

Clinical guideline for the diagnosis and management of work-related mental health conditions in general practice

Technical Report



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Authors

Mazza, D., Brijnath, B., Chakraborty, S.P., Rasekaba T.R., Clements, J.C. and the Guideline Development Group.

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List of Abbreviations

4DSQ	Four Dimensional Symptoms Questionnaire
ADIS	Anxiety disorders interview schedule
AGREE	Appraisal of Guidelines for Research and Evaluation
AMSTAR	A Measurement Tool to Assess Systematic Reviews
AUDIT-C	Alcohol Use Disorders Identification Test-Consumption
AUDIT-PC	Alcohol Use Disorders Identification Test-Primary Care
BAI	Beck Anxiety Inventory
BDI	Beck Depression Inventory
BDI-IA	Beck Depression Inventory-version IA
BDI-II	Beck Depression Inventory-version II
BRFSS	Behavioural Risk Factor Surveillance System
BSI	Brief Symptom Inventory
BSI-18	Basic Symptom Inventory-18 Item
CAPS	Clinician's Administered/Assessment of PTSD Scale
CES-D	Center for Epidemiologic Studies Depression Scale
CHIME	Connectedness; Hope and optimism about the future; Identity; Meaning in life; and Empowerment
CIDI	Composite International Diagnostic Interview
CNAHL	Current Nursing and Allied Health Literature
DASS	Depression Anxiety Stress Scale
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition
GAD-2	Generalized Anxiety Disorder-2 Item scale
GDG	Guideline Development Group
GHQ	General Health Questionnaire
GHQ-12	General Health Questionnaire-12 Item
GHQ-28	General Health Questionnaire-28 Item
GIN	Guidelines International Network
GP	General Practitioner
GRADE	Grading of Recommendations, Assessment, Development and Evaluation
HADS	Hospital Anxiety and Depression Scale
HAM-A	Hamilton Anxiety Rating Scale
HAM-D	Hamilton Depression Rating Scale
ICSI	Institute for Clinical Systems Improvement
IES	Impact of Events Scale
IES-E	Impact of Events Scale - extended version
IES-R	Impact of Event Scale-Revised
MADRS	Montgomery-Åsberg Depression Rating Scale
MHC	Mental Health Conditions
MINI	MINI-International Neuropsychiatric Interview
NGC	National Guideline Clearinghouse
NHMRC	National Health and Medical Research Council
NICE	National Institute for Health and Care Excellence
PCL-C	Posttraumatic Stress Disorder Checklist-Civilian Version
PHQ	Patient Health Questionnaire
PHQ-2	Patient Health Questionnaire-2 Item
PHQ-4	Patient Health Questionnaire-4 Item
PHQ-9	Patient Health Questionnaire-9 Item
PICO	Population, Intervention, Comparator, Outcome
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PSS	Posttraumatic Stress Disorder symptom scale

PTSD	Posttraumatic Stress Disorder
QUADAS	Quality Assessment of Diagnostic Accuracy Studies
RACGP	Royal Australian College of General Practitioners
RANZCP	Royal Australian and New Zealand College of Psychiatrists
RTW	Return to work
SADQ	Severity of Alcohol Dependence Questionnaire
SCID	Structured Clinical Interview for Diagnosis
SCL-90	Symptom Checklist 90
SCL-90 R	Symptom Checklist 90-Revised
SF-8 MCS	Short Form-8 Mental Component Scale
SF-36	Short Form-36
SIGN	Scottish Intercollegiate Guidelines Network
TABS	Trauma Attachment and Belief Scale
VaDoD	Department of Veterans Affairs
WHO	World Health Organization

1 Introduction

In Australia, most injured workers seek care from their general practitioner (GP). The *Clinical guideline for the diagnosis and management of work-related mental health conditions* (the Guideline) has been developed to assist GPs with the diagnosis and management of work-related mental health conditions, including adjustment disorders, depression, anxiety, posttraumatic stress disorders and substance misuse disorders. It is applicable to all workers in Australia who present to a general practitioner. The purpose of this technical review is to outline the steps undertaken to systematically review the evidence for key clinical questions for the Guideline.

The evidence review process was conducted by the Project Team and overseen by a Guideline Development Group. The process for developing the guideline involved:

1. Development of priority key clinical questions
2. A review of evidence using a systematic literature review, and where no evidence was identified, review of existing relevant high-quality guidelines and systematic reviews
3. Formulation of evidence- or consensus-based recommendations by the members of the Guideline Development Group
4. Release of the draft guideline for public consultation and subsequent revision
5. Independent AGREE II review of the guideline
6. Independent expert peer-review prior to the final release

1.1 Key Clinical Questions

The following key clinical questions are addressed in the guideline:

- Review Q1: In workers presenting with symptoms of mental health conditions, what tools can assist a GP to make an accurate diagnosis of a mental health condition and its severity?
- Review Q2: In workers, what factors assist in the early detection of a secondary work-related mental health condition?
- Review Q3: In patients with a diagnosed mental health condition, what methods are effective at indicating the probability that the diagnosed mental health condition has arisen as a result of work?
- Review Q4: What should I consider when conveying a diagnosis of a work-related mental health condition to the patient?
- Review Q5: In patients with a work-related mental health condition, what GP strategies result in the highest level of personal recovery and/or return to work?
- Review Q6: In workers with a mental health condition, what information should a GP consider to determine whether a person has capacity to work?
- Review Q7: What is appropriate communication with the patient's workplace, in order to appropriately manage a work-related mental health condition?
- Review Q8: In patients with a work-related mental health condition, what GP interventions are effective at managing comorbid substance misuse and addictive disorders?
- Review Q9: In patients with a diagnosis of a work-related mental health condition what factors adversely affect progress in the patient's condition?
- Review Q10: In patients with work-related mental health conditions who are not improving, what strategies should a general practitioner undertake to improve the patient's condition?

2 Methods used to develop evidence-based recommendations

Evidence-based recommendations were informed by studies identified in systematic literature reviews for each of the ten clinical questions, as outlined in chapters three to twelve. Where no evidence was identified to answer a question, the Guideline Development Group drew on evidence-based recommendations from potentially relevant high quality clinical guidelines and published systematic reviews (i.e. those that address a broader range of topics than specified in the systematic review search strategies utilised by the Guideline development team). The methods used to undertake reviews of the literature and of existing high quality clinical guidelines and systematic reviews are outlined below.

2.1 Literature search

2.1.1 Inclusion criteria

The broad inclusion criteria for clinical questions was:

- Population – workers in Australia (including subgroups such as Aboriginal and Torres Strait Islander people, culturally and linguistically diverse people, gender diverse people, or people living in geographically diverse locations)
- Mental health conditions – anxiety, depression, adjustment disorders, posttraumatic stress disorders, substance misuse disorders
- Types of studies – studies of all types of design published in the English language
- Outcomes – Diagnosis, risk factors and management of patients with adjustment disorders, depression, posttraumatic stress disorders, or anxiety in the working population
- Setting – work, compensable injury

As each question in the review addressed a different aspect of clinical practice, the additional inclusion criteria were considered for each clinical question (Table 1).

2.1.2 Exclusion criteria

Exclusion criteria were:

- Any other mental health conditions, e.g. schizoaffective disorders
- Studies that had limited scope of application, i.e. conducted in highly specific contexts and deemed to have low generalisability, i.e. studies in distinctively homogenous and highly selective population groups
- Non-English language publications or full text articles that could not be located or sourced

The systematic literature review of the evidence for each clinical question was primarily undertaken by two independent reviewers. One person conducted the literature search the electronic databases and another performed another search specifically focussed on existing practice guidelines and systematic reviews. Two reviewers then independently conducted the review; from screening to selection of studies for inclusion to quality assessment and data extraction. A third reviewer was available to adjudicate any disagreements between reviewers during screening and study selection.

The project evidence reviewer undertook the literature search. A preliminary first round search for studies was performed in Medline, EMBASE, PsycINFO and Allied and Complementary Medicine databases (AMED) in Ovid® and CINHAL. The searches covered the period from inception of the database to the 31st of January 2017. Members of the Guideline Development Group then reviewed and discussed the preliminary results and evidence, and suggested changes to some of the key clinical questions, the search strategy, inclusion criteria or supplementation with existing clinical practice guidelines. Following this, second round updated searches were performed on the 1st of May 2017 for the period between the 1st of February 2017 and the 30th of April 2017. However, for some key clinical questions, the search started from database inception. Final targeted updates were performed on the 6th of November 2017 for key clinical question five.

