Trauma rehabilitation

Whakaoranga kohuki

ABI and Active+ case study: Improving access to community rehabilitation after traumatic brain injury

He mātai ABI me te Active+: Kia pai atu te whai wāhi ki te whakaoranga hapori whai muri i te wharanga roro

Te Hononga Whētuki ā-Motu National Trauma Network

abi Rehabilitation Specialists Ngā Kaituku Mātūtū

active+

Te Kāwanatanga o Aotearoa New Zealand Government

Health Quality & Safety Commission New Zealand

Kupu Taurangi Hauora o Aotearoa

In 2021 the trauma rehabilitation national collaborative brought together 11 teams of rehabilitation clinicians from across Aotearoa New Zealand to complete quality improvement projects that would improve outcomes in rehabilitation after major trauma. The rehabilitation collaborative formed part of a broader programme of work by the National Trauma Network, Accident Compensation Corporation (ACC) and the Health Quality & Safety Commission (the Commission) to establish a contemporary system of trauma care in Aotearoa New Zealand.

Overview | Tirohanga whānui

ABI Rehabilitation NZ Ltd (ABI), a specialist traumatic brain injury (TBI) rehabilitation provider, and Active+ NZ Ltd, a multidisciplinary rehabilitation provider, worked with allied health and trauma teams at Counties Manukau Health, ACC and academics from Auckland University of Technology (AUT) to improve access to community rehabilitation after TBI. The project significantly reduced the waiting time for people to access rehabilitation and improved the quality of referrals, with the result that people received the right rehabilitation to meet their needs and goals, from the most appropriate community provider.

Background and context | Kōrero o mua me te horopaki

People hospitalised after major trauma experienced delays in receiving timely and appropriate community rehabilitation on discharge from hospital. Early intervention is important for good physical and psychological outcomes related to home life, return to work or study, and leisure activities.

Equitable access for Māori and Pacific peoples is needed. Clients and general practitioners (GPs) have expressed frustration with delays and uncertainty about managing symptoms, recovery, return to work or school and rehabilitation once clients are discharged from hospital.

ABI and Active+ are committed to ensuring seamless transitions from hospital to community that enable injured clients to get back to everyday life roles. The project presented an opportunity to work with Counties Manukau Health to enhance pathways to support good, timely and equitable outcomes for clients and whānau.

Diagnosing the problem | Te tātari raru

1. The problem

People who experience major trauma and require TBI rehabilitation after they are discharged from hospital do not always receive timely access to coordinated rehabilitation and support because:

- clinicians do not always know which services to refer them to or who makes the referrals
- hospitals often don't receive acknowledgement that a referral has been accepted and actioned
- clients are expecting follow-up but are unsure if they have been referred onwards or who they have been referred to
- many people who live within the Counties Manukau Health catchment area are not registered with a GP.

2. How you know that this is a problem? What data did you have to describe this problem?

During May and June 2021, three multi-party workshops occurred at Middlemore Hospital. These were attended by a group of 16 clinician and leadership representatives from Middlemore Hospital, Kidz First Children's Hospital, ABI, Active+, AUT and ACC.

Observations and insights from hospital and community clinicians were recorded and helped in developing the aim statement of the project. A client persona, journey mapping and process mapping were completed following the workshops.

The workshops discovered:

- hospital clinicians were unsure of the referral process
- hospitals often didn't receive acknowledgement that a referral had been accepted and actioned
- clients were expecting follow-up but were unsure if they had been referred or who they had been referred to
- the need for ACC to give approval before rehabilitation could occur impacted directly on how quickly a client could start rehabilitation, and this often led to delays
- many people who live within the Counties Manukau Health catchment area are not registered with a GP, with the result that a referral back to primary care for follow-up was not a reliable safety net.

Hospital clinician experience

'I didn't know which ACC referral form to send, who or where to send, the forms don't make sense.'

'We asked for XX to have a concussion service, but he was never seen, and now he is back here.'

'Patients often ring back and say, "What is happening?" and we don't know.'

