

# Rehabilitation Research Review™

Making Education Easy

Issue 30 – 2014

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### Abbreviations used in this issue

RTW = return to work

TBI = traumatic brain injury



Te Kaporeihana Āwhina Hunga Whāra



## Welcome to the thirtieth issue of Rehabilitation Research Review.

One of the studies in this issue is from Otago University and illustrates the importance of attempting to measure change in self-identity after traumatic brain injury (TBI). The study results provide a theoretical foundation for the future development of such a measurement tool.

The last study highlights how essential it is to listen to your patient's story, whenever you want to discuss goals of care. As the paper notes, clinical realities cannot be aligned with therapeutic possibilities unless we know the stories of those we seek to help.

I hope you find these papers useful to you in your practice and I look forward to your comments and feedback.

Kind regards,

**Kath McPherson**

Professor of Rehabilitation (Laura Fergusson Chair),  
The Health and Rehabilitation Institute, AUT University

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## A longitudinal, multicentre, cohort study of community rehabilitation service delivery in long-term neurological conditions

**Authors:** Siegert RJ et al.

**Summary:** This group of researchers used the UK National Service Framework for Long-term Neurological Conditions (LTNC) dataset to identify a manageable set of tools suitable for use in routine practice to measure needs, inputs and outcomes from community-based rehabilitation and support services. The study approached 499 patients discharged with an LTNC from 9 tertiary specialised inpatient rehabilitation services across the London region over an 18-month period in 2010–2011. A total of 428 were successfully recruited and requested to provide follow-up information at 1, 6 and 12 months via postal/online questionnaires and telephone interview: 256 responded at 1 month, 212 at 6 months and 190 at 12 months. The study authors comment that although the large majority of study participants were willing in principle to be registered and have their data included in the dataset, in practice, less than half responded to questionnaires at 6 and 12 months, despite extensive efforts to contact them, with no significant differences between responders and non-responders. The survey identified significant unmet needs within the first year following discharge, particularly in rehabilitation, social work support and provision of specialist equipment.

**Comment:** I found this paper interesting for a number of reasons: first it questions some assumptions about 'who needs what' in relation to care and support after inpatient rehabilitation. Secondly, many of those who indicated they would be willing to be followed-up for this research did not respond when that invitation to contribute came. There are all sorts of reasons people do or don't take part in research but we have to find ways to maximise participation if the knowledge produced is to be able to inform developments in provision and practice. This is not just a research issue. It's a practice issue.

**Reference:** *BMJ Open* 2014;4:e004231

[Abstract](#)

## Rehabilitation Research Review

### Independent commentary by Professor Kath McPherson.

Kath McPherson is Professor of Rehabilitation (Laura Fergusson Chair) at the Health and Rehabilitation Research Centre, AUT University in Auckland. She completed a PhD at the University of Edinburgh exploring how individuals and their families recover and adapt after moderate to severe brain injury. From 1997–2001, Kath worked at the Rehabilitation Teaching and Research Unit at University of Otago - Wellington, then taking up a post as Reader in Rehabilitation at the University of Southampton.



For full bio [CLICK HERE](#).

### Rates and predictors of suicidal ideation during the first year after traumatic brain injury

**Authors:** Mackelprang JL et al.

**Summary:** These US researchers examined rates of suicidal ideation after traumatic brain injury (TBI) amongst 559 adult patients admitted to a single medical centre with a complicated mild to severe TBI. They were followed-up by structured telephone interviews during months 1 through 6, 8, 10, and 12 after injury. Suicidal ideation was assessed using item 9 of the Patient Health Questionnaire (PHQ-9). One-quarter (25%) of the sample reported suicidal ideation during 1 or more assessment points. In multivariate analysis, the strongest predictor of suicidal ideation was the first PHQ-8 score (i.e., PHQ-9 with item 9 excluded) after injury. Other significant predictors included a history of a prior suicide attempt, a history of bipolar disorder, and having less than a high school education.

