

# Interventions to improve return to work outcomes in individuals with mental health conditions.

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## ABBREVIATIONS

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RTW	Return to work
CBT	Cognitive behavioural therapy
PST	Problem solving therapy
CCDANCTR	Cochrane depression, anxiety and neurosis group specialist register
WHO	World health organisation
DSM-IV	Diagnostic and statistical manual
ICD-10	International classification of disease
RCT	Randomised controlled trial
DASS	Depression anxiety stress score
4 DSQ	Four dimensional symptom questionnaire
W-CBT	Work-based cognitive based therapy
HR	Human resources
CMD	Common mental disorders
RDC	Research diagnostic criteria
HCRS	Hamilton depression inventory
BDI	Beck depression inventory
MADRS	Montgomery-Asberg Depression Rating Scale
IPT	Interpersonal therapy
SSRI	Selective serotonin reuptake inhibitor
SNRI	Serotonin-norepinephrine reuptake inhibitors
NVAB	Dutch board for occupational medicine

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## EXECUTIVE SUMMARY

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### What the project involved

This review was requested by WorkSafe Victoria to provide an evidence based assessment of the effectiveness of return to work (RTW) interventions for individuals with mental illness. The overall aim was to identify an effective intervention which could be trialled by WorkSafe Victoria to improve RTW outcomes.

Therefore, the primary objective of this review was to identify what intervention(s) are effective in improving RTW outcomes in individuals with work-related mental health conditions.

### How the project was conducted?

A 'snapshot evidence review' was conducted to address the research questions. This type of evidence review provides an overview of the evidence on a given topic. This search identified two recently published large systematic reviews investigating the efficacy of interventions to facilitate RTW in workers diagnosed with adjustment disorder (2012) and depression (2014), noted as the two primary mental health claims reported to WorkSafe Victoria. Therefore, the scope of the report was amended to include a summary of each of these large systematic reviews and three publications which were identified to fulfil the search criteria that were published since these reviews.

### What the project discovered

#### **Return to work interventions for workers with adjustment disorder:**

- Problem solving based interventions reduced the number of days until partial and full RTW compared to guideline based care.
- There was no difference in the number of days until partial or full RTW in workers treated with cognitive behavioural therapy compared with care as usual.

#### **Return to work interventions for workers with depression:**

- Work-directed interventions, psychological interventions and combined psychological and antidepressant medication based interventions reduced the number of days until partial and full RTW compared to care as usual.
- Of note, two studies identified that CBT treatment delivered remotely (either by phone or over the internet) in addition to care as usual were effective in reducing the number of days until RTW.
- Exercise intervention analysis and medication analysis were unable to determine which type of exercise or class of antidepressant had the greatest efficacy.

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## Conclusions

The evidence reporting efficacy of RTW interventions for adjustment disorder suggests that problem solving therapy in addition to care as usual reduces the number of days until partial and full RTW. In addition, work-directed, psychological or combined interventions are effective in reducing the number of days until RTW in the setting of depression. Taken together, these findings identify effective intervention strategies for RTW and highlight the need for implementation of interventions to facilitate RTW in a mental illness-specific manner.

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## INTRODUCTION

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Worker absence due to mental health issues is increasing. Given the high cost and extended absence from work associated with this population, WorkSafe Victoria have identified the need to support investment into evidence-based intervention options to ensure that clients have access to the right services at the right time to achieve improved return to work (RTW) outcomes. This review was requested by WorkSafe Victoria to provide an evidence based assessment of the effectiveness of RTW interventions for individuals with mental illness, with the intention to identify an effective intervention which could be trialled by WorkSafe Victoria to improve RTW outcomes.

Therefore, the primary objective of this review was to identify intervention(s) that are effective in improving RTW outcomes in individuals with work-related mental health conditions.

## METHODS: How The Project Was Conducted

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A systematic search of peer-reviewed academic literature published in Pubmed, CINAHL, CENTRAL (The Cochrane Library), PsycINFO, ISI Web of Science and WHO trial portals was undertaken. The population based search terms were: mental health, mental illness, mental injury, work-related mental illness, anxiety, depression, stress and/or adjustment disorder. The intervention search terms were: return to work/RTW, return to work/RTW intervention and/or work-based CBT and the outcome based search terms were: return to work/ RTW, mental wellbeing, anxiety and/or depression. The databases were searched for English language manuscripts published after January 2000.

