

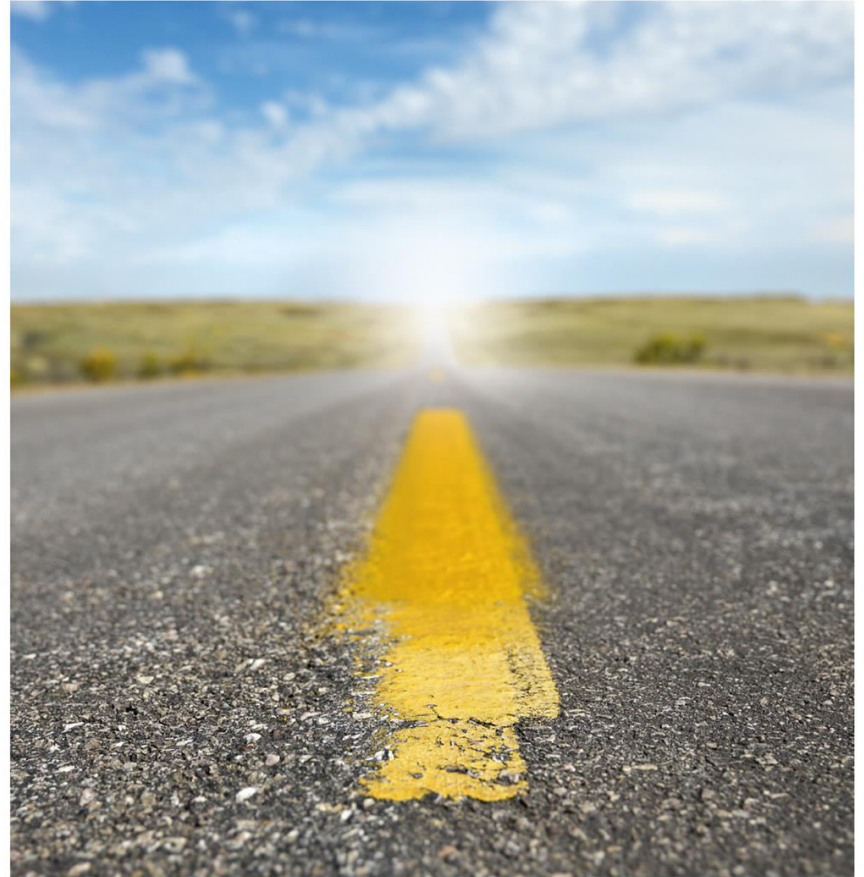
Injury Schemes Seminar

Road to Recovery



**Actuaries
Institute**

8-10 November 2015 • Hilton • Adelaide





The effectiveness of “stand alone” occupational rehabilitation programs: A systematic review.

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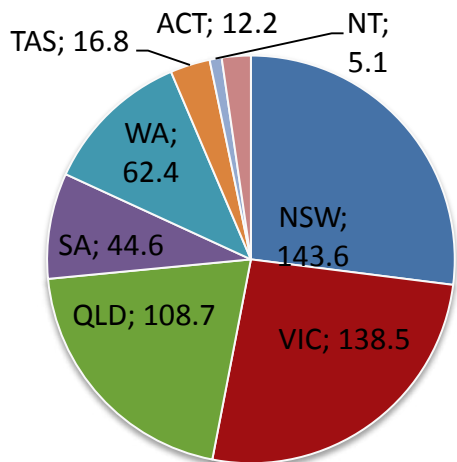
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Work Injury Globally