2.1.3 Literature Screening and Identifying Eligible Studies

Titles and abstracts of the search results were collated in EndNote X8™ and exported to Covidence® (<https://www.covidence.org/>), an online platform for managing systematic reviews for screening. The evidence reviewer and a second reviewer independently screened the titles and abstracts (or full text articles where there were no abstracts or relevance could not be determined from the title and abstract only) for relevance. The project manager was on standby to mediate conflicts. The two independent reviewers proceeded to full text article review for further elimination of irrelevant publications and assessment of studies for inclusion or exclusion with reasons. Screening for guidelines and systematic reviews, where applicable, followed a similar screening and review process.

2.1.4 Supplementation with Existing Clinical Practice Guidelines and Systematic Reviews

At meeting 3, the Guideline Development Group recommended supplementing the evidence review for key clinical questions 1, 2, 4, 7 and 8 with existing high quality clinical practice guidelines and systematic reviews. In brief, a targeted search for potentially relevant guidelines was performed in known clinical practice guidelines databases and host portals (National Institute for Clinical Excellence (NICE), Scottish Intercollegiate Guidelines Network (SIGN), National Health and Medical Research Council (NHMRC), National Guidelines Clearinghouse (NGC), Guidelines International Network (GIN)) as well as a Google search. A targeted search for potentially relevant systematic reviews were performed in established databases including the Cochrane Library, Joanna Briggs Institute, and Campbell Collaboration Library. The project manager performed the search for existing practice guidelines and systematic reviews and the search dates for these are indicated in each section where this applied. Details of the search strategy and the findings are described in a section under each key clinical question chapter where this was applicable.

2.2 Appraising and summarising the evidence

The clinical questions, search strategies and analysis were overseen by the GDG over five meetings. In the first meeting the GDG decided upon the clinical questions to be reviewed in round one, and accompanying PICO for each question. In the second meeting the GDG reviewed the results from round one of the evidence review and made revisions to the questions and search criteria. In subsequent meetings, the GDG reviewed the findings from both rounds of evidence review and assessed the evidence. Members of the project team undertook the searches, assessed eligible studies for quality and risk of bias and provided these initial assessments of the quality of the evidence and a suggested interpretation to the GDG for consideration.

Included studies were assessed for methodological quality using the Downs and Black checklist³ for interventional and prognostic studies. While the checklist has a maximum total score of 31 we used the modified version with question 27 score as 0 or 1 instead of the usual 0 to 5. The maximum possible score for the modified version is 28. There are no established quality thresholds for the Downs and Black checklist and our review team did not use the scores as an inclusion or exclusion factor. Because the Down and Black checklist is more suited for quantitative studies, qualitative studies were assessed using an adapted Critical Appraisal Skills Program (CASP) qualitative checklist⁴. The Quality Assessment of Diagnostic Accuracy Studies (QUADAS) checklist⁵ was used for studies of diagnostic test accuracy, and A Measurement Tool to Assess Systematic Reviews (AMSTAR)⁶ for systematic reviews; maximum possible score = 11. The reviewers then extracted quantitative and/or qualitative data from relevant included studies and the evidence reviewer synthesised the data. Where the evidence was supplemented with existing clinical practice guidelines, the Appraisal of Guidelines for Research and Evaluation (AGREE II)¹⁰ tool was used for quality assessment. The two reviewer scores were combined into a score out of 100% following AGREE II procedures. For key clinical question 3, selection of assessment tools for workplace environment or job characteristics assessment tools was informed by the criteria outlined in Bowling⁷ and the National Health Service Research & Development Health Technology Assessment (HTA) Programme review⁸.

The available evidence for each key clinical question was recorded in the summary and evidence tables. These tables were reviewed by the review team for clarity and corrections.

2.3 Data Analysis and Synthesis

Quality assessment scores (Downs and Black Checklist) from the two reviews were averaged for each included study presented as separate domain scores. A combined mean and standard deviation score for all included studies was computed. Similarly, average scores (AMSTAR) for each included systematic review were computed. Consensus was used for QUADAS scoring, while the two reviewer's scores for existing guidelines were aggregated into a single a score following the recommended AGREE II procedure^{9 10}.

The included studies were highly variable in their design, type of interventions and outcomes, therefore precluding pooled results meta-analysis. Instead, absolute effects and 95% confidence intervals (CI) of individual study outcomes were computed; mean differences for continuous outcomes and percentage rate difference for proportions. Where studies reported outcomes as odds ratios, these were directly reported in our data. Summary results were then reported as ranges of the 95% CI for all studies. Qualitative data were synthesised using meta-aggregation and descriptive narratives.

2.4 Correction to "Work" Search Strategy in Embase, Medline, PsycINFO and AMED

An error was discovered in the search string for "work" when data quality control checks were made after the guideline development group meeting 3. The error affected both round one and two search results from Embase, Medline, PsycINFO and AMED only and not CINAHL. The implication of the error was that search results in Ovid were constrained to the concept of "work" in the compensable injury setting. In order to evaluate the impact of this error, the search was re-run with the corrected search string for "work" and results were tabulated to highlight the differences in the search outcomes between the erroneous search and corrected search.

Because of the time lapse since the round one and round two searches were performed as well as limitations in the database search period filters in Ovid, adjustments had to be made to search period limiters. Therefore, for the search re-run, estimates of the search results highlighting the impact from the corrected "work" search string are based on the period from database inception up to the end of 2016 for round one. Hence any database listings that occurred in January 2017 are not included, resulting in an underestimation by one month. For round two, the estimates are from database inception to the 22nd of August 2017 (search re-run date) where a full search was required. For updates only from the 1st of February 2017 to the 30th of April, the estimates are from the beginning of 2017 to the 22nd of August 2017. In this instance, there is an overestimation of search hits by approximately two and a half months. Citations were then exported to EndNote 8™ to remove duplicates. The remaining citations (titles and abstracts) were exported to Covidence© for screening. Finally, the evidence review team undertook the following actions to mitigate this error:

- i. **Key clinical question 2:** For key clinical question 2, the review considered an additional 615 hits in Ovid that would have occurred as a result of the search string error correction in round two in order to inform the final guideline recommendation of the Guideline Development Group.
- ii. **Key clinical question 5:** For key clinical question 5, the review considered an additional 126 hits in Ovid that would have occurred as a result of the search string error correction in round two in order to inform the final guideline recommendation of the Guideline Development Group. The review also considered all systematic reviews and meta-analyses that would have been identified had the corrected search string been included in round 1. A targeted search for systematic reviews and meta-analyses was conducted in Embase, Medline, PsycINFO and AMED from inception to 6 Nov 2017.
- iii. **Key clinical question 7:** For key clinical question 7, the review considered an additional 110 hits in Ovid that would have occurred as a result of the search string error correction in round two in order to inform the final guideline recommendation of the Guideline Development Group.
- iv. **Key clinical question 10:** For key clinical question 10, the review considered all systematic reviews and meta-analyses that would have been identified had the corrected search string been included in round 1. A targeted search for systematic reviews and meta-analyses was conducted in Embase, Medline, PsycINFO and AMED from inception to 6 Nov 2017.