**Comment:** This paper (and unfortunately many others) indicates that more people than we are likely to be aware of after TBI have thoughts, or plans, around suicide. We know depression rates are high in TBI, chronic pain and many other conditions and this is/should be of great concern. Participants in some of our current studies (not just TBI but in stroke, amongst carers and others) have voiced their thoughts about death being preferable to their situation or to what they anticipate to be their future. None of us like the thought that this is the case, but report after report tells us it is so. If you are not sure how you could or should talk with someone about such ideas, it is worth getting up to speed – our group did a workshop on how to talk about suicidal thoughts and found it invaluable. More information at <http://www.spinz.org.nz/> and <http://www.livingworks.org.nz/>

**Reference:** *Am J Public Health* 2014 May 15. [Epub ahead of print]

[Abstract](#)

### From physical and functional to continuity with pre-stroke self and participation in valued activities: a qualitative exploration of stroke survivors', carers' and physiotherapists' perceptions of physical activity after stroke

**Authors:** Morris JH et al.

**Summary:** This qualitative analysis used the Framework Approach to explore the data collected from semi-structured in-depth interviews conducted with 38 community-dwelling stroke survivors, 12 carers and 30 stroke rehabilitation physiotherapists from clinical and community settings. The study analysed survivors', carers' and physiotherapists' beliefs about physical activity to identify how these support or hinder physical activity participation. The key concepts identified in the analysis were desired outcomes and control over outcome achievement. For survivors and carers, physical activity supported participation in valued activities, providing continuity with pre-stroke sense of self. Carers adopted motivating strategies for physical activity to support recovery and participation in shared activities. In contrast, physiotherapists prioritised physical and functional outcomes and viewed survivors' control of outcomes as limited, which was reflected by the support they provided.

**Comment:** On the surface this paper is about individualised approaches to supporting physical activity for health and wellbeing. But it also prompted me to think about Mick Sullivan's work that has talked of how as clinicians, we sometimes catastrophise more than our patients, and that this impacts negatively on outcomes. This paper describes what is perhaps a more everyday occurrence – not catastrophisation – but pessimism. Clinician beliefs in this study veered to the pessimistic with regard to how much control people had over outcomes and this impacted on how they worked with people. Do we really know how much control people might have over outcomes? Matire Harwood's study indicates a one-off session focusing on enhancing a sense of control over outcomes improved health and functioning outcomes at 12 months ([www.ncbi.nlm.nih.gov/pubmed/22087047](http://www.ncbi.nlm.nih.gov/pubmed/22087047)). Makes you wonder what the 'key' ingredients of our interventions are doesn't it...

**Reference:** *Disabil Rehabil* 2014 Apr 3. [Epub ahead of print]

[Abstract](#)

### Models of return to work for musculoskeletal disorders: advances in conceptualization and research

**Author:** Knauf MT

**Summary:** This chapter has been published in a handbook of musculoskeletal pain and associated disability in the workplace. The author highlights the fact that comprehensive conceptual models of return to work (RTW) have yet to be provided for these pain-related conditions. Encouragingly, recent research has improved our understanding as to the roles of fear of movement, depression, catastrophising, and perception of injustice in musculoskeletal and other pain disorders. In particular, the role of *perceived uncertainty* has been identified to be a key factor in formation of expectations of RTW. This chapter explores its potential importance in the conceptualisation of RTW. An initial discussion of the current way in which RTW and disability are defined is followed by a summary of the existing conceptual models, which include the biomedical, the psychosocial, the forensic, the ecological/case management, and the biopsychosocial. The chapter also focuses on more recently articulated ergonomic models of RTW, such as the models presented by the Institute of Medicine (IOM) and the World Health Organization (WHO).

**Comment:** This is a chapter from a book rather than a paper, but I thought it worth mentioning because it's a great summary on how knowledge about RTW has advanced over the very recent past. I think (as long as the research gets funded and done) that we are getting close to where we might have definitive findings not just about the factors that really matter, but about definitive findings about interventions and approaches to handling those better. It's a watch this space moment...

**Reference:** *In: Handbook of musculoskeletal pain and disability disorders in the workplace. 2014. Eds: RJ Gatchel, IZ Schultz. Part III. pp431-52.*

[Abstract](#)

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## Self Management Pilot: A new way of funding seriously injured clients

### A small number of ACC serious injury clients are currently taking part in a unique pilot trial.

Clients whose injury related needs haven't changed in the last two years and who are in stable living situations, are given control of the supports they need for everyday living, including managing their own funds. This approach to providing services to the long-term injured is in line with both international practice as well as initiatives such as the New Zealand Disability Strategy (NZDS) and promotes independence, flexibility and control.

