

The effectiveness of interventions to address depression in the workplace

Depression in the workplace is widespread. According to the 2002 Canadian Community Health Survey from Statistics Canada, 3.7 per cent of the employed population in Canada ages 25 to 64 years experienced an episode of depression in the previous year.

Workplaces feel the financial pinch of depression in the form of absenteeism and presenteeism (lost productivity while at work). Employees with depression report significantly more health-related lost productive time than those without depression, higher rates of absenteeism and short-term disability, and higher rates of job turnover. Economic analyses consistently show that the costs of lost productivity associated with depression far exceed the costs of treating and managing the mental health disorder.

Not surprisingly, employers are increasingly concerned about the effects of depression on their employees and their workplaces. Yet workplace-sponsored programs that specifically target depression remain uncommon. This may be because little information is readily available on the effectiveness of these programs when it comes to improving outcomes of importance to employers, such as decreased absenteeism and improved productivity.

This systematic review aimed to provide such information. It wanted to determine the range of possible evidence-based interventions or programs that could be implemented in workplaces to improve workers' depression and reduce associated productivity losses. In particular, the review set out to answer this question:

"Which intervention approaches to manage depression in the workplace have been successful and yielded value for employers in developed economies?"

How was the review conducted?

The review team included 11 researchers from Canada, the United States and Europe. The researchers came from various disciplines, including psychiatry, occupational medicine, epidemiology, ergonomics, kinesiology, labour economics, knowledge transfer and exchange, and information science.

Key messages

Based on the research reviewed, no workplace intervention can be recommended as an evidence-based practice for effectively preventing and managing depression-related disability, absenteeism and productivity loss.

No recommendation can be made largely because studies to date in the field of depression in the workplace have a high risk of bias—that is, they fail to address adequately one or more issues related to the selection and retention of participants, the implementation of the intervention, and the measurement, reporting and analysis of outcomes.

The review did show that randomized controlled trials are possible when studying workplace depression. This is important because randomized controlled trials are the gold standard for reaching conclusions on the effectiveness of interventions.

The review also solidified the questions that stakeholders want answered by future research. Among other things, the stakeholders not only want to know what interventions to use, but also when to use them in the course of a depressive episode to alleviate the effects of depression in the workplace.

The review team was supported by 15 stakeholders representing the Ontario Ministry of Health and Long-Term Care, the Ontario Ministry of Government Services, insurance providers, disability management service providers, mental health organizations, mental health disorder survivors, organized labour and employers. The stakeholders provided input on the research question, search terms, presentation of the findings, messages and communication channels.

The review team searched for relevant terms in six databases and identified 4,214 potential articles published up to June 2010. The articles were then reviewed for quality and relevancy in four areas.

1. Population: The study had to report on men and/or women of working age (e.g. 18 to 65) with mild to moderate depression, as identified by a screening interview or instrument, a clinician’s diagnosis, a diagnosis using formal diagnostic criteria or a validated self-report instrument.

2. Intervention: The study had to evaluate interventions or programs that were workplace-based or could be implemented or facilitated by a workplace in order to help workers with depression stay at work or return to work (RTW).

3. Comparison/control: The study had to include a comparison group. This included randomized controlled trials, as well as non-randomized studies with before-and-after comparisons. Studies without any comparisons were excluded because many other factors occurring at the same time can influence outcomes in workplaces.

4. Outcome: The study had to examine primary outcomes of importance to employers, such as changes in productivity, absenteeism, turnover, long-term disability, on-the-job performance, work-related accidents and related costs. Secondary outcomes, such as changes in clinical measures of depression, general well-being and quality of life, were considered important but not essential to inclusion in the review.

After this review process, 14 articles reporting on 12 studies remained for analysis of their evidence. At the suggestion of the stakeholders involved in the review, the interventions included in these studies were assessed according to their effectiveness relative to four outcomes for workers with mild to moderate depression:

- preventing those who are still working from taking disability or sickness absence leaves;
- returning people to work following disability or absence leaves, or preventing people on short-term disability from moving to long-term disability;
- improving work functioning among those who are still working or who have just returned to work; and
- preventing recurrences of disability or absence leaves among those who have returned to work.