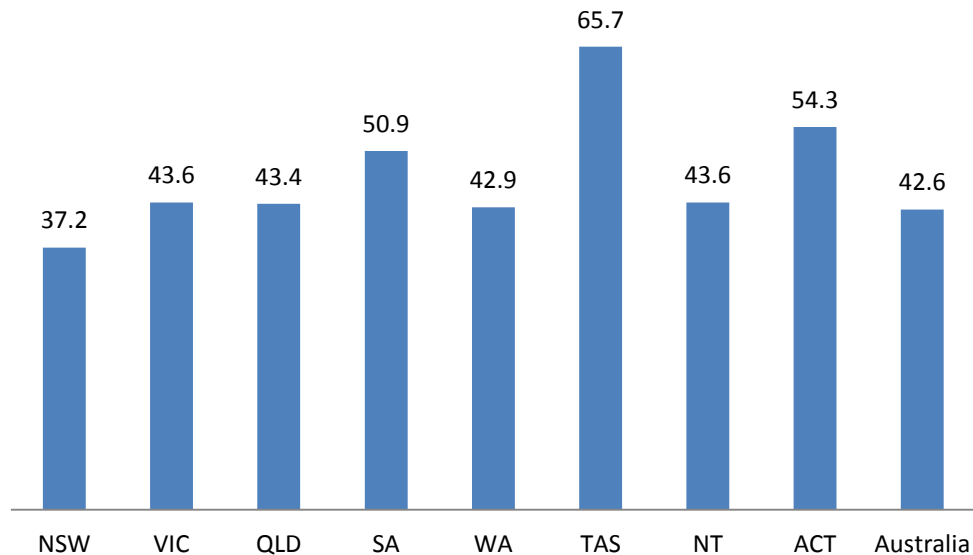
- 2.3 million work-related deaths annually
- 313 million work-related accidents annually
- Every 15 minutes:
 - 1 worker dies
 - 153 have accidents
- www.ilo.org (International Labour Organisation)

Work Injury in Australia – 2013/14



N injured workers ('000)

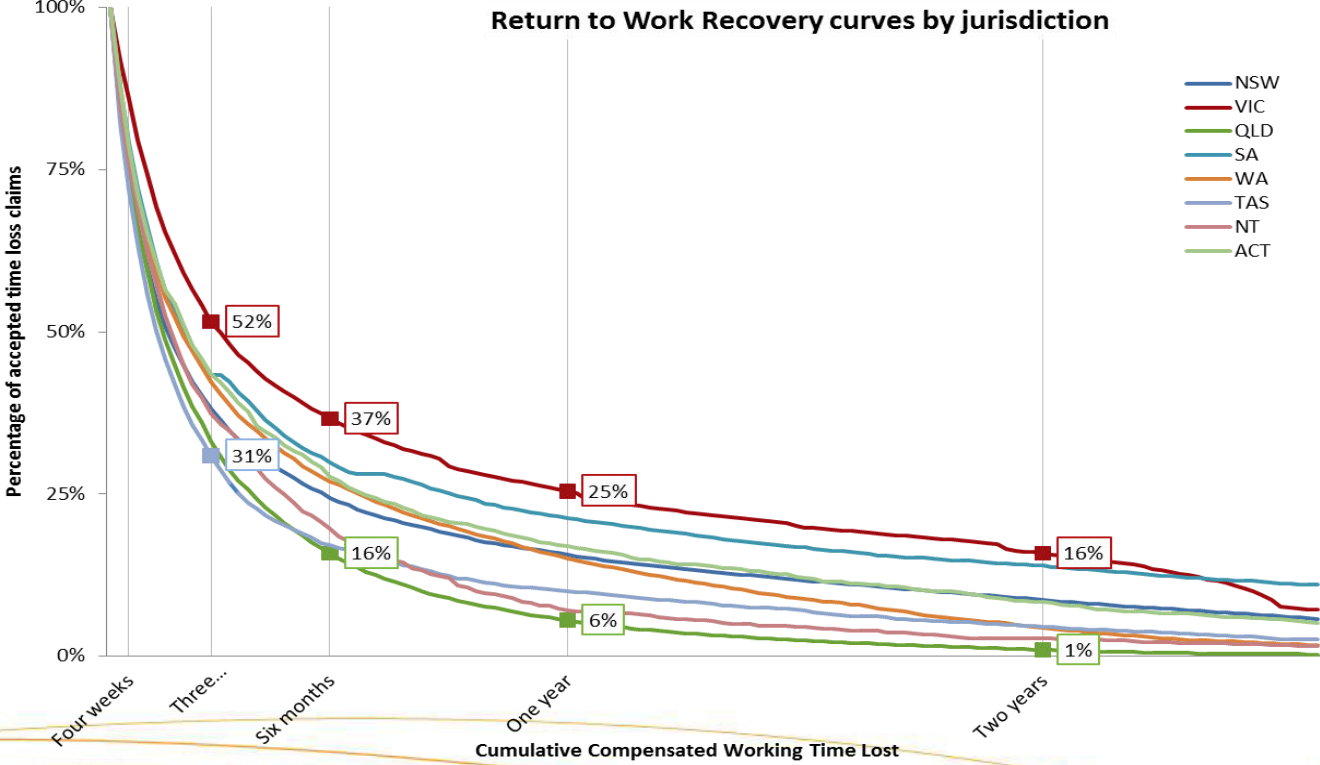
Rate of work-related injury per 1000 persons