Community clinician experience

'It was hard to understand what the occupational therapist wanted; the referral didn't make sense.'

'I wish they had included more injury details on the referral form.'

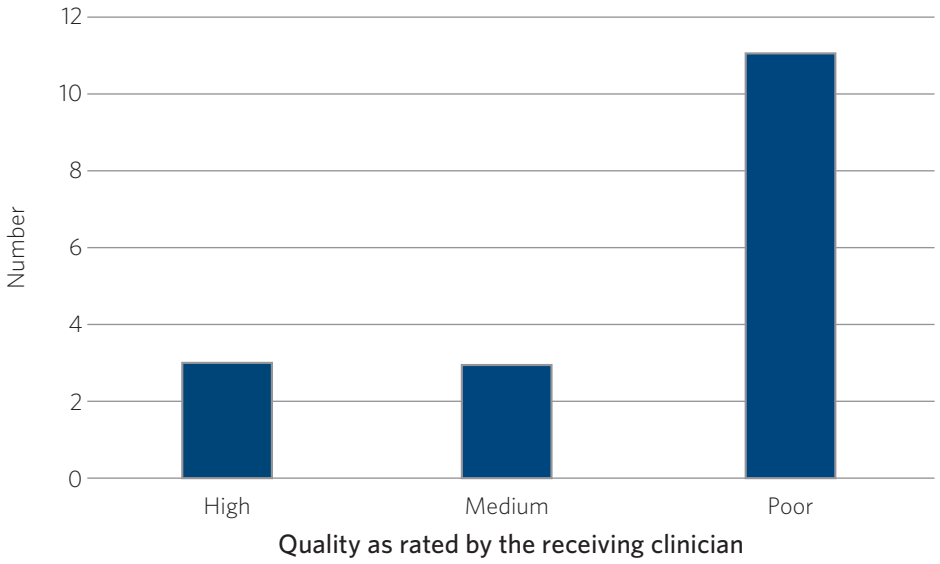
Client experience

'The hospital said someone would contact me to see how I was doing. No one called. I had terrible headaches and was struggling with the kids, and I couldn't even think about going back to work.'

3. What was the baseline data?

An audit of 17 direct referrals to ABI from Middlemore Hospital for people with concussion or TBI between March and September 2021 showed that 64 percent of referrals were of poor quality (Figure 1). To be considered high quality, the referral needed to be easy to understand and include all injury details, ACC claim number, and details of the hospital clinician's assessment and recommended approach to rehabilitation.

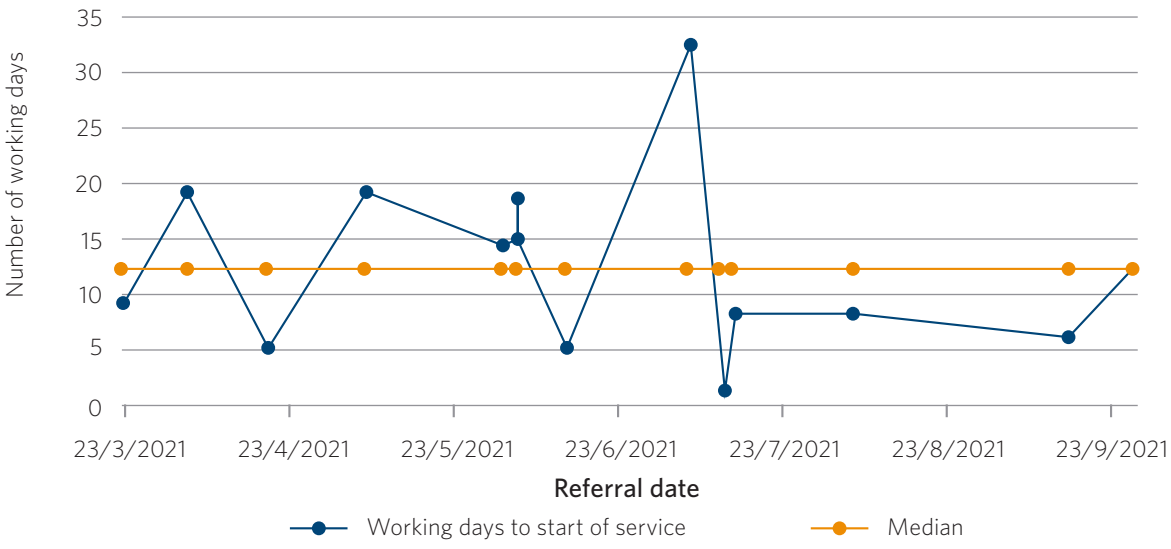
Figure 1: Quality of referral forms – baseline, March–September 2021