Using this search strategy, our initial search identified two recent Cochrane reviews entitled “*Interventions to improve return to work in depressed people*” published in 2014 [1] and “*Interventions to facilitate return to work in adults with adjustment disorders*” published in 2012 [2]. These two systematic reviews fulfilled the inclusion/exclusion criteria of the current report except for population as they each investigated one specific mental illness as opposed to the current review which aimed to examine interventions to facilitate RTW in workers with all mental disorders. Given that adjustment disorder and depression constitute the majority of mental health claims to WorkSafe Victoria, it was decided in consultation with WorkSafe Victoria that the scope of the search strategy be limited to individuals with depression and adjustment disorder. Furthermore, based on the recent publication of these large systematic reviews, the report strategy was amended to comprise a summary of both Cochrane reviews and any additional publications identified according to the search inclusion/exclusion criteria since these reviews were conducted. Search results were selected and were screened for relevance according to the publication title. Following

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selection, duplicate results were removed and inclusion of the remaining papers was determined based on abstract assessment according to the inclusion/exclusion criteria. In the event that inclusion or exclusion could not be determined from the abstract, the full text was assessed. All studies which met the inclusion criteria were summarised in the following report.

*Description of the interventions reported in the literature used for mental health disorders.*

- Cognitive based therapy (CBT): focuses on psycho-education, cognitive restructuring, relaxation, conflict management and time management tailored to general life problems and less focussed on work-related problems [2]. Some studies also included communication skills training and implementing strategies at work to enable participants to strengthen their ability to cope with stressful situations at their workplace [3].
- Problem solving therapy (PST): this intervention is based on the information about the origin and cause of loss of control in each individual case and aims to facilitate the development and implementation of problem solving strategies and application of gradual RTW [2, 4-7].
- Work-directed interventions: these interventions aim to reduce work disability by improving the work environment such as modifying work tasks, modifying working hours, implementing gradual RTW programs or enhancing skills to cope with work situations [1].
- Exercise interventions: describe cardio, strength and relaxation based exercise programs [1, 3].
- Medications: in the context of this report, the medication interventions involved treatment with antidepressant medications [1].

## RESULTS: What The Project Discovered

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Current clinical practice guidelines for the treatment of major depressive disorder recommend pharmacotherapy (a variety of anti-depressant medications), psychotherapy (CBT and interpersonal therapy are considered effective treatment options) or a combination of both. There are a number of interventions reported in the literature for the treatment of worker absence due to common mental disorders. These interventions can be classed as work-directed interventions, clinical interventions-medications, clinical interventions-psychological and clinical interventions-exercise which have been implemented as isolated interventions, in addition to standard care or combined. Although the diagnostic criteria for depression and adjustment disorder consistently included common assessment tools, the definitions of successful RTW were less consistent; with some studies including measures of worker productivity and quality of life whilst others only assessing time until full or partial RTW. The main limitation we identified in directly comparing the efficacy of different interventions was the lack of consistency in the control or comparison group. For example, in some cases the control group comprises workers with common mental disorders which receive no treatment whilst others report guideline based care or care as usual as the comparison intervention. Comparison between studies is difficult due to the fact that the clinical guidelines or 'care as usual' vary widely internationally, with some guidelines including treatment with medications whilst others include problem solving therapy. To aid in the interpretation of these findings, the summaries below include reference to the comparison group in relation to each intervention described. An additional limitation is the lack of evidence reporting the source of the mental illness (e.g. work/general/secondary) which may significantly impact the potential of the intervention to facilitate RTW. For example, if the mental illness is reported to be work-related such as bullying, the individual may be less likely to RTW than an individual reporting non-work related mental illness; irrespective of the intervention.

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## Interventions to facilitate RTW in workers with ADJUSTMENT DISORDER

### **SUMMARY: Interventions to facilitate RTW in workers with ADJUSTMENT DISORDER**

We identified investigations of six CBT interventions, six PST interventions and two work-based interventions. Based on these studies,

- PST in addition to care as usual was reported to improve RTW outcomes in workers absent due to adjustment disorder; assessed as a reduction in the number of days until partial and full RTW compared to guideline based care (17 and 24 days earlier respectively).
- The number of days until partial and full RTW in workers treated with CBT was similar to care as usual.
- The studies investigating work-based interventions were limited; with only two studies examining work-based interventions and reporting contrasting results. Therefore, the efficacy of work-directed interventions on RTW outcomes in workers with diagnosed adjustment disorder remains to be determined.

### *Summary of Cochrane Review*

#### **1. Publication details**

**Title:** *Interventions to facilitate return to work in adults with adjustment disorders,*

**Authors:** Arends I, Bruinvels DJ, Rebergen DS, Niewenhuijsen K, Madan I, Neumeyer-Gromen A, Bultmann U, Verbeek JH.

**Journal name, year and volume:** Cochrane Database of Systematic Reviews (2012); 12.

#### **2. Objectives**

This review evaluated which types of interventions are effective in improving RTW outcomes in workers with adjustment disorder. Secondly, it sought to determine the effect size of interventions; that is, quantify the improvement in RTW outcomes for the effective interventions.

