Male	194	58.7	192	57.9
Female	171	41.0	175	42.0
Māori or Pasifika	88	26.5	88	21.1
Non-Māori or Pasifika	219	66.0	322	77.0

Note. CI = confidence interval. [a] Except where indicated.

* p < .01, for difference between groups.

Table 3

Careway Outcome Data for Surgical and Non-surgical ACL Groups

Variable	Surgical group				Non-surgical group				*p*
	N (%)	*M*	*SD*	95% CI	*N* (%)	*M*	*SD*	95% CI	
Physiotherapy visits, *n*	332 (100)	25.4	19.6	[23.2, 27.4]	418 (100)	13.2	15.3	[11.1, 15.2]	.01
Duration, days	332 (100)	317.2	141.5	[301.9, 332.5]	418 (100)	285.8	156.0	[265.2, 306.3]	.01
KOOS – baseline	296 (88.6)	45.7	17.1	[44.7, 48.3]	267 (64.2)	55.3	18.0	[53.9, 58.1]	
KOOS – exit	296 (88.6)	74.7	20.4	[71.9, 76.3]	267 (64.2)	81.2	16.0	[78.4, 82.5]	
KOOS – change score		29.1	20.0		25.8	18.4			.052
KOOS – MCID		10.0			9.2				
LSI – baseline	181 (54.0)	72.3	26.8	[68.3, 76.1]	155 (38.0)	77.1	36.3	[71.2, 82.8]	
LSI – exit	181 (54.0)	100.8	29.7	[96.4, 105.1]	155 (38.0)	104.7	33.3	[99.4, 109.9]	
LSI – change score		28.9	28.6		27.6	31.2			.055

Note. CI = confidence interval; KOOS = Knee Osteoarthritis Outcome Score; LSI = limb symmetry index; MCID = minimal clinically important difference.

and potentially influence best practices for physiotherapy treatment in New Zealand in the future.

Outcomes

The results of this study show that both groups yielded improvements in KOOS scores at the exit of the pathway compared to baseline scores. While the results show no difference in overall score between surgical and non-surgical pathways, the changes in scores are of importance. The MCID for the overall KOOS has been determined in a recent systematic review to be 8 points (Migliorini et al., 2025). Patients in both groups exceeded these scores (MCID surgical 10.0 points and non-surgical 9.2). Although both groups did not produce a KOOS post-treatment score close to 100, the findings do suggest that longer durations of care provide value in improving patient-reported quality of life pertaining to their knee function.

The improvement in quadriceps symmetry seen in the current study of greater than 90% is likely to provide a variety of beneficial effects, but the long-term benefit has yet to be demonstrated. Achieving quadriceps strength symmetry greater than 90% is associated with a variety of improved outcomes including superior knee self-efficacy, psychological readiness, confidence to return to sport, physical tests of return to sport, and the potential to reduce post traumatic osteoarthritis (Arhos et al., 2020; Chaput et al., 2021; Della Villa et al., 2021; Drigny et al., 2022; Piussi et al., 2020; Straub et al., 2022). The specific value of improved quadriceps LSI is difficult to assess given the multifactorial nature of ACLR recovery, although stronger and symmetrical quadriceps function seems logical. This is particularly the case when examining the effect of LSI on reinjury risk (Ashigbi et al., 2020; King et al., 2021). A number of studies have concluded that more symmetrical quadriceps strength, similar to that demonstrated in the current study, significantly reduces knee reinjury (Grindem et al., 2016; Kyritsis et al., 2016). In contrast, one study has shown those with more symmetrical quadriceps six months post operatively are more prone to experience another ACL rupture (Bodkin et al., 2022). The lack of agreement within the literature is likely a result of varied methodologies related to testing, time of testing, and the complex interplay between passing clinically focused return to sport criteria and integration back into sport (Wright et al., 2025). This will be the basis of further analysis of the data in the future.