Table 1 PICO based inclusion criteria for each key clinical question

Question	Population	Intervention	Comparator	Outcomes	Study type
1. Assessment tools	People with adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	All assessment tools with diagnostic accuracy testing	Established reference standard tools	Accurate diagnosis and assessment of severity of mental health condition	Diagnostic accuracy testing
2. Early detection comorbid work-related mental health condition	People with adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	Predictors of onset of adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	People who do not develop adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	Early detection	Any identifying prognostic or predictive factors
3. Assessment of probability of work-relatedness	People with adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	Standardised tools assessing psychosocial characteristics of the job and workplace environment	None other validated tools	Methods indicating probability that a mental health condition arose from work	Any with tool psychometric properties (reliability and/or validity)
4. Patient understanding of diagnosis	Health professionals and People with treatment resistant adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	Factors for consideration to ensure patient understanding and acknowledgment of diagnosis	Any alternatives or none	Clear communication Accurate understanding of diagnosis Management of patient expectations	Any describing patient understanding
5. Strategies result in the highest levels of personal recovery and/or return to work	People with adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	All types of strategies/interventions	Any alternative or routine interventions	Personal recovery Return to work	Interventional studies
6. Capacity to return to work	People with treatment resistant adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	Predictors and information to consider in determining capacity to return to work following a diagnosis of adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	People with failed return to work following a diagnosis of adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	Alternative/suitable duties Patient factors (health and wellbeing) Workplace/work environment (e.g. psychosocial) factors	Any studies describing prognostic factors

Question	Population	Intervention	Comparator	Outcomes	Study type
				Readiness to face stigma when returning to work	
7. Appropriate communication with workplace	Health professionals, employers	Information about communication between health professionals and the patient workplace	Any alternatives or none	Appropriate investigation of a work-related mental health condition Avoidance of issue with employer Patient satisfaction Patient may return to work early (if mediation occurs early)	Any describing communication between health professional and patient workplace
8. Managing comorbid substance misuse and addictive disorders	People with treatment resistant adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders and comorbid substance use and/or addictive disorders	All types of interventions for effective management of substance use and/or addictive disorders in people with treatment resistant adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	Any alternative routine or no intervention	Evidence-based effective management of comorbidities	Interventional studies
9. Adverse progress	People with adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	Predictors of relatively slow recovery and/or return to work following a diagnosis of adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	People who recover and/or return to work relatively early following a diagnosis of adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	Personal recovery Return to work	Any identifying prognostic or predictive factors
10. Non-improving patients	People with treatment resistant adjustment disorders, depression, post-traumatic stress disorders, or anxiety disorders	All types of interventions	Any alternative treatment	Patient recovery Patient satisfaction	Interventional studies

2.5 Grading the Evidence and Formulation of Recommendations

Evidence from appraisal of the literature for each key clinical question was summarised into evidence tables. The review team assigned quality of ratings to the evidence following the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) process¹¹ (Table 2). Ratings reflect the degree of confidence in the ensuing evidence from the appraised literature and were upgraded or downgraded depending on factors around methodological quality of the studies and the magnitude of effect¹¹.

Table 2 GRADE quality of evidence ratings

Grade	Definition
High	We are very confident that the true effect lies close to that of the estimate of the effect
Moderate	We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different
Low	Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect
Very Low	We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

The evidence was then presented to members of the Guideline Development Group for consideration and formulation of guideline recommendations for each key clinical question. The Group further rated the strength of each research-based recommendation using GRADE categories (Figure 1)¹¹. Where there was insufficient research evidence to formulate a recommendation, the Guideline Development Group made a consensus statement or a recommendation for further research.

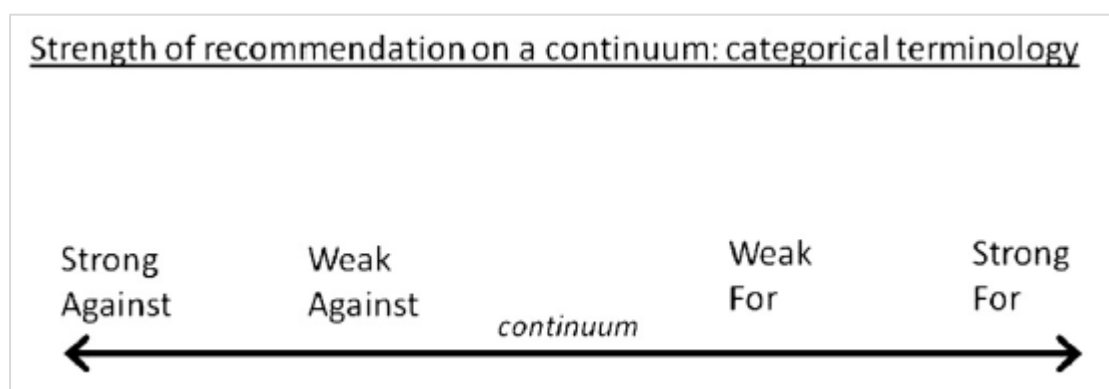


Figure 1 GRADE categorisation of strength of recommendation

The results of the evidence review process are presented in the following series of 10 chapters organised by each key clinical question. They include the search strategies for Ovid hosted databases and CINAHL from both round one and round two. The search strategies are followed by PRISMA charts of the review. The PRISMA charts are organised into 1) round one searches, 2) round two searches (1st of February to the 30th of April 2017) only, and 3) combined results for both rounds. In some instances, there are only two instead of three PRISMA charts because the round two search involved a full search up to the end of the 30th of April 2017 rather than the 1st of February to the 30th April of 2017. Furthermore, as indicated previously, the round two PRISMA charts include studies derived from other sources (those pending and not reviewed in round one, or were recommended by the Guideline Development Group for re-screening after being previously excluded in round one, or were identified from a hand search of included studies). Each chapter includes an evidence synthesis summary table.

Where high quality clinical guidelines and published systematic reviews were used to devise a recommendation, we have included a summary of the evidence-base upon which the recommendation was built.

3 Key clinical question one: In workers presenting with symptoms of mental health conditions, what tools can assist a GP in making an accurate diagnosis and assessing severity of mental health conditions?

3.1 Evidence Review Round One

3.1.1 PICO

- P Workers
- I Diagnostic tools
- C Existing tools
- O Accurate diagnosis of mental health conditions

3.1.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression or Vicarious trauma)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	((Measure* or Measurement* or Outcome* or Assessment* or Evaluat* or Test* or Questionnaire* or Scale* or (Mental adj status) or (Psychiatr* adj rating*) or (Patient adj acuity) or Severity of Illness* or (Illness adj Severity) or (Health adj status) or Sickness impact profile* or Indicator* or Investigat** or Examin* or Instrument* or Questionnaire* or Screen* or Quality of life or Diagnos* or Diagnostic* or Diagnostic) adj (tool* or technique* or procedure*) or tool* or (Personality adj scale*) or (personality adj inventory) or Psychometr* or Sensitiv* or Responsiveness or Valid* or Reliab* or Accura* or index or indices or protocol* or score* or scoring* or guideline* or (Clinical adj decision*) or Surveillance or (timely adj diagnosis) or specific* or precis*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	((General adj (practi* or physician* or doctor)) or (Family adj (practi* or physician* or doctor*)) or (Family adj medic* adj (practi* or doctor*)) or (Primary adj care adj (practi* or physician* or doctor*)) or (((Occupational health adj (practi* or physician* or doctor* or specialist*)) or company) adj physician*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	1 and 2 and 3 and 4

3.1.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or "Vicarious trauma"	Search modes - Boolean/ Phrase
S2	Measure* or Measurement* or Outcome* or Assessment* or Evaluat* or Test* or Questionnaire* or Scale* or (Mental status) or (Psychiatr* rating*) or (Patient acuity) or Severity of Illness* or (Illness adj Severity) or (Health status) or (Sickness impact profile*) or Indicator* or Investigat** or Examin* or Instrument* or Questionnaire* or Screen* or (Quality of life) or Diagnos* or Diagnostic* or ((Diagnostic and (tool* or technique* or procedure*)) or tool* or (Personality scale*) or (personality inventory) or Psychometr* or Sensitiv* or Responsiveness or Valid* or Reliab* or Accura* or index or indices or protocol* or score* or scoring* or guideline* or (Clinical decision*) or Surveillance or (timely diagnosis) or specific* or precis*	Search modes - Boolean/ Phrase
S3	(General AND (practi* or physician* or doctor)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or ("Primary care" AND (practi* or physician* or doctor*)) or ("Occupational health" AND (practi* or physician* or doctor* or specialist*)) or "company physician"	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S14	HADS or "MOS Mental Health Inventory" or "Depression Screener" or "Beck Depression Inventory" or "Patient Health Questionnaire" or PHQ or "Primary Care Evaluation of Mental Disorders" or "PRIME-MD" or "BRFSS Anxiety & Depression Optional Module" or "BRFSS Mental Illness & Stigma Optional Module" or MADRS or MADRS-S or "Montgomery Asberg Depression Rating Scale" or "NHIS Non-Specific Distress Battery" or "Areas of Work life Scale" or AWS or "Perceived Stress Scale" or "PSS" or "Positive and Negative Affect Test" or "Psychological Well-Being Scale" or "Primary Care PTSD Screen" or "PC-PTSD"	Search modes - Boolean/ Phrase
S16	sensitivity or specificity or precision or accuracy or reliability	Search modes - Boolean/ Phrase
S17	S2 OR S14	Search modes - Boolean/ Phrase

S18	S16 AND S17	Search modes - Boolean/ Phrase
S19	S1 AND S18	Search modes - Boolean/ Phrase
S20	S1 AND S18	Limiters - English Language; Age Groups: Adolescence, 13-18 years, Adult, 19-44 years, Middle Age, 45-64 years, Aged, 65+ years, Aged, 80 and over Search modes - Boolean/ Phrase
S21	S3 AND S4 AND S20	Search modes - Boolean/ Phrase

3.1.4 Search period round one

Database inception to the 31st of January 2017.