#### **3. Methods**

The systematic review was conducted by searching the Cochrane Depression, Anxiety and Neurosis Group Specialised Register (CCDANCTR) for studies published before 1 October 2011 and the following databases were searched for studies published prior to March 2011: Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, PsycINFO, ISI Web of Science, WHO trials portal. Studies were included according to the following inclusion/exclusion criteria:

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Population- all workers aged between 18-65 years with work disability related to an adjustment disorder (as diagnosed according to the DSM-IV and ICD-10 criteria). Studies which included a mixture of both workers on sick leave and those who were currently working were included in the review if the study groups were equally matched. Studies were excluded if more than 30% of participants suffered from moderate-severe depression or anxiety disorder or were diagnosed with other psychiatric disorders or were diagnosed with physical disorders.

Intervention- all interventions were included. Interventions were grouped into: pharmacological, psychological, relaxation techniques, exercise programmes, employee assistance programmes or a combination of two or more of these interventions.

Comparator/control group- all comparison groups were included. Within each intervention, studies were grouped according to whether the control was a) no treatment or waiting list condition, b) care as usual or c) a similar alternative treatment.

Outcome- the primary outcome was RTW. This was stratified into:

- Time to partial RTW- quantified as a) the number of sick leave days until partial RTW, b) the total number of days of partial sick leave during follow-up and c) the rate of partial RTW at follow-up measurements.
- Time to full RTW- quantified as a) the number of sick leave days until full RTW, b) the number of days of full-time sick leave during follow-up and c) the rate of full RTW at follow-up measurements.

The secondary outcomes were, symptoms related to an adjustment disorder, work functioning (defined as productivity or performance), generic functional status (defined as physical functioning, social function, general mental health) and quality of life (measured via the SF-36 questionnaire).

The follow-up times were grouped into three categories: 0-3 months, 4-12 months and 1-2 years.

Data was extracted according to the following subheadings: general, methods, participants, intervention per treatment group, outcomes, results and quality assessment was performed according to The Cochrane Collaboration's tool for assessing risk of bias.

#### 4. Results

Of the 3526 studies identified, nine studies met the inclusion criteria and proceeded to data extraction.

*Interventions:* No studies were found which reported pharmacological or exercise programme interventions. Eight studies reported on 10 psychological interventions and one study reported on a combined intervention (a psychological intervention and a relaxation technique). The psychological interventions included five based on CBT [3, 5, 8] and five based on PST [7, 9-12], two of these interventions were performed in groups and eight were individual based therapies. Of note, eight interventions involved a strong focus on work environment.

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*Study design:* seven studies were RCT (randomised at the level of the participant) [5, 8, 10-13], two studies were cluster-RCT (randomised at the level of the GP) [7, 9].

*Results of CBT vs no treatment:* two studies provided moderate quality evidence that there was no difference in the number of days until partial RTW between CBT treated workers and no treatment control workers [3, 5]. In addition, there was low-quality evidence of no significant difference between the CBT vs no treatment control in days until full RTW [5]. Similarly, there was no difference in the depression, anxiety and stress scale distress score between CBT and no treatment control [5].

*Results of CBT vs non-guideline based care/care as usual:* CBT intervention was found to be slightly less effective in reducing time to full RTW as compared to care as usual but this was not statistically significant [8]. Furthermore, the DASS stress scale score was similar in both groups at 3 and 12 months of follow-up [8].

*Results of PST vs non-guideline based care/care as usual:* Treatment with the PST-based intervention significantly reduced the time to partial RTW by 17 days compared to non-guideline based care with no difference in the time until full RTW at one and two-years of follow-up between treatment groups [7, 9]. However, secondary analysis that involved exclusion of one study (based on the fact that the diagnosis of adjustment disorder was not made according to the DSM-IV or ICD-10 guidelines) revealed that the number of days until full RTW was 24 days earlier in workers treated with PST intervention compared to care as usual after one year of follow up [7]. Furthermore, the distress scale scores (4DSQ) were also lower in the PST-based interventions compared to care as usual at 3 months with no difference in distress scale scores between treatment groups at 4-12 months or 2 years [7].

*Results of PST vs CBT:* one study reported a direct comparison between PST and CBT interventions and observed no difference in the number of days until partial RTW between treatments and a non-significant reduction in days until full RTW following PST compared to CBT [11].

*Results of Combination of CBT + physical relaxation vs physical relaxation alone:* The days until partial and full RTW were similar following combination intervention and physical activity alone [13].

*Results of Individual based CBT vs group based CBT:* There was no significant difference in RTW times or distress scores at 3 or 12 months follow-up between individual and group based CBT [8].

## 5. Discussion /future directions/considerations

The systematic review by Arends et al. (2012) reported that the time until partial and full RTW and changes in distress scores in response to treatment was not different in CBT groups compared to untreated workers. In contrast, the PST based intervention significantly reduced the time until partial RTW by 17 days after one year of follow-up compared to usual care. Although there was no difference in time until full RTW in the primary grouped analysis, sensitivity analysis which included studies with a diagnosis of adjustment disorder according to best practice diagnostic tools revealed

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that full RTW occurred 24 days earlier following PST compared to usual care. Taken together, these findings suggest that treatment with a PST based intervention is more effective than CBT and care as usual in improving RTW outcomes in workers absent with diagnosed adjustment disorder.