This innovative staged pilot has been developed in consultation with serious injury clients and includes a comprehensive evaluation component the learnings of which inform each successive stage. So far the feedback from clients has been overwhelmingly positive.

The pilot will be completed in mid-2014.

For more information, see [www.acc.co.nz](http://www.acc.co.nz)

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### A theoretical model of co-worker responses to work reintegration processes

**Authors:** Dunstan DA, Maceachen E

**Summary:** A comprehensive search of 15 databases covering the social sciences, business and medicine, identified theoretical models of the factors that influence co-workers' responses to disability accommodations and also, the nature and impact of co-workers' behaviours on employee outcomes. The study researchers then formulated a theoretical model of the influences on and outcomes of co-worker responses within work reintegration. They explain how their model illustrates 4 key findings: (1) co-workers' behaviours towards an accommodated employee are influenced by attributes of that employee, the illness or injury, the co-worker themselves, and the work environment; (2) the influences-behaviour relationship is mediated by perceptions of the fairness of the accommodation; (3) co-workers' behaviours affect all work reintegration outcomes; and (4) co-workers' behaviours can vary from support to antagonism and are moderated by type of support required, the social intensity of the job, and the level of antagonism.

**Comment:** This paper confirms some of the ways in which key stakeholders – co-workers – can influence outcome in very powerful ways. However, it also presents useful information concerning what influences the co-workers' perspectives and therefore their actions. Of particular note, how they (or we as we are all co-workers in some capacity) act is influenced by perceived fairness of the RTW arrangements. Worth considering, given the impact on outcome.

**Reference:** *J Occup Rehabil* 2014;24(2):189-98

[Abstract](#)

### Neural plasticity: teaching the new brain old tricks

**Author:** Kleim JA

**Summary:** Data are discussed from several animal models of stroke that assessed the efficacy of various adjuvant therapies for enhancing motor recovery. These included cortical stimulation, sensory stimulation and novel pharmacological agents. Post-treatment performance was assessed on a battery of motor tests and the functional organisation of the motor cortex. Direct cortical stimulation, sensory stimulation and two novel pharmacological agents in combination with motor rehabilitation all significantly enhanced motor recovery over rehabilitation alone. The enhanced motor function was accompanied by significant expansion and reorganisation of movement representations and synapse number within the affected motor cortex.

**Comment:** I am veering off the 10 papers per RRR a bit in this month's issue – but with good reason I think. This is the abstract from a conference I attended early in May where Jeff Kleim did an absolutely fabulous presentation on neuroplasticity. Not only was it comprehensive and comprehensible – it had one of the best one-liners I have heard. The actual words are my own as I foolishly didn't write them down at the time but mid-talk Jeff said '*people say that's all very well but the neuroplasticity work is in rats, when is it going to make a difference to human beings. And I say – well – maybe it's just that we just do rat rehabilitation better than you do human rehabilitation*'.

**Reference:** *Australian Physiotherapy Association. National Neurology Group Tour 2014. Neural Plasticity: Foundations for Neurorehabilitation.*

[Abstract](#)

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Rehabilitation Research Review

### Dose or content? Effectiveness of pain rehabilitation programs for patients with chronic low back pain: a systematic review

**Author:** Waterschoot FP

**Summary:** This paper systematically reviewed the evidence from randomised controlled trials on the influence of dose (the number of contact hours) in pain rehabilitation programmes (PRPs) on outcomes including disability, work participation, and quality of life (QoL) amongst patients with chronic low back pain. Eighteen trials met the inclusion criteria. They reported a wide variety of dose variables and contents of PRPs. Analyses showed that evaluation moment, number of disciplines, type of intervention, duration of intervention in weeks, percentage of women, and age influenced the outcomes of PRPs. However, the influence of dose variables on outcome of PRPs could not be isolated from the content in the studies that were analysed.

**Comment:** I suspect I am one of many people to be fascinated by one of the holy grails in rehabilitation of being able to discern the degree to which content, dose and intensity variably or collectively impact on outcome. This study highlights that we have a way to go in designing studies to discriminate between these key factors. Something works, but just what it is all too frequently eludes us.

