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Managing depression in the workplace: A systematic review contextualized for Manitoba



Institute for Work & Health & SafetyNet Centre for Occupational Health & Safety Research

Managing Depression in the Workplace: A Systematic Review Contextualized for Manitoba

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About IWH and NLCAHR

The Institute for Work & Health (IWH) is an independent, not-for-profit research organization based in Toronto. Its mission is to promote, protect and improve the safety and health of working people by conducting actionable research that is valued by employers, workers and policy-makers. Since 1990, it has been providing research results and producing evidence-based products to inform those involved in preventing, treating and managing work-related injury and illness. It also trains and mentors the next generation of work and health researchers. Along with research, knowledge transfer and exchange is core to the work of the Institute. IWH commits significant resources to enable its research findings to be used by its key audiences.

The Newfoundland and Labrador Centre for Applied Health Research (NLCAHR), established in 1999, contributes to the effectiveness of the health and community services system of the province and the physical, social and psychological well-being of the population. Based at Memorial University in St. John's, NLCAHR accomplishes this mandate by building capacity in applied health research, supporting high quality research, and fostering more effective use of research evidence by decision-makers and policy-makers in the province's health system.

About the IWH Systematic Review Program

The Institute for Work & Health has developed in-house expertise in systematic reviews of work-health research. It began conducting systematic reviews in 1994, and strengthened its commitment to systematic reviews in 1996 when it agreed to host the Cochrane Back Review Group (now Cochrane Back and Neck)—one of more than 50 groups in the international Cochrane Collaboration. In 2005, IWH set up a formal Systematic Review Program, capitalizing on its original research and methodological expertise in this area.

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 those that are relevant and of sufficient quality, and analyze the results. A 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; and
- combine results and report on the evidence.

IWH has established a dedicated group to conduct systematic reviews in workplace injury and illness prevention. Its team monitors developments in the international research literature in this field, and relies on feedback from non-research audiences to select timely, relevant topics for review, to help shape the research question and frame findings.

Who should read this report?

This report provides a synthesis of the relevant research-based evidence on managing depression for the adult working population of Manitoba. This report is intended to inform and assist decision-makers in Manitoba's occupational health and safety and workers' compensation system. The findings of the synthesis are based on an international search of the literature and may also be applicable to other countries, but are specifically interpreted for the context of Manitoba.

Decision-makers from other jurisdictions, especially those with similar potential clients, geography and resources as Manitoba, may also find the content helpful. The report includes explanations of research terms and technical language; as such, there is no need to have a specialized occupational health and safety, medical or health background in order to understand its content.

Introduction to the project

The “Managing depression in the workplace: A systematic review contextualized for Manitoba” evidence synthesis is part of a larger project called *Evidence in Context for Occupational Health and Safety* funded in 2014 by the Workers Compensation Board of Manitoba. The project involved collaboration between researchers at Memorial University’s SafetyNet Centre for Occupational Health and Safety Research and Ontario’s Institute for Work & Health (IWH), in cooperation with research partners in Manitoba and a panel of Manitoba stakeholders. The purpose of the project was to develop and test an innovative methodology for providing decision support for provincial and local occupational health and safety (OHS) stakeholders by synthesizing the best available evidence on questions chosen by them, and then contextualizing the results to produce recommendations for their specific contexts. In most research synthesis studies (such as those undertaken by [Cochrane](http://www.cochrane.org/)¹ or the [Campbell Collaboration](http://www.campbellcollaboration.org/)²), the aim is to answer the question: ‘**what works**’? This methodology was designed to answer an additional question: ‘**will it work here**’?

The project used a series of pilot studies to develop and hone this approach and to develop the process outlined in an accompanying *Handbook*. The synthesis described in this report is one of the studies completed within the EC-OHS project. Please see the accompanying handbook for more information about the broader contextualization approach (http://www.iwh.on.ca/system/files/documents/ecohs_operational_handbook_2017.pdf).

A synthesis or systematic review involves a comprehensive search of the relevant literature, identification of the pertinent information, evaluation of the information to assess quality and, for those studies that are of sufficient quality, a synthesis of the findings to summarize the evidence. The IWH team developed an approach to knowledge synthesis that gives its stakeholders a prominent and integrated role in the design, implementation and dissemination of systematic reviews in OHS (Keown, 2008).

¹ <http://www.cochrane.org/>

² <http://www.campbellcollaboration.org/>

Developing the research question

A Manitoba Stakeholder Advisory Committee (MSAC) was created with key OHS stakeholders in Manitoba including business leaders, union representatives, ministry officials and representatives of WCB Manitoba. The MSAC was invited to several meetings with the research team. At the beginning of the project, committee members were provided with a list of potential research topics. At the half-way point in the project, they were asked to pick the topic for a systematic review and contextualization. The MSAC chose the topic of managing depression in the workplace.

IWH had already conducted a review on this topic for the Ontario Ministry of Health and Long-Term Care (MOHLTC) in 2010 (Furlan, 2010). As a result, the previous review was updated for the purposes of this contextualization project.

During the topic selection meeting, the project team also solicited input related to the research question, the literature search terms, and the manner in which findings from this review would be best presented. During both meetings, the MSAC received a presentation on the systematic review process.

The specific research question was formulated as, ***“Which intervention approaches to manage depression in the workplace have been successful and yielded value for employers in developed economies?”***

Background

The Conference Board of Canada reports that depression costs the Canadian economy at least \$32.3 billion annually (Conference Board of Canada, 2016). Nearly three million Canadians will experience depression in their lifetime. Depression most frequently strikes people between the ages of 24 and 44, during their prime working lives (CAMH, 2016). A Canadian study by Dewa and colleagues found that depressive episodes in workers were significantly associated with decreased work productivity (Dewa, 2011). In addition, individuals with depression have higher rates of absenteeism and short-term disability (Kessler, 2005), and experience higher rates of job turnover (Lerner, 2004) than those without depression. Furthermore, in Sanderson's 2006 critical review of common mental disorders in the workforce, depression and anxiety were more consistently associated with presenteeism than other mental health conditions (Sanderson, 2006). Economic analyses have also shown that the costs of lost productivity associated with depression far exceed the direct health-care costs needed to treat and manage the disorder (Greenberg, 2015). Furthermore, according to the National Standard of Canada for Psychological Health and Safety in the Workplace, commissioned by the Mental Health Commission of Canada, the financial awards for damages caused by mental injury at work increased by as much as 700 per cent from 2008 to 2013 (Canadian Standards Association, 2013).

By improving the management of mental health in the workplace, it is estimated that productivity losses can be decreased by as much as 30 per cent (Mental Health Commission of Canada, 2016). Employers and unions alike are committed to building awareness among their staff (CUPE 10630, 2016). However, a 2012 online survey of managers and supervisors in Canada found that, while 84 per cent agreed it was part of their job to intervene with an employee showing signs of depression, only 62 per cent felt they knew what to do in order to help a worker with depression, and a mere 31 per cent reported receiving relevant training.³ Among those who had personally intervened with a worker with depression, 63 per cent felt that better training could have made the experience better or easier. Some research also indicates that workers with depression may not be accessing existing resources because they are concerned about disclosing their condition in the workplace, and they want to keep health concerns private (Dewa, 2014; CAMH, 2016). Depression is also often invisible to others, and is episodic and unpredictable in nature. This can make it particularly difficult for supervisors and managers to plan work needs and implement and evaluate policies. Evidence-based practices are required to assist workplaces in minimizing the effects of depression in their workforces.

³ <https://www.workplacestrategiesformentalhealth.com/pdf/GWLReleaseDeckDepressionintheWorkplace.pdf>

Although depression in many (if not most) cases does not arise primarily from work or workplace exposures, employers do have good reasons to support or implement policies, programs or interventions targeted at depression in the workplace. The major reason is that the clinical management of depression often does not consider return to work or reducing work disability, and the management of depression generally is far from optimal. Narrative reviews of depression disability management studies have found a paucity of evidence pertaining to RTW and disability in comparison to clinical outcomes (Goldner, 2004). Although depression treatment rates have increased in the past twenty years (Patten, 2002), many workers with depression never receive standard clinical management of their episode (Stewart, 2003). There is abundant evidence that current management practices for depression are not optimal, that depression remains under-detected, and that many workers with depression do not receive evidence-based interventions or treatment (Patten, 2002; Kessler, 2003).

