



ABI REHABILITATION / INTENSIVE INPATIENT REHABILITATION

# 2020 *Annual Report*

Reporting period: 1 July 2019 to 30 June 2020

ABI Rehabilitation is a leading New Zealand provider of comprehensive, specialised rehabilitation services for people with an acquired brain injury (ABI) resulting from a head injury or stroke.

**Kia mau ki te tūmanako,  
Te whakapono me te aroha**

**Hold fast to hope,  
faith and love**

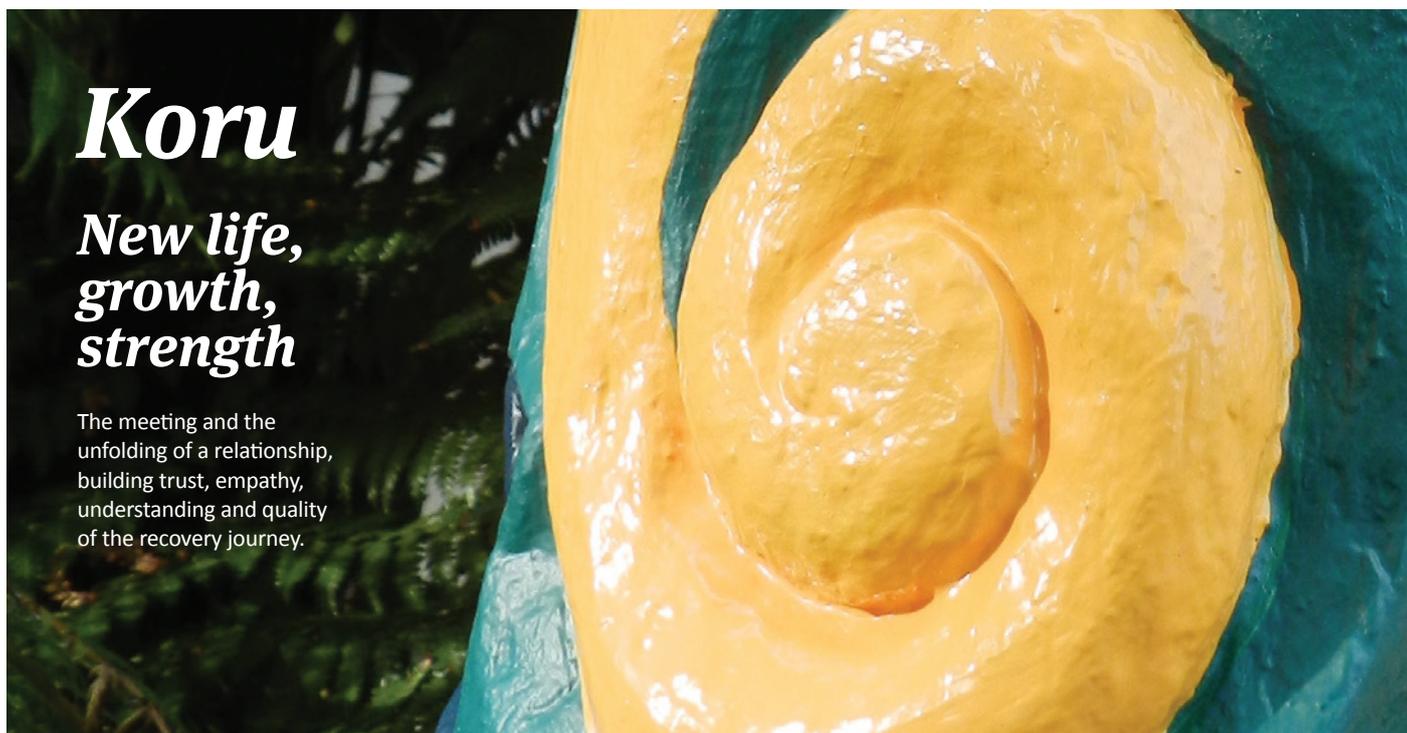
# Contents

<b>About ABI Rehabilitation .....</b>	<b>1</b>	<b>Cultural Capability.....</b>	<b>16</b>
<b>Executive Summary.....</b>	<b>3</b>	Ethnicity of Clients .....	16
<b>Message from the Chief Executive .....</b>	<b>3</b>	Cultural Celebrations .....	18
<b>The Year in Review - Quick Facts .....</b>	<b>4</b>	<b>Workforce Development.....</b>	<b>19</b>
All Intensive Clients.....	4	Staff Working on and Completing Higher Education.....	19
DHB/MOH/Private Clients .....	5	Careerforce .....	20
ACC Clients .....	6	CARF Surveyors .....	20
<b>Key Achievements for this Year .....</b>	<b>8</b>	New Members to the Leadership Team .....	20
Wellington New Build: Move in Day 22 June 2020 .....	9	<b>Research Activity .....</b>	<b>22</b>
COVID-19 Management.....	10	Key Presentations, Workshops and Interviews .....	22
Blackout for Brain Injury .....	11	Research Projects.....	23
<b>Quality Improvement Initiatives .....</b>	<b>12</b>	<b>Summary of Admissions.....</b>	<b>24</b>
Early Warning System .....	12	Bed Days.....	24
Nursing Portfolio .....	12	Referring Hospitals.....	25
Nurse Entry to Practice (NETP) Programme .....	13	Emerging Consciousness.....	26
Well Organised Ward .....	13	<b>Evaluation of Client Outcomes .....</b>	<b>28</b>
Self-directed Rehabilitation .....	14	AROC Data.....	28
<b>Operational Issues and Resolutions: .....</b>	<b>15</b>	Service Satisfaction .....	30
Health and Safety.....	15	<b>Closing Words .....</b>	<b>31</b>
Audits .....	15		

## ***Koru***

### ***New life, growth, strength***

The meeting and the unfolding of a relationship, building trust, empathy, understanding and quality of the recovery journey.



# About ABI Rehabilitation



ABI Rehabilitation (ABI) employs around 300 staff with specialist training in rehabilitation and a focus on achieving outcomes. At ABI, we believe people in New Zealand have the right to specialised services that meets international standards. As an organisation, ABI leads, develops and provides rehabilitation services in community, inpatient and residential settings. ABI holds international accreditation to provide rehabilitation and participates in international benchmarking.

Most clients of ABI have an ‘acquired brain injury’ from an accident, such as a motor vehicle accident, or medical cause, such as a stroke. ACC, the Ministry of Health or District Health Boards usually fund the rehabilitation ABI provides. Clients at ABI experience a unique team approach to their rehabilitation journey. Teams of medical specialists, allied health, nursing and rehabilitation assistants work together with clients and whānau on their goals. ABI firmly believes that clients and their whānau are at the centre of the team.

Max Cavit, founder, owner and Executive Board Chair of ABI, is convinced of the importance of bringing holistic clinical skill and caring together in order to enable people with a disability to ‘make the most of life’.

Max has worked hard to build the science of brain injury rehabilitation in New Zealand over nearly 30 years. He strongly believes in collaboration with clients and whānau, and working with government agencies to improve access to services for people needing specialised rehabilitation.

## ABI’s values are to A S P I R E

### A

**Accountability**  
Rangatiratanga

We believe that access to quality rehabilitation services is a right for children and adults in New Zealand.

### S

**Supportive**  
Manaaki

We commit ourselves to a culture of aroha; generous service, care, hospitality and support.

### P

**Passion**  
Matapaki

We have a passion for learning and sharing knowledge.

### I

**Integrity**  
Mana

We aspire to earn trust by being honest, reliable and accountable.

### R

**Respect**  
Manaaki

We will recognise and value the mana, strengths, goals and aspirations of our partners – Clients, whānau and funders.

### E

**Excellence**  
Hiranga

We commit to good practice and the science of rehabilitation.

# Executive Summary

This annual report provides information on the services provided by ABI intensive inpatient rehabilitation in both Auckland and Wellington services from 1 July 2019 through to 30 June 2020. The focus of information shared is on the Accident Compensation Corporation (ACC) Traumatic Brain Injury Residential Rehabilitation (TBIRR) contracted clients but additional information is provided via the 'Quick Facts' pages on clients served under other funding streams.

The volume of ACC funded clients served in this period compared to the prior year has reduced by 15 percent, from 249 to 212 clients. The characteristics (ethnicity, age distribution, gender, mechanism of injury, severity of injury) of clients and outcomes achieved are similar to the 2018-19 year. However, the average age of clients was 45 years, which represents an increase of 4.5 years. This is to be monitored to determine if this is an ongoing trend.

Like prior years, the percentage of Māori clients remains disproportionate at 24% (TBIRR).

**Motor vehicle accidents remain the leading cause of injury followed by falls. Combined they contribute to over three quarters of all admissions.**

The average duration of post-traumatic amnesia (PTA) remains at approximately 30 days with 40% of clients remaining in PTA for longer than one month. The Glasgow Coma Scale (GCS) and PTA length indicates an increase in severity of injury for the second year running.