Source: ABI and Active+ data

The median time between hospital discharge and accessing rehabilitation was 12 working days (range 1–32) (Figure 2).

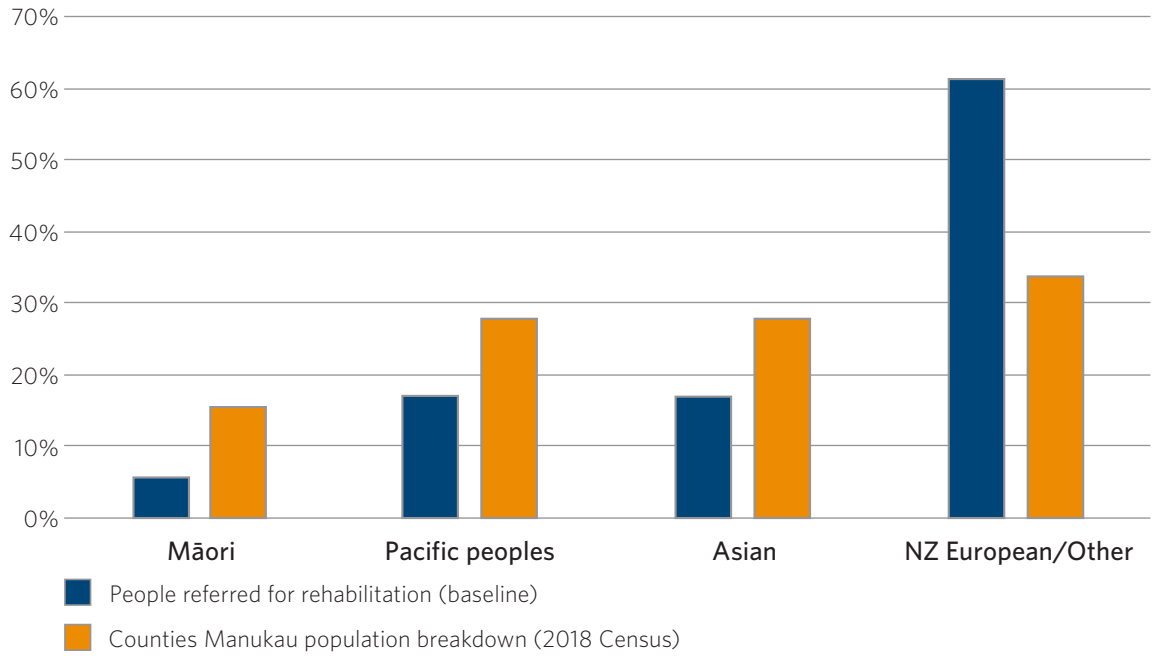
Figure 2: Time in working days between hospital discharge and accessing rehabilitation – baseline, March–September 2021



Source: ABI and Active+ data

Māori were under-represented in referrals to rehabilitation. Māori make up 16 percent of the population of Counties Manukau but only represented six percent of referrals. New Zealand European/Other people were over-represented (Figure 3).

Figure 3: Ethnicity of people referred for rehabilitation vs population demographics of Counties Manukau region – baseline, March–September 2021



Source: ABI and Active+ data

The aim | Te whāinga

By March 2022, among major trauma patients with TBI community rehabilitation needs that Counties Manukau Health refers directly to ABI or Active+, 90 percent will begin community rehabilitation within two weeks of discharge from hospital.