Consequently, many employers offer general mental health benefits through employee assistance, health promotion and wellness programs in an attempt to bridge the management gap. Yet, employer-sponsored programs that specifically target depression remain uncommon. Despite the clear necessity for these programs, there are barriers and information gaps that may prevent employers from making further investments to reduce the impact of depression in the workplace. The most significant information gap may be the paucity of readily accessible information on targeted interventions that improve workplace outcomes most directly relevant to employers, such as absenteeism and productivity. While the published literature on the clinical treatment and management of depression is voluminous, much of the evidence does not indicate whether the interventions studied could be feasibly implemented, supported or facilitated by employers. Moreover, the evidence on the impact of interventions on relevant work-related outcomes appears to be scattered (Lerner, 2008).

As a result, we undertook this review update to address these information gaps and determine the range of possible evidence-based interventions or programs that could be implemented in workplaces to help workers with depression and reduce associated productivity losses. We felt this would be beneficial for a range of stakeholders, particularly the employer community. To that end, the systematic review reported here was conducted to answer the following research question: **“Which intervention approaches to manage depression in the workplace have been successful and yielded value for employers in developed economies?”**

Systematic reviews identify, appraise and summarize the scientific literature – and offer advantages over other forms of reviews due to their replicable, transparent and scientific methods, which are designed to reduce bias. Systematic reviews conducted by IWH also strive

to be relevant and accessible to stakeholders, by involving them throughout the review process and consolidating a vast amount of information into a format more readily accessible to them.

For the original review, IWH assembled a review team made up of 11 researchers from Canada, United States and Europe. Reviewers were identified based on their expertise in conducting epidemiologic or intervention studies related to worker productivity and sustainable return to work for individuals with mental health disorders, their experiences in conducting systematic reviews, or their clinical expertise. The backgrounds of review team members included psychiatry, epidemiology, ergonomics, kinesiology, occupational medicine, labour economics, knowledge transfer and exchange, and information science. The team involved in updating that systematic review for the purposes of this contextualization project in Manitoba represents a subset of the original team.

How was the evidence appraised?

To answer our specific research question, we appraised and synthesized the evidence from primary research studies, using a replicable and transparent approach. Our systematic review process was developed by the Cochrane Collaboration (Higgins & Green, 2011) and adapted by the IWH SR program (Irvin et al., 2010).

IWH has been conducting SRs since 1994 and has housed the Cochrane Back and Neck group since 1996. In 2005, IWH created a program of research in SRs with the mandate to conduct reviews of all types, to train other researchers and stakeholders in SR, and to continue to advance SR methodology. Since 2005, IWH has published 28 literature reviews and three papers on SR methodology.

The six basic steps of the SR process include: 1) defining clear research question(s) (see above), 2) conducting a comprehensive and explicit search strategy, 3) identifying relevant studies, 4) conducting a critical appraisal and 5) extracting explicit data elements, to 6) synthesize and make evidence-based inferences. We conducted a narrative synthesis to describe the strategies we identify, and an adapted best evidence synthesis of studies that examine the effectiveness of the identified strategies. We determined it was not appropriate to conduct a meta-analysis due to substantial differences (heterogeneity) in intervention approaches and outcomes across the included studies.

Literature search

What evidence did we look for?

Literature searches entail comprehensive sourcing of published information from in-house and external databases, based on customer-specific specifications (South African Medical Research Council, 2013). We employed a number of strategies to identify potentially relevant studies.

Definition of terms

In order to perform a well-defined literature search, we established definitions for the terms “workplace or work setting” and “depression.”

Workplace or work setting was defined as any location where a worker performs his or her assigned work. Depression was defined as “current or remitted depression” and could be determined within the study using any one of the following methods: a screening interview or instrument (e.g., World Mental Health Composite International Diagnostic Interview), a clinician-derived diagnosis (as stated by the authors), a diagnosis established using formal standardized diagnostic criteria (i.e., fulfilling criteria from the Diagnostic and Statistical Manual of Mental Disorders or other similar classification), or validated self-report instruments (e.g., Center for Epidemiologic Studies Depression Scale).

Inclusion/exclusion criteria

The P.I.C.O. (Population, Intervention, Comparison, Outcome) framework was used to guide the strategy for identifying studies to be included in the review.

(P) Population: We included studies in which the population of interest was men and/or women of working age (i.e., approximately 18-65 years old) with a diagnosis of depression, as defined previously. In some instances, the study population included individuals with other mental health disorders. In this case, we only included studies in which at least 50 per cent of the population had depression.

We excluded studies that reported on patients with either a serious mental disorder (i.e., bipolar disorder or schizophrenia) or chronic severe depression. We defined “chronic severe depression” as the onset of depressive symptoms in adolescence or early adulthood that precluded patients from any meaningful labour market participation.

We also excluded studies where the primary focus was on persons with alcohol or other substance abuse or dependence disorders, depression related to pregnancy, and depression

in the following populations: military personnel and veterans, seniors, the elderly and children. Studies focused on bereavement, burnout and anxiety were also excluded.

(I) Intervention: We included studies evaluating interventions or programs that were workplace-based or that could be explicitly implemented and/or facilitated by the workplace. Such interventions or programs for workers with depression could involve the prevention of disability, the management of depression, or the rehabilitation of workers to promote stay at work (SAW) or return to work (RTW). Examples of such interventions include:

- Prevention of disability – health risk management, mental health promotion, resiliency training, time/stress management, supportive human resource (HR) policies (conflict resolution, work-life balance, recognition/reward), work reorganization, supportive leadership and management/supervision, education and training, healthy workplace strategies.
- Management of depression – performance management, medical surveillance, employee assistance program (EAP), depression screening, assessment and referral, self-care programs, acute and chronic stress management, early RTW program (case management, practice guidelines, work accommodations such as modified work), enhanced access to mental health providers (MHPs), preferred provider networks, shared-care or independent medical evaluations (IMEs), employee satisfaction surveys.
- Rehabilitation – case management, practice guidelines, mental job analysis, functional capacity assessments, IMEs, task/job modification, vocational rehabilitation, preferred provider network or shared-care to increase access to MHPs, relapse prevention, and long-term disability (LTD) depression screening.
- We excluded in-patient intervention programs; i.e., any health or psychosocial intervention that occurred when a client was admitted to a hospital or psychiatric facility. We also excluded studies focusing entirely on drug efficacy in depression.

(C) Comparison/Control: We included any study with a comparator. This included randomized controlled trials, as well as non-randomized studies with before-and-after comparisons within the same group or comparisons between distinct non-randomized groups. We excluded studies that did not have any sort of comparison or control because there are usually many co-occurring interventions that can influence outcomes in workplace studies.

(O) Outcomes: We included studies that examined the impact of interventions on primary outcomes relevant to employers, such as: (a) changes in productivity, (b) changes in sickness absence, absenteeism, worker turnover and long-term disability, (c) changes in on-the-job performance and health-related performance, (d) changes in rates of job-related accidents, and (e) economic outcomes. These primary outcomes were essential to a study's

inclusion in the review. Secondary outcomes included changes in clinical measures of depression, general well-being, patient satisfaction and quality of life. These outcomes were considered important, but not essential, to a study's inclusion into the review. Studies reporting secondary outcomes only were excluded.

Additional criteria: The review team considered published or in-press peer-reviewed scientific articles. There were no language restrictions. Book chapters, dissertations and conference proceedings were excluded.