Treatment volumes

The outcomes of this retrospective review showed that surgical patients were meeting the exit criteria of the programme with an average LSI of 100% over the course of 317 days and an average of 25 physiotherapy visits. Additionally, non-surgical patients were meeting milestones by exiting the programme with an average LSI of 104% over the course of 232 days and an average of 13 physiotherapy visits. These differences in the number of treatments required to meet the exit criteria were statistically significant with the higher number required in the surgical group. This would make sense as the surgical patients would take some time to overcome the impact of the surgery, such as reducing the pain and swelling, before engaging in the rehabilitation (Buckthorpe et al., 2024). It is also possible that more treatment was required in the surgical group, as these patients may have opted for surgery as they are involved in activities and sports that have a significant change of direction and/or higher risk of reinjury or re-rupture if surgery is not provided (Musahl et al., 2020). Research from Fausett et al. (2019) demonstrates that in New Zealand, rugby and netball make up 50% of the ACL injury claims and these are sports known to have significant trauma or change of direction elements. A study by Grindem et al. (2014) also states that younger patients engaged in sports

such as handball and basketball (that have high ACL injury rates) were more likely to opt for surgery. In the current study the ACL surgical group were also younger (33 years vs 35 years). In this study we did not analyse the sports or activities that lead to entry into the ECP pathway. This will be an area of future research, as the types of sports and activities may influence the decisions around whether to opt for surgery or not.

The findings suggest that a greater number of physiotherapy visits for rehabilitation following ACLR, compared to the current number seen in New Zealand (6–16) (Fausett et al. (2019), improved the chances of meeting the 100% LSI exit criteria. Having a targeted exit score was not part of the ACC treatment requirements prior to the ECP. An average number of 25 physiotherapy visits observed is in line with the findings of Ebert et al. (2019) who reported 20–30 visits over nine months. These treatment numbers also align with the recommendations of Adams et al. (2012) who suggested that physiotherapy visits post ACLR should range between 25 and 38 visits.

In comparison, research by Welling et al. (2019) examined the effects of a progressive strength training protocol over a seven-to-ten-month period on peak quadriceps strength following an ACLR using a smaller cohort (n = 38 male) of competitive soccer players. The study found that an average of 2.6 supervised physiotherapy sessions per week, equating to 72.8–104 sessions over 7 to 10 months, yielded an LSI > 90% in 65.8% of their subjects. The study by Welling et al. (2019) had significantly more treatment sessions (more than triple the number performed in Careway) to achieve an LSI > 90%. The results of this study show that more treatment was required over a similar timeframe to achieve similar results.

Demographics

A component of this study was to present the demographic distribution of patients who entered the Careway pathway post ACL injury and received either surgical or non-surgical treatment. Previous research (Sutherland et al., 2019) has indicated a greater incidence of ACL injuries among males compared to females in New Zealand. The findings of this study demonstrated a distribution of genders for both the surgical and non-surgical groups, with a higher prevalence of males than females. In both groups, there was a slightly larger proportion of males (approx. 58%) compared to females (approx. 42%). These proportions are consistent with prevalence reports from Sutherland et al. (2019), who found that males comprised 61.6% and females 38.4% of ACL injury cases in the ACL registry data.

The highest occurrence of ACL injuries, as reported by Sutherland et al. (2019) was observed in males aged 20 to 24 years old and females aged 15 to 19 years old. In contrast, the current study found that the average age of patients who underwent treatment in the Careway pathway (33–35 years) was older than Sutherland et al. (2019) but younger than in some other cohorts, as in Collins et al. (2013), who found over 27% of those requiring ACLR were aged 40–49 years. One interesting finding is that the difference of age in patients between both groups was statistically significant, with patients being older in the non-surgical group. A possible explanation for this might be that an older cohort were more comfortable taking a non-surgical pathway and may not have the desire to return to higher risk of reinjuring sports, such as sports requiring considerable amounts of pivoting. This assumption will need further research moving forward. Also, the current cohort ratio of 44.3% surgical and 55.7% non-surgical differs from other studies examining patient treatment pathways after ACL injury. Mainz et al. (2023) highlighted gender differences with 80% of males electing ACLR over non-surgical. In contrast, combined European data show 50–57% elect surgery within the first year of injury, which is more consistent with the results of the current study (Grevnerts et al., 2022; Piussi et al., 2023).

With respect to cultural differences, Pryymachenko et al. (2023) found a strong relationship between the incidence of ACL injuries and their prevalence in Pasifika populations. This study was able to present the prevalence of Māori and Pasifika and non-Māori and Pasifika people who received treatment through the Careway pathway. However, the findings of this study contrast with those of Pryymachenko et al. (2023), as fewer patients of Māori/Pasifika ethnicity were found to have received both surgical (26.5%) and non-surgical (19%) treatment via the Careway pathway, compared to non-Māori/Pasifika patients. Designing programmes that have greater input and link with a Māori/Pasifika worldview would be of value in future.