In addition, assessment of compliance to the treatment was deemed to be not acceptable in four out of the nine studies reported [9-12]. These four studies all investigated a PST intervention which suggests that the positive influence of PST on partial and full RTW reported in this review may actually underestimate the effect size for compliant individuals.

#### *Limitations/considerations:*

Of note, seven of the nine studies included were based in the Netherlands which should be considered in terms of applicability to other populations. The large number of papers identified in our search which were conducted in the Netherlands highlights the well reported commitment to mental health in this population; with reports of reduced social stigma surrounding mental illness, strong research focus on effective interventions for mental illness and the efficacy of the care as usual treatment guidelines well reported. It is therefore possible that the interventions studied may be more effective in other countries outside of the Netherlands where the comparative usual care does not include mental health specific guidelines.

## **6. Conclusions**

Overall, the authors found moderate quality evidence that time until partial RTW at one-year of follow-up was significantly reduced following PST treatment compared to non-guideline based care. Whilst analysis of all relevant studies revealed no difference between days until full RTW in workers treated with PST compared to non-guideline based care, when one study which did not meet the adjustment disorder diagnosis criteria was excluded, PST treatment significantly reduced time until full RTW compared to non-guideline based care. In contrast, moderate-quality evidence revealed that at one year of follow up, time until partial RTW was similar for workers treated with CBT vs no treatment. Low-quality evidence demonstrated that time until full RTW was also similar at one year of follow-up between workers treated with CBT and untreated workers. Taken together, the effectiveness of PST based intervention on both partial and full RTW time is promising.

### ***Summary of studies published since October 2011***

The systematic search strategy identified 105 publications since January 2011 (the time at which the search was performed for the Cochrane review). 6 publications were assessed as relevant and proceeded to abstract screening which identified that 2 publications fulfilled the inclusion/exclusion criteria and were included in the research summary below [4, 6].

#### ***1. Title: Work-focused treatment of common mental disorders and return to work: a comparative outcome study,***

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**Authors:** Lagerveld SE, Blonk RWB, Brenninkmeijer V, Meij W and Schaufeli WB,  
**Journal name, year, volume and pages:** Journal of Occupational Health, Psych (2012); 17(2):  
220-34

**Objectives:** to examine the effectiveness of care as usual (consisting of CBT) compared with additional work-focussed CBT.

**Methods:** Employees on sick leave and diagnosed with adjustment disorder, undifferentiated somatoform disorder, anxiety disorder or mood disorder (according to the DSM-IV criteria) were recruited. Employees were assigned by cluster randomisation to receive either usual care (which included CBT) or the addition of work-based CBT in addition to usual care. Duration until RTW, mental health problems and costs to the employer were assessed.

**Results:** 12 months of follow up data was collected from 168 employees, 79 treated with care as usual (including CBT) and 89 with care as usual plus work-based CBT. Employees treated with the work-based CBT reported an earlier time until both full (65 days earlier, mean number of days until full RTW was 136.55 vs 175.18) and partial (12 days earlier, mean number of days until partial RTW was 38.06 vs 59.46) RTW compared to the care as usual group. There was no difference in the percentage of workers who had resumed full-time RTW at 12 months of follow-up. Investigation of the process of RTW highlighted that employees treated with the work-based CBT used significantly more steps to achieve full RTW, indicative of a more gradual return to full-time work compared to care as usual. There was no difference in mental health problems and responses between the treatment groups. In addition, a simplistic employer cost/benefit analysis was performed to assess the economic effect of a work-based CBT compared to care as usual. This analysis revealed that the work-based CBT provided a 20% cost reduction for employers whose employees receive W-CBT, under the assumption that the cost of treatment was similar between the two treatments. This analysis did not consider all associated costs involved such as reductions in worker productivity or HR costs associated with worker replacement and thus may not accurately reflect the economic implications for the employer.

**Discussion and Conclusions:** The authors found that work based CBT in addition to care as usual significantly reduced the time until partial and full RTW compared to care as usual. The work-based CBT was suggested to improve time until full RTW based on the earlier and more gradual RTW strategy. The main benefit of this gradual RTW approach was identified as enabling the employee to acquire the necessary coping skills to deal with RTW stressors and practice these skills in the workplace. Of note, the risk of relapse in workers who RTW earlier when they are still experiencing symptoms was reported as a possible issue that should be monitored by the healthcare provider in future research trials.