Table 1: P.I.C.O. Inclusion and Exclusion Criteria

	Inclusion	Exclusion
Population	<ul style="list-style-type: none"> Men and/or women of working age (approximately 18-65 years old) with current or remitted depression (mild, moderate or severe*). Any co-morbidity Any business size as well as any sector 	<ul style="list-style-type: none"> Persons with a serious mental disorder (i.e. bipolar disorder or schizophrenia), pregnant, bereaved, burn-out Military personnel and veterans. Non-working e.g. seniors, the elderly population and children.
Publication Type	<ul style="list-style-type: none"> Original research studies and clinical guidelines from the peer-reviewed literature All languages 	<ul style="list-style-type: none"> Any work that is not an original research study or clinical guideline (e.g., editorials, grey literature, letters to the editor).
Type of Evidence/ Study Design	<ul style="list-style-type: none"> Any study with a comparator group was included. This included randomized controlled trials as well as non-randomized studies 	<ul style="list-style-type: none"> Studies without comparator, narrative and systematic reviews, opinion pieces/editorials, case studies (e.g., n=1), and qualitative research
Outcomes	<ul style="list-style-type: none"> Primary outcomes that are relevant to employers may include: <ol style="list-style-type: none"> Changes in productivity Changes in sick leave Changes in on-the-job performance and health-related performance Changes in rates of job-related accidents 	<ul style="list-style-type: none"> Articles that assess only secondary outcomes, i.e. clinical improvement of depression, general well-being (for example, SF-36), patient satisfaction, or quality of life. .

The literature search was based on the research question, as well as our definitions of work setting (or workplace) and depression. Key terms were identified and combined to search the following databases from their inception dates: MEDLINE, EMBASE, CINAHL, Central, PsycINFO and Business Source Premier (BSP).

Search terms were identified for four broad areas: work setting terms, depression terms, intervention terms and work outcome terms. Both database-specific controlled vocabulary terms and keywords were included. As the controlled vocabulary and the ability to handle complicated multi-term searches differs across the databases searched, search terms were customized for each database, as required. The complete list of terms used is reported in Table 2.

The search categories were chosen to be inclusive within each area. The terms within each category (work setting, depression, intervention and work outcome) were combined using a Boolean OR operator. In other words, within a category, articles involving any of the search terms would be included. The four main categories were then combined using a Boolean AND operator, which means that to be included, the article must have a term from each of these categories A simplified example of this search would be: worker AND depression AND workplace intervention AND return to work. This would identify an article that describes a workplace intervention for depression among workers and evaluates RTW as an outcome.

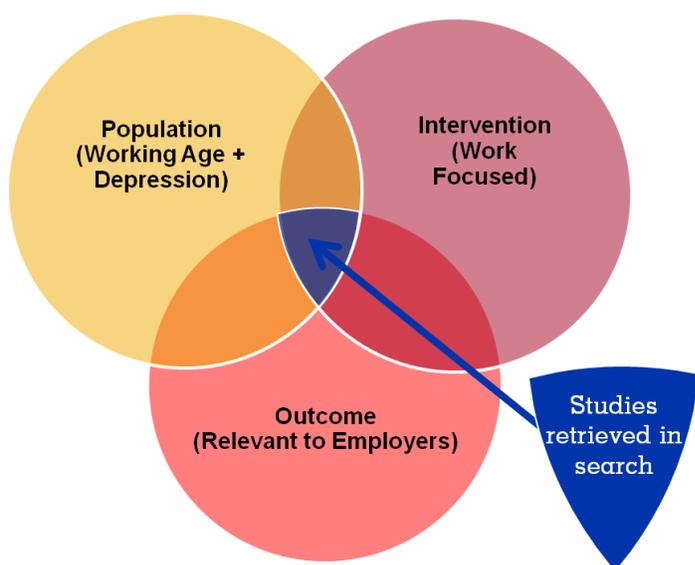


Table 2: List of Search Terms Used in this Systematic Review

Search Term Area	List of Terms
Work Setting	Apprentice, boss, branch, company, contractor, department, employee, employer, employment, facilities, factory, firm, health services, hospital, industry, institution, isolation pay, labourer, leader, manager, office, operator, organizational, personnel, plant, retail, skilled trade, staff, supervisor, team, telecommunications, unionized, work, work environment, work site, worker, working at home, workplace
Depression	Affective disorder, affective symptoms, depression, depressive disorder, depressive symptoms, dysthymia, mood disorder, mood symptoms, seasonal affective disorder
Intervention	Access to care, accommodation, acute stress management, adjustment, advocate, affinity groups, alternate duties, assessment and referral, benefits, case management, chronic stress management, club membership, coaching,

Search Term Area	List of Terms
	<p>community services, contracted ombudsman services, counselling, cultural resources, depression screening, disability management program, diversity resources, employee assistance program (EAP), early intervention, education, education and training, e-learning, embrace diversity, employee satisfaction surveys, employer resource groups, engagement, enhanced access, fitness group, flexible work, functional capacity assessments, functionality, gardening, grassroots, gym membership, health and wellness, health risk management, healthy workplace strategies, horticulture, independent medical evaluations (IMEs), inviting an organization in, job control, job modification, joint labour management initiatives, long-term disability (LTD) benefits, management of individual, medical surveillance, mental health promotion, mental job analysis, mentoring, modified duties, modified work, modified work, nature, occupational health services, organizational culture, organizational policies and practices (OPPs), pastoral care, peer support, performance management, pet therapy, positive psychology, practice guidelines, prayer room, preferred provider networks, prevention, prevention for all, promoting recovery, psychological safety, psychosocial risk factors, organizational culture, quiet room, quiet space, reflection room, rehabilitation, reintegration, relapse prevention, resiliency training, return to work, reward, second opinion, self help, self-care programs, shared-care, shared-care, short-term disability (STD) benefits, spiritual care, spirituality, stay at work, stress management, support groups, support options (support, in general) in small business, supportive leadership, supportive management, supportive supervision, task modification, time management, training, transitional/graduated return to work, treatment support, universal access, vocational rehabilitation, wellness strategy, work environment intervention, work re-organization, workplace adjustment, workplace intervention</p>
<p>Work Outcome</p>	<p>Absenteeism, accommodation, benefit duration, cost-effectiveness, co-worker conflict, cultural shift, disability pension, employee satisfaction, engagement, job match, job turnover, labour force participation, long-term disability, lost time, lost workday, new employer, new job, presenteeism, productivity, productivity ratio, reassignment, recovery, reduced costs, reduction in complaints, reduction in harassment, reemployment, remission, resilience, return on investment, return to work, short-term disability, sick leave, sickness absence, stay at work, stigma, successful stay at work, supportive at-work solutions, talent, time on benefit, unemployment, vocational assessment, wage replacement, wellness strategy, work ability, work absence, work adaption, work adjustment, work capacity, work disability, work functioning, work impairment, work limitations, work loss, work performance, work re-entry, work reintegration, work resumption, work retention, workers compensation, work-life balance</p>

* Terms within each category were combined using a Boolean OR operator, and the four categories were combined using a Boolean AND operator

Additional steps were taken to ensure the search for relevant papers was comprehensive. We asked members of MSAC, our stakeholder advisory group, to notify us of any articles they were aware of that should be considered in our review. The review team members were also asked to examine their personal libraries for relevant articles. Finally, the reference lists of all articles that were identified as relevant to our review were hand-searched for additional potentially relevant articles.

Selection for relevance (Level 1 & 2)

The inclusive search strategy captured many articles that were not relevant to our research question. As a result, a two-level relevance assessment was designed to identify and exclude articles that were irrelevant to the review research question as efficiently as possible, based on our inclusion/exclusion criteria. Reviewers entered responses for all levels of the process on commercial review software, DistillerSR (Evidence Partners, Ottawa, Canada <http://systematic-review.net/>), allowing centralized article tracking and access.