**Despite this, the length of stay at ABI has reduced.**

The Australasian Rehabilitation Outcomes Centre (AROC) data shows that the Auckland service, with the larger volume of admissions and discharges, had a shorter length of stay of 4 days than the benchmarked facilities (specialist services in Australia and New Zealand). The Wellington service, although having a longer length of stay (average 11 days), achieved a higher than average functional improvement (FIM gain).

87% of clients (other than those in an emerging consciousness state) were discharged home. Of the 11 clients admitted in an emerging consciousness state, eight were discharged home. These statistics compare well internationally.

Client and whānau satisfaction remains very high with over 98% being satisfied or very satisfied.



An on-site workshop has become a very productive space, where clients are able to work on various woodworking projects.

# Message from the Chief Executive



ABI is dedicated to providing evidence-based and client centred rehabilitation. We know that access to early and intensive neuro-rehabilitation by a multidisciplinary rehabilitation team improves outcomes. Specialised individualised and goal focused rehabilitation is essential in improving the cognitive, emotional, psychological and physical consequences of a brain injury.<sup>1,2,3</sup>

ABI has been able to demonstrate that its clients are receiving rehabilitation that optimises their recovery and reduces the impact of brain injuries they have sustained. It is important to ABI, and a testament to staff, that clients and whānau have highly rated their satisfaction and experience.

Despite COVID-19 restrictions impacting on ABI during the first half of 2020, clients have achieved continuing good outcomes. ABI staff have been under considerable stress during this time to ensure a safe environment. Working as a close and dedicated team with strong pandemic leadership has been a key factor.

In June, ABI achieved a milestone with the move to a purpose-built facility of its Wellington service. This has been a long awaited move, which was logistically challenging. The facility is already proving its worth in supporting rehabilitation and it is good to be back in ABI's local Porirua community.

Achieving a focus on improved access and continuity in the delivery of specialised rehabilitation across the client's journey has been difficult over the last year. Overall, ABI has seen a reduction in the number of clients accessing its intensive rehabilitation services and has experienced significant difficulties in trying to provide continuity of rehabilitation and medical follow-up for clients following their discharge, associated with ACC contract limitations. In addition to working with ACC to try to improve the client journey, ABI has concentrated on those areas where it can influence and improve its services. This has resulted in ABI's continued commitment to quality improvement and research projects, many that are summarised in this report.

During 2019, ABI completed a restructure making us a leaner organisation. This has taken some time to get used to with changes to the coordination of rehabilitation services. I am thankful to our staff who consistently go the extra mile to support our clients and whānau and recognise that ABI's biggest asset is its staff.

- 1 L. Turner-Stokes, A. Pick, A. Nair, P.B. Disler, D.T. Wade *Multi-disciplinary rehabilitation for acquired brain injury in adults of working age*, Cochrane Database of Systematic Reviews., 12 (2015)
- 2 National Institute for Health and Clinical Care Excellence (NICE) *Head injury* (2014) [Available from: <https://www.nice.org.uk/guidance/qs74/resources/head-injury-pdf-2098848108229>]
- 3 NCASRI Project team, Lead: Turner-Stokes L. *Final report of the National Clinical Audit of Specialist Rehabilitation following major Injury*. Northwick Park Hospital. London (2019) [Available from: <https://www.kcl.ac.uk/cicelysaunders/about/rehabilitation/nhs-audit-report-v9-rgb.pdf>]

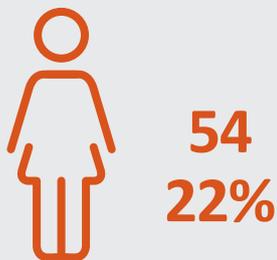
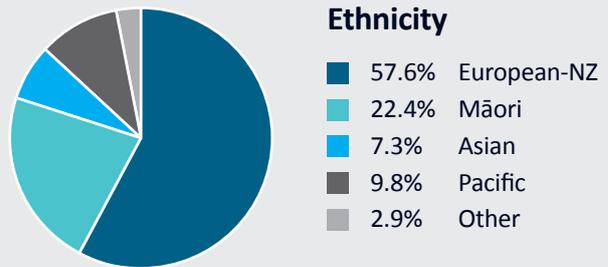
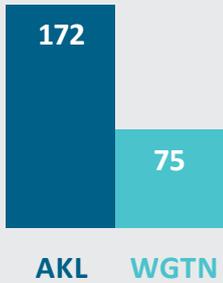
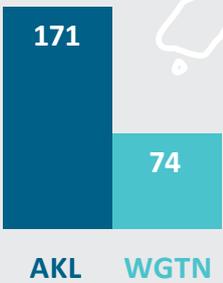
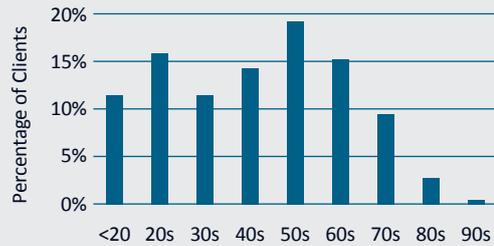
# The Year in Review - Quick Facts

## All Intensive Clients

**245**  
CLIENTS

**247**  
EPISODES

Average Age = 46.2 years old  
Range = 15-98 years old



Median length of stay:

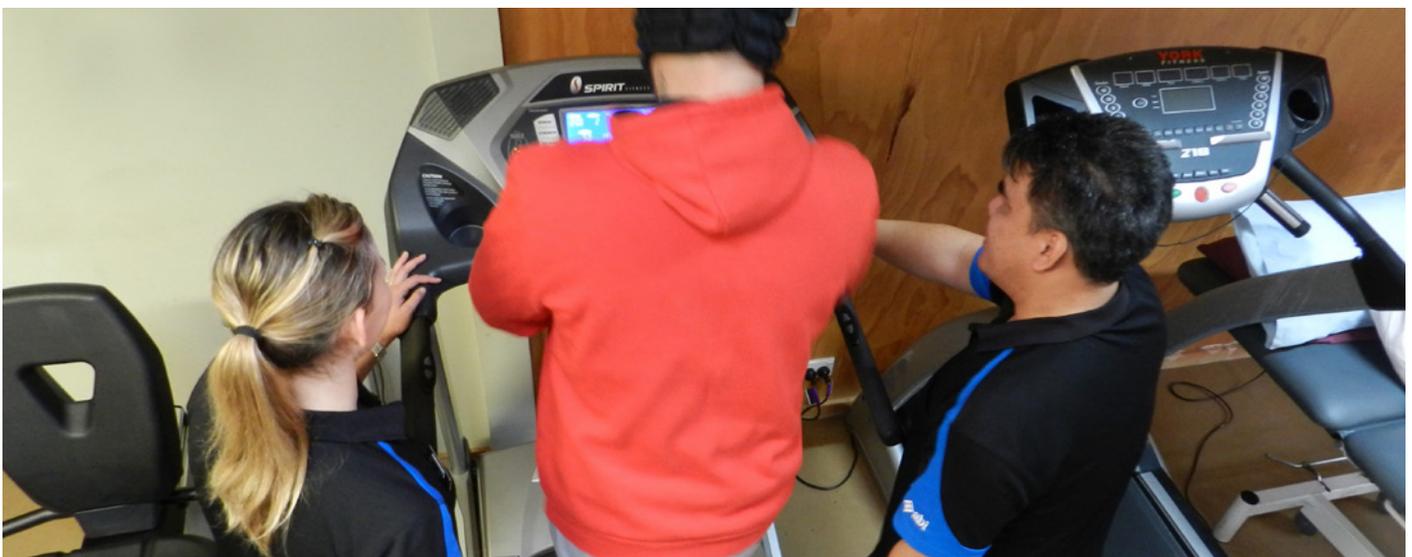
**32 days**

Average length of stay:

**48 days**

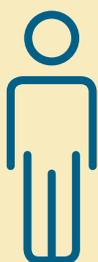
(range: 1-367 days)

Note: The difference in client and episodes indicates 2 clients had 2 separate episodes.