**Reference:** *Pain* 2014;155(1):179-89

[Abstract](#)



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### Establishing a person-centred framework of self-identity after traumatic brain injury: a grounded theory study to inform measure development

**Authors:** Levack WM et al.

**Summary:** This qualitative investigation into the experiences of change and reconstruction of self-identity after TBI sourced data from first-person experiences, in order to develop a theoretically sound, client-derived framework to underpin development of a measure reflecting the impact of TBI on a person's self-identity. The study included 49 people (34 men, 15 women), 6 months to 36 years after mild-to-severe TBI. The central concept to emerge from the data was that of desiring to be or having lost a sense of being an integrated and valued person. The three main subthemes were: (1) having a coherent, satisfying and complete sense of oneself, (2) respect, validation and acceptance by others and (3) having a valued place in the world.

**Comment:** This is a follow-up paper to an earlier one Will Levack and colleagues wrote about how identity (a sense of who one is and how one fits with the world) is an outcome of importance to people with TBI (see [Rehabilitation Research Review Issue 14](#), 2010). We spend much time working with people in rehabilitation to achieve improved physical function (which also matters to people). If regaining a sense of self matters too, maybe understanding this can help us make sense of functional rehab, and in the end, inform us as to whether rehabilitation has really made a difference that counts. I am not arguing a function OR identity perspective – more function AND identity.

**Reference:** *BMJ Open* 2014;4(5):e004630

[Abstract](#)

### A systematic review on the influence of pre-existing disability on sustaining injury

**Authors:** Yung A et al.

**Summary:** This systematic review of the literature included findings from 22 studies published between 1990 and 2010 that assessed involvement of injury sustained by people with and without pre-existing disability. In all studies, the risk of sustaining injuries was significantly higher among people with disabilities than in those without. Pre-existing disability increased the likelihood of sustaining injury by 30–450% (odds ratio 1.3–5.5) compared to not having pre-existing disability. Among people with pre-existing disability, children and elderly were found to be more susceptible to sustaining injury.

**Comment:** Some people with impairment that we have talked to when those impairments have occurred through illness or perhaps congenital abnormality have thought that if they fall or injure themselves they are not eligible for injury support from ACC. At the very least, that is interesting (how some people self-define their eligibility or perhaps how others have done so). But it is also somewhat shocking, considering these populations are more likely to experience injury in the first place. Perhaps we should not be surprised in that if you have an impairment impacting on your senses, your movement or ability to perform activities of daily living, even simple tasks may be physically demanding and, perhaps, injurious. In addition, one suspects these rates may rise, given the impact of ageing compounding the effects of prior disability. My sense from the international literature is that disabled people get a rough deal in many ways. I would like to think they didn't when it comes to injury prevention and injury management.

**Reference:** *Accid Anal Prev* 2014;62:199–208

[Abstract](#)

**Disclaimer:** This publication is not intended as a replacement for regular medical education but to assist in the process. The reviews are a summarised interpretation of the published study and reflect the opinion of the writer rather than those of the research group or scientific journal. It is suggested readers review the full trial data before forming a final conclusion on its merits.

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### The diagnostic and healing qualities of story: goals of care

**Author:** Mansel JK

**Summary:** The author of the paper this tweet relates to, a palliative care consultant, stresses the importance of building partnership between clinician and patient through careful listening to the patient's story. This particular patient's story informed the goals-of-care conversation, enriched the connection between the consultant and patient, and built a trusting relationship.



<https://twitter.com/fischmd/status/468814778002317313>

**Comment:** OK – this is the third departure from the normal RRR abstract – it's a tweet. Now – why have I gone for this? Well, partly because I am new to Twitter and am finding it really interesting in relation to the pathways of discovery it takes you on, and – because Twitter can be a really useful tool to highlight significant pieces of scholarly thought and – I thought this was one such piece. It needs no explanation really.

If you want to know some of my thoughts and observations about rehabilitation in between Research Review issues, you can see more by taking a look at Twitter – just click on the link: <https://twitter.com/katmcphe>

**Reference:** *JAMA Intern Med* 2014 May 19. [Epub ahead of print]

[Abstract](#)

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