Effect of Case Management on Time to Return to Work: A Systematic Review and Meta-Analysis

IWH Plenary; March 29, 2011

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Background

- In an effort to optimize disability management practices, a number of disability benefit providers have implemented Case Management.

- There is no standard definition of what Case Management is; however, some authors have suggested that successful Case Management requires skills in communication, diplomacy and relationship building, as well as assessment, planning, implementation, coordination, monitoring and evaluation of a rehabilitation plan.¹

Background

• Given the widespread and increasing use of Case Management by organizations providing wage replacement benefits, it would be helpful to better understand the effectiveness of this intervention.

• To inform this issue we conducted a systematic review and meta-analysis of randomized controlled trials that enrolled patients in receipt of disability benefits and randomized 1 arm to receive ‘Case Management’ – any coordinated effort targeted at faster RTW.
Search

**Identification**
- 820 records from MEDLINE
- 908 records from Cochrane Central Register of Controlled Trials

**Screening**
- 1033 records without duplicates; screened for exclusion by two raters
- 920 records excluded

**Eligibility**
- 113 records full text assessed for eligibility by two raters (=95 studies)
- 85 studies excluded

**Inclusion**
- 10 studies included in qualitative synthesis
- 5 studies included in meta-analysis RTW time to event
Populations

• **Netherlands**: Adults with non-specific LBP, absent from work <2 years

• **Quebec**: Adults with non-specific axial pain, absent from work for 4 to 8 weeks

• **Belgium**: Adults undergoing surgery for sciatica, off work for <1 year *

• **Netherlands**: Adults with a disabling mental disorder, off work for 6 to 52 weeks

• **Quebec**: Adults with non-specific thoracic or LPB, off work for at least 4 weeks
Interventions

• **Netherlands**: Integrated Care vs. Usual Care
  - Integrated care was coordinated by an Occupational Physician and consisted of participatory ergonomics & a graded activity program “based on CBT principles”

• **Quebec**: The CORE Program vs. Usual Care
  - The CORE program consisted of a physician assessment, and case coordination by a nurse. Weekly patient interviews and ongoing consultation with the CORE physician to refine the approach. Notes to Tx team and no contact with employers.
Interventions

- **Belgium**: Medical advisors using rehabilitation guidelines vs. Usual Care *

- **Netherlands**: Psychiatric consultation vs. Usual Care

- **Quebec**: Consultation with back pain specialist and back care school vs Usual Care
Hypothesized Sources of Heterogeneity

1. Clinical population (MSK vs. Mental illness)

2. Clinical duration (acute/subacute vs. chronic)

3. Intervention setting (within an insurance company vs. outsourced)

4. Case Management expertise

5. Differences in the Intervention
## Study Quality

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<td><strong>Blinding Outcome assessor/ data collector/ data analyst?</strong></td>
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<td><strong>Precise description of the control group intervention?</strong></td>
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<td><strong>Outcome lasting RTW?</strong></td>
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<td><strong>Adequate follow-up after RTW?</strong></td>
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Effect of Case Management on RTW

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<thead>
<tr>
<th>Study</th>
<th>log(HR)</th>
<th>SE</th>
<th>HR</th>
<th>95% CI</th>
<th>Weight</th>
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<tr>
<td>Loisel 1997</td>
<td>0.65</td>
<td>0.25</td>
<td>1.91</td>
<td>[1.18; 3.10]</td>
<td>17.5%</td>
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<td>Donceel 1999</td>
<td>0.66</td>
<td>0.20</td>
<td>1.93</td>
<td>[1.30; 2.86]</td>
<td>26.6%</td>
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<td>Rossignol 2000</td>
<td>0.15</td>
<td>0.22</td>
<td>1.17</td>
<td>[0.76; 1.79]</td>
<td>22.0%</td>
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<td>Lambeek 2010</td>
<td>0.64</td>
<td>0.22</td>
<td>1.90</td>
<td>[1.24; 2.91]</td>
<td>22.6%</td>
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<tr>
<td>van der Feltz 2010</td>
<td>0.53</td>
<td>0.31</td>
<td>1.70</td>
<td>[0.93; 3.11]</td>
<td>11.2%</td>
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Random effects: $0.53 \pm 0.10$

$\hat{I}^2 = 0.0\%$

$1.69 [1.38; 2.07] \quad 100.0\%$
Effect of Case Management on RTW

- **Netherlands**: A median of 88 days to RTW versus 208 days (improvement of pain between groups did not differ)

- **Quebec**: Returned to work an average of 6.6 days faster (p>0.05)

- **Belgium**: At 1 year, 10% of the Tx group had not returned to work vs. 18% of the control group *

- **Netherlands**: At 3 months, 58% of Tx group had returned to work versus 44% of the control group

- **Quebec**: Median duration of work absence was 67 days for the Tx group versus 121 days for usual care

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Discussion

• Case Management, in a variety of forms, appears to be effective in improving RTW rates when compared to care-as-usual

• There is no significant between study heterogeneity
  • Is doing ‘something’ better than not?

• Case management is associated with costs. What is the return on investment?
Discussion

• 1 RCT has conducted an economic analysis of Case Management

• Established that the net societal benefit was $5,744 per case

• Differences were driven by productivity costs

• Study is limited by 13% loss to follow-up, and lack of long-term follow-up (outcome was back at work for 4 weeks)
Conclusions

• Limited evidence supports the use of Case Management with disabled patients in receipt of wage replacement benefits.

• Future studies should clearly describe the qualifications of Case Managers, focus on sustainable RTW, pursue longer follow-up after patients have resumed employment, and provide cost-benefit analyses.

• Trials of Case Management within insurance-settings are sparse, and the optimal approach to Case Management remains uncertain.

• Existing disability duration and cost data are skewed, suggesting that certain cases contribute much more than others. A one-size-fits-all approach to Case Management may not be optimal.
Thank-you!