In Level 1, reviewers read only the article title and abstract (when available) and evaluated the relevance of each article using three questions, shown in Table 3. A response of “no” to any one of the three questions led to the article’s exclusion from the review. If reviewers were unsure on how to answer a question, they were instructed to mark it as “unclear.” A “yes” response to all questions or a combination of “yes” and “unclear” responses would move an article forward to Level 2 relevance assessment, where the full paper was obtained to definitively determine the article’s relevancy.

Table 3: Level 1 Relevance Screening Questions

Relevance Question	Response that Led to Exclusion**
Does the article describe:	
Population:	
1. People of working age with depression?	No
Intervention:	
2. An intervention to prevent further disability, manage depression or the rehabilitation of workers to promote stay at work (SAW), return to work (RTW) or reduction of job-related injuries?	No
Comparison:	
3. A study with a comparison group?	No

** The given response to any one question excluded the article from further review

In Level 2, full articles were obtained for all studies that passed through Level 1 (either those meeting all Level 1 criteria, or those with insufficient information to determine relevancy at Level 1). In addition to the three questions asked at Level 1, full article relevance was assessed with four additional questions, shown in Table 4.

Table 4: Level 2 Relevancy Screening Questions

Relevance Question	Response That Led to Exclusion**
Does the article describe:	
Population:	
1. People of working age with depression?	No
Intervention:	
2. An intervention to prevent further disability, manage depression or the rehabilitation of workers to promote stay at work (SAW), return to work (RTW) or reduction of job-related injuries?	No
Comparison:	
3. A study with a comparison group?	No
Outcome:	
4. Primary outcome(s) that are relevant to employers?	No
Other:	
5. Should this article be included for another purpose? If so, state why.	No
6. Is this a review article on depression in the workplace?	Yes
7. Are there other studies listed in this reference list that should be retrieved for consideration? (If 'yes', include author/year/publication information.)	Non-exclusion question

** The given response to any one question excluded the article from further review

Each article's relevance was assessed independently by two members of the review team at each of Levels 1 and 2 in the original review. In the update one member of the team reviewed at Level 1, however, a member of the team conducted a quality check. At level 2, any conflicts were resolved by consensus between review partners. A third reviewer was available to assist in the decision-making process during consensus, if required.

Quality assessment (Level 3)

Relevant articles were moved forward for methodological quality assessment at Level 3. The team developed quality assessment questions based on existing forms and pilot tested them using a relevant article. This resulted in one relevancy screening question and 18

methodological criteria questions for assessing quality, which are shown in Table 5. (See *Appendix D for Quality Assessment Reviewer Guide.*)

Each article was independently reviewed by two team members. To reduce potential reviewer bias, the same two members did not review all of the same articles. Instead, each reviewer was randomly paired with other team members. Reviewer pairs were required to reach consensus on all criteria. Where reviewer pairs disagreed in their assessment, they were encouraged to resolve their disagreement through discussion. In cases where agreement could not be reached, a third reviewer was consulted to ensure consensus was obtained. Team members did not review articles they had consulted on, authored or co-authored.

Table 5: Level 3 Quality Assessment Questions

<i>Screening Question</i>
Should this article be excluded from data extraction because it does not meet our inclusion criteria for the population, intervention, comparison and outcomes?
<i>Design and Objectives</i>
1. Is the research question clearly stated?
2. Were comparison group(s) used?
3. Was an intervention allocation method performed adequately?
<i>Level of Recruitment</i>
4. Was recruitment (or participation) rate reported and adequate?
5. Did the author(s) examine whether important differences existed between those who participated and those who did not?
6. Were pre-intervention (baseline) characteristics described and appropriately balanced?
7. Was loss to follow up (attrition) less than 35%?
8. Did the author(s) examine whether important differences existed between the remaining and drop-out participants after the intervention?
<i>Intervention Characteristics</i>
9. Was the intervention process adequately described to allow for replication?
10. Was there any potential for contamination and/or co-intervention?
<i>Intervention Intensity</i>
11. Was compliance with the intervention in all groups described and adequate?
<i>Outcomes</i>
12. Were the instruments used to assess the outcomes valid and reliable?
13. Were the outcomes described at baseline and follow-up?
14. Was the length of follow-up three months or greater?
<i>Analysis</i>
15. Was there adjustment for pre-intervention differences (if necessary)?
16. Were the statistical analyses appropriate?
17. Were all participants' outcomes analyzed by the groups to which they were originally allocated (intention-to-treat analysis)?
18. Was there a direct between-group comparison?

Data extraction (Level 4)

Following quality assessment, data were extracted from each article at Level 4 in order to contribute to the synthesis of evidence used to answer the review's research question.

The team developed a standardized data extraction form based on existing forms and data extraction procedures (Franché 2004, Franché 2005, Brewer 2006, Van Eerd 2006). Extracted data were used to build summary tables to inform evidence synthesis and to develop our overall conclusions.

Data extraction was performed independently by two reviewers. Again, reviewer pairs were rotated to reduce bias. Team members did not review articles they had consulted on, authored or co-authored. For the articles reporting the findings of economic evaluations, we allocated the economists on the review team as one of the two reviewers in order to ensure accuracy in extracting these outcomes. Differences in data extracted between reviewers were identified and resolved by discussion. In cases where agreement could not be reached, a third reviewer was consulted to ensure consensus was obtained.

Reviewers extracted data on: year of study; jurisdiction; type of work setting; study design; source population; sample characteristics; how the presence of depression was determined; length of follow-up; intervention characteristics; outcomes of interest to this review (productivity, sickness absence, health-related and economic measures); statistical analyses; covariates/confounders; and study findings. The complete list of data extraction questions are shown in Table 6.

Initially, we planned to calculate the effect sizes for each article in order to evaluate the strength of associations in a uniform manner (Cooper 1994, Kristensen 2005, Cole 2005, Tompa 2007). However, this approach was abandoned early in the process due to the amount of heterogeneity in outcome measures and study methods, and the lack of data necessary to calculate effect size in some studies.

Table 6: Level 4 Data Extraction Questions

Screening Question
1. Should this article be excluded from data extraction because it does not meet our inclusion criteria for the population, intervention, comparison and outcomes?
Study Design and Setting
2. State the research question/objective(s).
3. Write the last name of the first author and the year of publication.
4. State the jurisdiction in which the study was completed.
5. Describe the source population from which the participants were recruited.
6. Describe the type of setting/workplace/work setting in which the study was conducted.
7. List the job titles/classification of the people who participated in the study.
8. Describe how the presence of depression among potential participants was determined.
9. Clearly list the inclusion criteria described in the study for worksite characteristics.
10. Clearly list the inclusion criteria described in the study for individual characteristics.
11. Clearly list any other inclusion criteria described in the study.
12. Clearly list the exclusion criteria described in the study for worksite characteristics.
13. Clearly list the exclusion criteria described in the study for individual characteristics.
14. Clearly list any other exclusion criteria described in the study.
15. What is the study design?
16. Was the study protocol reviewed and approved by a Research Ethics Board (REB)?
Intervention Characteristics
17. Describe the nature of the intervention for the intervention(s) group.
18. Describe the nature of the intervention for the comparison group.
19. How often was the intervention applied for the intervention(s) group?
20. How often was the intervention applied for the comparison group?
21. What was the duration of the intervention for the intervention(s) group?
22. What was the duration of the intervention for the comparison group?
23. Indicate the time period between the baseline measurement and all subsequent follow-up measurements.
Sample Characteristics at Baseline
24. Describe the intervention group at baseline.
25. Describe the control group at baseline.
26. Describe the overall (study) group at baseline.
Covariate Questions
27. When were potential covariates/confounders measured?
28. Were covariates/confounders ultimately controlled for in the final analysis?
Outcomes
29. Provide a list of outcome variables used to evaluate intervention effectiveness that are relevant to our review project.
30. Were direct and indirect costs associated with the intervention measured?
31. Were any outcome measures monetized (converted into a dollar figure)?
32. Was a cost-effectiveness analysis (CEA) conducted?
33. Was a cost-benefit analysis (CBA) used?
34. If the answer to question 32 or 33 was “yes,” was the CEA or CBA done from the point of view of society or of the employer?