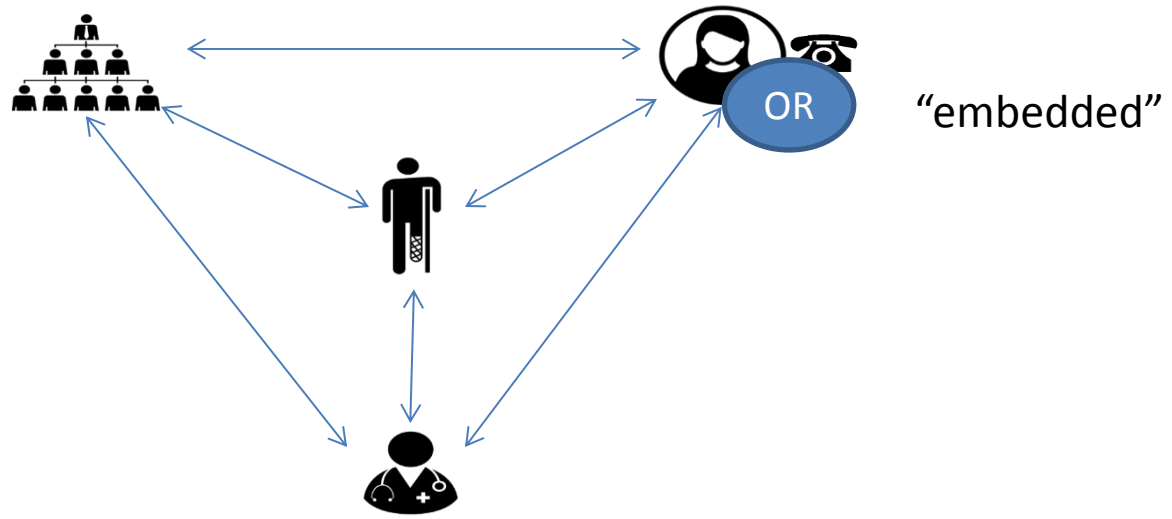
Work Injury in Australia

- Common work-related conditions (back pain, MSK, neck pain) are 3 of the 5 leading causes of disability.
- Among working age people, these conditions create the greatest burden of disability.
- Est 532,000 work related injuries in 2013/14 (one per minute).
- Work-related injury impacts:
 - physical and mental health
 - workplace productivity
 - family and social relationships
 - economic security of the worker
 - potential for intergenerational effects of long-term worklessness
- Efficient and effective approaches to return to work are important for society.

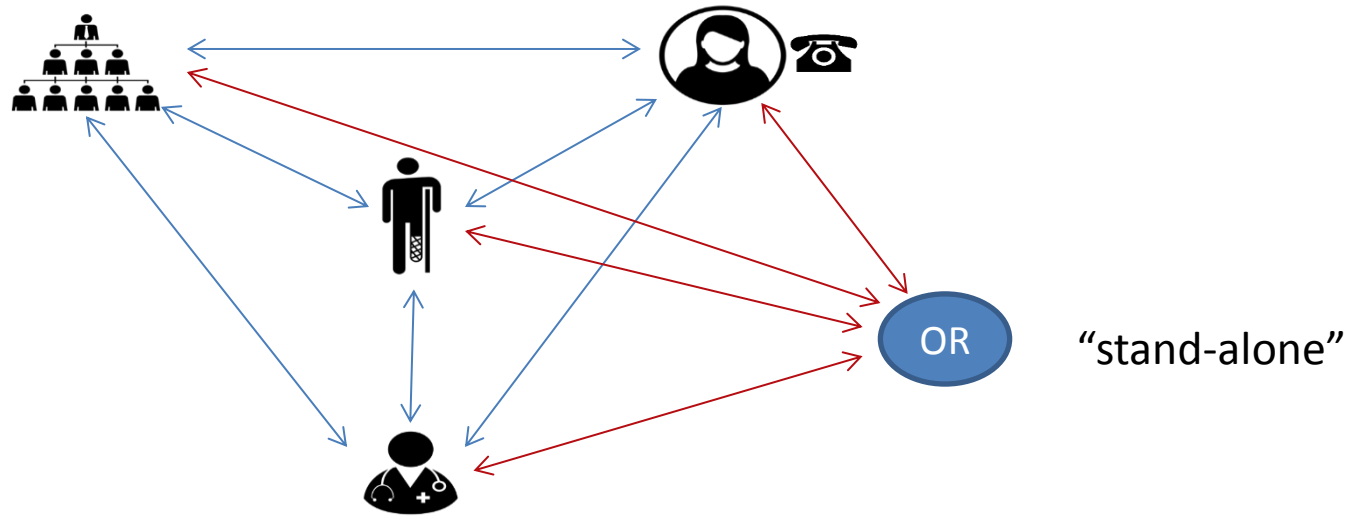
Victoria has a large tail....