3.1.5 PRISMA round one

Embase, Medline, PsycINFO and AMED, returned n=63 records and CINAHL, n=630 records, (

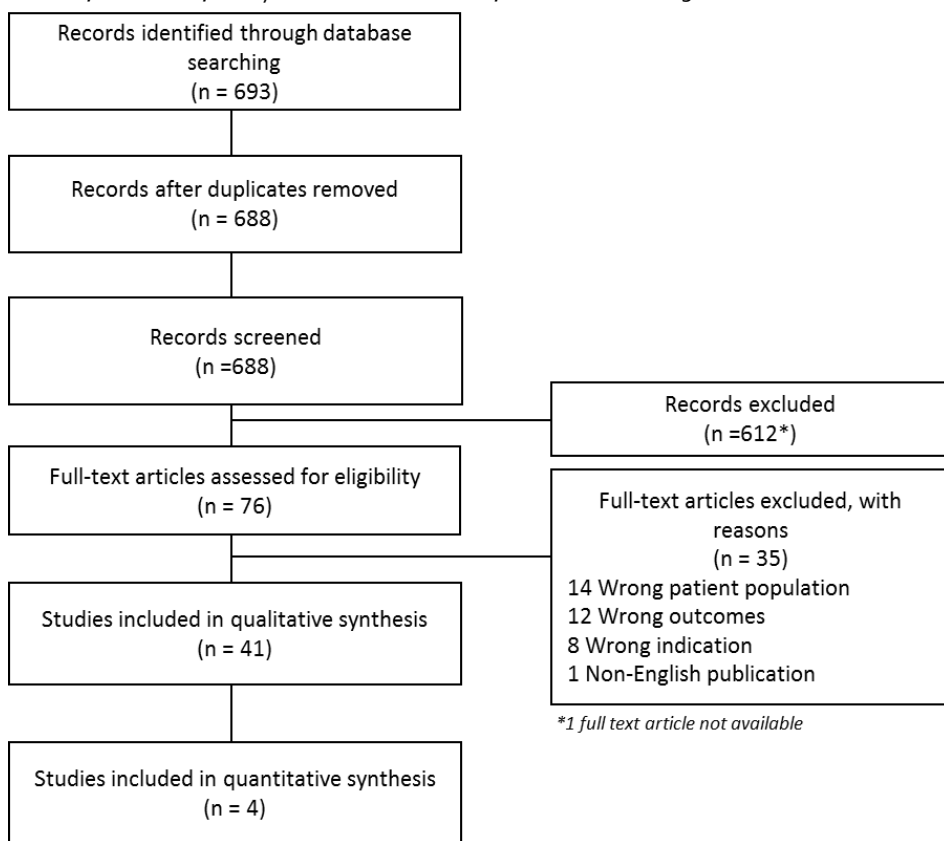


Figure 2).

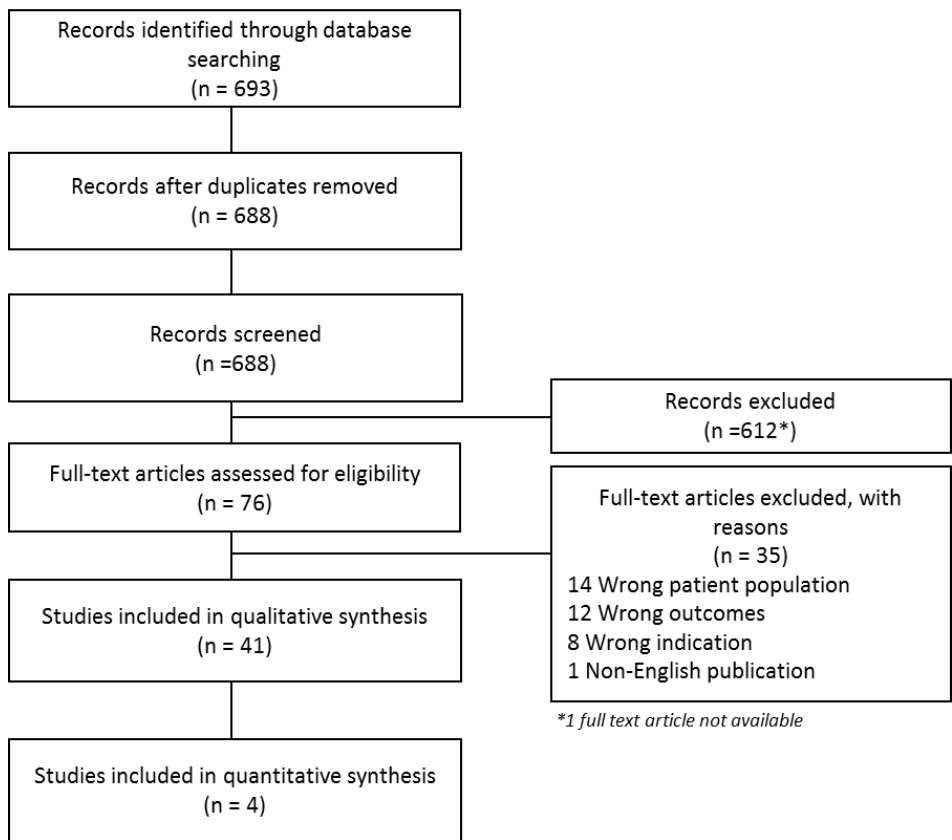


Figure 2 Round one PRISMA chart for key clinical question 1

3.2 Guideline Development Group recommendation

Supplement search strategy with existing high-quality guidelines and/or systematic reviews for high prevalent mental health conditions.

3.3 Evidence Review round two

3.3.1 PICO

- P No restriction
- I All tools to diagnose and assess severity
- C Tools to diagnose and assess severity of a particular condition
- O Accurate diagnosis of and /or assessment of severity

3.3.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1. ((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition*

<p>or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]</p>
<p>2. (((Measure* or Measurement* or Outcome* or Assessment* or Evaluat* or Test* or Questionnaire* or Scale* or (Mental adj status) or (Psychiatr* adj rating*) or (Patient adj acuity) or Severity of Illness* or (Illness adj Severity) or (Health adj status) or Sickness impact profile* or Indicator* or Investigat** or Examin* or Instrument* or Questionnaire* or Screen* or Quality of life or Diagnos* or Diagnostic* or Diagnostic) adj (tool* or technique* or procedure*)) or tool* or (Personality adj scale*) or (personality adj inventory) or Psychometr* or Sensitiv* or Responsiveness or Valid* or Reliab* or Accura* or index or indices or protocol* or score* or scoring* or guideline* or (Clinical adj decision*) or Surveillance or (timely adj diagnosis) or specific* or precis*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]</p>
<p>3. (((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]</p>
<p>4. 1 and 2 and 3</p>