## DHB/MOH/Private Clients

**33** CLIENTS



**25**  
75%



**8**  
24%

Median length of stay:

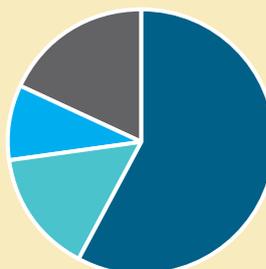
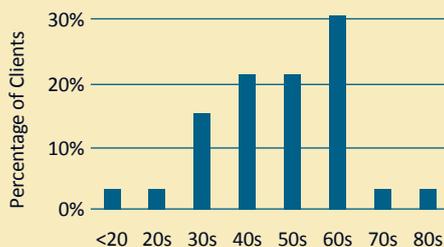
**55 days**

(range: 12-322 days)

Average length of stay:

**67 days**

Average Age = 52 years old  
Range = 18-80 years old



### Ethnicity

- 57.6% European-NZ
- 15.2% Māori
- 9.1% Asian
- 18.2% Pacific

Discharged home

**23**  
70%



### Mechanism of Injury

- 48.5% Stroke
- 15.2% Hypoxic Brain injury
- 9.1% TBI (overseas)
- 6.1% Encephalitis
- 6.1% Brain Tumor
- 15.2% Other



# ACC Clients

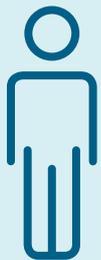
FUNDED BY THE TRAUMATIC BRAIN INJURY RESIDENTIAL REHABILITATION (TBIRR) CONTRACT

## Who are our Clients?

**212** CLIENTS SERVED



**144** IN AUCKLAND      **68** IN WELLINGTON

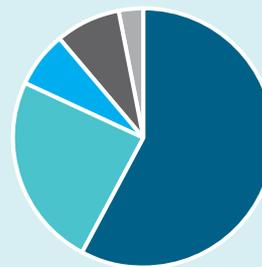
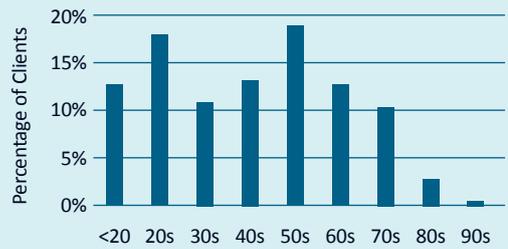


**166**  
**78%**



**46**  
**22%**

**Average Age = 45 years old**  
**Range = 15-98 years old**



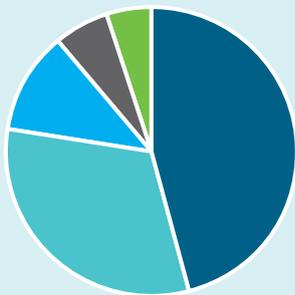
### Ethnicity

- 57.5% European-NZ
- 24.1% Māori
- 7.1% Asian
- 8.0% Pacific
- 3.3% Other

## About their Injuries

**94%** OF CLIENTS HAD A TRAUMATIC BRAIN INJURY

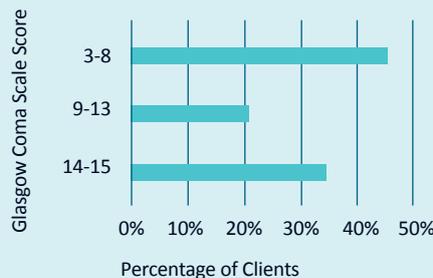
TBIs were most often due to car accidents and falls.



- 46.0% Vehicle
- 31.5% Fall
- 11.5% Assault
- 6.0% Bicycle & Sports Injury
- 5.0% Other

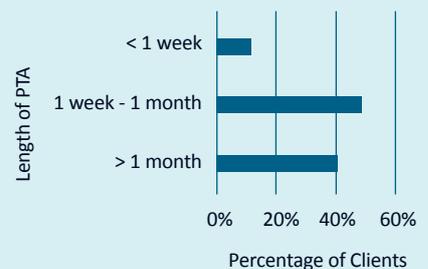
Average Glasgow Coma Scale score in Emergency Department:

**9.2**  
(range: 3-15)



Average duration of post-traumatic amnesia\*:

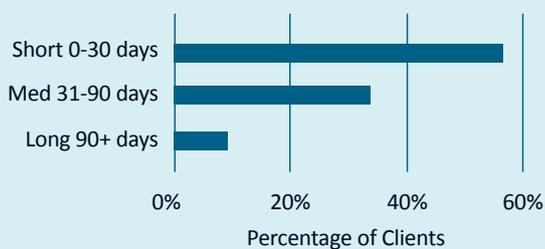
**31.3 days**  
**Median: 23 days**  
(range: 1-131 days)



\*of those who were out of PTA prior to discharge from ABI (18.7% where PTA testing was applicable were still in PTA on discharge from ABI)

## Clinical Outcomes

Median length of stay: **25.5 days**  
 Average length of stay: **37.5 days**  
 (range: 1-194 days)



Percent of clients who were discharged to home:

**87%**



## Emerging Consciousness Service

**11** Eight emerged from minimally consciousness and five of the eight were discharged home.

Median length of stay: **161 days**  
 Average length of stay: **152 days**  
 (range: 45-237)

“Overall, how satisfied were you with the service we provided?”

**98%**  
of clients

**100%**  
of family-whānau

...answered Satisfied or Very Satisfied



# Key Achievements for this Year

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This section of the report provides a summary of three highlights across ABI intensive services over the past year:

- Wellington new build
- Covid-19 management
- Blackout for brain injury



## Wellington New Build: Move in Day 22 June 2020

Up until December 2018, ABI provided its Wellington intensive service in Porirua. With the land in Porirua repurposed for a new housing development, ABI moved to temporary premises in Lower Hutt whilst a rehabilitation facility was purpose-built opposite Kenepuru Hospital, Porirua. ABI was able to contribute to the planning and design. This not only considered the wellbeing and rehabilitation needs of clients and whānau, but also considered the wellbeing of staff with several dedicated staff areas including kitchen, dining area and meeting rooms.

On 22 June 2020, ABI moved to the new 24-bed rehabilitation facility. In addition to individual client rooms and pleasant outdoor surroundings, the facility includes:

- Gym
- Client laundry
- Client kitchen
- Assessment and therapy rooms
- Commercial kitchen
- Commercial laundry

Early feedback from clients and whānau has been very positive. Not just about the wonderful facilities, but also the quality of the food thanks to our in-house chefs.

There has been a significant increase in workload related to the building project and move. There has also been some disruption for clients and whānau. ABI would like to acknowledge the support and cooperation from clients, whānau and its staff over the last 18 months.



Photo with Ray Mercer (Kaumātua), Cath Growcott (Chaplin) and Chris Howard-Brown (CEO) following the blessing ceremony on opening day.



## COVID-19 Management

Although COVID-19, cannot be described as a highlight, ABI’s response to the pandemic has demonstrated the considerable commitment and skill of its staff.

ABI is an essential service and like every other business in the world, felt the impact of COVID-19. This was, and remains, a very uncertain time. During COVID-19 levels 4 and 3 restrictions, ABI’s intensive services remained open and continued to provide rehabilitation. Other parts of ABI worked from home with community services providing as much tele-rehabilitation as possible.

Our medical directors, Dr Tanya Harris and in her absence Dr Robin Sekerak as pandemic controllers, have worked with the team to ensure ABI’s pandemic measures have been strong. ABI has kept up-to-date with national and international advice changing its approach as more is learnt about the virus. ABI reviewed, updated and shared its pandemic plan, sourced PPE from wherever possible, ran updates on safe PPE donning and doffing, and altered admission, leave and discharge processes. Those coming into work needed to adapt to the changes including the use of personal protective equipment (PPE), social distancing, visitor screening and not accessing the community for rehabilitation tasks.

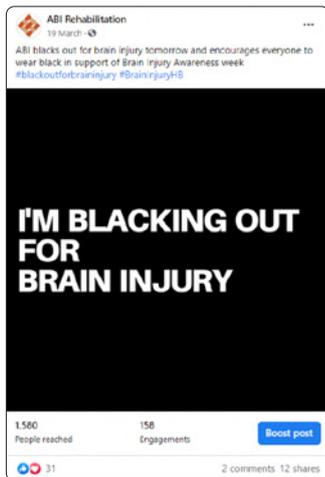
Such changes require teamwork and we thank staff, clients, and whānau for the efforts made and the understanding showed during these times.



Visiting restrictions under COVID-19 level 4

## Blackout for Brain Injury

Blackout for brain injury is an initiative led by the Hawke's Bay Brain Injury Association. The purpose is to raise the profile and awareness of brain injury whilst reducing the stigma that may be associated with it. ABI's clients and staff supported this campaign by dressing in black, displaying posters and balloons around the units, and providing education and games relating to brain injury awareness. This was shared through ABI's social media sites reaching over 1500 people, our most successful post to date. ABI is proud to support such initiatives.