The measures | Ngā ine

See the appendix for a detailed description of the measures.

Outcome measure:

- Time in working days from discharge to being seen by community services

Equity measures:

- Ethnicity of clients
- Age of clients

Process measures:

- Number of referrals to community services
- Level of satisfaction of allied health staff with pathway and referral form
- Level of satisfaction of ABI and Active+ teams with pathway and referral form
- Quality of referrals from acute hospital to community rehabilitation providers

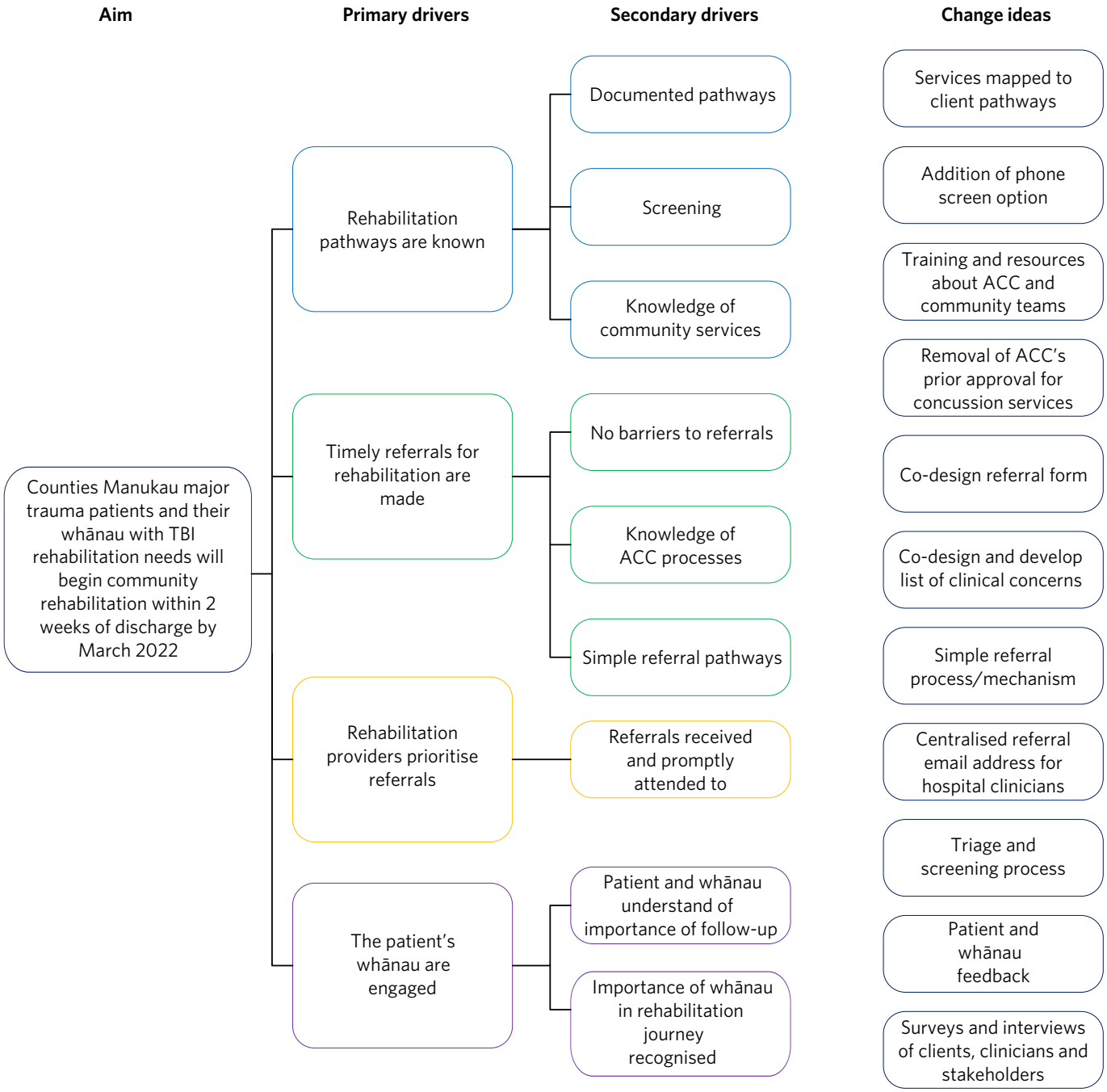
Balancing measures:

- Hospital length of stay (does not increase simply to help meet the target of putting community rehabilitation in place within two weeks of discharge)

Drivers of change | Ngā tūāhua panoni

The drivers of change are shown in Figure 4. The change ideas focused on improving and streamlining the referral process to make it easy for referrers, while ensuring community providers received the information they needed. Removing the need for ACC's prior approval for concussion services was a key change idea.

Figure 4: Driver diagram



What we did | Tā mātou i mahi

1. Were there any ethical considerations to be aware of?

To ensure the project did not create any commercial favouritism in making referrals to participating rehabilitation providers rather than those not involved in the project, the team made a presentation about the project to the New Zealand Rehabilitation Provider Group (NRPG). They invited any other providers with specialist brain injury expertise in the Auckland region to participate in the work; however, no other services opted to join. Because it is standard practice for referring clinicians to have autonomy about where to send referrals, it was considered no commercial favouritism was involved in Counties Manukau clinicians referring directly to ABI or Active+.

On completion of the collaborative, the project team presented again to NRPG, providing further transparency and sharing outcomes. Again, no other services wished to opt into the established process. ABI and Active+ will continue to encourage others to join.

2. How were consumers involved in the project?

Client feedback both before and during the project was reviewed. ABI's kaumātua and Māori development manager provided feedback on the design and implementation of the project.

3. What quality improvement tools did you use that you would recommend?

During this project, the team used the following tools.

- Driver diagram: This supported us to understand key drivers and identify change ideas to test.
- Process and journey mapping: This helped us all to understand the process and journey, and what changes were needed.
- Plan, do, study, act (PDSA) cycles – rapid cycles testing change. This allowed us to test small change ideas and make changes as we learned about the outcome of the test. This 'test and learn' environment motivated the team to progress as we knew we didn't have to make it perfect before implementing a change idea.

4. What changes did you test that worked?

We found success when we:

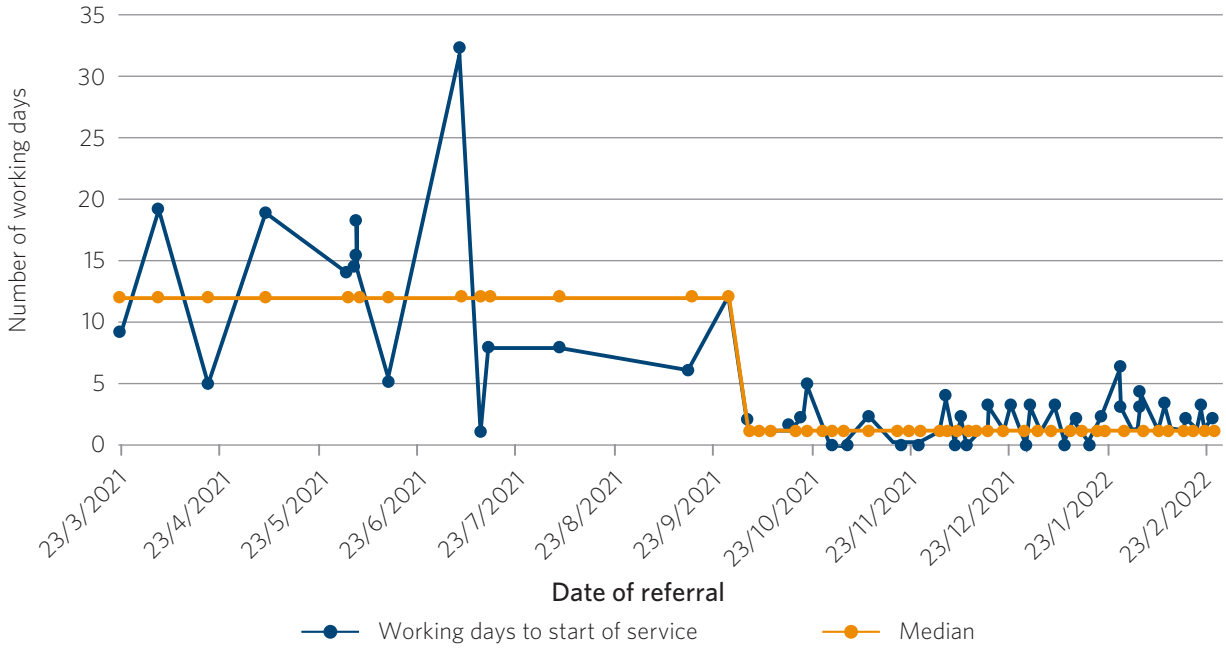
- reviewed and edited the current trauma TBI pathway to include mild TBI and clinical concerns that would support a high-quality referral
- removed the process of requiring ACC prior approval (in consultation with ACC). An ACC recovery team member was allocated as a key contact person for ABI and Active+ to help shepherd claims through ACC
- developed a list of clinical concerns to help hospital and community teams prioritise and triage referrals
- co-designed a referral form in a process that involved ABI, Active+ and Counties Manukau Health clinicians
- created a shared referral email address, so that hospital referrals went to a single point of contact. ABI received all the referrals, tracked them and divided them up between ABI and Active+ teams
- used a 'close the loop' process – ABI and Active+ would inform Counties Manukau Health when they received a referral and that they had allocated the client to a clinician
- developed a flow chart for community teams to reflect the new pathway and ACC approach
- implemented a phone screen/triage for the community TBI rehabilitation team to check on a client and determine if they still needed rehabilitation service or had recovered
- developed a poster for junior doctors on the importance of identifying concussion or TBI as a diagnosis on the ACC45 form so that clients can receive ACC-funded community TBI rehabilitation
- began to use the pathway and referral form for children as well as adults once the project expanded to include Kidz First in January 2022.

The results | Ngā hua

1. What outcome measures improved?

The time between hospital discharge and starting rehabilitation reduced to a median of one working day (range 0–6 days) (Figure 5).

Figure 5: Time in working days between hospital discharge and accessing community rehabilitation, March 2021–February 2022