35. What time frame was used for the CEA or CBA?
36. Are the results sensitive to the time frame used?
37. If the answer to question 36 was “yes,” given the flow of benefits and the costs, did the authors calculate how long it would take to recoup the costs?
38. Was there an inflation adjustment?
39. Did the CEA or CBA perform discounting?

Statistical Analysis and Results

40. Indicate the types of final analyses done for testing the observed effects of the intervention and provide details for the outcome involved.
41. Describe for each outcome of interest, the observed intervention effects.
42. Were additional statistical analyses conducted to increase your confidence in the observed effects?
43. Remark on the findings or include other information that is unique about the study that may not be adequately captured in the other data extraction questions.

Evidence synthesis (Level 5)

We synthesized the evidence based on a qualitative approach known as “best evidence synthesis” developed by Slavin (1995). This method allows consideration of article quality, quantity of articles examining interventions to manage depression in the workplace, and the consistency of the research findings. It assesses the levels of evidence with rankings on a scale from “strong evidence” through to “insufficient evidence.” It is well suited for this review because of the broad range of study designs and analytic approaches we encountered. A best evidence synthesis approach provides the same methodological rigor to evidence synthesis as meta-analysis by explicitly and transparently identifying the synthesis criteria.

Table 7: Strength of Messages Based on Level of Evidence

Level of Evidence	Minimum Quality	Minimum Quantity	Consistency	Strength of Messages
Strong	High (H)	3	3H studies agree If >3 studies, $\frac{3}{4}$ of the M + H agree	Recommendations
Moderate	Medium (M)	2H or 2M + 1H	2H studies agree or 2M + 1H agree If >3 studies, $> \frac{2}{3}$ of the M + H agree	Practice considerations
Limited	Medium (M)	1H or 2M or 1M + 1H	1 H or 2 (M and/or H) studies agree If >2 studies, $> \frac{1}{2}$ of the M + H agree	Not enough evidence to make recommendations or practice considerations
Mixed	Medium (M)	2	Findings from M + H are contradictory	
Insufficient	No high quality studies Only medium quality studies that do not meet the above criteria			

*High = >85% in quality assessment; Medium = 50-85% in quality assessment

What studies did we find?

Table 8 offers information about the characteristics of the 27 studies of sufficient quality to be included in the next step of data extraction. studies; i.e., their quality, where they were conducted, the type of study, and the outcomes used. Finally, Table 9 summarizes the intervention categories that were assessed by these studies, who delivered the intervention and how. Definitions of the intervention categories are provided in Table 10 (in the section on synthesis and interpretation).

Table 8: Characteristics of Studies Included in Data Extraction

Study Quality	Study Author	Country	Study Design	Outcome
High	Lo Sasso	USA	Randomized trial	Work functioning Work disability
	Schoenbaum	USA	Randomized trial	Work disability
	Smith	USA	Randomized trial	Work disability
	Krogh	Denmark	Randomized trial	Work disability
	Ebert	Germany	Randomized trial	Work functioning Work disability
	Geraedts	The Netherlands	Randomized trial	Work functioning Work disability
	Hees	The Netherlands	Randomized trial	Work functioning Work disability
	Kröger	Germany	Randomized trial	Work disability
	Lexis	The Netherlands	Randomized trial	Work disability Recurrences of work disability

Study Quality	Study Author	Country	Study Design	Outcome
	Noordik	The Netherlands	Randomized trial	Work disability Recurrences of work disability
Medium	Knekt	Finland	Randomized trial	Work functioning Work disability
	Wang	USA	Randomized trial	Work functioning Work disability
	Kawakami	Japan	Non-randomized study (concurrent control group)	Work disability
	Rebergen	The Netherlands	Randomized trial	Work disability
	Schene	The Netherlands	Randomized trial	Work disability
	Dewa	Canada	Non-randomized study (concurrent control group)	Work disability
	Blonk	The Netherlands	Randomized trial	Work disability
	van der Feltz-Cornelis	The Netherlands	Randomized trial	Work disability
	Bee	England	Randomized trial	Work functioning
	Cavanagh	United Kingdom	Non-randomized study (pre-post comparison)	Work functioning Work

Study Quality	Study Author	Country	Study Design	Outcome
				disability
	Høgelund	Denmark	Non-randomized study (concurrent control group)	Work disability
	Jansson	Sweden	Randomized trial	Work functioning Work disability
	Lagerveld	The Netherlands	Non-randomized study (concurrent control group)	Work disability Recurrences of work disability
	Lam	Canada	Non-randomized study (pre-post comparison)	Work functioning Work disability
	Lerner	USA	Randomized trial	Work functioning Work disability
	Sahlin	Sweden	Non-randomized study (concurrent control group)	Work disability
	Vlasveld	The Netherlands	Randomized trial	Work disability

We sought findings for the effectiveness of these interventions on these work-relevant outcomes:

- sickness absence (leave),
- absenteeism,
- worker turnover,
- long term disability,
- on-the-job health-related performance
- work-functioning (productivity) and
- injury rates

Table 9: Intervention Categories Assessed

Intervention Category	Intervention Providers	Intervention Delivery	Studies	Quality
Cognitive behavioural therapy (CBT)	Clinician	Individualized care	Schoenbaum	High
CBT	Clinician	Individualized care	Blonk	Medium
CBT	Clinician	Telephone	Bee	Medium
CBT	Non-clinician	Computer	Cavanagh	Medium
CBT	Clinician	Individual & group sessions	Hees	High
CBT	Clinician	Group-based care	Jansson	Medium
CBT	Clinician	Individualized care	Kröger	High
CBT	Clinician	Individualized care	Lagerveld	Medium
CBT	Clinician	Telephone	Lam	Medium
Work-focused cognitive behavioural therapy (W-CBT)	Non-clinician	Individualized care	Blonk	Medium
W-CBT	Clinician	Individual & group sessions	Hees	High

Intervention Category	Intervention Providers	Intervention Delivery	Studies	Quality
W-CBT	Clinician	Individualized care	Kröger	High
W-CBT	Clinician	Individualized care	Lagerveld	Medium
W-CBT	Non-clinician	Telephone	Lerner	Medium
Problem solving therapy (PST)	Clinician	Individualized care	Knekt	Medium
PST	Clinician	Individualized care	Schene	Medium
PST	Clinician	Computer	Ebert	High
PST	Clinician	Group-based care	Jansson	Medium
Work-focused problem solving therapy (W-PST)	Clinician	Individualized care	Schene	Medium
W-PST	Clinician	Computer	Geraedts	High
W-PST	Clinician	Individualized care	Noordik	High
W-PST	Clinician	Individualized care	Vlasveld	Medium
Combined W-CBT & W-PST	Clinician	Individualized care	Rebergen	Medium
Combined W-CBT & W-PST	Clinician	Individualized care	Lexis	High
Coordination of services	Clinician	Telephone	Wang	Medium
Coordination of services	Clinician	Individualized care	Dewa	Medium
Enhanced care management	Clinician	Individualized care	Lo Sasso	High
Enhanced care management	Clinician	Individualized care	Schoenbaum	High
Enhanced care management	Clinician	Individualized care	Smith	High
Enhanced care management	Clinician	Individualized care	van der Feltz-Cornelis	Medium

Intervention Category	Intervention Providers	Intervention Delivery	Studies	Quality
Short-term psychodynamic psychotherapy	Clinician	Individualized care	Knekt	Medium
Long-term psychodynamic psychotherapy	Clinician	Individualized care	Knekt	Medium
Nature-based rehabilitation	Clinician	Individual & group sessions	Sahlin	Medium
Part-time sick leave	Non-clinician	Individualized care	Høgelund	Medium
Strength training	Clinician	Group-based care	Krogh	High
Aerobic training	Clinician	Group-based care	Krogh	High
Relaxation training	Clinician	Group-based care	Krogh	High
Stress reduction program	Non-clinician	Individualized care	Kawakami	Medium

Synthesis and interpretation

Before proceeding to a detailed examination of the review evidence on each of the interventions we studied, we would like to highlight key features of our review.

