Current evidence for workplace-based interventions on return-to-work for MSK, pain-related and mental health conditions: A systematic review update.

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Institute for Work & Health
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Our Stakeholders

Prevention System Partners:
WSIB, WSPS, PSHSA, WSN, and IHSA.

Workplace Parties:
Maple Leaf Foods Inc., Bell Mobility and Channels, Landscape Ontario, Brookfield Global Integrated Solutions

Injured Worker Advocates:
Injured Workers’ Consultants (Legal Aid Ontario)

Labour:
OPSEU

Disability Management Consultants:
KMG Health Partners, Organizational Solutions Inc.

Private Insurance Providers:
SunLife Financial
Objective:

To provide an overview of a systematic review update on:

The effectiveness of **workplace-based** RTW and disability management/support interventions for:

- Musculoskeletal and pain-related disorders (MSD)
- Mental health conditions (MH)

For **RTW** outcomes (i.e., duration, work functioning and costs).
Rationale for this SR Update

Growing Literature  Update the Evidence  Mental Health  Up-to-date recommendations

www.iwh.on.ca
Return-to-Work, Recovery and Fair Benefits
Achieve better return-to-work and recovery outcomes and administer benefits fairly

Return-to-work and recovery outcomes in Ontario are the best in the country. The WSIB actively supports workers through an integrated return-to-work and recovery approach that includes quality and timely medical care.

We will assess the effectiveness of our integrated health care programs which is essential to “Better at Work” results.

OBJECTIVE 3
Advance return-to-work and recovery programs and administer benefits fairly.

OBJECTIVE 4
Improve the integration of medical services and health care programs through focused partnerships.
Methods: IWH Steps for a Systematic Review

1. Develop question
   - Topic consultation meeting

2. Conduct literature search
   - Input meeting

3. Identify relevant articles
   - Quality appraisal

4. Data extraction
   - Reaction meeting

5. Evidence synthesis

6. Involvement in Dissemination
   - Stakeholder as Reviewer

(Irvin et al., 2010; Keown et al., 2008)
Step 3: Relevance (Inclusion criteria)

- Intervention study
- Workplace-based
- Comparison group
- RTW or DM support
## Step 6: Applying our evidence synthesis algorithm

<table>
<thead>
<tr>
<th>Level of Evidence</th>
<th>Minimum Quality</th>
<th>Minimum Quantity</th>
<th>Consistency</th>
<th>Strength of Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>High (H)</td>
<td>3</td>
<td>3H studies agree; If &gt;3 studies, ¾ of the M + H agree</td>
<td>Recommendations</td>
</tr>
<tr>
<td>Moderate</td>
<td>Medium (M)</td>
<td>2H or 2M + 1H</td>
<td>2H studies agree or 2M + 1H agree; If &gt;3 studies, &gt; ⅔ of the M + H agree</td>
<td>Practice Considerations</td>
</tr>
<tr>
<td>Limited</td>
<td>Medium (M)</td>
<td>1H or 2M or 1M + 1H</td>
<td>1 H or 2 (M and/or H) studies agree; If &gt;2 studies, &gt; ½ of the M + H agree</td>
<td>Not enough evidence to make recommendations or practice considerations</td>
</tr>
<tr>
<td>Mixed</td>
<td>Medium (M)</td>
<td>2</td>
<td>Findings from M + H are contradictory</td>
<td></td>
</tr>
<tr>
<td>Insufficient</td>
<td></td>
<td></td>
<td>No high quality studies. Only medium quality studies that do not meet the above criteria</td>
<td></td>
</tr>
</tbody>
</table>

*High = >85% in quality assessment; Medium = 50-85% in quality assessment*
The findings...
What **workplace-based** return-to-work and work disability management/support interventions are effective in assisting workers with musculoskeletal, mental health, and pain-related conditions with **return to work** and **recovery** after a period of work absence?

1. **Develop Question**

2. **Literature Search**

   - Medline (n=3996)
   - Embase (n=5743)
   - PsycInfo (n=1528)
   - CINAHL (n=1430)
   - Sociological Abstracts (n=310)
   - ASSIA (n=143)
   - ABI Inform (n=869)
   - Other (n=18)

   Retrieval (N=14037) – Duplicates (N=3831)

   3. **Relevance Screen**

   - Title & Abstract Relevance screen (N=8898)

   - Full Text Relevance screen (N=1112)

   - Excluded (N=1076)

   4. **Quality Appraisal**

   - Quality appraisal of relevant studies (N=36)

   5. **Data extraction**

   - Data extracted from relevant studies of sufficient quality (N=36)