Strengths

The main strength of this study is the substantial sample size of 750, which enhances the statistical power of the findings (Garg et al., 2024). This large dataset allowed for reliable comparisons of results between the surgical and non-surgical groups. In addition, the data were collected from the Careway pathway, which represents a real-world clinical setting in New Zealand. This has a positive effect on the external validity of the findings to other broader populations like other physiotherapy practices around the globe engaging in ACL rehabilitation, but specifically New Zealand practices, which are Careway providers (Garg et al., 2024).

Limitations

The nature of a retrospective study has limitations. One limitation is that retrospective studies are dependent on data previously entered into a clinical database that was not collected specifically for research (Talari & Goyal, 2020). The results of this study were based on the quality of existing data from ACC, which is dependent on the compliance of outcome measure collection from Careway providers. As such there were some incomplete data sets for both surgical and non-surgical groups, in particular for the KOOS and LSI, which can have an impact on statistical power (Dong & Peng, 2013). However, as only descriptive statistics are presented and with advice from a statistician (I. Zeng, personal communication,10 February 2025), a missing data analysis was not required at this time. However, the need to increase the quality of the data input will be necessary as this study moves out of the pilot phase. Patients were only analysed if they had completed the programme of care, leaving a large number of people still in the programme who had not completed

care at the time of analysis. The addition of these patients may have influenced the results. Ethnicity data were not categorised according to the New Zealand Census data but were extracted from the ACC 45 treatment forms on entry.

Furthermore, due to the nature of a retrospective study, the research team was unable to account for all potential confounding variables and, therefore, cannot establish any causal links (Euser et al., 2009). In this study, it was also not possible establish any relationships between patient outcomes and their respective surgical or non-surgical treatment approaches. Finally, the data presented are from only one of the five consortia within New Zealand. It is possible that different results may be found across the various groups.

CONCLUSION

This study aimed to retrospectively analyse and quantify treatment volumes, PROMs, and functional measures of knee extensor strength in patients who underwent the ACC Careway pathway pilot following an ACL injury or ACLR, to help guide best practices for physiotherapy treatment in New Zealand. It was the first study in New Zealand to analyse and present more quantitative data linking key outcomes to respective treatment durations and the number of physiotherapy visits for the management of ACL injuries. Both surgical and non-surgical patients achieved positive outcomes upon exiting the pathway, as evidenced by LSI and KOOS scores. The surgical group's results and average number of physiotherapy visits aligns closely with existing literature, demonstrating that longer durations of care are necessary to achieve favourable treatment outcomes compared to prior practices before the introduction of ECPs in New Zealand. This study provides insight into what could be appropriate benchmarks for the number of physiotherapy visits post-ACL injury, suggesting a range of 25 to 45 visits for surgical management and 15 to 25 visits for non-surgical management.

KEY POINTS

1. This study offers visibility over the importance of measuring meaningful outcomes following ACL injury and subsequent care, whether treated surgically or conservatively.
2. With respect to PROMS and functional measures, surgical and non-surgical approaches provide similar outcomes.
3. In order to achieve a clinically important LSI score following ACLR, approximately 25 visits over 10 months were required.
4. Both the timeframes and the outcomes are valuable to discuss with patients when making choices over the pathway they take.

DISCLOSURES

Duncan Reid is the Clinical Lead for Careway. No funding was required for this project.

PERMISSIONS

This study was approved by the Auckland University of Technology Ethics Committee (reference number 23/293). Permission has been granted from the CEO of Careway to reproduce Figure 1 in the *New Zealand Journal of Physiotherapy*.

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CONTRIBUTIONS OF AUTHORS

Conceptualisation and methodology, DR, JC, DH, and GP; validation, formal analysis, and data curation, JC, DR, and DH; writing – original draft, JC; writing – review and editing, JC, DR, DH, and GP; supervision, DR; project administration, DR.

ADDRESS FOR CORRESPONDENCE

Duncan Reid, Auckland University of Technology, Private Bag 92006, Auckland, New Zealand.

Email: duncan.reid@aut.ac.nz

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