Population

In our search for high quality evidence, we sought recent primary research that focused on workers (men and/or women of working age 18–65 years old) who experienced symptoms of depression and were diagnosed with depression by a health-care professional. We considered workers who were at work and those who were off work, but we did not consider unemployed people.

Criteria used to define depression

Relevant studies considered a diagnosis of depression according to a screening interview or instrument, a clinician-derived diagnosis, a diagnosis established using formal standardized

diagnostic criteria or validated self-report instruments. Studies that included participants with other mental health disorders were included only if 50 per cent or more had depression. Studies were excluded if the focus was on severe mental disorders (i.e., bipolar disorder, schizophrenia or chronic severe depression). We did this to reduce the amount of heterogeneity in the population.

Outcomes considered

We considered outcomes related to sickness absence, absenteeism, return to work, stay at work, worker turnover, long-term disability, on-the-job health-related performance, work-functioning (productivity) and injury rates.

Interventions considered

We did not limit the type of intervention that we examined in our review. We updated the previous review (completed by some of the same current review team members) that was completed and published in 2012 (Furlan et al., 2012). We considered the categories of interventions from the original review but felt that, with the new interventions and intervention comparisons in the recent literature, there were better intervention categories. The review team came to consensus on the intervention categories after considering the descriptions in all of the studies of the review (original and update).

Intervention categories

We defined 14 intervention categories by considering the interventions described in the peer-reviewed literature that were related to RTW or SAW outcomes. The intervention categories were: cognitive-behavioural therapy (CBT), work-focused CBT (W-CBT), problem solving therapy (PST), work-focused PST (W-PST), enhanced care delivery, coordination of services, short-term psychodynamic therapy, long-term psychodynamic therapy, stress reduction program, strength training, aerobic training, relaxation training, part-time sick leave and nature-based rehabilitation. These categories are defined below.

Table 10: Operational Definitions of Intervention Categories

Intervention Category	Operational Definition
Cognitive behavioural therapy (CBT)	A structured, time-limited, problem-focused and goal-oriented technique that teaches strategies and skills, based on a positive, shared therapeutic relationship between therapist and client (CAMH ref)
Work-focused CBT	As above, but adds some specific focus on addressing issues related to work or RTW. It has been defined as “enhancing the problem-solving capacity of workers – especially in relation to their work environment.” Rebergen
Problem solving therapy (PST) (aka problem-based therapy or solution-focused therapy)	A cognitive behavioral intervention geared to improve an individual's ability to cope with stressful life experiences. The underlying assumption of this approach is that symptoms of psychopathology can often be understood as the negative consequences of ineffective or maladaptive coping
Work-focused PST	As above, but adds some specific focus on addressing issues related to work or RTW
Enhanced care delivery	Enhanced delivery of intervention to effect change on depression OPs deliver some of the intervention components, which are ill-defined but indicate this is the main treatment in the study; For Shoenbaum, which could be 'enhanced' for QI-Therapy; because it was CBT, we labeled it as CBT).
Coordination of services	Improves communication among parties with the goal of improving outcomes
Short-term psychodynamic therapy	Conducted by a therapist, a brief transference-based approach that helps patients by exploring and working through intra-psychic and interpersonal conflicts
Long-term psychodynamic therapy	Conducted by a therapist, an open-ended, intensive, transference-based therapeutic approach that helps patients by exploring and working through a broad area of intrapsychic and interpersonal conflicts
Stress reduction program	A worksite program in which supervisors identify possible work stressors and work with an implementation committee to reduce these stressors

Intervention Category	Operational Definition
Strength training	Designed to increase muscular strength from initial repetitions of 50% of repetition maximum (RM) to 75% of RM
Aerobic training	Designed to increase fitness as measured by maximal oxygen uptake (VO ₂ max)
Relaxation training	Designed to avoid muscular contractions or stimulation of the cardiovascular system by not engaging in activity perceived higher than 12 on the Borg scale
Nature-based rehabilitation	Consists of: (1) traditional medical rehabilitation methods used for stress-related mental disorders such as relaxation, stress management, physiotherapeutic exercises, body awareness, conversational therapy and handicraft, all of which are professionally integrated into a nature context; and (2) activities, or simply being, in a garden or/and nature
Part-time sick leave	Allows employees on full-time sick leave to resume work at reduced hours, and to increase working hours as health improves until able to work regular hours

A word about the prevalence of CBT and PST approaches: we found 18 (of 27) studies that described a CBT or PST approach (either with or without a work focus) to address depression and RTW or SAW outcomes.

Evidence synthesis findings

We begin by examining those intervention categories for which multiple studies were found. With multiple studies, we are able to determine higher levels of evidence according to our algorithm (see Table 7: Strength of Message Based on Level of Evidence).

Cognitive behavioural therapy (CBT)

Nine studies evaluated CBT interventions (Schoenbaum, Blonk, Bee, Cavanaugh, Hees, Jansson, Kroger, Lagerveld, Lam).

For return-to-work after a period of sick leave:

Limited evidence of no effect for CBT (3H + 4M studies)

For stay-to-work while experiencing symptoms:

Moderate evidence of a positive effect for CBT (2H + 5M studies)

Work-focused cognitive behavioural therapy (W-CBT)

Five studies evaluated work-focused CBT interventions (Blonk, Hees, Kroger, Lagerveld, Lerner).

For return-to-work after a period of sick leave:

Moderate evidence of a positive effect for W-CBT (2H + 3M studies)

For stay-to-work while experiencing symptoms:

Moderate evidence of a positive effect for W-CBT (1H + 2M studies)

Problem solving therapy (PST)

Four studies evaluated PST interventions (Knekt, Schene, Ebert, Jansson).

For return-to-work after a period of sick leave:

Moderate evidence of no effect for PST (1H + 3M studies)

For stay-to-work while experiencing symptoms:

Moderate evidence of a positive effect for PST (1H + 3M studies)

Work-focused problem solving therapy (W-PST)

Four studies evaluated work-focused PST interventions (Schene, Geraedts, Noordvik, Vlasveld).

For return-to-work after a period of sick leave:

Moderate evidence of no effect for W-PST (2H + 2M studies)

For stay-to-work while experiencing symptoms:

Mixed evidence of an effect for W-PST (1H + 1M studies)

Enhanced care delivery

Four studies evaluated enhanced care delivery (LoSasso, Schoenbaum, Smith, van der Feltz-Cornelis).

For return-to-work after a period of sick leave:

Moderate evidence of no effect for enhanced care management (2H + 1M studies)

For stay-to-work while experiencing symptoms:

Mixed evidence of an effect for enhanced care management (3H + 1M studies)

Coordination of services

Two studies evaluated coordination of services (Wang, Dewa)

For return-to-work after a period of sick leave:

Insufficient evidence of an effect for coordination of services (1M study)

For stay-to-work while experiencing symptoms:

Limited evidence of a positive effect for coordination of services (2M studies)

The remaining intervention categories were evaluated by single studies and, therefore, by definition provide insufficient evidence of effectiveness:

- Short-term psychodynamic therapy (Knekt)
- Long-term psychodynamic therapy (Knekt)
- Stress reduction program (Kawakami)
- Strength training (Krogh)
- Aerobic training (Krogh)
- Relaxation training (Krogh)
- Nature-based rehabilitation (Sahlin)
- Part-time sick leave (Hogelund)

The Manitoba context

Throughout, the course of this project, we sought to identify contextual factors unique to Manitoba that may influence the relevance and applicability of the research-based evidence to that province and its population. This section of the report addresses those contextual factors and is based primarily on consultations with local decision-makers, administrators, clinicians and stakeholder group representatives in the province. Together, we refer to these as stakeholders in the discussion that follows.