2. **Title: Effectiveness of an exposure-based return-to-work program for workers on sick leave due to common mental disorders: a cluster-randomised controlled trial,**  
**Authors: Noordik E, van der Klink JJ, Geskus RB, de Boer MR, van Dijk FJH, Nieuwenhuijsen K,**  
**Journal name, year, volume and pages: Scandinavian Journal of Work, Environment and Health. (2013); 39(2):144-54.**

**Objectives:** to evaluate the effectiveness of an exposure-based RTW intervention in workers diagnosed with common mental disorders (CMD; stress-related, adjustment, anxiety or depressive disorders).

**Methods:** Dutch employees who were on sick leave and diagnosed with CMD (according to the DSM-IV guidelines) were recruited to the study. Employees were recruited and underwent cluster randomisation to receive either care as usual (which involved guideline directed care consisting of problem solving strategies and graded activities) or an additional exposure-based RTW intervention integrated into usual care (which aimed to use active problem-solving behaviour and prevent avoidance behaviour when dealing with stressful work situations). Time until full and partial RTW, number of calendar sick days, symptoms of distress, anxiety, depression and somatization and satisfaction with the occupational physician were reported.

**Results:** 160 workers were recruited with 75 randomised to receive the exposure-based intervention and 85 workers to receive care as usual. The median time until full RTW was significantly earlier in the care as usual group compared to the exposure-based care group (153 days vs 209 days, respectively). There was no difference in the median number of days until partial RTW or the number of sick leave recurrences within the one-year follow-up time. Interestingly, the authors identified that only 55% of the workers assigned to the exposure-based treatment strategy completed their homework assignments suggesting that compliance to the exposure-based intervention was less than anticipated.

**Discussion and Conclusions:** This study determined that workers absent from work due to common mental disorders returned to full time work earlier following care as usual compared with the exposure-based intervention. The poorer outcome in individuals who were treated with the exposure-based intervention in addition to care as usual was speculated to be due to low compliance to the exposure-based intervention and the proven efficacy of usual care guidelines which involved problem solving techniques. The authors also speculate that the care as usual guidelines may have reached optimum effectiveness in workers with common mental disorders. In conclusion, this study demonstrates that integration of an exposure-based RTW intervention with guideline based care as usual does not improve RTW outcomes in workers with common mental disorders over and above guidelines that include problem-solving components.

## Interventions to facilitate RTW in workers with DEPRESSION

### **SUMMARY: Interventions to facilitate RTW in workers with DEPRESSION**

We identified investigations of five work-directed interventions, six medication based interventions, six psychological based interventions, five combined intervention strategies and two exercise interventions. Based on these studies, work-directed interventions, psychological interventions and combined psychological and antidepressant medication interventions reduced the number of days until RTW in workers diagnosed with depression. For example, the number of days absent from work due to depression was reduced following treatment with a work-directed intervention (ranging from 2.4 days/month to 17 days per year), a remotely delivered online CBT (ranging from 0.5d/month to 7.4 days/ 8 months) and a structured telephone outreach program (equivalent to an increase of 2.5 productive work weeks per year) compared to standard care. The exercise intervention analysis and medication analysis aimed to determine which type of exercise or class of antidepressant had the greatest efficacy and the results were inconsistent. Of note, two studies identified that CBT treatment delivered remotely (either by phone or internet) in addition to care as usual were effective in reducing the number of days until RTW. The use of telehealth was identified to be an important future research focus due to the high level of patient connectivity, the low cost of treatment administration and the positive outcomes observed in workers diagnosed with depression.

### *Summary of Cochrane Review*

#### **1. Publication details**

**Title:** *Interventions to improve return to work in depressed people*

**Authors:** Niewenhuisen K, Faber B, Verbeek JH, Neumeyer-Gromen A, Hees HL, Verhoeven AC, van der Feltz-Cornelis CM, Bultmann U,

**Journal name, year and volume:** Cochrane Database of Systematic Reviews (2014); 12.

#### **2. Objectives**

This study evaluated the effectiveness of interventions aimed at reducing work disability in employees with depressive disorders. Specifically, the authors examined the effectiveness of two types of interventions: 1. Work-directed interventions (which target the work-worker interface as part of the clinical treatment) and 2. Clinical interventions (to treat the disorder without a focus on work).

#### **3. Methods**

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The systematic review was conducted by searching the Cochrane Library, MEDLINE, PsycINFO, EMBASE and CINAHL for studies published between January 2006 and January 2014. Studies were included according to the following inclusion/exclusion criteria:

Population- The population was limited to adult workers over the age of 17 and included participants from occupational health settings, primary care or outpatient care settings. Diagnosis of depression was determined according to the criteria of the Diagnostic and Statistical Manual, Fourth Edition (DSM-IV), the research diagnostic criteria (RDC), the international classification of disease (ICD-10) as well as validated self-report instruments such as the Beck Depression Inventory (BDI), clinician-rated instruments such as the Hamilton Depression Rating Scale (HCRS) or the Montgomery-Asberg Depression Rating Scale (MADRS). All diagnoses of dysthymic disorder, minor depressive disorder or major depressive disorder were included. Patients with a primary diagnosis of a common mental disorder other than depressive disorder or depressive disorders with psychotic features were excluded.