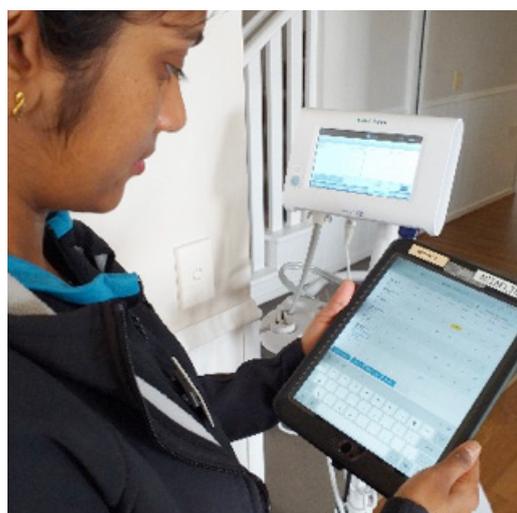
# Quality Improvement Initiatives

ABI has a full programme of quality improvement initiatives. This report provides an overview of some of them including:

- Early warning system
- Nursing portfolio
- New entry to practice programme
- Well organised ward
- Self-directed rehabilitation

## Early Warning System

An Early Warning System (EWS) is a quality initiative that was introduced to ABI modelled from the NZEWS that was designed for detecting clinical deterioration in acutely hospitalised adult patients. The ABI system requires nursing staff to enter the client’s observations into the client management system (CMS). Data includes blood pressure, heart rate, respiratory status, temperature and neurological observations. The design of the EWS ensures that any data that falls outside the client’s normal limits, prompts the nurse to respond with appropriate follow-up actions. Another advantage of the new system is it allows nurses and doctors to review the observations remotely. This is a significant improvement over previous paper records.



### Vitals

	12/08/20 13:23	12/08/20 09:22	11/08/20 16:30	11/08/20 13:22	11/08/20 08:50	10/08/20 16:00
Temperature C [35.6 - 37.9]	36.8	36.2	36.4	36.8	36.4	37
BP Systolic mmHg [90 - 160]	98	94	96	96	97	92
BP Diastolic mm...	67	65	61	60	62	58
Heart Rate /min [60 - 109]	60	62	74	67	63	55
O2 sat % [92 - 100]	98	98	97	96	96	96
Resp Rate /min [12 - 24]	16	16	17	17	16	16

## Nursing Portfolio

ABI has an existing arrangement with Hutt Valley DHB to link in with its professional development and recognition programme (PDRP). However, this PDRP is not specific to brain injury rehabilitation so ABI nurses have been working towards developing a nursing portfolio containing work that reflects their professional knowledge and responsibilities. This work is additional to competency demonstration, and education that is undertaken annually.

Initially, work has been completed to match the Australasian Rehabilitation Nurses’ Association competency standards with the Nursing Council of New Zealand competencies. This has been followed with development and testing of critical reflection tasks specific to brain injury rehabilitation.

The nursing portfolio is an ongoing process, with additional work added to demonstrate the nurses increasing level of expertise, knowledge and responsibilities. ABI continues to work with others as part of a national approach to PDRPs.



## Nurse Entry to Practice (NETP) Programme

In December 2019, ABI Rehabilitation Wellington collaborated with Hutt Valley DHB to support a new graduate nurse under the Nurse Entry to Practice (NETP) programme. The NETP programme is a Nursing Council of New Zealand accredited programme, led by DHBs. It supports new graduate registered nurses to facilitate the smooth transition from being a student nurse to a competent registered nurse.

This 12-month programme enables the new nurses to begin their careers by applying their existing theoretical concepts and knowledge of nursing practice to specialty clinical settings under the continuous mentorship of

senior nurses and a nurse educator. As a part of the programme the new graduate nurse was appointed and provided with a six week structured orientation. The nurse was buddied with senior nurses and was staffed as an extra nurse. In addition, they were enrolled to attend 12 study days and complete a postgraduate paper.

ABI has just accepted its second NETP nurse. ABI plans to continue supporting the NETP programme as part of its commitment to developing new graduates in the field of brain injury rehabilitation.

## Well Organised Ward

The Well Organised Ward project is an approach to simplify the workplace and reduce waste by having everything in the right place, at the right time and ready to go. Originally, developed by the NHS in the UK, this quality initiative was very useful, particularly when working in temporary premises in Wellington.

In June-July 2019, ABI Wellington started the project under the leadership of the Clinical Nurse Educator. The project was initiated by developing a team of staff members interested to work on this project. It involved several meetings and discussions amongst the team members with all the team members being assigned duties during the meeting with target and completion dates. The team members worked collaboratively with other staff members to organize their aspects of the project. The Clinical Nurse Educator sent out regular updates of the project to all staff and kept them informed of changes made. This was more than “just tidying up the things”. The project took a systematic approach involving the use of a 5S approach to organise areas in the ward:

- Sort (remove what’s not needed),
- Set (right thing in the right place),
- Shine (keep things ready to go),
- Standardize (an agreed, consistent process), and
- Sustain (continually improve).

This project resulted in organising the nursing hub space and categorising different cupboards used for the patient’s clinical supplies.

The well organised ward has reduced waste by having everything in the right place, at the right time and ready for use. Although not a specific rehabilitation nursing programme, it is a quality initiative that saves time, increases satisfaction and helps eliminate waste.





Matthew enjoys challenging anyone who is keen for a game of chess.

## Examples of Self-directed Rehabilitation

How can we turn an activity like watching TV into a rehab opportunity?

Asking questions about what is being observed, encouraging client to give a summary of the show/story. Encouraging conversation around what is being watched by using cueing techniques. What is your opinion? What do you think will happen next?

Another technique may be to use hand over hand practice for reach and grasp, for example playing chess or connect four, with the primary focus on encouraging and increasing client independence.

## Self-directed Rehabilitation

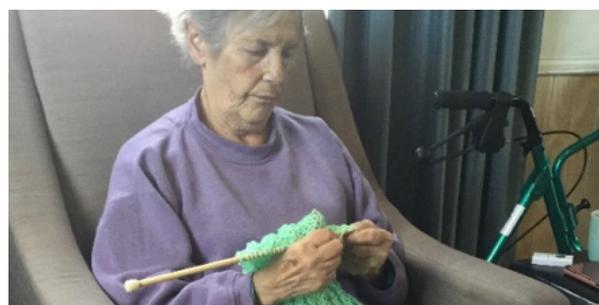
Self-directed rehabilitation quality initiative was set up to support clients to integrate their preferred leisure activities into additional rehabilitation opportunities. This supports independence, achievement of meaningful goals and reduces boredom that can occur.

For some clients generating their own ideas to keep themselves occupied after a brain injury is difficult. An important part of this initiative is to empower and support clients, whānau and friends by providing ideas if needed and opportunities utilising the client's preferred everyday leisure activities to form part of their rehabilitation programme. The aim also includes identifying rehabilitation opportunities that can continue at home following discharge.

Within the first 24 - 48 hours of admission, clients receive a questionnaire to identify personal preferences of available activities. The questionnaire is completed in conjunction with the support of whānau, as appropriate.

A preference list is placed on the pin board in the client's room and added to their daily timetable. Occupational and Speech Language therapy assistants demonstrate rehabilitation activities to rehabilitation assistants who in turn assist clients with activity set-up and participation of their chosen activity for that day.

This has been a successful initiative that is now being routinely included in rehabilitation at ABI. It has been wonderful seeing clients sitting outside playing cards, finishing off woodwork activities whilst encouraging and supporting each other and becoming friends.



Beverly was a client during the COVID-19 nation-wide lockdown. "I have enjoyed completing puzzles and having the opportunity to knit again. I have been kept busy with activities."

# Operational Issues and Resolutions

## Health and Safety

Overall incident rates are trending down. There are two areas where incidents remain high. These are assaults by clients due to behavioural symptoms; and client falls.

Client behaviour is managed by skilled staff and the use of protocols (care plans). The protocols are developed in conjunction with the ABI Psychology team and other members of the inter-professional team and are updated or modified as the need arises. Staff receive specialised training and regular updates in behaviour management.