   6. **Evidence synthesis**

   - MSD Interventions (N=26)
   - MH Interventions (N=10)
Classifying Workplace-based Interventions (n=12)

We identified 3 intervention domains:

Health-focused
- Cognitive behavioural therapy
- Work Hardening
- Graded activity
- Physician training
- Multicomponent

Coordination of Services
- RTW planning & coordination
- Case management
- Worker education/training

Work Modification
- Work accommodations
- Supervisor education/training
Classifying Workplace-based Interventions (n=12)

2 “multi-domain interventions: MSD & MH

Health-focused

Work Modification

Coordination of Services
Breakdown of interventions across studies (n=36)

- Health-focused: 7
- Work Modification: 4
- Coordination of Services: 4

Combined:
- Health-focused + Work Modification + Coordination of Services: 22

Exclusive:
- Health-focused: 7
- Work Modification: 3
- Coordination of Services: 2

Union:
- Health-focused + Work Modification + Coordination of Services: 15

Overlap:
- Health-focused & Work Modification: 15
- Health-focused & Coordination of Services: 1
- Work Modification & Coordination of Services: 2

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Classifying Outcomes (n=7)

RTW: 3 outcomes

**Lost time:** amount of time spent away from workplace (e.g., days from injury until RTW, duration of sick leave over given time period, etc.)

**Work functioning:** assessment of workers’ function in the workplace after RTW (e.g., WLQ, productive working hours, etc.)

**Costs:** measures of work disability cost & lost time (e.g., income replacement, total cost of compensation, etc.)
Breakdown of outcomes across studies (n=36)

3 RTW Outcomes

- Lost time: 34
- Work fx: 8
- Costs: 14
Key findings for workplace interventions

Multi-domain interventions (MSD and MH):

- Reduce work disability duration (MSD & MH: Strong evidence)
- Improve work functioning after RTW (MSD & MH: Moderate evidence)
- Reduce disability costs (MH: Strong evidence; MSD: Moderate evidence)

Single-domain interventions:

Graded activity programs and Work Accommodations

- Reduce work disability duration (MSD: Moderate evidence)

Cognitive behavioural therapy (CBT) without focus on workplace solutions:

- Does NOT reduce work disability duration (MH: Strong evidence)

Most single-domain interventions:

- Limited, Insufficient or Mixed evidence that these interventions have NO effect on work functioning, costs, and work disability duration (MSD and MH).
Then (1990 - 2005)

Lost time & associated costs are reduced by:

- Work accommodation offers (Strong)
- Contact between healthcare provider and workplace (Strong)
- Early contact with the worker by workplace (Moderate)
- Ergonomic work site visits (Moderate)
- Presence of a RTW coordinator (Moderate)

Now (1990 - 2016)

Workplace interventions are effective in improving all RTW outcomes.

- Comprehensive, multi-domain interventions work best
- Most single component interventions have limited to no effect.
Findings have been published in peer-reviewed journal.

Available for free in Open Access!

Journal of Occupational Rehabilitation

Effective workplace return-to-work interventions are multi-faceted: IWH review

New systematic review finds evidence for return-to-work programs that incorporate some combination of health services, case coordination and work modification.

Workplaces that offer multi-faceted return-to-work (RTW) interventions can help reduce time away from work for workers with musculoskeletal disorders (MSDs) and pain-related conditions, a new systematic review update has found.

The review, conducted by the Institute for Work & Health (IWH) and the Institute for Safety, Compensation and Recovery Research (IScCRR) in Melbourne, Australia, found strong evidence for the effectiveness of interventions that cut across at least two of three different areas:

1. The injured worker is provided with health services, either at work or in settings linked to work. These may include physical therapy, occupational therapy, psychological therapy, medical assessments or exercises aimed at restoring function (e.g. graded activity and work hardening).

2. The injured worker is supported by RTW planning and coordination, which may take the form of case management, RTW plans, or improved communication between the workplace and health-care providers.

3. The workplace addresses work modification in the form of work accommodation, ergonomics or other worksite adjustments, and supervisor training on work modification.

“Quiet intervention studies (which don’t control for other changes at the workplace) may be effective in the short term, but they are likely to fail on the long term,” says the review’s lead author Dr. Kim Cullen, an associate scientist and knowledge exchange associate at the Institute.
IWH short video card depicting key messages

Creating effective return-to-work programs for workers with ...
Next steps:

- SR of Qualitative literature (ongoing, Lead: Ulrik Gensby)
- SR of System-based interventions (Grant funded)
Acknowledgements

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The views expressed in this document are those of the authors and do not necessarily reflect those of the Province of Ontario.
Questions/Comments/Advice

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1990-2015: Celebrating 25 years of research on preventing work injury and disability