Intervention- all interventions were included and were categorised as work-directed or clinical interventions (as detailed below):

*Work-directed interventions:*

1. Modified work, working hours or job tasks,
2. Supporting the worker in coping with depression at the workplace, or
3. A combination of modified work and support.

*Clinical interventions:*

1. Antidepressant medications,
2. Psychological interventions such as CBT, PST, IPT, psychodynamic therapy, counselling and occupational therapy, and
3. Physical exercise based interventions.

Comparator/control group- where possible all combinations of comparisons were included for all interventions including intervention vs intervention based comparisons.

Outcome- The main outcomes examined assessment of work disability according to:

1. reduction in sickness absence and
2. enhancement of work functioning.

Where available, the secondary outcomes measured were depression (as assessed according to the scales measured above), work functioning and employment status. Employee satisfaction, general social functioning and quality of life assessments were not included.

Outcomes were categorised according to the timescale of follow-up assessment: short term (up to one month), medium term (from one month to one year) or long term (greater than a year).

#### 4. Results/findings

Of the 11,776 studies identified, 73 publications were assessed for eligibility resulting in 23 studies which met the inclusion/exclusion criteria which included a total of 26 intervention groups.

*Interventions:* the authors identified five work-directed interventions [4, 14-17], six antidepressant based interventions [18-23], five psychological based interventions (one study investigating PST, two studies investigating CBT, one study investigating telephone delivered CBT and one study investigating psychodynamic therapy) [24-28], five interventions which included a combination of both psychological and antidepressant medication [29-33] and two exercise based interventions [34, 35].

*Study design:* 20 studies identified were RCTs [14-29, 32-35] and three were cluster RCTs [4, 30, 31]. Five studies were conducted in the US with the remaining 18 conducted in Europe. In 18 studies, all participants had major depressive disorder whilst in five studies depressed patients were a subgroup of the total study participants recruited [4, 24, 26-28].

*Follow-up:* 19 studies reported medium term follow-up of between one month and one year after inclusion. Four studies had final follow-up greater than one year after recruitment but provided date on earlier time points so the latest time point within one year of inclusion was examined in addition to the last follow-up time point. In four studies, the last follow-up measurement was later than one-year after inclusion (one each at 18 months, 24 months, 42 months and five years).

*Results of work-directed interventions:* there was moderate quality evidence in the medium term of a positive effect of adding a work-directed intervention to a clinical intervention in terms of a reduction of sickness days with no difference in depressive symptoms or work functioning reported [14-16]. The effect of the reduction in sick leave varied from 0.4 days over 12 months, 17 days over 12 months and 2.4 days per month. In the long term however, there was no difference in sickness absence between groups but the work-directed intervention reduced depressive symptoms [14, 16]. Interestingly, one study compared the effect of work-directed interventions combined with a clinical intervention to work-directed intervention alone in the medium term and observed no difference in the number of days absent or depressive symptoms experienced [17]. Taken together, these findings suggest that the beneficial component of the combined interventions is the work-directed intervention as opposed to the clinical component.

*Results of antidepressant medication interventions:* comparisons between classes of antidepressant medications reported no difference [20-22] in sickness absence or work functioning. Wade et al. (2008) reported a beneficial effect of SSRI vs SNRI on sickness absence [23]. One study reported low quality evidence that antidepressant medication did not reduce sickness absence or work functioning compared to placebo treatment [18]. Overall, the studies examining antidepressant medication based interventions were limited in number and quality and were highly inconsistent making it difficult to draw definitive conclusions or indicate which antidepressant class is the most effective.

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*Results of psychological based interventions:* The first comparison assessed any psychological based intervention compared to any other psychological based interventions. This analysis revealed low quality evidence that the duration of sick leave following both short-term psychodynamic therapy and solution focused therapy was similar [27]. However, depressive symptoms and work functioning was reported as improved following short-term psychodynamic therapy than solution focussed therapy [27]. Long-term psychodynamic therapy was less effective than solution based therapy in reducing sick leave, improving depressive symptoms and improving work functioning [27]. At the long-term follow-up time-point both short and long-term psychodynamic psychotherapy reduced sickness absence compared to solution based therapy [27]. When all studies were combined the authors observed moderate quality evidence that online or telephone CBT reduced sickness absence and depressive symptoms more than care as usual [24, 25, 28]. The reduction in sickness absence ranged from 0.4 days over 4 weeks, 7.4 days over 8 months and 5.1 days over 8 months. In addition, one study reported high quality evidence that a structured telephone outreach and care management program in addition to care as usual reduced sickness absence when compared to usual care and improved the number of hours worked per week by 2.6 hrs in the intervention group (equivalent to an extra 2.5 weeks of productive work per year) [33].

