

# EM'POWERING' THE PATH TO RECOVERY:

## Clients' experience of power wheelchair use in their early phase of rehabilitation.

A. Dwyer and C. Bullen, ABI Rehabilitation New Zealand, Ltd

### INTRODUCTION

Our aim is to present client experiences when power wheelchairs were provided during early inpatient rehabilitation for clients post-stroke, in addition to usual therapy, for those requiring assistance with mobility. Power wheelchairs do not seem to be commonly used in early rehabilitation. This may be due to funding barriers and/ or client or therapists' perceptions of risk when using power wheelchairs.

#### BACKGROUND:

Powered mobility can improve quality of life for clients post-stroke<sup>1,2</sup>  
 Prescription of power wheelchairs seems to be primarily considered for clients' long-term use.  
 Previous studies have recommended the use of power wheelchairs to improve independence in functional mobility in the acute post-stroke period<sup>3,4</sup>

### METHODS

Inclusion- n=6	Exclusion – n=2
<ul style="list-style-type: none"> <li>• Consent obtained</li> <li>• Clients with traumatic and non-traumatic stroke (mix of ACC and MOH funding)</li> <li>• Hemiplegia present</li> <li>• Assistance to mobilise in a manual wheelchair +/- or abnormal movement patterns exacerbated during punting</li> <li>• Able to follow simple instructions</li> <li>• +/- neglect/ visuospatial inattention</li> </ul>	<ul style="list-style-type: none"> <li>• Client declined</li> <li>• Unable to follow simple commands</li> <li>• Clients who were self-propelling effectively in manual wheelchairs without adverse effects (increased fatigue and/or hypertonia)</li> </ul>
<ol style="list-style-type: none"> <li>1. Loan power wheelchair provided within 1 month of admission</li> <li>2. Individualised training in power wheelchair use with OT/PT, in addition to usual therapy.</li> </ol>	<ol style="list-style-type: none"> <li>3. Participants and staff educated that the power wheelchairs were a back up for when they were unable to walk with assistance.</li> <li>4. Participants completed surveys at trial completion, capturing quantitative and qualitative feedback.</li> <li>5. Data was collected over a 14 month period.</li> </ol>

### RESULTS: 5 SURVEYS COMPLETED – 1 UNABLE TO COMPLETE DUE TO SEVERE APHASIA

All participants achieved independent powered mobility indoors and 2 participants were independent outdoors.

No. of participants	Wheelchair use on discharge
1	Did not require a wheelchair
1	Indoors- power and manual
4	Outdoors only/ backup for indoors when fatigued

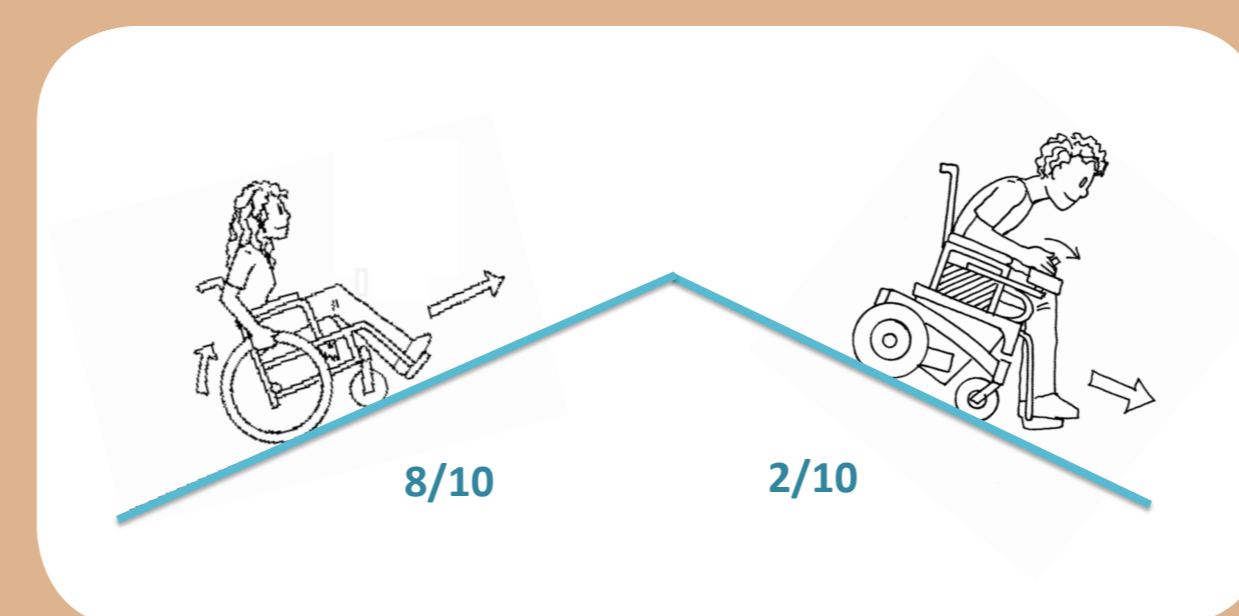
Patients' Global Impression of Change Scale captured change in ability to engage in rehabilitation. Average response was:

**6 - "Better, and a definite improvement that has made a real and worthwhile difference"**

(1= No change, or worse to 7 = A great deal better, and a considerable improvement that made all the difference)

Five out of six participants recommended a power wheelchair trial during rehab for clients with similar needs to themselves.

Participants rated the amount of effort to mobilise in a manual wheelchair vs a power wheelchair.



1 = NOT EFFORTFUL

10 = EXTREMELY EFFORTFUL

'Anne' - "Yes I have been able to take myself to the toilet when necessary"

Lani' - "Yes for scanning purposes"

'Mary' - "Got to go further and not restricted to my ability to walk or get tired"

'Mary' - "has helped keep my energy levels up, able to travel further on my own"

HAS THIS IMPACTED ON YOUR INDEPENDENCE DURING REHAB?

'Anne' - Yes, I have been able to go out on community outings more confidently"

'Susan' - "was very helpful and reduced fatigue"

### DISCUSSION

- A positive impact on overall rehabilitation engagement and outcomes was observed when power wheelchairs were used alongside gait re-education and usual therapy
- All clients with visual neglect (n=4) were able to become safe and independent using power wheelchair around the unit
- Provision of power wheelchair did not preclude clients from achieving safe walking ability.
- Power wheelchairs were used whilst clients transitioned to walking and most were not using them for indoor mobility on discharge
- MOH clients were included, despite stricter funding criteria for long-term wheelchair use
- Power wheelchair use may have increased rehab potential by retraining visual scanning, fatigue management, improving initiation, and increasing self-efficacy and mood.

**RECOMMENDATIONS:**  
 Although the sample size was small, the findings suggest power wheelchairs should be considered as an appropriate intervention in early inpatient rehabilitation as an adjunct to therapy.

#### REFERENCES

1. Mortenson, W.B, Miller, W.C., Boilly, J., Steele, B., Crawford, E.M., Desharnais, G. (2005). Perceptions of power mobility use and safety within residential facilities. Canadian Journal of Occupational Therapy, 72(3), 142-152.
2. Mountain, A.D., Kirby, L., Eskes, G.A., Smith, C., Duncan, H., MacLeod, D.A., & Thompson, K. (2010). Ability of people with stroke to learn powered wheelchair skills: A pilot study. Archives of Physical Medicine and Rehabilitation, 91, 596-601
3. Cornall, C. (1991). Self-propelling wheelchairs: The effects on spasticity in hemiplegic patients. Physiotherapy Theory and Practice, 7, 13-21.
4. Dawson, J. & Thornton, H. (2003). Can patients with unilateral neglect following stroke drive electrically powered wheelchairs? British Journal of Occupational Therapy, 66(11), 496-504.

27th Annual Scientific Meeting of the Stroke Society of Australasia, Queenstown, 23rd- 25th Aug 2017

Data were gathered incidental to standard service delivery through ABI Rehabilitation New Zealand, Ltd. Views and/or conclusions in this report are those of the author(s) and may not reflect the position of funding or governmental agencies.

ABI Rehabilitation New Zealand Ltd.

P 09-831-0070 (Auckland)  
 P 04-237-0128 (Wellington)  
 E enquiry@abi-rehab.co.nz