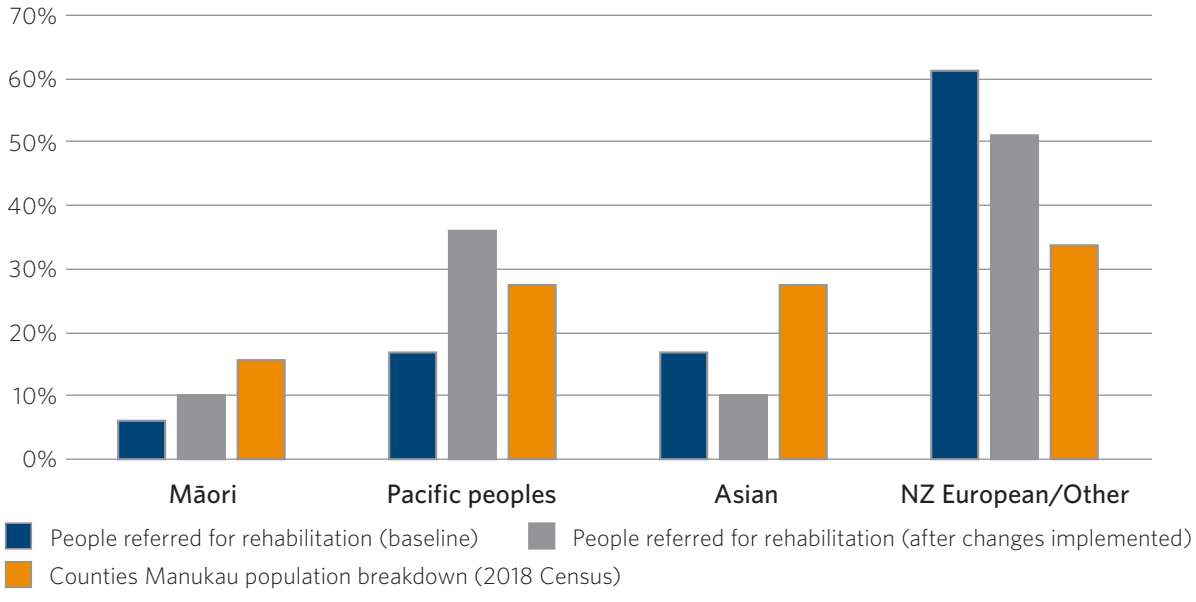


Source: ABI and Active+ data

2. What equity measures improved?

The proportion of referrals received for Māori and Pacific peoples increased, while it decreased for Asian and New Zealand European/Other groups. Access to rehabilitation is more equitable when compared with the baseline.

Figure 6: Ethnicity of people referred for rehabilitation vs population demographics of Counties Manukau region, September 2021–February 2022



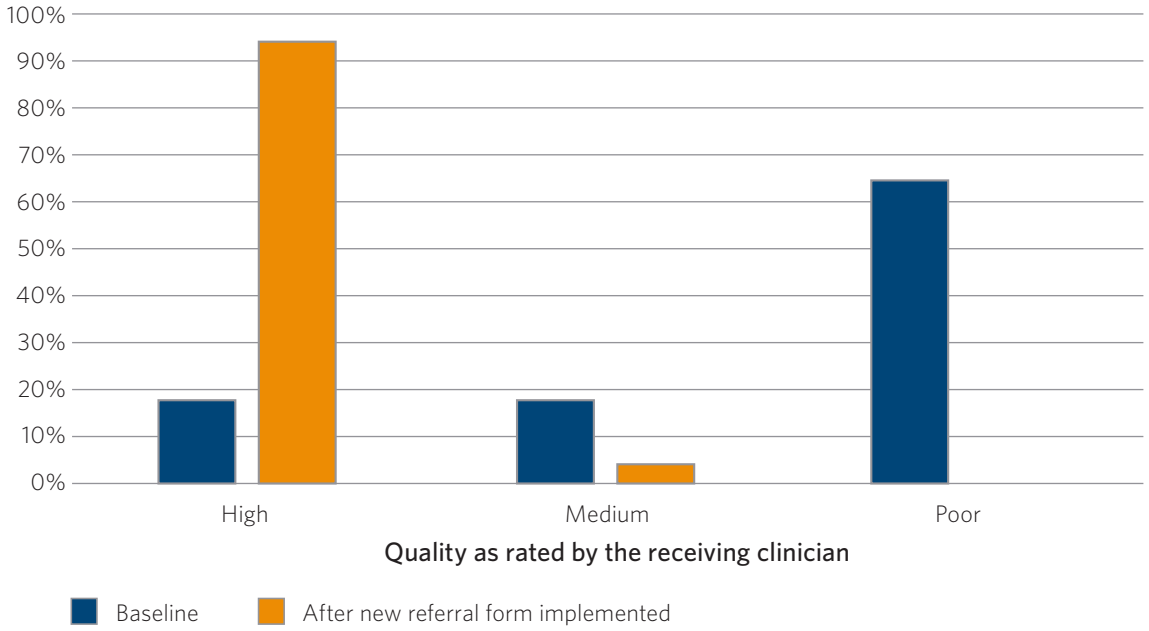
Source: ABI and Active+ data

3. What process measures improved?

The number of direct referrals to community rehabilitation increased significantly over the course of the project, from an average of three per month during the baseline period to an average of 13 per month during the project.

High-quality referrals increased, while low-quality referrals were eliminated.

Figure 7: Quality of referral forms, March 2021–February 2022



Source: ABI and Active+ data

4. Were there any unintended consequences such as unexpected benefits, problems or costs associated with this project?

The time between hospital discharge and starting rehabilitation decreased much more than expected.