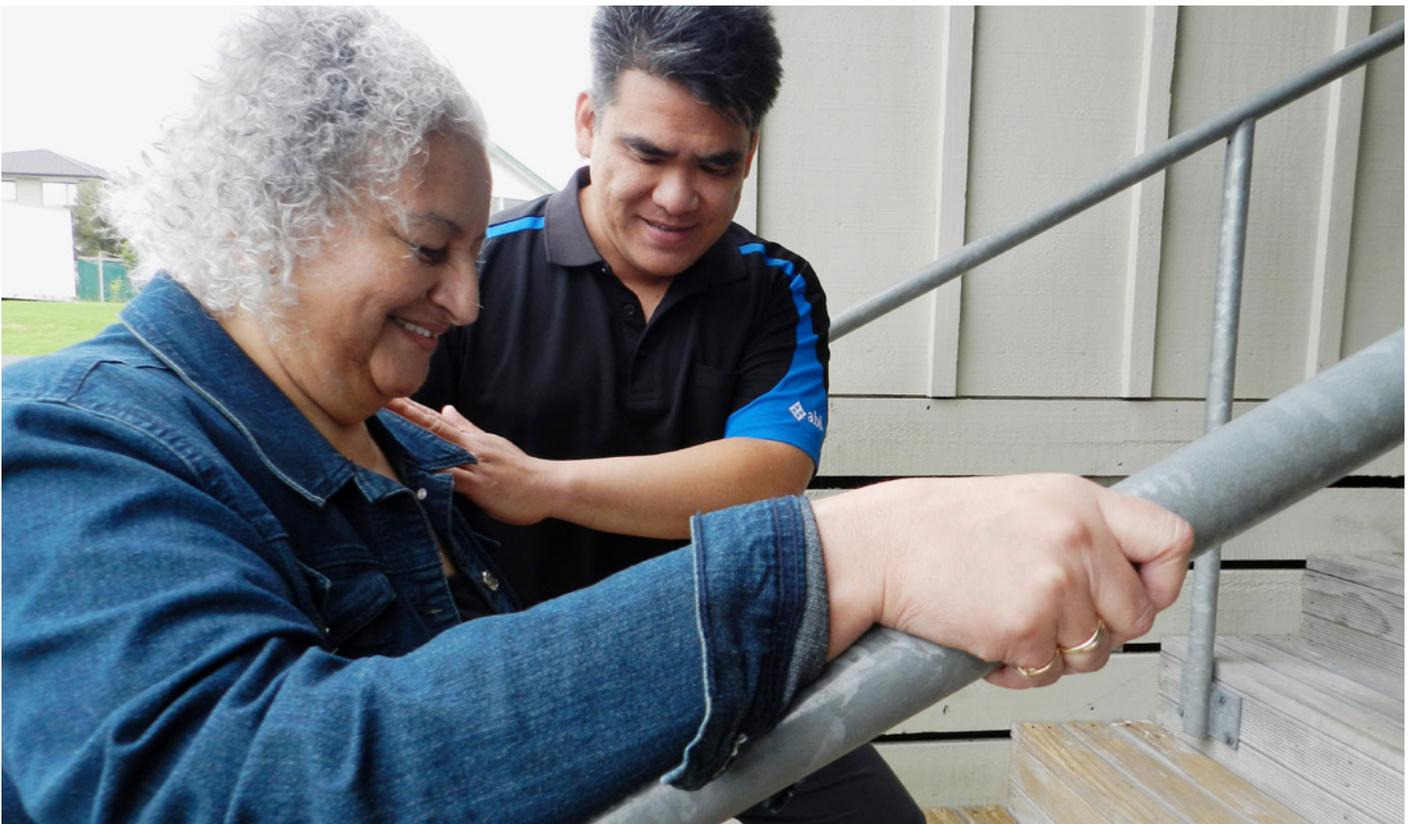
Falls are minimised initially through the completion of a risk matrix for the client and implementing a plan. Following every fall or near miss there is a falls huddle (with the core team for that client) where a review is undertaken with recommended changes implemented. Given the increase in falls in the 2019 calendar year, a new project has commenced to identify if there are any other measures ABI can take to further minimise falls.

There have not been any notifiable incidents during this reporting period. The Health and Disability Commissioner assessed one complaint received by the Nursing Council of New Zealand and has subsequently referred it back to the Nursing Council. The case involved a prior employee of ABI but did not relate to services provided whilst employed at ABI.

## Audits

ABI was independently audited against the Health and Disability Services Standards (NZS8134:2008) July 2019. As a result, the service was awarded a four-year Ministry of Health (HealthCERT) certificate. This demonstrates a high level of compliance with the Standards.

ABI Wellington completed a partial provisional audit in May 2020 to fulfil a requirement prior to moving the service from Manor Park to Hospital Drive in Porirua. ABI has also completed food safety audits and inspections as required.



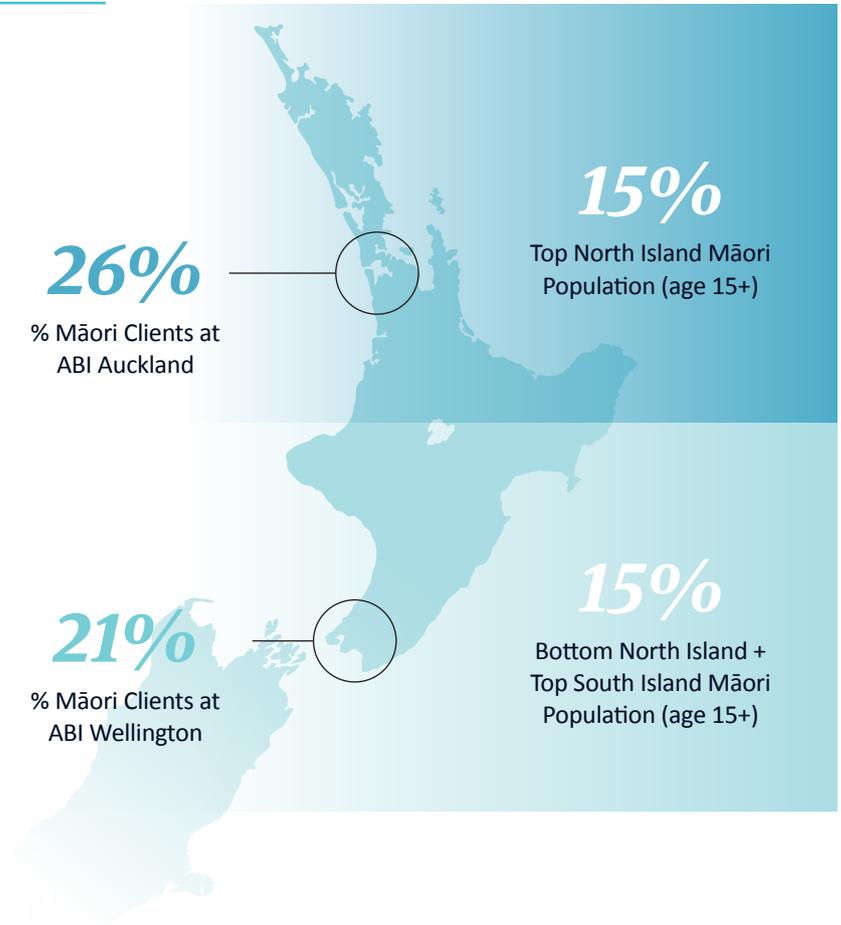
# Cultural Capability

## Ethnicity of Clients

A key priority at ABI is to improve its cultural capability. Admissions data continues to show an over representation of Māori requiring brain injury rehabilitation services. The data suggests the age of Māori is typically younger than non-Māori with over 60% of Māori being younger than 40 years of age. This compares to 35% of non-Maori who are younger than 40 years of age.

ABI Rehabilitation places a high value on the Kaiārahi Kaupapa Māori role. This role has been extremely valuable in assisting to identify client and whānau needs and help create a relationship where knowledge sharing is embraced. This role involves visiting clients and whānau whilst they are in the hospitals, welcoming clients and whānau on-site, facilitating hui, incorporating the kaupapa into rehabilitation plans and working collaboratively on discharge planning.

Markers of engagement and outcome such as length of stay, self-discharge and discharge destination are similar, for Māori and non- Māori, in this reporting period.



The ACC TBIRR data shows:

**Average age on admission**

Māori	Non-Māori
<b>36</b>	<b>49</b>

**Younger than 40 at admission to ABI**

Māori	Non-Māori
<b>63%</b>	<b>35%</b>

**Length of stay (days)**

Māori	Non-Māori
<b>43</b>	<b>44</b>

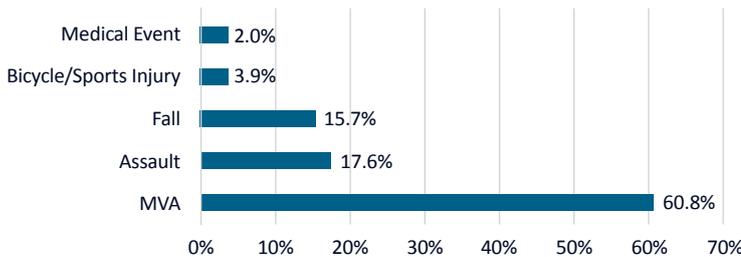
**Discharged Home**

Māori	Non-Māori
<b>86%</b>	<b>84%</b>

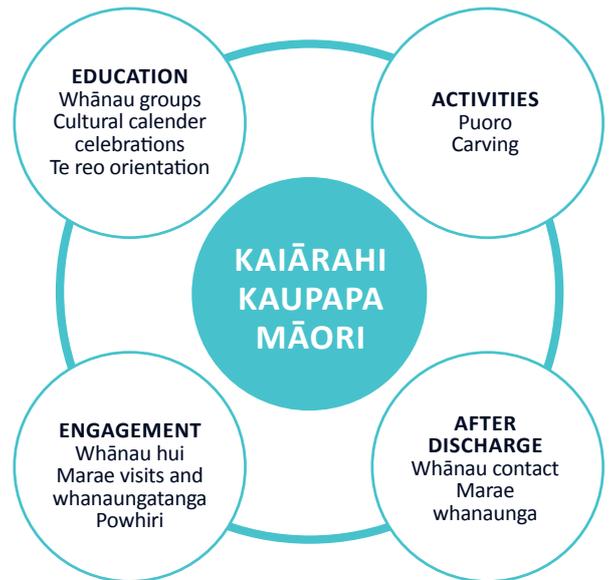
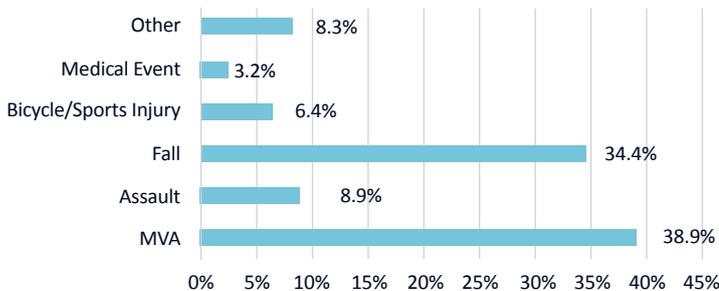
**Self discharges**