*Results of combined interventions:* Analysis of the efficacy of a psychological intervention combined with antidepressant medication revealed low quality evidence that a combined intervention reduced sickness absence but did not improve work functioning or depressive symptoms compared to antidepressant medication alone [29]. There was low quality evidence that days of sickness absence in both the medium and long term was similar following psychological intervention combined with antidepressant medication versus either no intervention or care as usual [31, 32].

*Results of exercise interventions:* there was low quality evidence that supervised strength exercise was more effective than relaxation in reducing sickness absence [34, 35]. The combined results from all studies provided moderate quality evidence that aerobic exercise was not more effective than relaxation or stretching in reducing sickness absence [34, 35].

## 5. Discussion /future directions/considerations

In summary, the authors identified “*moderate quality evidence that adding a work-directed intervention to a clinical intervention reduces the number of days on sick leave in the medium term*”[1]. The effect of the reduction in sick leave varied from 0.4 days over 12 months, 17 days over 12 months and 2.4 days per month. The results of antidepressant based medication drug class comparisons were highly inconsistent with no class identified as superior in reducing sickness absence days. Finally, this review reported moderate quality evidence that telephone or online CBT reduced sick leave and depressive symptoms compared to usual primary or occupational care in the medium term. The reduction in sickness absence ranged from 0.4 days over 4 weeks, 7.4 days over 8 months and 5.1 days over 8 months. In addition, one study reported high quality evidence that a structured telephone outreach and care management program in addition to care as usual reduced sickness absence when compared to usual care and improved the number of hours worked per week

by 2.6 hrs in the intervention group (equivalent to an extra 2.5 weeks of productive work per year) [33].

As observed in the Cochrane review for adjustment disorders, the studies have been conducted exclusively in the US and Europe which may limit the generalisability to the Australian setting. The authors comment that the assessment of the potential impact of work situations on the effectiveness of the included interventions was not possible due to the lack of work-related factors examined in the studies (such as recording patient occupation) and the fact that all but two studies recruited patients from primary care and outpatient clinics as opposed to workplace settings. In addition, the types of interventions included in the studies varied widely limiting the power of subgroup analysis.

## 6. Conclusions

The authors identified moderate quality evidence demonstrating that the following interventions reduced the number of sick leave days in workers diagnosed with depression:

- addition of a work-directed intervention to a clinical intervention compared to clinical intervention alone reported as a reduced days of absence ranging from 2.4 days/month to 17 days/year,
- enhancing primary or occupational care by providing workers with a structured telephone or online CBT intervention when compared to regular care reported as reduced days of absence ranging from 0.5 days/month to 7.4 days/8 months,
- grouped analysis revealed that a structured telephone outreach and care management program also lead to reductions in sickness absence equivalent to an additional 2.6 productive work hours per week (equivalent to an additional 2.5 productive working weeks per year) in workers with depression following the telephone outreach intervention.

### *Summary of studies published since January 2014*

The systematic search strategy identified 21 publications since Jan 2014 (the time at which the search was performed for the Cochrane review). Four publications were assessed as relevant according to title screening and proceeded to abstract evaluation. Based on the abstract, 1 publication was deemed to fulfil the inclusion/exclusion criteria and was included in the research summary below [36].

1. ***Title:*** *Effectiveness of a blended web-based intervention on return to work for sick-listed employees with common mental disorders: results for a cluster randomised control trial*, ***Authors:*** Volker D, Zijlstra-Vlasveld MC, Anema JR, Beekman ATF, Brouwers EPM, Emons WHM, Lomwel AGC and van der Feltz-Cornelis CM, ***Journal name, year, volume and pages:*** *J Med Internet Res (2015), 17(5): e116.*

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**Objectives:** to evaluate the effect of a blended eHealth intervention versus care as usual on time to RTW for workers with common mental disorders.

**Methods:** The study was a cluster randomised control trial design. Dutch employees were enrolled if they had been absent from work for between 4-26 weeks and screened positive to depression or somatization according to the PHQ-9 and PHQ-15/GAD-7, respectively. The primary outcome measures were time until first RTW (both partial and full) and time until full RTW. In addition, they assessed improvements in depressive symptoms and complete absence of depressive symptoms (remission) as secondary outcomes. The eHealth intervention included two elements, the return@work eHealth module and an email decision aid for the occupation physician to inform subsequent treatment guidance. The eHealth intervention was compared to care as usual according to the Dutch Board for Occupational Medicine (NVAB) guidelines.