3.3.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression	Search modes - Boolean/ Phrase
S2	Measure* or Measurement* or Outcome* or Assessment* or Evaluat* or Test* or Questionnaire* or Scale* or (Mental status) or (Psychiatr* rating*) or (Patient acuity) or Severity of Illness* or (Illness adj Severity) or (Health status) or (Sickness impact profile*) or Indicator* or Investigat** or Examin* or Instrument* or Questionnaire* or Screen* or (Quality of life) or Diagnos* or Diagnostic* or ((Diagnostic and (tool* or technique* or procedure*)) or tool* or (Personality scale*) or (personality inventory) or Psychometr* or Sensitiv* or Responsiveness or Valid* or Reliab* or Accura* or index or indices or protocol* or score* or scoring* or guideline* or (Clinical decision*) or Surveillance or (timely diagnosis) or specific* or precis*	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S14	HADS or "MOS Mental Health Inventory" or "Depression Screener" or "Beck Depression Inventory" or "Patient Health Questionnaire" or PHQ or "Primary Care Evaluation of Mental Disorders" or "PRIME-MD" or "BRFSS Anxiety & Depression Optional Module" or "BRFSS Mental Illness & Stigma Optional Module" or MADRS or MADRS-S or "Montgomery Asberg Depression Rating Scale" or "NHIS Non-Specific Distress Battery" or "Areas of Work life Scale" or AWS or "Perceived Stress Scale" or "PSS" or "Positive and Negative Affect Test" or "Psychological Well-Being Scale" or "Primary Care PTSD Screen" or "PC-PTSD"	Search modes - Boolean/ Phrase
S16	sensitivity or specificity or precision or accuracy or reliability	Search modes - Boolean/ Phrase
S17	S2 OR S14	Search modes - Boolean/ Phrase
S18	S16 AND S17	Search modes - Boolean/ Phrase
S19	S1 AND S18	Search modes - Boolean/ Phrase

S20	S1 AND S18	Limiters - English Language; Age Groups: Adolescence, 13-18 years, Adult, 19-44 years, Middle Age, 45-64 years, Aged, 65+ years, Aged, 80 and over Search modes - Boolean/ Phrase
S21	S4 AND S20	Search modes - Boolean/ Phrase

3.3.4 Search period round two

From the 1st of February 2017 to the 30th of April 2017.

3.3.5 PRISMA round two

Embase, Medline, PsycINFO and AMED returned n=144 records and CINAHL returned n=32 records Figure 3.

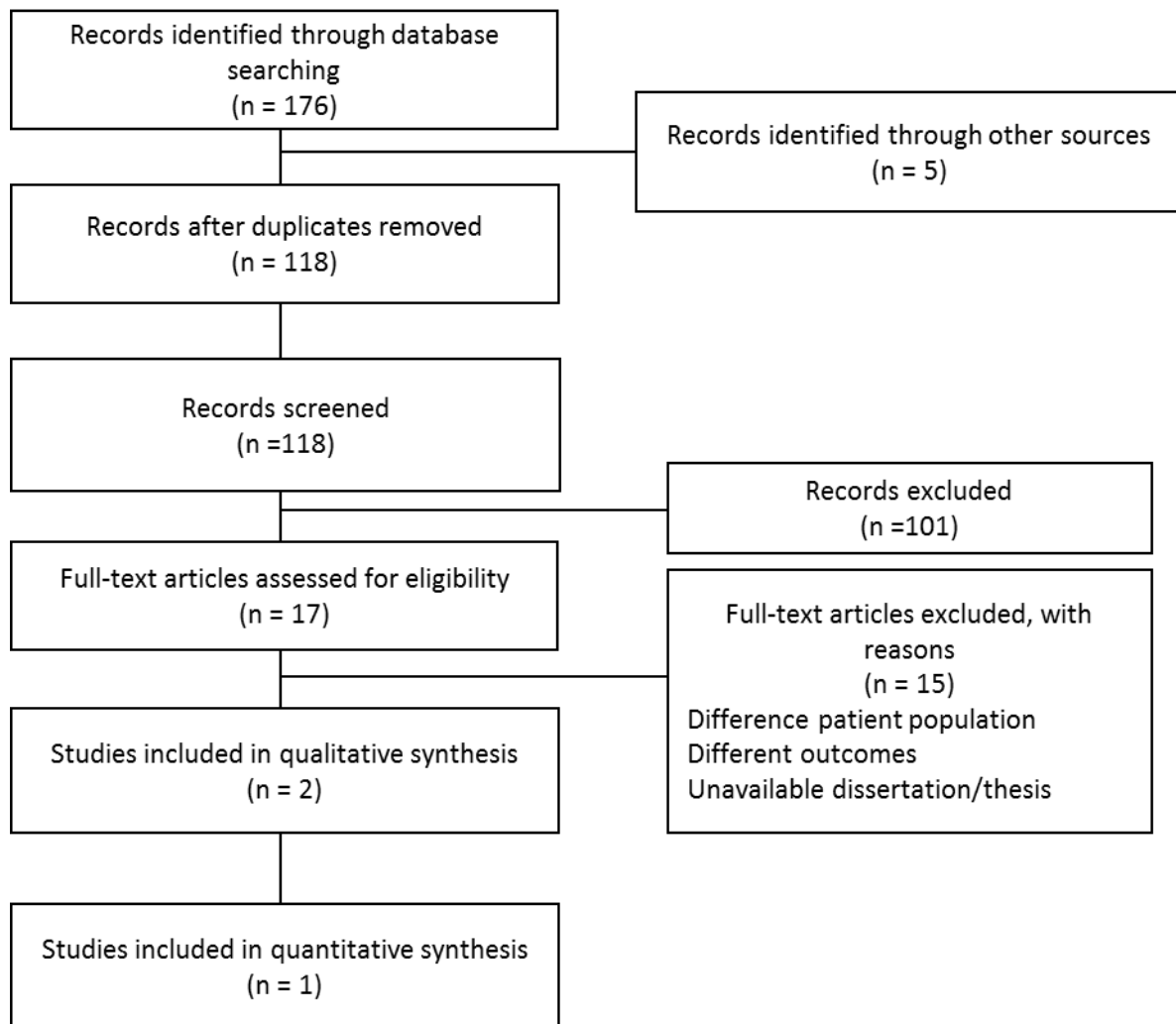


Figure 3. Round two PRISMA chart of key clinical question 1 updates

Combined search results from round one and two are shown in Figure 4. Combined round one and round two PRISMA chart for key clinical question 1

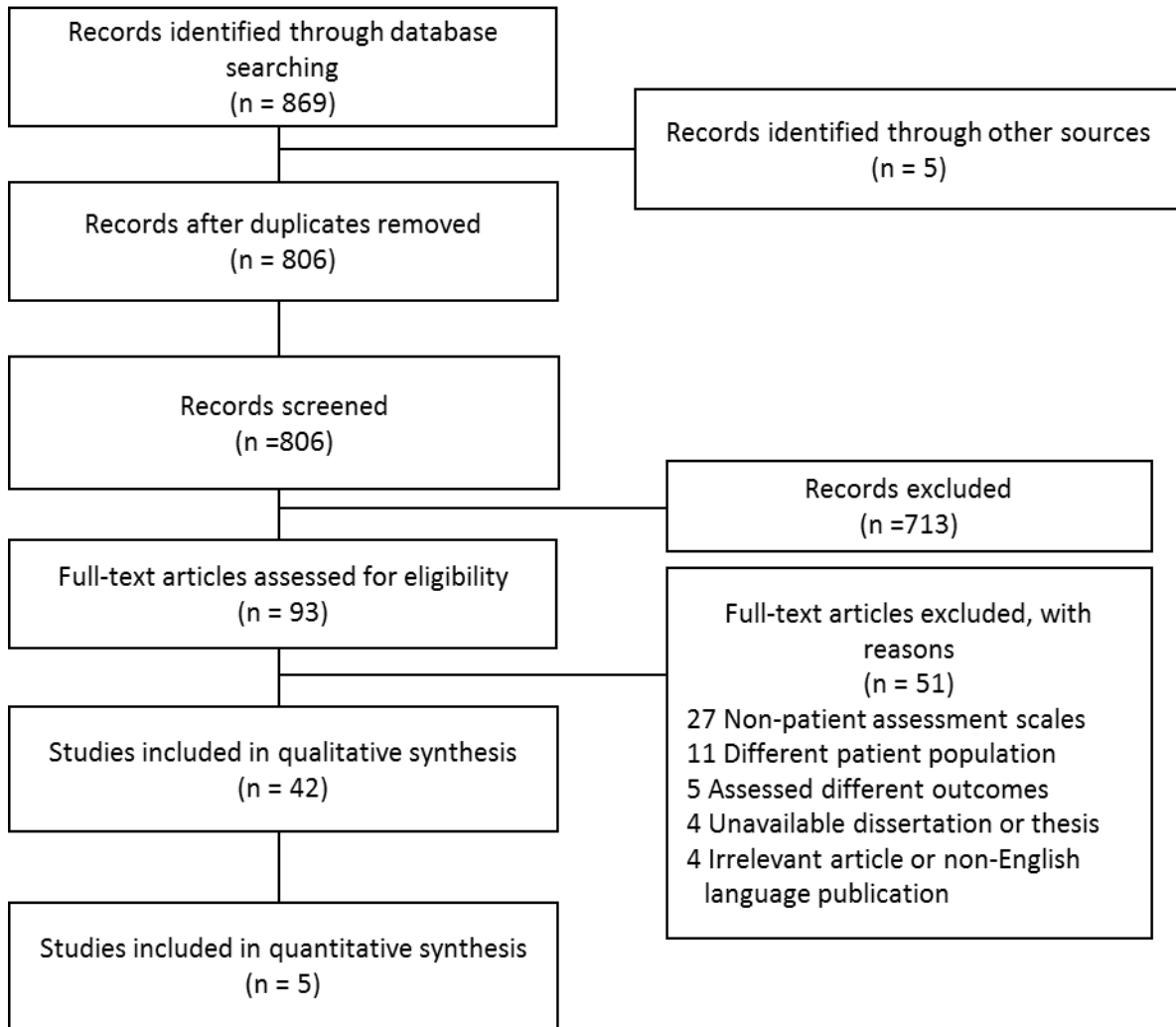


Figure 4. Combined round one and round two PRISMA chart for key clinical question 1