Māori	Non-Māori
<b>8</b>	<b>12</b>
3 WGTN / 5 AKL	4 WGTN / 8 AKL

Mechanism of Injury: Māori



Mechanism of Injury: Non-Māori



Of interest, the mechanism of injury differs for Māori versus non-Māori. This might be partly explained by the Māori cohort being a younger population. Typically, young adults have a higher proportion of motor vehicle accidents in comparison to the older population who typically contribute to a higher proportion of falls. Of concern, the mechanism of assault resulting in a moderate to severe TBI is twice that for Māori when compared to non-Māori.

## Te Waka Oranga

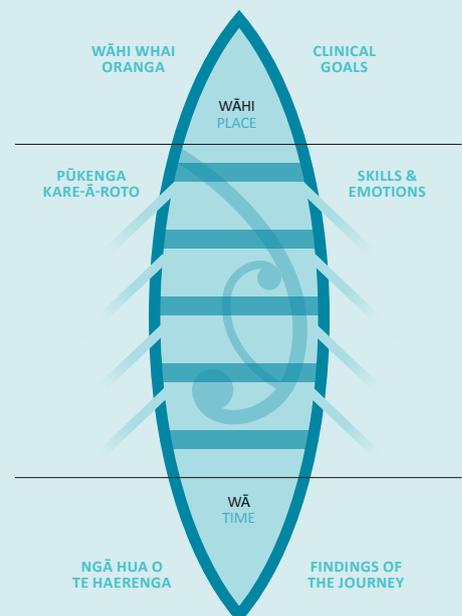
The role of whānau (extended families) is deemed an essential aspect of hauora (wellbeing) by Māori, who are overrepresented in populations where there is injury to the brain. Family/whānau knowledge systems can greatly improve recovery outcomes for those with such injuries.

Two Māori rehabilitation tools are now in use at ABI Rehabilitation: Te Waka Oranga<sup>1</sup> and Te Waka Kuaka<sup>2</sup>.

Using the metaphor of a waka, Te Waka Oranga describes the process of bringing together family/whānau and health workers so they can share their knowledge, skills and feelings to improve the ABI recovery experience and the outcomes for family/whānau.

Te Waka Kuaka is a Māori bilingual cultural needs assessment tool that has been developed to further guide this work and uses the metaphor of a flock of godwits.

These two tools, with family/whānau at the centre, create a holistic approach to recovery. Resources and activities are created and introduced to family/whānau alongside both of these tools.



1 Elder, H. (2015). Te Waka Oranga, bringing indigenous knowledge forward, in K. McPherson, B.E. Gibson, & A. Leplege (Eds.), *Rethinking Rehabilitation Theory and Practice* (pp. 227–247). Boca Raton: CRC Press Taylor and Francis.

2 Elder, H., & Kersten, P. (2015). Whakawhiti kōrero, a method for the development of a cultural assessment tool, Te Waka Kuaka, in Māori traumatic brain injury. *Behavioural Neurology*, 2015, 8. doi:10.1155/2015/137402.

## Cultural Celebrations

### DIWALI

Diwali is observed by Hindus, Sikhs and Jains around the world. Many people celebrate the legend of Hindu God Rama and his wife Sita's returning to their kingdom in northern India after being exiled following the defeat of demon king Ravanna. The five-day festival, which coincides with Hindu New Year is seen to be one of the most significant in the Indian culture.

The word Diwali means "series of lights". During the festival houses and shops are decorated with candles and lights.

Throughout the festival, families and friends share sweets and gifts and there is also a strong belief in giving to those in need. ABI celebrated this with food and sweets at both sites. Some dressed in traditional clothing and it was a great opportunity for others to learn about the culture and celebration surrounding Diwali.

Diwali celebration lunch at Wellington.



### CHINESE NEW YEAR

Celebrating Chinese New Year is an all-day event at ABI. Taking the lead, in Auckland, on the preparation and planning was again our senior nurse Jun. She organised the troops (clients and staff) to prepare the food and shared the history and traditions surrounding the celebration. This year was the year of the Rat. We learnt that rats are clever, quick thinkers, successful, but content with living a quiet and peaceful life.

Hard at working preparing some of the many hundreds of dumplings.



# Workforce Development

## Staff Working on and Completing Higher Education

In this reporting period, Angela Davenport has completed her DHSc, Shona Lees has completed her Postgraduate Certificate (PGCert) in Health Science in Leadership and Management, Julia Averill has completed her PGCert in Health Science in Rehabilitation and Maegan VanSolkema continues to make great progress towards her PhD.



**Shona Lees** / Rehabilitation Services Manager

Congratulations to Shona, Rehabilitation Team Manger in the completion of her postgraduate certificate in Health Science and Leadership Management.

Shona told us “Although it feels like hard work at the time, once you get to the finish line it is great to reflect back on what you have learnt and how you can now apply this to you role at ABI Rehabilitation”.



**Angela Davenport** / Rehabilitation Nurse Advisor

Congratulations to Angela Davenport for completing her DHSc (Doctor in Health Science) through AUT University.

Angela’s research explored nurses’ documentation of their contribution to Traumatic Brain Injury (TBI) rehabilitation. The research was interested in what daily work rehabilitation nurses actually document, and why they choose to document it in the way they did. The findings highlighted the specialty practice of rehabilitation nursing with TBI clients. Additionally, the research found that power dynamics and many invisible components of the rehabilitation nursing role detracted from a collective nursing voice within TBI rehabilitation. A shared language, nurses communicating their specialty within their documentation to the wider team, and establishing a collective voice were all seen as key to progressing the nursing contribution to TBI rehabilitation.



**Julia Averill** / Clinical Lead Physiotherapist

Julia completed her rehabilitation PGCert this year. Balancing post graduate studies, alongside fulltime work (and training) has improved my time management skills. The course, run through AUT has enhanced my skills to find appropriate evidenced based research and critically analysis the findings. Julia enjoyed being challenged academically and particularly enjoyed the motor control paper due to its high clinical applicability, as it underpins a lot of what we do as physiotherapists.



**Maegan VanSolkema** / Clinical Lead Speech Language Therapist

Maegan continues to work towards her PhD “The role and relationship of attentional processes governing communicative functioning following moderate/severe TBI in adults”. Her PhD project consists of four phases that will gather evidence from multiple perspectives: 1) literature 2) health professionals 3) family/whānau, and 4) people with TBI. Her systematic literature review was published in July 2020 in Neuropsychology Review. The review explored both attention and communication following moderate to severe TBI and aimed to connect them through a meta-narrative analysis of the discourse surrounding the terms and how they have evolved over time. The main communication behaviours that were found related to attention in the context of post-TBI cognition include: discourse, tangential communication, social communication, auditory comprehension, verbal reasoning, topic maintenance, interpretation of social cues and emotions, verbal expression, reading comprehension, verbal response speed, and subvocal rehearsal.

Maegan is currently focusing on writing manuscripts from the first phase of data that were collected from focus groups and a survey; and recruitment for the third phase of her project that takes the family/whānau’s lived experience of what it is like to live with someone post TBI with attention difficulties day to day. Next year she will conduct the final phase of her project, working with people with TBI, through exploring how attention difficulties impact discourse and social communication.

## Careerforce

ABI is very proud to announce that ABI has had another 10 staff complete the Level 4 Certificate in Brain Injury Rehabilitation Support and a further two complete Level 3 in Certificate in Cleaning. ABI Rehabilitation currently has 10 people enrolled in level 4 careerforce, with 4 working in intensive rehabilitation services (3 x RA and 1 x SLT assistant).

This commitment to continued learning maintains and raises standards at ABI. Congratulations to staff and thank you for the time and effort put in to achieving certification.



## CARF Surveyors

Commission on Accreditation of Rehabilitation Facilities (CARF) is an independent, accreditor of health and human services. CARF is dependent of training surveyors that can conduct peer-reviews on their 60,000 programs and services at over 28,000 locations across 16 countries.