5. Is there evidence that the knowledge of quality improvement science in the team or in the wider organisation improved?

Both ABI and Active+ team members reported that their knowledge of quality improvement science grew through participating in this project, attending the learning sessions, sharing resources and receiving mentoring from the Commission. Both organisations will use the project team's increased knowledge and the Commission's project structure and resources in future improvement projects.

Post project implementation and sustainability | Te whakaritenga me te whakapūmautanga

1. Have the successful changes been embedded into day-to-day practice? How have you managed this?

The pathway, the removal of the requirement for ACC's prior approval, the co-designed referral form and referral to centralised email address are now business as usual for people being referred from Counties Manukau Health (Middlemore and Kidz First hospitals).

ACC has taken key learnings from this project. It has since trialled the removal of pre-approval in four other urban and regional hospitals and implemented it nationally from August 2022.

2. How did you communicate your progress and results to others?

The project outcomes have been presented within each organisation and at regional and national meetings, including:

- regional trauma network meetings
- ACC health agile release team
- NRPG
- Counties Manukau grand rounds.

The project will be presented at the National Trauma Symposium in September 2022.

Summary and discussion | Te whakarāpopoto me te matapakinga

1. What were the lessons learnt?

- It is important to engage the wider multidisciplinary team early and have key decision-makers on the team.
- ABI and Active+ were able to work together collaboratively and share referrals fairly. With a central email address, hospital clinicians could send a referral and trust that the client was being picked up by teams who were experienced in TBI rehabilitation.
- The collaboration between all organisations significantly helped this project's success. If ACC had not been able to remove its prior approval process, the timeframes for starting service would still have been delayed despite the introduction of a better referral form and a clearer pathway for referral.
- Everyone's input was extremely valuable. The processes of keeping the team connected with one another, providing feedback and co-designing kept everyone engaged.
- Dedicating time to manage and lead the project made it easier to implement the change ideas.

2. What are the key steps that a team somewhere else needs to take to implement this in their own area?

- Hospital and community rehabilitation teams need to have strong, trusting collaborative relationships. We would strongly encourage some face-to-face meetings to get to know one another.
- Seamless communication channels between hospital and community teams allow them to discuss any issues with the referrals and enable community teams to provide information back to the hospital once the client referral has been accepted.
- When hospital and community teams sit down and work together to understand what is required and needed on the referral form, that makes it easy for the community provider to begin service for the client.
- Consider having a lead provider regionally with one centralised referral email address so hospital teams do not need to choose which community provider to send the referral to.
- Establish a relationship with the local ACC branch to help with any ACC issues. ACC, hospital and community teams need to work together.
- To help guide referral, hospital and community rehabilitation teams should follow the TBI acute flowchart pathway developed in the project, along with considering clinical concerns.

The team | Te rōpū

- ABI Rehabilitation NZ Ltd
- Active+
- Counties Manukau Health
- Auckland University of Technology, Traumatic Brain Injury Network
- Accident Compensation Corporation

Feel free to contact Michelle.Wilkinson@abi-rehab.co.nz to discuss how this approach could work in your hospital or community.

Appendix: Measures | Āpitihanga: Ngā ine

Measure name	Description	Collection method	Collection frequency
Time in days to starting rehabilitation	Number of working days between hospital discharge to ABI or Active+ making client contact	Case review, collecting date of referral and the date rehabilitation started	Weekly
Number of referrals	The number of direct referrals from Middlemore Hospital for TBI rehabilitation	Referral spreadsheet	Weekly
Quality of referrals	Receiving clinician rates the referral to be high, medium or low quality	Referral form audit	On receipt of referral

Other resources

The following are available to download at www.hqsc.govt.nz/resource-library/trauma-ABIActive

TBI adult–acute flowchart (PDF)

Clinical concerns list (MS Word)

Client persona (MS Word)

Published in September 2022 by
the Health Quality & Safety Commission and the National Trauma Network.
Available online at www.hqsc.govt.nz.

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