3.4 Guideline Development Group recommendation

Supplement search strategy with existing high-quality guidelines and/or systematic reviews for high prevalent mental health conditions.

3.5 Identification of existing guidelines and systematic reviews for key clinical question 1

3.5.1 PICO

- P No restriction
- I All tools to diagnose and assess severity
- C Tools to diagnose and assess severity of a particular condition
- O Accurate diagnosis of and/or assessment of severity

3.5.2 Search strategy: Guidelines

The search strategy for existing guidelines to address key clinical question one is described in Table 3.

Table 3. Search strategy for existing guidelines for key clinical question 1

Guideline Resource	Search Strategy and Limiters
Guidelines International Network (GIN)	Mental Disorders (Mesh terms), English, Diagnosis (Note: screened for diagnosis)
National Guideline Clearinghouse/psychology	List Review
National Guideline Clearinghouse/psychiatric	List Review
National Guideline Clearinghouse	Depression
NHMRC Clinical Guidelines Portal	List Review
The NICE/Mental health and behavioural conditions	List Review
The NICE/Injuries, accidents and wounds	List Review
The Royal Australian College of General Practitioners (RACGP)	List Review
The Royal Australian and New Zealand College of Psychiatrists (RANZCP)	List review
Scottish Intercollegiate Guidelines Network (SIGN)	List review
Scottish Intercollegiate Guidelines Network (SIGN)	Mental health (key word)
The WHO	List review
The WHO/Mental health and substance abuse	List review
Google	Depression guideline anxiety guidelines

3.5.3 Search period: Guidelines

Original search: up to the 25th of May 2017

Updated search: 3rd of July 2017

3.5.4 PRISMA: Guidelines

A total of 6 guidelines were identified in the search (Figure 5).

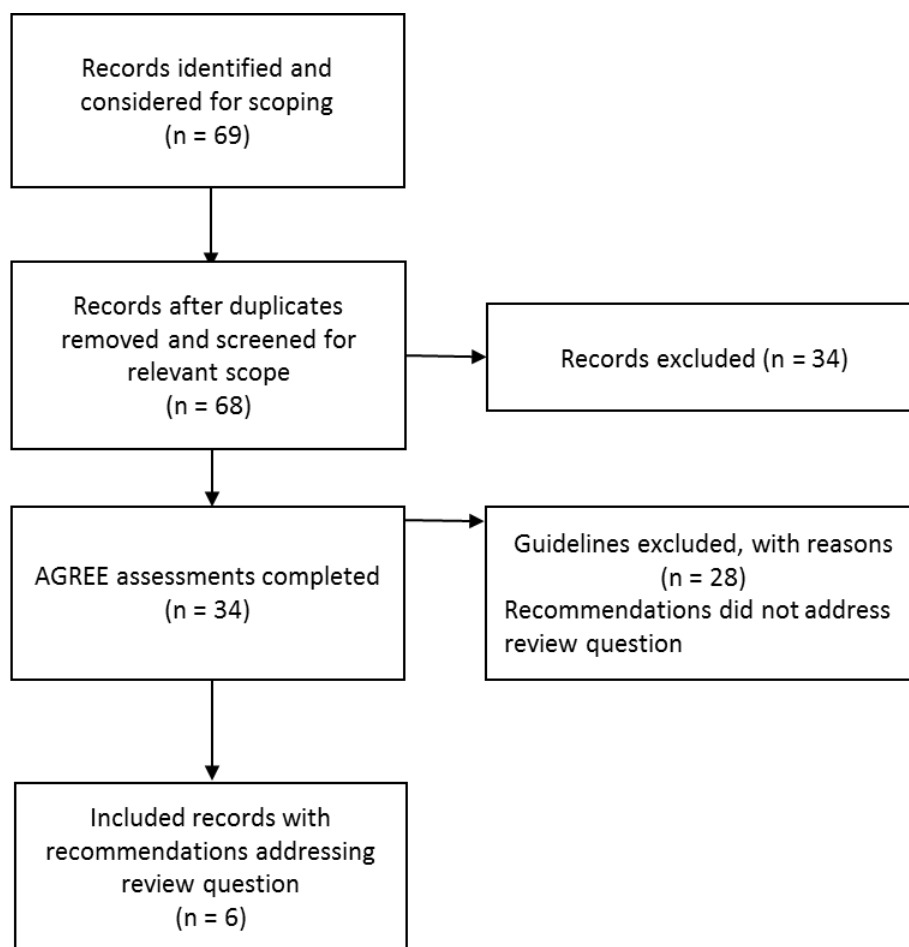


Figure 5. PRISMA flow chart of guidelines for key clinical question 1

The clinical guidelines describing recommendations that addressed key clinical question one are described in Table 4.

Table 4. Clinical Guidelines offering recommendations that addressed key clinical question 1

Guideline Title	Guideline Author	Date	AGREE II score
Anxiety disorders (DRAFT)	RANZCP	2017	TBA
Depression in adults with a chronic physical health problem: recognition and management (CG91) ¹²	NICE	2009	100%
Depression: The NICE guideline on the treatment and management of depression in adults (CG90) ¹³	NICE	2016	92%
Common mental health problems: identification and pathways to care (CG123) ¹⁴	NICE	2011	92%
Alcohol-use disorders: diagnosis, assessment and management of harmful drinking and alcohol dependence (CG115) ¹⁵	NICE	2011	83%
Generalised anxiety disorder and panic disorder in adults (CG113) ¹⁶	NICE	2011	83%

3.5.5 Search strategy: Systematic reviews

The search strategy for existing guidelines to address key clinical question one is described in Table 5.

Table 5. Search strategy for existing systematic reviews for key clinical question 1

Systematic Review Resource	Search Strategy and Limiters
Cochrane Library	Mental health (Mesh term), subheading diagnosis Depression, diagnosis Anxiety, diagnosis Stress, diagnosis
Cochrane Reviews/Common mental disorders review group	List review
Cochrane Reviews/topic mental health	List review
Campbell Collaboration	List review
Joanna Briggs Institute	Mental health - List review

3.5.6 Search period

Inception until 30th of April 2017.

3.5.7 PRISMA: Systematic reviews

The search returned no records.

3.6 Implications of correction to the “Work” Search String for Key clinical question 1

Implications of correction to the ‘work’ search string are described in Table 6.

Table 6. Key clinical question 1 literature search results and implications arising from search strings used in relation to work

Evidence Review Round	Original Key clinical question 1. In workers presenting with symptoms of mental health conditions, what tools can assist a GP in making an accurate (sensitive and specific) diagnosis of and severity of mental health disorders?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
R1	<ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - Work-relatedness - General practice - Tools 	Work in the compensable setting	Work	63	630
		If work-relatedness search string had been corrected to “work”	Work	176 676	No impact
R2	<ul style="list-style-type: none"> - No change to key clinical question - Mental health conditions (vicarious trauma removed) - General practice removed - Work-relatedness 	Work in the compensable setting	Work	144	32
		If work-relatedness search string had been corrected to “work”	Work	5 937	No impact

Evidence Review Round	Original Key clinical question 1. In workers presenting with symptoms of mental health conditions, what tools can assist a GP in making an accurate (sensitive and specific) diagnosis of and severity of mental health disorders?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
	<ul style="list-style-type: none"> - Tools - Feb-April 2017 				
Search for guidelines and systematic reviews	Guidelines n=69 Systematic reviews n=0				

3.7 Guideline Development Group recommendation

For Key clinical question 1, the large number of hits in Ovid that would have occurred as a result of the search string error correction would have made the search unfeasible. Our recommendation is to accept the final recommendation as per Guideline Development Group meeting 3.