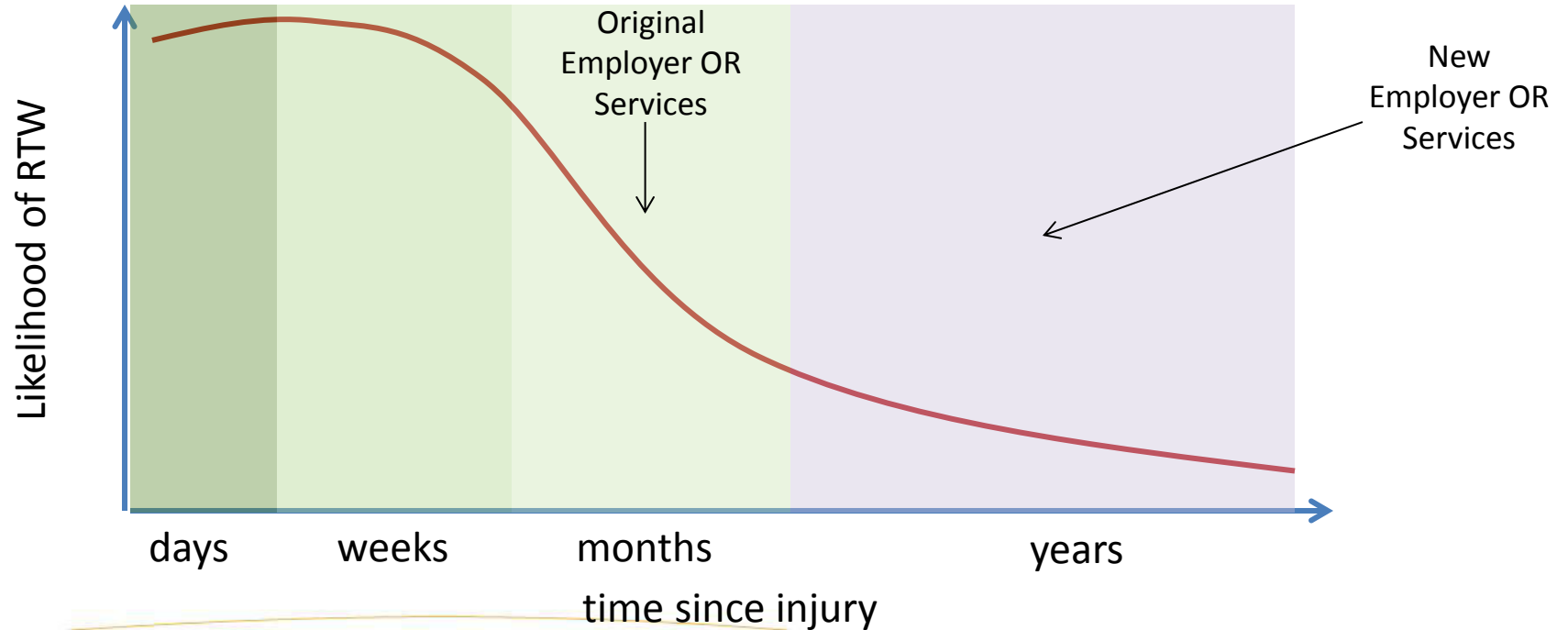
Occupational Rehabilitation in Workers' Compensation Systems



Occupational Rehabilitation in Workers' Compensation Systems



“Critical intervention window” for RTW



In Victoria...