To determine the reliability of the findings in this final group of articles, the review team grouped responses to quality criteria questions to assess the risk of bias in five areas: selection, attrition, performance, measurement and reporting (see Table 1 below). An article was considered to be at high risk for bias overall if the risk of any one type of bias was rated as high.

Table 1: Categorization of quality assessment criteria according to the type of bias

Bias	Corresponding quality appraisal question
Selection bias	<ul style="list-style-type: none"> • Was recruitment (or participation) rate reported and adequate? • Did the author(s) examine whether important differences existed between those who participated and those who did not? • Were all participants' outcomes analyzed by the groups to which they were originally allocated (intention-to-treat analysis)? • Was an intervention allocation method performed adequately? • Were pre-intervention (baseline) characteristics described and appropriately balanced? • Was there adjustment for pre-intervention differences (if necessary)?
Attrition bias	<ul style="list-style-type: none"> • Was loss to follow-up (attrition) less than 35 per cent? • Did the author(s) examine whether important differences existed between the remaining and drop-out participants after the intervention?
Performance bias	<ul style="list-style-type: none"> • Was the intervention process adequately described to allow for replication? • Was there any potential for contamination and/or co-intervention? • Was compliance with the intervention in all groups described and adequate?
Measurement bias	<ul style="list-style-type: none"> • Were the instruments used to assess the outcomes valid and reliable? • Were the outcomes described at baseline and follow-up? • Was the length of follow-up three months or greater?
Reporting bias	<ul style="list-style-type: none"> • Was the research question clearly stated? • Was there a direct between-group comparison? • Were the statistical analyses appropriate?
<p>Note: Given the nature of the studies in this review, blinding of the intervention providers and the participants to the intervention would have been impossible. Therefore, these studies are all at risk of bias. However, it was decided not to penalize the studies because of lack of blinding since this is an unrealistic expectation in workplace studies.</p> <p>Using the risk of bias judgments made for each individual type of bias, an individual study's overall risk of bias was determined as follows:</p> <ul style="list-style-type: none"> • <i>Low risk of bias overall</i> – all five individual types of bias considered as low risk • <i>Moderate risk of bias overall</i> – at least one type of bias considered as moderate risk, but no bias considered high risk • <i>High risk of bias overall</i> – at least one type of bias considered as high risk 	

What were the main findings?

Among the 12 studies, four were conducted in the Netherlands, four in the United States, and one each in Canada, Finland, Denmark and Japan. Ten were randomized controlled trials, and two were non-randomized with a separate control group.

The studies covered a range of interventions, including:

- psychological treatment, such as cognitive behavioural therapy or psychotherapy;
- enhanced primary care by doctors and nurses who were trained and supported to provide guideline treatment;
- psychiatric treatment combined with occupational therapy that included a work reintegration plan;
- active occupational physician involvement in the management of workers with depression;
- integrated care management at the health-care system and organizational levels to ensure collaboration among all parties involved in the management of workers with depression;
- exercise program (e.g. strength and aerobic training); and
- worksite stress reduction program.

In the end, the evidence from all the studies was considered to be of very low quality. This was largely due to two factors. First, all included studies showed a high risk of bias. Second, the evidence about a specific intervention was based on one study in all cases.

As a result, the review team could recommend no evidence-based intervention as being effective for preventing and managing work disability/sickness absence, preventing recurrences and improving work functioning. The review underscored the shortage and low quality of existing research on intervention approaches available to address the problem of work disability and poor functioning among workers with mild to moderate depression.

What does the review tell us about future research in this field?

This systematic review did provide direction for future research into depression in the workplace. First, it demonstrated that randomized controlled trials are possible in this field. This is important because randomized controlled trials are the gold standard for testing the effectiveness of workplace (and other) interventions.

Second, the review helped solidify the questions that stakeholders—people on the front lines of addressing depression in the workplace—want answered by research in future. The questions include the following:

What is a systematic review?