3.8 Findings and GRADE Evidence Profile Tables from Evidence Review: Key clinical question 1

3.8.1.1 Evidence-based recommendation

Strong recommendation FOR (high quality of evidence)
<p>For workers with symptoms of mental health conditions, a GP should use:</p> <ul style="list-style-type: none"> • the Patient Health Questionnaire-9 to assist in making an accurate diagnosis of depression and assess its severity • either the Generalized Anxiety Disorder 7-item or the Depression Anxiety Stress Scales to assist in making an accurate diagnosis of an anxiety disorder • the PTSD CheckList – Civilian Version to assist in making an accurate diagnosis of PTSD and assessing its severity • the Alcohol Use Disorders Identification Test, Severity of Alcohol Dependence Questionnaire, or the Leeds Dependence Questionnaire, to assist in making an accurate diagnosis of an alcohol use disorder, and assessing its severity • the Leeds Dependence Questionnaire to assist in making a diagnosis of substance use disorders and assessing their severity.

3.8.1.2 Summary of the evidence identified in the evidence review

Altogether, 46 unique tools, including different versions of some of the tools, were identified from in 42 studies and 40 of these are listed in Table 7. Two tools not listed in the table were generic tools which were used for unspecified work-related mental health conditions; the Short Form-36 Items (SF-36)-mental health component²⁷ and the General Health Questionnaire-12 item (GHQ-12)²⁸. The commonly used tools ranged from mostly self- completed patient questionnaires

to trained clinician administered diagnostic interview schedules (e.g. MINI International Neuropsychiatric Interview (MINI), Watson's PTSD Interview).

Table 7. Assessment tools used to diagnose and assess severity of mental health conditions in the work context.

MHC	Tools	Study
Anxiety	Anxiety disorders interview schedule (ADIS)	Tehrani et al. 2002 ¹⁹
	Beck Anxiety Inventory (BAI)	Fang et al. 2008 ²⁰ Fritz and George 2002 ²¹ Sussner et al. 2006 ²²
	Hamilton Anxiety Scale (HAMA)	Kozaric-Kovacic et al. 2001 ²³
	Sheehan's Patient Rated Anxiety Scale (Sheehan)	Tsutsumi et al. 2005 ²⁴
	Patient Health Questionnaire-9 (PHQ-9)	Rau et al. 2010 ²⁵
	Composite International Diagnostic Interview (CIDI)	Langerak et al. 2012 ²⁶
	Four-Dimensional Symptom Questionnaire (4DSQ)	Langerak et al. 2012 ²⁶ Vroege et al. 2015 ²⁷
	General Health Questionnaire (GHQ-12)	Bennett et al. 2005 ²⁸
	Hospital Anxiety and Depression Scale (HADS)	Cameron et al. 2008 ²⁹ Ioannou et al 2016 ³⁰ Pallant and Tennant 2007 ³¹
	MINI International Neuropsychiatric Interview (MINI)	Cholera et al. 2014 ³²
	Depression Anxiety Stress Scales (DASS)	Nieuwenhuijsen et al 2003 ³³
	Symptom Checklist 90-Revised (SCL-90 R)	Simon et al 1990 ³⁴ Tehrani et al. 2002 ¹⁹ Zhengxue et al. 2016 ³⁵
Templer Death Anxiety Scale	Hunt and Rosenthal 2000 ³⁶	
Depression	Beck Depression Inventory (BDI)	Fang et al. 2008 ²⁰ Lee et al. 2013 ³⁷ Tehrani et al. 2002 ¹⁹
	Beck Depression Inventory-amended (BDI-IA)	Harris & D'Eon 2008a ³⁸
	Beck Depression Inventory-II (BDI-II)	Cameron et al. 2008 ²⁹ Gardner et al. 2012 ³⁹ Harris & D'Eon 2008 ³⁸ Lin et al. 2010 ⁴⁰ Sussner et al. 2006 ²² Williams 2010 ⁴¹
	Centre for Epidemiologic Studies Depression Scale (CES-D)	Fritz and George 2002 ²¹ Rau et al. 2010 ²⁵ Borders et al. 2010 ⁴²
	Hamilton Depression Rating Scale (HAM-D)	Harris & D'Eon 2008 ³⁸ Kozaric-Kovacic et al. 2001 ²³
	MINI International Neuropsychiatric Interview (MINI)	Volker et al. 2016 ⁴³
	Patient Health Questionnaire-9 (PHQ-9)	Cholera et al. 2014 ³² Letvak et al. 2012 ⁴⁴ Smith et al. 2007 ⁴⁵ Volker et al. 2016 ⁴³
	Zung Self-Rating Depression Scale	Tsutsumi et al. 2005 ²⁴
	Four-Dimensional Symptom Questionnaire (4DSQ)	Langerak et al. 2012 ²⁶ Vroege et al. 2015 ²⁷
General Health Questionnaire (GHQ-12)	Bennett et al. 2005 ²⁸	

		Michélsen and Bildt 2003 ⁴⁶
	Hospital Anxiety and Depression Scale (HADS)	Cameron et al. 2008 ²⁹ Ioannou et al 2016 ³⁰
	MINI International Neuropsychiatric Interview (MINI)	Cholera et al. 2014 ³²
	Depression Anxiety Stress Scales (DASS)	Nieuwenhuijsen et al 2003 ³³
	Symptom Checklist 90-Revised (SCL-90 R)	Simon et al 1990 ³⁴ Tehrani et al. 2002 ¹⁹ Zhengxue et al. 2016 ³⁵
PTSD	Clinician's Administered/Assessment of PTSD Scale (CAPS)	Koch and Haring 2008 ⁴⁷ Matusko et al 2013 ⁴⁸ Tehrani et al. 2002 ¹⁹
	Detailed Assessment of Posttraumatic Stress	Rubenzler 2009 ⁴⁹
	General Health Questionnaire (GHQ)	Tehrani et al. 2002 ¹⁹
	General Health Questionnaire-28 (GHQ-28)	Cothereau et al. 2004 ⁵⁰
	Impact of Event Scale-Revised (IES-R)	Dunkley and Whelan 2006 ⁵¹ Tehrani et al. 2002 ¹⁹
	Impact of events scale - extended version (IES-E)	Tehrani et al. 2002 ¹⁹
	Impact of events scale (IES)	Tehrani et al. 2002 ¹⁹
	Morel Emotional Numbing Test	Rubenzler 2009 ⁴⁹
	Penn inventory	Tehrani et al. 2002 ¹⁹
	Posttraumatic Stress Disorder Checklist-Civilian Version (PCL-C)	Gardner et al. 2012 ³⁹ Harris et al. 2008 ⁵² Ioannou et al 2016 ³⁰ Smith et al. 2007 ⁴⁵
	PTSD symptom scale (PSS)	Tehrani et al. 2002 ¹⁹
	Structured clinical interview for diagnosis (SCID)	Tehrani et al. 2002 ¹⁹
	Trauma Attachment and Belief Scale (TABBS)	Dunkley and Whelan 2006 ⁵¹
	Trauma Symptom Inventory	Rubenzler 2009 ⁴⁹
Watson's PTSD Interview	Kozaric-Kovacic et al. 2001 ²³	
Stress	Derogatis Stress Profile	Russell et al 1995 ⁵³
	Global Stress Questionnaire	Irniza et al. 2014 ⁵⁴
	Brief Symptom Inventory (BSI)	Wesseling et al. 2010 ⁵⁵
	General Health Questionnaire (GHQ-12)	Ross et al 2009 ⁵⁶
	Basic Symptom Inventory-18 (BSI-18)	Hopkins-Chadwick 2005 ⁵⁷
	Depression Anxiety Stress Scales (DASS)	Nieuwenhuijsen et al 2003 ³³
	General Health Questionnaire (GHQ-28)	Dehghan and Taeb 2013 ⁵⁸

Of the 42 studies, five were Diagnostic Test Accuracy (DTA) studies which met the inclusion criteria for review of sensitivity and specificity in depression^{26 32 43}, anxiety^{26 33} and PTSD³⁹. The five studies met the quality criteria for DTA across most items of the QUADAS tool (Table 8). They were, in general, poor on reporting:

- Item 10 - *Were the index test results interpreted without knowledge of the results of the reference standard?*
- Item 11 - *Were the reference standard results interpreted without knowledge of the results of the index test?*
- Item 13 - *Were uninterpretable/intermediate test results reported?*

The studies investigated the PHQ-9^{32 43}, 4DSQ²⁶, DASS³³ and PCL-C³⁹.