CARF headquarter in Tuscon.

Two ABI team members, Tony Young and Dr Pauline Penney completed the CARF accreditation training over the past year. This involved an online training package with regular examinations and then a three day onsite scenario based training and examination. This took place at CARF headquarters in Tucson, Arizona. The training is intense but well worth the effort. As programme surveyors, Tony and Pauline visit other Rehabilitation facilities throughout the world seeing how they run their services as part of an accreditation team. The knowledge sharing and learnings from these experiences have significant benefits to themselves and to ABI. COVID-19 has clearly had a significant impact on the continued involvement in international surveying and it is likely to be some time before this returns to 'normal'.

## New Members to the Leadership Team



### Christine Hill

Christine joined ABI in September 2019 as the Nursing Services Manager at the Wellington facility. She is responsible for the smooth running of the facility and the growth and development of the nursing and rehabilitation assistant roles within the service.

Christine is a registered nurse with extensive experience in the primary health sector and experience with leading teams and managing change. She has a firm commitment to applying Te Tiriti o Waitangi and the principles of equity to practice and embracing whānau as key participants in the client journey.

*Client Story*

# Place of Heart

Dave recently visited Auckland's intensive service, to thank staff and to volunteer to be a guest speaker within the client educational groups. Dave describes ABI Rehabilitation as his "place of heart". Dave is looking at re-training and studying with a mental health focus particularly, addictions, "I want to give back". His key message that helped his recovery was to "keep it simple, take baby steps, have a positive energy and have whānau and friends involved and supporting you". Dave discussed attaining his goal of returning to driving, and made this visit to ABI part of a family holiday. Dave proudly brought out his diary during the visit and discussed that this has helped his short-term memory and that he takes it everywhere, with his new motto of life.



# Research Activity

## Key Presentations, Workshops and Interviews

# 2019

- 17 July 2019  
Rachelle Bennette and Rachael Reid  
**ADHB allied health on ACC funded rehab for clients following TBI**
- August 2019  
Charlotte McLauchlan and Rowena Garland  
**Presented to Second year nursing student on inter-professional rehabilitation**
- 14 August 2019  
Tony Young  
**Presented to the Northern Rehab Providers Group (NRPG) in Auckland**
- 08 August 2019  
Angela Davenport  
**Presented at Injury 2019 Conference**
- 16 September 2019  
Dr Tanya Harris  
**Interviewed as an expert on TBI by Radio New Zealand**
- 14-15 October  
Angela Davenport  
**Presented at Australasian Rehabilitation Nurses Association Conference**
- 08 October 2019  
Dr Richard Seemann and Dr Tanya Harris  
**Neuro-rehab lecture to Makoha Rotorua**
- 17 October and various other dates  
Amy Smith and Frances Schilder  
**Brain injury education to Youth Aid**
- November 2019  
Maegan VanSolkema  
**Guest speaker for the Barry Willer "What Ever it Takes" workshop on Cognition following TBI**
- 21 November 2019  
Dr Tanya Harris  
**Presented at AROC meeting: TBI as a chronic disease**
- 11 December 2019  
Maegan VanSolkema  
**Presented to the national Acquired Brain Injury SLT Special Interest Group**
- 20 January 2020  
Amado Torres  
**Presentation to five Japanese researchers hosted by the University of Otago (Wellington)**
- 5 February 2020  
Maegan VanSolkema and Helena Lister  
**Presented at Middlemore Hospital to the CMDHB on hypoxic brain injury**
- 3 April 2020  
Maegan VanSolkema and Laura Silcock  
**Presented to the National rehabilitation registrars group on swallowing and cognitive communication disorders**

# 2020

## Research Projects

The following research projects relate to ABI Intensive Services. ABI is also involved in other research projects within its other services and has joint applications for research under consideration.



# Summary of Admissions

## Bed Days

There was a change in the number of beds available in both Auckland and Wellington over the past year. The intensive service had on average 32 beds available in Auckland and 16 beds in Wellington. Together, over the course of the year there were approx. 17,602 bed days available.

There is significant seasonal and weekly variation in bed occupancy which is not predictably predictable. Figures for the reporting period are shown in the table below.

### BREAK DOWN FOR ACC TBIRR CONTRACT

FACILITIES	NO. BEDS*	DAYS PER YEAR	AVAILABLE BED DAYS	DAYS OCCUPIED* (EXCL. ALL ABSENCES)	% OCCUPIED TBIRR	FUNDED ABSENCES** TBIRR	TOTAL FUNDED TBIRR DAYS	% FUNDED TBIRR
ABI Auckland	32	366	11,776	6,103	51.83%	408 (230 BR)	6,511	55.29%
ABI Wellington	16	366	5,826	3,069	52.68%	263 (161 BR)	3,332	57.19%
<b>Total</b>	<b>48</b>	<b>732</b>	<b>17,602</b>	<b>9,172</b>	<b>52.11%</b>	<b>671 (incl. 391 bed retention)</b>	<b>9,843</b>	<b>55.92%</b>

\* incl. day rehab, admission day, only TBIRR contract (ACC and private insurance funded)

\*\* fully funded and bed retention days for hospital, short notice and planned leave, AWOL and Day rehab DNA



## Referring Hospitals for ACC TBIRR Contract



REFERRING HOSPITALS	TO ABI AKL	TO ABI WGTN	TOTAL EPISODES
1) Whangarei Hospital	10	0	10
2) North Shore Hospital	4	0	4
3) Auckland Hospital	56	1	57
4) Middlemore Hospital	16	0	16
5) Thames Hospital	1	0	1
6) Waikato Hospital	40	2	42
7) Tauranga Hospital	4	0	4
8) Rotorua Hospital	2	0	2
9) Gisborne Hospital	0	1	1
10) Hawkes Bay Hospital	5	1	6
11) Taranaki Base Hospital	0	2	2
12) Whanganui Hospital	0	2	2
13) Palmerston North Hospital	1	3	4
14) Wellington Hospital	0	42	42
15) Hutt Hospital	0	6	6
16) Wairarapa Hospital	0	1	1
17) Wairau Hospital	0	1	1
18) Christchurch Hospital	0	1	1
Community Admission	6	5	11
<b>TOTAL</b>	<b>145</b>	<b>68</b>	<b>213</b>

## Emerging Consciousness

There were 11 clients admitted over this period in a minimally conscious (MC) state. This was made up of nine males and two females, with motor vehicle accidents being the leading (n=7) cause of the injuries. Of the 11 MC clients, eight emerged from this state, and of these five were discharged home. There were two clients that cleared PTA prior to discharge.

EMERGING CONSCIOUSNESS DATA		ALL CLIENTS	SUB-GROUPS, BASED ON DISCHARGE DESTINATION			
		TOTAL	DISCHARGED HOME	DISCHARGED TO LONG TERM REHAB	RETURNED TO HOSPITAL	
Number of Clients	<b>Total</b>	11	5	5	1	
	<b>Gender</b>	<b>M</b>	9	5	3	1
		<b>F</b>	2	0	2	0
	<b>Mechanism of Injury</b>	<b>Fall</b>	3	2	0	1
		<b>MVA</b>	7	2	5	0
		<b>Bicycle</b>	1	1	0	0
	<b>Emerged from minimally conscious</b>		8	5	2	1
<b>Cleared PTA</b>		2	2	0	0	
Age range	<b>Age range</b>	16 - 59	16 - 57	24 - 59	27	
Average number of days	<b>Length of hospital stay</b>	44	33	52	64	
	<b>Length of EC contract*</b>	37	35	40	n/a	
	<b>Length min conscious*</b>	82	69	103	n/a	
	<b>Length of RR contract*</b>	144	122	180	n/a	

\* of those emerged from minimally conscious state (N=8)

## Client Story

# Laughter is the Best Medicine

Jarrod was involved in a serious car accident late 2016 and was admitted to ABI Rehabilitation in early 2017. He was admitted in a minimally conscious state. Jarrod made slow but steady progress over the next couple of years with the support of his family and ABI staff.

Jarrod's sense of humour became more and more evident during his stay with ABI – he loves getting a laugh from staff.

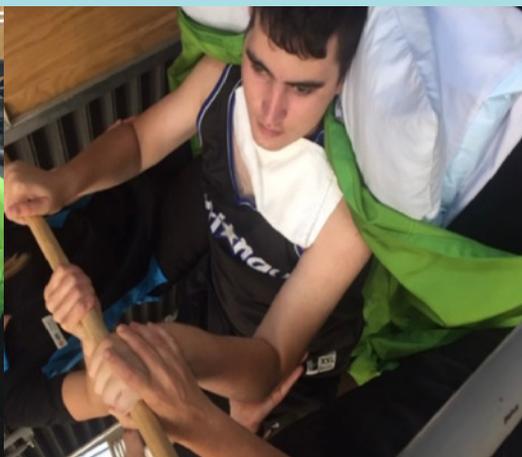


Some of Jarrod's milestones achieved while at ABI included:

Jarrod's biggest milestone was being able to return to living at home.