- Occupational Rehabilitation services are engaged:
 - typically, months to years post injury
 - for the most 'complex' cases
 - separately to existing system participants
- Approx. 5,000 injured workers per annum receive OR
- Annual expenditure of ~\$40 million per annum
- Multiple OR providers

There are different approaches to OR internationally....

- British Columbia, Canada
 - Two major programs:
 - OR1 = physiotherapist- led, focus on physical therapy, education & supported RTW
 - OR2 = multidisciplinary, intake assessment followed by customised program
 - Provided thru WorkSafe BC approved clinics
- Alberta, Canada
 - Multiple programs:
 - Job skills profiling, supported job search, careers counselling, academic assessment, ergonomic assessment.
 - Provided via one of a WCB Alberta Return to Work Assessment Centre
- Victoria, Australia
 - Services 'tailored to needs' via two major programs:
 - New Employer Services
 - Original Employer Services
 - Provided by registered WorkSafe Vic OR providers, following referral by insurance agent.

Q. How effective are “stand-alone” occupational rehabilitation programs in returning injured workers to work?

What is a systematic review?

“A research method that seeks to identify, appraise and synthesize all high quality research evidence for a specific research question.”

OR

A way of summarising and making sense of the existing research on a given topic.

Aims

Primary aim:

- To determine if 'stand-alone' occupational rehabilitation programs, such as those in place in Victoria, are effective in assisting injured workers to return to paid employment.

Secondary questions:

- What models of 'stand alone' occupational rehabilitation exist in the published research literature?
- How do 'stand alone' occupational rehabilitation services interact with other rehabilitation and case management services in social welfare systems, such as workers' compensation authorities?

Systematic Review - Methods

- 5 electronic databases were searched (Scopus, Cochrane Library, Medline, CINAHL and PsycINFO) from 1990-2014 according to a pre-determined PICO search strategy.
- Identified studies were screened for eligibility according to the pre-defined inclusion/exclusion criteria.
- Data was extracted from the included studies and quality assessment was completed using the PEDro Scale.
- Narrative analysis was conducted due to the expected heterogeneity between studies. This involved coding the data and grouping according to study similarities where possible.

Methods: inclusion/exclusion criteria

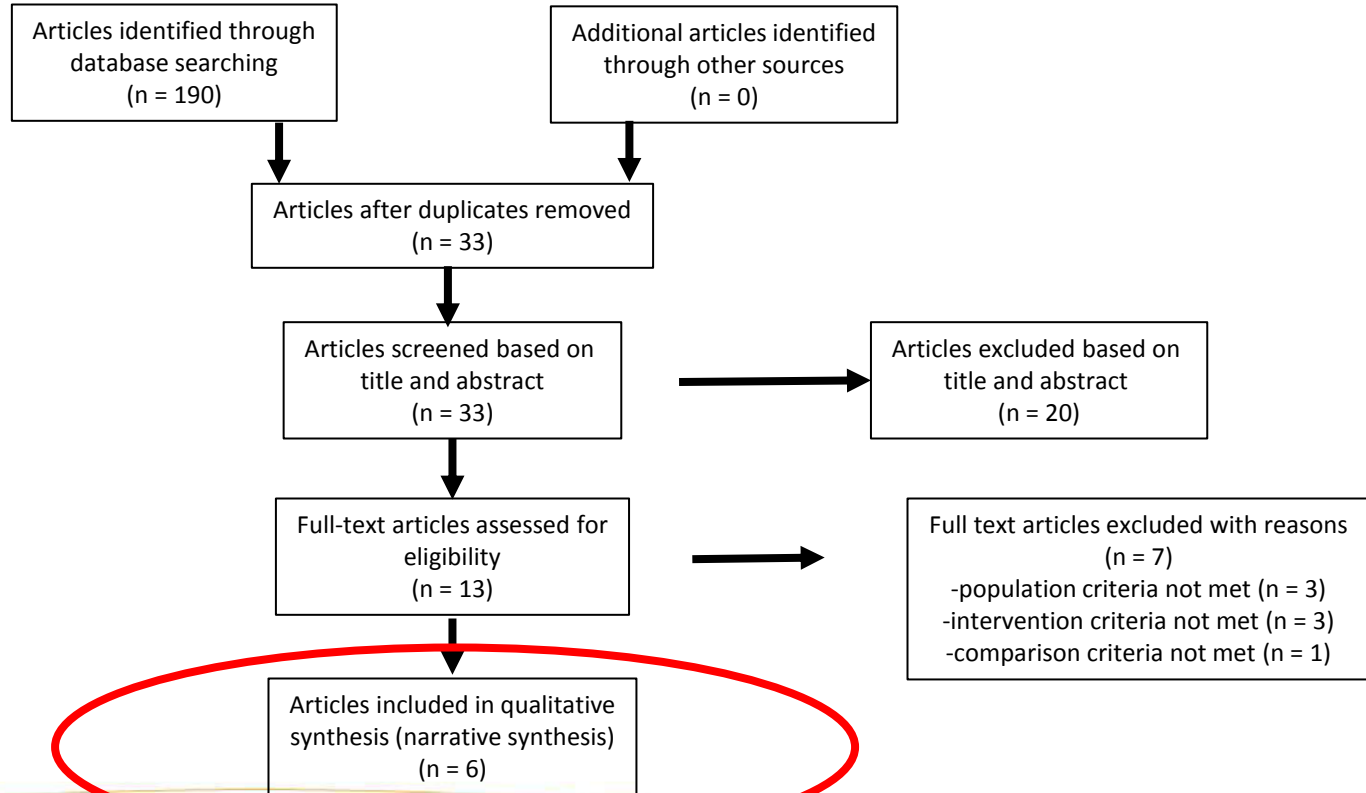
- Population: adults of working age with a work-related injury or disease, who have had a period of time away from work arising from that injury or disease
- Intervention: 'stand alone' vocational or occupational rehabilitation program- ***identifiably separate*** to case management and healthcare processes
- Comparison: studies with any comparison group were included including 'usual care' or an alternative intervention
- Outcome: return to paid work with the same or a different employer measured as time away from work/employment
- Study design: controlled trials (including RCTs), cross sectional, time series, cohort design with relevant comparison group.