**Results:** The study recruited 220 employees; 131 participants were randomised to receive the eHealth intervention and 89 to care as usual. Time until partial RTW was 27 days earlier in employees treated with the eHealth intervention compared to care as usual (median time of 50 days vs 77 days, respectively). Whilst the difference in time until full RTW and number of sickness absence days in the 1 year follow-up did not reach statistical significance, both outcomes (number of days until RTW and number of sick leave days since RTW) favoured the workers treated with the eHealth intervention. The median number of days until full RTW was 47 days earlier in employees treated with the eHealth module compared to those treated with care as usual. In addition, the eHealth treated employees reported a median of 54 fewer sick leave days compared with those treated with care as usual. Secondary outcome analysis revealed that there was no difference in the depression or somatization scale response between treatments at one year of follow-up. Importantly, a larger proportion of employees treated with the eHealth intervention reported remission at nine months compared to the care as usual group (56% vs 37%, respectively). Interestingly, the authors reported that 40% of the participants in the eHealth intervention minimally completed half of the modules suggesting that the issues with compliance may have resulted in an underestimation of effect size.

**Discussion and Conclusions:** Despite the issues identified with worker and occupational physician compliance, the eHealth module intervention significantly reduced time until partial RTW and the rate of mental illness remission at 9 months. Although not statistically significant, time until full RTW favoured workers treated with the eHealth module, which suggests that future research into the efficacy of eHealth RTW interventions for workers with depression are warranted.

## CONCLUSIONS AND FUTURE CONSIDERATIONS

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### Conclusions

#### **Interventions To Treat Adjustment Disorder**

We identified moderate quality evidence that time until partial RTW at one-year of follow-up was significantly reduced following PST treatment compared to non-guideline based care. Whilst analysis of all relevant studies revealed no difference between days until full RTW in workers treated with PST compared to non-guideline based care, additional analysis revealed that PST treatment significantly reduced time until full RTW compared to non-guideline based care.

In contrast, moderate-quality evidence revealed that at one year of follow up, time until partial RTW was similar for workers treated with CBT vs no treatment. Low-quality evidence demonstrated that time until full RTW was also similar at one year of follow-up between workers treated with CBT and untreated workers.

Work based CBT in addition to care as usual significantly reduced the time until partial and full RTW compared to care as usual. The work-based CBT was suggested to improve time until full RTW based on the earlier and more gradual RTW strategy. The main benefit of this gradual RTW approach was identified as enabling the employee to acquire the necessary coping skills to deal with RTW stressors and practice these skills in the workplace. One study demonstrated that integration of an exposure-based RTW intervention in addition to guideline based care as usual was as effective as guideline based care as usual alone in terms of RTW outcomes in workers with common mental disorders.

Taken together, we observed that PST based interventions and work-based CBT reduced the number of days until partial and full RTW compared to guideline based care (which did not include problem solving elements). In contrast, the number of days until partial and full RTW was similar in workers treated with CBT and care as usual suggesting that CBT does not improve RTW outcomes in workers with adjustment disorder.

#### **Interventions To Treat Depression**

In terms of depression, we identified moderate quality evidence that the following interventions reduced the number of sick leave days in workers diagnosed with depression:

- addition of a work-directed intervention to a clinical intervention compared to clinical intervention alone,
- enhancing primary or occupational care by providing workers with a structured telephone or online CBT compared to regular care,
- grouped analysis revealed that a structured telephone outreach and care management program also lead to reductions in sickness absence.

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Despite the issues identified with worker and occupational physician compliance, the eHealth module intervention significantly reduced time until partial RTW and the rate of mental illness remission at nine months. Although not statistically significant, time until full RTW favoured workers treated with the eHealth module which suggests that future research into the efficacy of eHealth RTW interventions for workers with depression are warranted.

### **Future Directions**

The purpose of this review was to identify effective interventions to improve return to work outcomes in workers with mental health disorders. It was proposed that the outcomes of this review would be used to inform future research trials in workers with mental health disorders. With this in mind, we have collated and presented below the implications and considerations for future research based on the evidence presented in the publications that we identified.

*Implications and considerations for future research (interventions to improve RTW in workers with adjustment disorder and depression):*

- Consensus should be reached on the terminology used in this patient group which currently varies widely from study to study. That is, the diagnosis method and detailed description of the guideline based care or care as usual.
- Equal recruitment of male and female participants, the percentage of females in the studies included range from 19-71% making across study comparisons difficult.
- Focused research on participants with certain job types that are prone to adjustment disorders such as nurses and teachers would be valuable in identifying potentially occupational-specific interventions.
- Inclusion of work-related outcomes measures such as work functioning and productivity, in addition to time until RTW, will allow for a more complete evaluation of the effectiveness of identified RTW interventions.
- Standardisation and validation of measures of sickness absence are required to enable between study comparisons.
- The findings from this review that work-directed interventions have the potential to reduce sickness absence are based on a limited number of studies. The authors therefore suggest that future research is needed to confirm these findings.

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