Contextualization approach

By "contextual factors," we mean the local conditions, capacities and qualities that can have an impact on the reported effects of the included research evidence—such factors have the potential to enhance or to reduce the likely effectiveness, feasibility or acceptability of an intervention in Manitoba. The review team (with help from the research funder) recruited key contextual advisors from the province; the advisors participated in contextualization meetings, providing their expertise about the specific Manitoba context.

We met with 20 contextual advisors representing the following stakeholder groups: EAPs, employers, labour, clinicians/scientists, OHS professionals, disability managers and SafeWork Manitoba. These advisors helped us to understand what will work in Manitoba. In addition, we held a meeting with members of the MSAC to update them on the preliminary findings of the review and contextualization and incorporated their feedback.

Below we consider the contextual factors—the characteristics and circumstances—that will come to bear on interventions to address depression in workers in the adult worker population of Manitoba. The contextual factors were categorized and labeled by the team with input from the MSAC.

Contextualization factors

Population/workforce *

*This was a major factor of concern as identified by the workshop participants

According to StatsCan (2017), the population of Manitoba is approximately one million people (<http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/lfss01b-eng.htm>). Just over 70 per cent of the Manitoba population is considered urban (as of 2011 census: <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/demo62h-eng.htm>). Most of the urban population is located in Winnipeg (~700,000), with Brandon (47,000) the next most populated city.

Manitoba's workforce (age 15 and over) stands at 675,400 (<http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/lfss01b-eng.htm>). The largest industrial sectors are: construction, service, retail, agriculture/forestry/fishing/hunting, and professionals; these make up to 53 per cent of the private-sector workforce (NAICS, 2016).

What we heard from stakeholders

One of the themes relevant to population and workforce that emerged was “culture,” and issues regarding the First Nations population were considered to make a complex problem even more complex. It was noted that workers came from a variety of places, and workplaces have to consider many cultural sensitivities. Parts of the workforce were described to include a high proportion of temporary workers. The temporary situation of many workers raised additional challenges for workplaces when it comes to addressing depression.

Another theme was the “scope” of depression. Stakeholders mentioned how prevalent depression was among the workforce. The main concern regarding scope and prevalence was access to health services (such as CBT). The discussion about access focused on the need to have a prescription from a physician to get access to psychological services. The participants clearly noted a link between access to services and the prevalence of depression in the workforce.

The last theme in this category was related to “demographics” with respect to the differences in rural and urban centres. Workforces were considered to be quite different depending on whether they were from urban or rural areas. Although related to the theme of culture, “demographics” was considered an independent theme because cultural issues could also be different within rural and urban settings.

Service design/location

What we heard from stakeholders

“Timely access to service” was the key theme that emerged related to service design/location factors. The strong perception of stakeholders was that there had been a ‘mass exodus’ of psychiatrists (and psychologists) from Manitoba. This, combined with the requirement of a prescription from a physician to access services provided by psychiatrists or psychologists (such as CBT), resulted in very long wait times (considered to be 12-18 months). A further complicating factor raised by stakeholders was the potential for co-morbidities among those who are diagnosed with depression. The challenges of providing the best treatment when co-morbidities are present also contributed to potential delays and possibly inappropriate (or delayed) treatment. Stakeholders also noted that access to EAP services did not necessarily alleviate delays or access issues, as there were delays, gaps in service and generally limited resources in the EAP system as well.

Another theme noted related to “rural” service, and concerned the lack of services available in rural areas of Manitoba. The concerns raised were not so much about delays or access, per se, but about a total lack of services available. This may appear to be a subtle distinction, but the stakeholders clearly stated that this was a different issue relevant to depression in the workplace.

Service organization and delivery*

*This was a major factor of concern as identified by the workshop participants

What we heard from stakeholders

The main theme that emerged with respect to service organization and delivery was “delivery options,” with an emphasis on telephone delivery and peer-support models. The peer-support options were noted as important to deal specifically with the lack of trained clinicians in the province also noted above. Telephone delivery was related to geography and urban/rural concerns.

Stakeholders were careful to point out some important aspects to be addressed when considering delivery of service. One is that, in small communities, a worker accessing service(s) could possibly end up speaking with a neighbour or even a family member who is delivering a service (either by phone or in peer-support settings). This raised concerns related to stigma, anonymity and privacy. Another delivery issue was that of language, as some workplaces (and geographical areas) have large proportions of workers where English is a second language and services may be better delivered in the workers first language.

Other system factors

What we heard from stakeholders

One theme that emerged as a system factor was “access to services”. Stakeholders mentioned the problems of getting access to health-care providers (as mentioned above). Furthermore, they emphasized the availability (or lack) of training and education for service providers, including clinicians or peer-support personnel in the province. In addition, it was noted that better service integration was needed (beyond health care) should the depression progress to more severe symptoms or disability. Stakeholders specifically mentioned suicide prevention.

A related theme was “access to benefits” Participants focused on the role of the workers’ compensation system in discussing this contextual factor. However, they recognized that the entire provincial health-care system, as well as the workers’ compensation system, should work together.

One additional theme for the contextual factor of system factors was “impact of depression in the workplace”. This theme is related to prevalence, but the focus here was more about the level of awareness that workplaces have about depression, and the impact depression has on overall workplace productivity, as well as the burden it puts on individual workers.

Technology

What we heard from stakeholders

The theme linked to technology was “delivery options”—that is, the options available to deliver services related to managing depression. Stakeholders spoke about the need for telephone and web delivery options. The key points about these delivery options revolved around the need to cover a large geographical area to reach those who needed services. This was considered to be a somewhat different and bigger issue than urban/rural differences, although it was acknowledged that it was related. There was a general sense that mobile apps may also provide potential solutions to access. Although the stakeholders reported that while they did not know very much about mobile apps, there was a sense they would be potentially useful to help address depression in the workplace. An additional concern raised under this theme was the sense that current EAP options may be ineffective. The main concern here was the understanding that some EAP providers were located in another province (mostly Ontario), and this was considered a barrier to receiving effective solutions.

Health/human resources

What we heard from stakeholders

A number of themes were relevant to health or human resources at workplaces. One theme was “workplace practices” and concerned the role of supervisors in initiating discussions with workers and referring them to EAP services. Strongly related to this was the flexibility of workplaces to allow for the accommodation of workers with depression. The discussion also raised the issue of the workplace motivation to provide accommodation; the participants felt that, although workplaces had ethical and financial (including productivity) motivations for providing accommodations, these were not always considered by all workplaces.

The theme of “stigma” was also relevant to health/human resources. Stakeholders noted that workers with depression may be concerned about the stigma of depression, even in situations where the workplace may be open to discussion and be amenable to accommodations. There was also a feeling that the role of co-workers in aiding their work colleagues with depression may be reduced if stigma was present and restricted workers from revealing their depression.

The theme of “timely access to service” was also apparent as workplaces were concerned that workers may not receive treatment due to long wait times and a lack of available clinicians (particularly psychiatrists, who have left the province).

Economics

What we heard from stakeholders

The theme relevant to economics was “the structure of access.” Stakeholders conveyed their feeling that the current provincial system is not able to provide the required services to deal with the issue of depression in the workplace. Key concerns revolved around access to benefits (as noted earlier), which was linked to the recruitment and retention of key clinicians. In addition, stakeholders noted that the payer system and fee structure were not conducive to getting services in a timely manner. They recognized that the costs to the province, workplaces and individuals with depression were great.

Legislation

What we heard from stakeholders

Regarding legislation, the theme was “rights of the worker.” Stakeholders felt that workers should reasonably expect that their jobs will be protected until such time as they can return to work (or return to working at full capacity). Stakeholders considered job protection a ‘human rights’ issue. However, there were also concerns about how insurers are dealing with these ‘rights’ and a sense that the best interest of the workers were not always at the forefront.