Methods: quality assessment

- PEDro scale: *Physiotherapy Evidence Database* (PEDro) scale developed to rate the quality of RCTs evaluating physical therapist interventions.
- Assessment based on 7 criteria
 - Specification of eligibility criteria
 - Random allocation and concealment of subjects
 - Similarity between groups at baseline
 - Blinding of subjects/therapists/and assessors
 - Subject dropout rate
 - Use of intention to treat analysis
 - Reporting of measures of variability

Maher et al., *Physical Therapy* (2003); 83(8): 713-21

Results



Q1. Are 'stand-alone' OR programs effective for RTW?

- Four of six studies reported no effect.
- One study reported that 'workplace-based work hardening' is effective at 4 weeks post intervention (Cheng 2007).
- One study reported that supported employment interventions for veterans with PTSD were effective at 12 months post intervention (Davis 2012).
- Slim pickings!!

Q2. What models of 'stand-alone' OR have been reported?

- We categorised the six studies into the following types:
 - Psychosocial model (n=3)
 - Workplace-based model (n=3)

Psychosocial OR

Study	Intervention	Who delivered intervention	Frequency	Duration
Bonde (2005)	Information about condition + RTW counselling + motivational support from social worker.	Social worker.	Avg 2.2 (range 1-7) sessions 1-2 hours each session	As per rehabilitation plan but < 3 mths.
Li (2006)	Vocational counselling + group cognitive behavioural therapy focussed on stress, pain and anxiety.	Trained counsellor.	3 x 1 hr counselling sessions + Group training 2-3 hrs per day for 3 weeks.	Three week treatment period.
Magnussen (2007)	Group education + motivational interviewing + vocational counselling.	Trained counsellor, nurse.	2 x 3 hr sessions + 3hr motivational interviewing + 2 hr spinal problem education, follow-up medical exam	2 sessions 2-3 days apart.

Workplace-based OR

Study	Intervention	Who delivered intervention	Frequency	Duration
Cheng (2006)	Workplace-based work hardening	Job coach	3 sessions/week	4 weeks
Davis (2012)	Community-based supported employment	Clinical mental health specialist	Continuous, “follow-along” services	Time unlimited
Durand (2001)	Occupational Therapy	Occupational therapist, occupational physician, ergonomist,	Unreported.	4-8 weeks

Q3. How do 'stand-alone' OR services interact with other rehab & case management services?

- Four of six did not discuss interaction with other services.
- Other two studies provided minimal detail.
- Insufficient information to comment.