A systematic review is a type of research study. It aims to find an answer to a specific research question using existing scientific studies. Reviewers assess many studies, select relevant, quality studies, and analyze the results. The review normally includes the following steps:

- determine the review question
- develop a search strategy and search the research literature
- select studies that are relevant to the review question
- assess the quality of the methods in these studies and select studies of sufficient quality
- systematically extract and summarize key elements of the studies
- describe results from individual studies
- combine results and report on the evidence

The Institute for Work & Health has established a dedicated group to conduct systematic reviews in workplace injury and illness prevention. Our team monitors developments in the international research literature in this field. We rely on feedback from non-research audiences to select timely, relevant topics for review, to help shape the research question and frame our findings.

We appreciate the support of the Ontario Ministry of Health and Long-Term Care for funding this systematic review.

- What approaches are effective in alleviating the effects of depression on work disability/sickness and work functioning?
- When is the best time to intervene in the course of a depressive episode and/or work disability/sickness absence?
- Is an intervention that demonstrates positive results in one compensation and health-care system (e.g. United States) also effective in another system (e.g. Ontario)?
- Why do some interventions achieve positive results in the short-term but not in the long-term, and vice versa?
- Why does the same intervention demonstrate conflicting findings with respect to outcomes?

Third, the review did conclude that some intervention approaches are feasible and, therefore, could be further evaluated in future studies. These included enhanced primary care, enhanced psychiatric care, enhanced role for occupational health physicians, psychological interventions, work stress reduction and integrated care.

Conclusions

Depression in the workplace is a complex problem, one that affects depressed workers, their families, co-workers, supervisors and employers, as well as disability insurers and governments. This review set out to find successful and cost-effective workplace-based solutions to this complex problem.

Due to a shortage of studies and the high risk of bias in those studies that have been done, no single intervention was shown to be effective in tackling the issue. As a result, no evidence-based intervention can be recommended at this time.

However, it's encouraging to find that randomized controlled trials are possible when researching interventions addressing depression in the workplace. It's also encouraging to know that front-line stakeholders who are faced with managing depression in the workplace know what questions they need answered.

As the review team concluded, perhaps the solution lies in multifaceted and layered approaches that aim to break down both individual and organizational barriers. The approaches are coordinated to achieve the best outcomes for preventing and managing the occurrence and reoccurrence of work disability/sickness absence due to mild and moderate depression, and for maximizing the work functioning of those workers with depression who choose to stay at work.

The findings are based on the February 2011 report *Systematic review of intervention practices for depression in the workplace* by Andrea Furlan, William Gnam, Nancy Carnide, Emma Irvin, Benjamin Amick III, Kelly DeRango, Robert McMaster, Kimberley Cullen, Tesha Slack, Sandra Brouwer and Ute Bultmann.

The full report is available at:

www.iwh.on.ca/sys-reviews/workplace-depression-intervention

For reprint information, contact the Institute for Work & Health.

The review team made these suggestions to future researchers in this field:

- Focus on randomized controlled trials. Although difficult to blind the workers in these kinds of workplace interventions, the use of cluster randomized trial design may help. A cluster randomized trial is one in which individuals are randomized in groups (i.e. the group is randomized, not the individual). For example, whole workplaces could be randomized to have the intervention or not, rather than individual people.
- Adhere to the CONSORT statement for describing and reporting on studies (www.consort-statement.org). The review team was often unable to judge the quality of the study methods used.
- Attempt to analyze future study participants according to their baseline working status (i.e. working, on leave, etc.) in order to more specifically address whether an intervention is effectively able to prevent or manage work disability/sickness absence.
- Focus on valid outcome measures and what should be measured when approaching questions about productivity or loss of productivity.
- Include economic evaluations, such as cost-benefit analyses, in the study design because these make research into workplace interventions for depression more relevant to employers. Include the costs borne by the employer, numeric measures of workplace disability and estimated dollar values of reducing workplace disability from an employer perspective.



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The Institute for Work & Health operates with the support of the Ontario Workplace Safety and Insurance Board.