Geography (includes urban vs rural)*

* This was a major area of concern as identified by the workshop participants

What we heard from stakeholders

One theme was “population distribution.” Stakeholders revealed that Manitoba is somewhat unique among Canadian provinces in terms of its population distribution. While this uniqueness was related to urban vs rural, stakeholders also raised the idea of the *far north*, highlighting that this went beyond the urban/rural issue because it was concerned with remoteness and great distances. There was real concern about how to provide services for remote communities.

A second theme was “delivery of service,” but here the concern was related to in-province resources, particularly the recruitment/retention of service delivery agents in remote regions (including psychiatrists). There was a concern that Ontario-based EAP providers may not be sufficient could not deliver the level of service required for Manitoba.

Industry

The largest industrial sectors in Manitoba are: construction, service, retail, agriculture/forestry/fishing/hunting, and professionals. These sectors together make up 53 per cent of the private-sector workforce (NAICS, 2016).

What we heard from stakeholders

Within the contextual factor of industry, the theme that emerged was “community.” Stakeholders noted that single employers dominate some communities, and that workers, as well as the community itself, relied on the employer for their livelihoods. Similarly, for some employers, a larger proportion of their workforce is made up of foreign temporary workers. The concern was that workers may not seek treatment for depression for fear of losing their jobs – either because they are missing time at work for assessments or treatment or because it is revealed they have depression.

Political factors

What we heard from stakeholders

Two themes emerged related to political factors. One was “commitment of government” to provide the necessary services and resources required to address depression. Stakeholders consistently remarked that all three levels of government should show commitment. It was clear

that the commitment was to ensure that the resources were available to adequately address depression in Manitoba. In addition, stakeholders felt a need for education and awareness campaigns to deal specifically with the stigma related to depression.

Another theme was “support.” It was specifically pointed out that support for temporary foreign workers is needed. This was considered a political issue because stakeholders felt that the government should provide this support, above and beyond what workplaces and the insurance system are already providing.

Overarching themes

While our discussions with key stakeholders in Manitoba touched on all of the contextual factors listed above, the predominant contextual factors were considered to be population/workforce characteristics, service organization and delivery, and geography. Within these factors and others, the main themes that emerged were culture, demographics and population distribution related to different areas of the province, delivery of service, access to service, and delivery options.

In summary

The objectives of this synthesis and contextualization project were to determine ‘what works’ (from the scientific literature) and ‘will it work here’ (from the contextualization exercise).

Answering the question ‘What works?’: (Synthesis findings)

We found moderate levels of evidence for a number of interventions. Applying our algorithm for strength of messages (shown in Table 7 above), this allows us to provide *considerations to guide practice**. Based on the scientific literature, from a wide range of jurisdictional settings, the evidence suggests the following practice considerations in answer to the question ‘what works’:

- A. To help workers with depression stay at work (SAW), while managing their symptoms, consider providing/offering Cognitive Behavioral Therapy (CBT) & Problem Solving Therapy (PST) interventions.
- B. To help workers transition back to work after an absence, consider providing/offering Work-focused Cognitive Behavioral Therapy (W-CBT) which includes identifying work-specific strategies, skills, and solutions specifically related to RTW.
- C. The review findings suggest that providing/offering CBT that is not work-focused, PST or W-PST, or Enhanced Care (as defined in our review) are not effective to help workers transition back to work after an absence (i.e., for RTW). Examine/consult reliable practice evidence to help in your decision to provide/offer these interventions.
- D. There is currently not enough evidence from the scientific literature to guide practice for the following interventions:
 - i. coordination of services
 - ii. short-term psychodynamic psychotherapy
 - iii. long-term psychodynamic psychotherapy
 - iv. stress reduction program
 - v. strength training
 - vi. aerobic training
 - vii. relaxation training
 - viii. part-time sick-leave
 - ix. nature-based rehabilitation

*Note that these practice considerations are based on the currently available research literature and are therefore limited by the number of published studies for each intervention category in this systematic review.

‘Will it work here?’ (Contextualization findings)

Based on feedback from an invited group of stakeholders from Manitoba as part of the EC-OHS project, there appear to be major challenges to accessing clinician-delivered treatments such as CBT and PST. Therefore, despite the scientific evidence of effectiveness, the stakeholders we spoke to in Manitoba, felt there were significant barriers to providing/accessing CBT or PST interventions. One of the main barriers that was mentioned was the lack of qualified clinicians within the province.

In addition to the service delivery barriers identified, we also heard about challenges to accessing CBT and PST interventions related to geography (e.g., great distances, remote communities) and workforce characteristics (e.g., single employer communities, temporary foreign workers).

The invited group of stakeholders reported an interest in alternative delivery options for interventions that draw heavily on CBT and PST approaches. The delivery options described as worthy of further exploration were either alternative care providers such as personal support workers (PSW) or peer-counselors as well as alternative mode of delivery via telephone or web-based approaches.

Considerations for decision-makers

The considerations listed below are based on the synthesis findings as well as the professional perspectives gathered from the invited stakeholders who included clinicians, administrators and decision-makers concerning the Manitoba context. Given the nature of our methodology and the limitations of the evidence available for our synthesis, we cannot firmly endorse any particular programs, services or interventions. Instead, readers should regard the following as considerations that decision-makers may wish to bear in mind as they contemplate the local relevance and applicability of the research-based evidence synthesized in the first part of this report to the implementation of policies and programs within their own settings.

Depression is prevalent in Manitoba, as it is in other Canadian provinces. It is unclear whether the prevalence of depression is different among foreign temporary workers who make up substantial portions of the workforce in some industries and communities.

'What works'

At this time, based on the scientific literature, there is a moderate level of evidence that work-focused CBT is effective in improving RTW after a period of sick leave due to depression. There is limited evidence that enhanced care management is effective at keeping people at work while experiencing symptoms of depression.

Currently, there is a stronger level of evidence for the effectiveness of CBT delivered in-person than by alternate methods such as by telephone or online. However, this may be related to the number of studies available (too few of high quality).

We also found a moderate level of evidence that CBT and PST interventions (with or without work-focus) are effective in improving SAW outcomes.

There is currently insufficient evidence from the scientific literature about the following therapies:

- Short-term psychodynamic psychotherapy
- Long-term psychodynamic psychotherapy
- Stress reduction program
- Strength training

- Aerobic training
- Relaxation training
- Part-time sick-leave
- Nature-based rehabilitation

The evidence in our synthesis converged around the effectiveness of CBT and PST interventions. There were few workplace-based interventions described in the literature.

'Will it work here'

In Manitoba, we learned that CBT interventions are often delivered by psychologists or psychiatrists and require a referral from a physician to receive care from these clinicians. This is a challenge in Manitoba. Access to care was considered a major barrier in the province. Access was seen to be restricted primarily because of geography (remote areas, long distance to reach services), and because of a lack of psychologists and psychiatrists in the province.

Currently, there are no specific provincial programs in Manitoba to address depression in the workplace. A strategy that includes improved access to early care delivered in a variety of ways (e.g., telephone, web-based and in-person, such as peer-to-peer) would be welcome. The evidence regarding various treatment delivery methods is still emerging, but appears promising. However, in-person treatment by trained clinicians remains an important aspect of an effective strategy to manage depression in the workplace.

Physical and economic access to infrastructure, programming, professional expertise and peer support are major challenges in Manitoba, particularly for those who live in rural areas. Investment in these areas will be important in helping workers with depression stay at work or return to work after a period of absence.

Concluding remarks

This synthesis and contextualization of the available evidence for managing depression in the workplace intended to inform OHS decision makers in Manitoba about strategies to address this prevalent health concern. As new research becomes available, a more clear-cut picture should emerge about different modes of delivery and/or provider. However, as noted earlier, in light of the dramatic increase in prevalence of mental health disorders over the last decade, and the evidence currently available, investment in improving access to mental health services is needed. Current practices and resources such as “Mental Health First Aid” (<http://www.mentalhealthfirstaid.ca/en>) may be useful but more research is needed to better evaluate these and similar practices. Any interventions that are implemented should include a strong evaluation component, so that some of the limitations in the research evidence can be addressed.

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