Discussion:

- Small N studies
- Heterogenous study populations
- Heterogenous interventions
- Multiple jurisdictions (context matters)
- Poor quality studies
- 2 of 6 studies showed evidence of effectiveness
- 4 of 6 studies showed no effect.

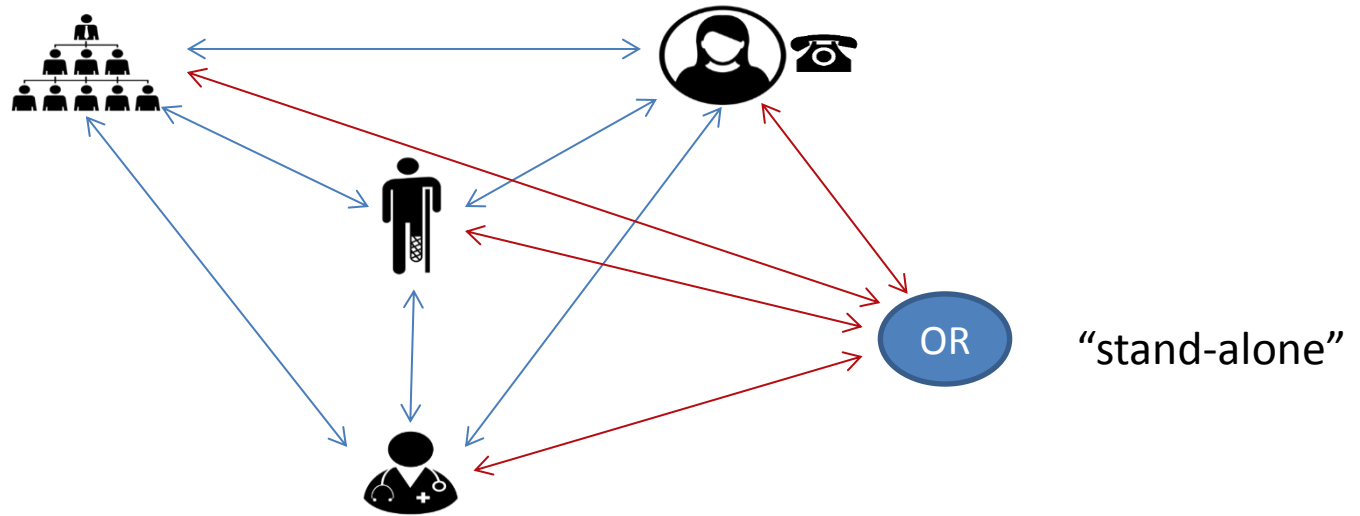
Factors that may influence the effectiveness of OR varied between studies

- Worker characteristics (4/6 physical injury; 1 mental health; 1 mixed)
- Intensity/frequency of intervention (typically low dose, 1 study daily but only for 3 weeks)
- Duration of intervention (1 week to “time unlimited”)
- Timing of intervention (state date ranged from 90 days to 12 months post injury)