Jarrod's journey has been immense and he is still carrying on his rehabilitation journey with his family and community team in Wellington. We are lucky that we still get to see Jarrod when he pops in for a visit. All the staff love seeing his progress!

- Getting his breathing tube (tracheostomy) removed and starting food trials
- Participating in youth group talks to troubled teens in conjunction with NZ Police
- Moving from a cloud comfort chair into a customized wheelchair
- Going on outings into the community with family and staff
- Participating in gym sessions with ABI staff and his own personal trainer
- Standing using his standing frame and cycling with his arms and legs using a U-bike
- Arm wrestling with the physios!
- Independently communicating his needs using his notebook, gestures, and facial expressions



# Evaluation of Client Outcomes

## AROC Data

Australasian Rehabilitation Outcomes Centre (AROC) data and the forum to discuss this continues to be valuable. It provides a good opportunity to reflect and understand the outcomes that have been shared and determine what areas needs more attention. ABI also continues to work with AROC on data collection improvements. Data is collected across specialised brain injury services in New Zealand and Australia. Data is collated in similar cohorts based on the mechanism of injury and functional independence measure (FIM) on admission. This allows benchmarking and comparison of outcomes.

At the time of publication of this report, 2020 financial year data was pending publication by AROC. Available data is shown in the table below.

The number of TBI episodes has decreased compared to the past year, not only for ABI, but this is a trend across Australia and New Zealand. The Wellington service continues to have a longer length of stay, but an above expected FIM gain and a higher than benchmarked percentage of clients discharge home.

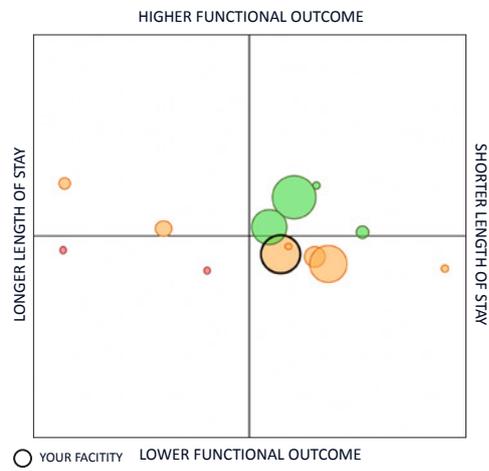
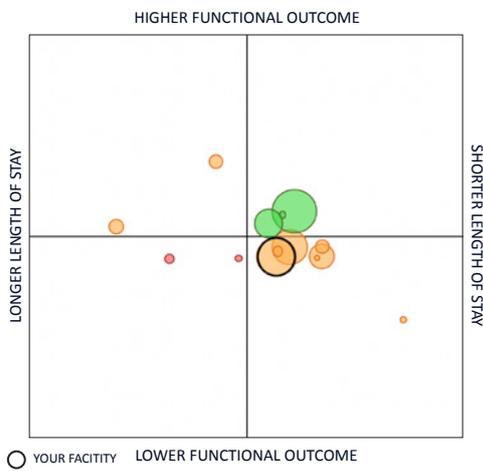
VARIABLE	AROC REPORT	FACILITY OR BENCHMARK	FINANCIAL YEAR 2019	CALENDAR YEAR 2019
Number of TBIs	Impairment specific report	ABI Auckland	153	146
		ABI Wellington	61	59
		Benchmark (AU & NZ specialists, TBI only)	1034	940
All TBI episodes, case-mix adjusted average LOS*	Impairment specific report	ABI Auckland	- 4.3	- 4.0
		ABI Wellington	+ 15.3	+ 11.5
		Benchmark (AU & NZ specialists, TBI only)	0	0
All TBI episodes, case-mix adjusted average FIM gain*	Impairment specific report	ABI Auckland	- 2.6	- 3.2
		ABI Wellington	+ 1.0	+1.0
		Benchmark (AU & NZ specialists, TBI only)	0	0
% of clients discharged to private residence	Impairment specific report	ABI Auckland	82%	86%
		ABI Wellington	92%	95%
		Benchmark (AU & NZ specialists, TBI only)	91%	90%

\* Case-mix adjusted average: AROC case-mix adjusts our data by subtracting each client's value from the group mean for their Australian National Subacute and Non-acute Patient Classification (AN-SNAP) class. These 'difference' scores are then averaged across all clients. The benchmark mean is "0".

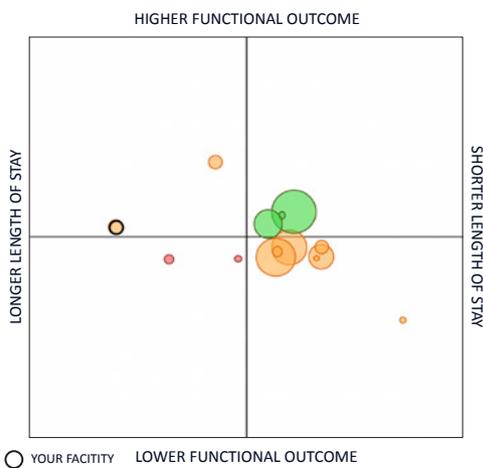
- "Good" LOS values are negative numbers (i.e., shorter than average)
- "Good" FIM gains are positive numbers (i.e., higher than average)

## Dashboard Summary\*\* Impairment Specific Report

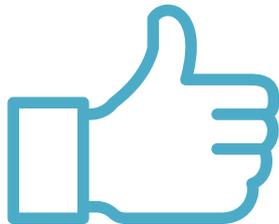
### ABI Auckland



### ABI Wellington



\*\* Dashboard summary: The facility is the black-outlined dot. Size of the dot indicates numbers of clients. Being in the top-right quadrant is “Good”: it means higher functional outcome plus shorter length of stay. The bottom left quadrant is lower functional outcome plus longer length of stay. The other two quadrants indicate mixed outcomes. The other dots represent other TBI specialist providers in Australia and New Zealand.



## Service Satisfaction

Overall, our satisfaction survey results remain very good with 80% or more across all groups stating that they are satisfied or very satisfied with our services. Satisfaction survey results were also above 98% for client and family and whānau satisfaction. Although previous reported periods also demonstrated a high level of satisfaction, this year's results show further improvement in the scoring. The return rate of satisfactions survey has been notoriously low. ABI continues to encourage clients and families to provide us with the feedback.

SATISFACTION SURVEY	PERCENTAGE OF SATISFIED AND VERY SATISFIED
Client	98.5%
Family & Whanau	100%
ACC Case Owners	82.6%
Community providers	80%

This year has seen an increase in return rates for satisfaction feedback across clients and families. Although encouraging we would like to see this trend continue to improve.



# Closing Words

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When running a 24/7 business, like ABI, it is important to stop and reflect on the work that has been completed, work that is currently in play and the direction that we are travelling. The annual report provides an excellent opportunity for this.

This reporting period has had its challenges. There have been times of prolonged low occupancy, restructures within the organisation, the new Wellington facility, and of course COVID-19.

This reporting period saw an overall reduction in admissions to the ABI intensive services of 15% for ACC funded clients. At times, it certainly did not feel like this. Despite having periods of lower than average occupancy there were other times of full occupancy. This demonstrates the largely unpredictable client numbers we have to manage.

The move for the Wellington service to the new facility has been a long time coming. Thank you for your patience. It is important not to underestimate the planning and work that has gone into this over the past 18 months. This has been a real team effort with a great final result. Thank you to all involved.

As shown in the client and whānau feedback, ABI is in the privileged position of having an excellent workforce. Across the board, the nursing and allied health teams, cleaners, chefs, medical teams, admin support, and rehabilitation workers, there is a continued drive to provide a high quality service with the end goal of getting the best possible outcome for those we serve.

Thank you to all those that have worked on their professional development, trained and supported others to gain new skills, or contributed towards one of the many quality improvement projects. This culture of continued improvement with the passion to deliver world class services to our clients is at the core of ABI Rehabilitation's mission and values.

## **Tony Young**

General Manager  
Rehabilitation Services  
ABI Rehabilitation

ABI Rehabilitation is the leading provider of intensive rehabilitation in New Zealand with specialist centres in Auckland and Wellington. ABI provides comprehensive services for people with traumatic brain injury (TBI) and stroke.

For more information visit [www.abi-rehab.co.nz](http://www.abi-rehab.co.nz)



ABI Rehabilitation was the first Australasian rehabilitation organisation to achieve CARF accreditation. We first achieved this distinction in 2012 and have maintained it continuously through demonstration of ongoing commitment to continuous quality improvement. Our next CARF survey is planned for January 2022.



***ABI Rehabilitation New Zealand Ltd***

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