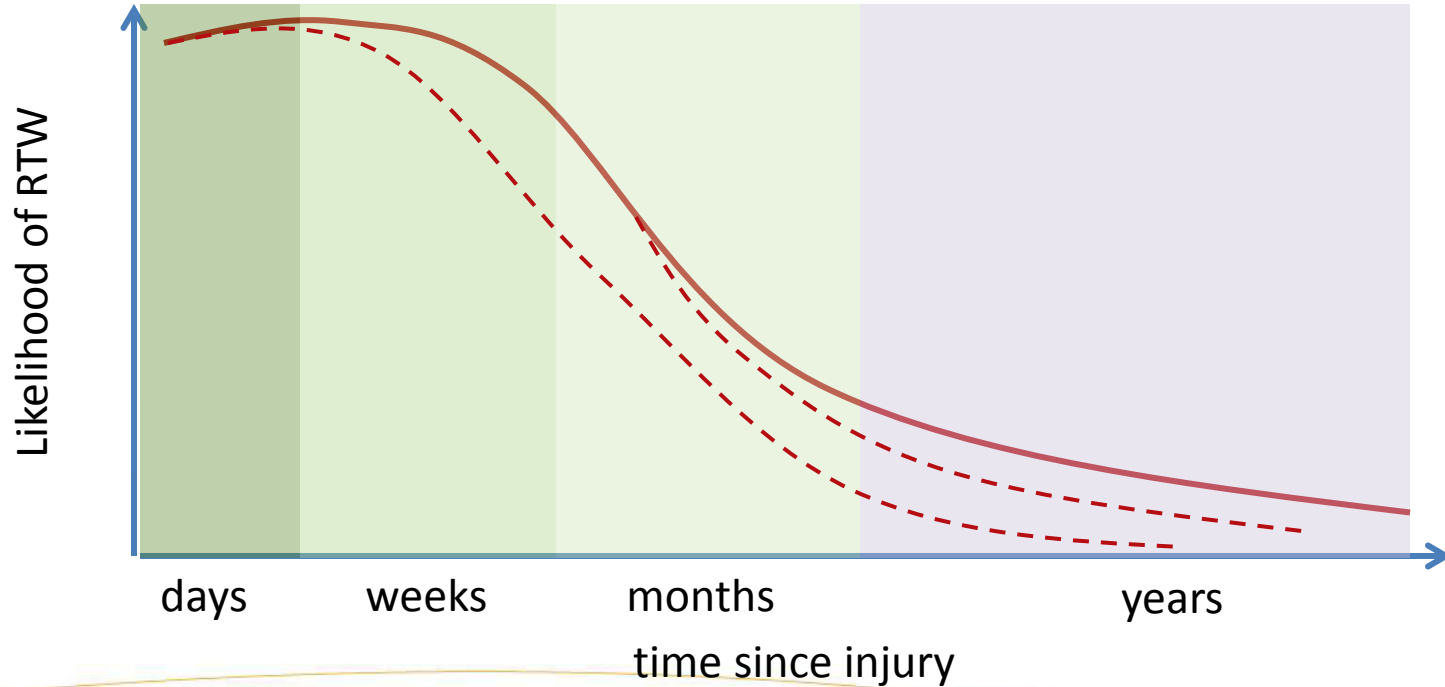
Findings

- The research evidence on the effectiveness of stand-alone OR for RTW is limited.
- It is not possible, on this evidence, to determine whether stand-alone OR is effective for RTW.
- This does not mean OR is ineffective.
- It means that further evidence is required.

Occupational Rehabilitation in Workers' Compensation Systems



“Critical intervention window” for RTW



Recommendations

1. Do Not Stop

- This study found a lack of evidence.
- This does not mean stand-alone OR is ineffective.
- It does not appear that OR is doing harm (no study identified a negative effect).
- Thus it is sensible to continue OR while gathering more evidence.

2. Investigate Further

- There is a clear need for further evidence
- Different models / services / approaches should be studied
- Comparative research / controlled trials required

References

References included in the systematic review:

1. Bonde, J.P., M.S. Rasmussen, H. Hjollund, S.W. Svendsen, H.A. Kolstad, L.D. Jensen, and J. Wieclaw, *Occupational disorders and return to work: A randomized controlled study*. Journal of Rehabilitation Medicine, 2005. **37**(4): p. 230-235.
2. Cheng, A.S.K. and L.K. Hung, *Randomized controlled trial of workplace-based rehabilitation for work-related rotator cuff disorder*. Journal of Occupational Rehabilitation, 2007. **17**(3): p. 487-503.
3. Davis, L.L., A.C. Leon, R. Toscano, C.E. Drebing, L.C. Ward, P.E. Parker, T.M. Kashner, and R.E. Drake, *A Randomized Controlled Trial of Supported Employment Among Veterans With Posttraumatic Stress Disorder*. Psychiatric Services, 2012. **63**(5): p. 464-470.
4. Durand, M.J. and P. Loisel, *Therapeutic return to work: Rehabilitation in the workplace*. Work, 2001. **17**(1): p. 57-63.
5. Li, E.J.Q., C.W.P. Li-Tsang, C.S. Lam, K.Y.L. Hui, and C.C.H. Chan, *The effect of a "training on work readiness" program for workers with musculoskeletal injuries: A randomized control trial (RCT) study*. Journal of Occupational Rehabilitation, 2006. **16**(4): p. 529-541.
6. Magnussen, L., L.I. Strand, J.S. Skouen, and H.R. Eriksen, *Motivating disability pensioners with back pain to return to work - A randomized controlled trial*. Journal of Rehabilitation Medicine, 2007. **39**(1): p. 81-87.

Acknowledgements

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