Table 8. Quality assessment of studies of diagnostic test accuracy

QUADAS Items*	Cholera et al. 2014 ³²	Gardner et al. 2012 ³⁹	Langerak et al. 2012 ²⁶	Nieuwenhuijsen et al 2003 ³³	Volker et al. 2016 ⁴³
1. Representative patient spectrum	N	Y	Y	Y	Y
2. Description of selection criteria	Y	Y	Y	Y	Y
3. Correct classification with reference standard	Y	Y	Y	Y	Y
4. Adequate time between reference standard and index test	Y	Y	U	Y	Y
5. Diagnosis verification against reference standard	Y	Y	Y	Y	Y
6. All patients received reference standard	Y	Y	Y	Y	Y
7. Reference standard and index test independence	Y	Y	Y	Y	Y
8. Index test replication	Y	Y	Y	Y	Y
9. Reference standard replication	Y	Y	Y	Y	Y
10. Independent index test interpretation	Y	U	U	U	Y
11. Independent reference standard interpretation	Y	U	U	U	U
12. Data availability	Y	Y	Y	U	U
13. Reporting of uninterpretable results	Y	U	U	U	N
14. Explanation for study withdrawals	Y	Y	Y	N	Y

*For full details of instrument items see Appendix 1. Responses: n=no; y=yes; u=unclear

Sensitivity and specificity summary point measures and 95% CI for the PHQ-9, DASS, 4DSQ and PCL-C are presented in evidence Table 9. All the tools demonstrated good sensitivity and specificity at positive screening cut-offs indicated in summary evidence Table 9. The tools are short and can be completed by the patient. The PHQ-9 and the PCL-C are free to use while the DASS and 4DSQ require a licencing fee for commercial use.

Table 9. GRADE Evidence Profile Table: In workers presenting with symptoms of mental health conditions, what tools can assist a GP in making an accurate (sensitive and specific) diagnosis of and severity of mental health disorders?

MHC	Index Tool*	Reference standard*	No. of studies	Study Design	Quality Assessment (GRADE Criteria)					No. of patients	Positive cut off score	Sensitivity, %	Specificity, %	GRADE
					Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations					
Depression	PHQ-9	MINI	1 ³²	Cross-sectional	None	None	Not serious	Not serious	Included participants with HIV	397	10	79 (64, 89)	83 (79, 87)	HIGH
	PHQ-9	MINI	1 ⁴³	Cross-section (in an RCT)	Not serious	Not serious	Not serious	Not serious	Independence in interpretation of index and ref test unclear	170	10	86 (71, 95)	78 (70, 85)	MOD
	DASS	CIDI	1 ³³	Cohort	Serious	None	None	None	Independence in interpretation of index and ref test unclear, no report of uninterpretable results	198	12	91 (71, 98)	46 (38, 54)	MOD
	4 DSQ	CIDI	1 ²⁶	Cross-sectional	none	none	not serious	Serious	Independence in interpretation of index and ref test unclear	230	3	73 (64, 81)	75 (67, 83)	MOD
Anxiety	DASS	CIDI	1 ³³	Cohort	Serious	None	None	None	Independence in interpretation of index and ref test unclear, no	198	5	92 (80, 98)	40 (32, 48)	MOD

									report of uninterpretable results					
	4 DSQ	CIDI	1 ²⁶	Cross-sectional	none	none	not serious	Serious	Independence in interpretation of index and ref test unclear	230	7	74 (66, 81)	71 (61, 81)	MOD
PTSD	PCL-C	DSM-IV	1 ³⁹	Cross-sectional	serious	none	not serious	None	Independence in interpretation of index and ref test unclear	132	50	90 (79, 96)	79 (59, 92)	MOD

Acronyms:

4DSQ: Four-Dimensional Symptom Questionnaire; **CIDI:** Composite International Diagnostic Interview; **DASS:** Depression Anxiety Stress Scales; **DSM-IV:** Diagnostic and Statistical Manual of Mental Disorders, 4th Edition; **MINI:** MINI International Neuropsychiatric Interview; **PCL-C:** Posttraumatic Stress Disorder Checklist-Civilian Version; **PHQ-9:** Patient health questionnaire 9-Item

3.8.1.3 Summary of the evidence identified in relevant guidelines

Depression

NICE 2016⁴³, NICE 2015⁴² report a review of tools that were used to identify people with depression (Figure 6). The review was limited to identification tools likely to be used in UK clinical practice, that is, the Beck Depression Inventory (BDI), Patient Health Questionnaire (PHQ), General Health Questionnaire (GHQ), Centre of Epidemiology Studies-Depression (CES-D), Geriatric Depression Scale (GDS), Hospital Anxiety and Depression Scale (HADS), Zung Self Rated Depression Scale and any one- or two-item measures.

“Although the PHQ-2 and the Whooley questions use the same two items, the difference is that while the PHQ-2 follows the scoring format of the PHQ-9 (Likert scales), the Whooley version dichotomises the questions (yes/no) and has a cut-off of 1 compared with 3 for the PHQ-2. The CES-D, GDS-15 were assessed for over 65 year olds.

Table 8: Evidence summary of depression identification instruments in primary care, people with a chronic physical health problem, and older populations

Population and instrument	Sensitivity	Specificity	Likelihood ratio+	Likelihood ratio-	Diagnostic odds ratio	AUC
PHQ-9 Consultation samples: 11 studies	0.82 (0.77, 0.86)	0.83 (0.76, 0.88)	4.70 (3.29, 6.72)	0.22 (0.17, 0.29)	21.38 (11.87, 38.52)	0.88 (0.85, 0.91)
Whooley* All populations: 7 studies	0.95 (0.91, 0.97)	0.66 (0.55, 0.76)	2.82 (2.01, 3.96)	0.08 (0.04, 0.15)	36.25 (14.89, 88.24)	0.94 (0.92, 0.96)
BDI Consultation samples: 4 studies	0.85 (0.79, 0.90)	0.83 (0.70, 0.91)	5.14 (2.83, 9.32)	0.18 (0.12, 0.24)	29.29 (15.10, 56.79)	0.90 (0.87, 0.92)
BDI-non somatic items Consultation sample: 5 studies	0.82 (0.57, 0.94)	0.73 (0.61, 0.83)	3.02 (1.87, 4.90)	0.25 (0.09, 0.69)	11.92 (3.02, 47.04)	0.83 (0.79, 0.86)
CES-D Consultation sample: 8 studies	0.84 (0.78, 0.89)	0.74 (0.65, 0.81)	3.19 (2.41, 4.22)	0.21 (0.15, 0.29)	15.02 (9.38, 24.05)	0.87 (0.84, 0.90)
Older adults: 5 studies	0.81 (0.74, 0.87)	0.79 (0.67, 0.88)	3.82 (2.35, 6.22)	0.24 (0.17, 0.33)	15.95 (8.05, 31.60)	0.83 (0.80, 0.86)
GDS-15 Consultation sample: 11 studies	0.87 (0.80, 0.91)	0.75 (0.69, 0.80)	3.40 (2.73, 4.24)	0.18 (0.12, 0.27)	18.98 (10.85, 33.20)	0.86 (0.83, 0.89)
1-item Consultation sample: 6 studies	0.84 (0.78, 0.89)	0.65 (0.55, 0.73)	2.38 (1.81, 3.13)	0.25 (0.17, 0.36)	9.67 (5.35, 17.46)	0.85 (0.82, 0.88)

Case identification and service delivery

*It was not possible to conduct separate subgroup analyses for consultation and chronic physical illness samples due to lack of studies for the Zung and Whooley questions.

Figure 6 Excerpt from NICE 2016 (CG90) Depression

Centre for Epidemiological Studies Depression Scale - The CES-D (Radloff 1977) has 20 items and the cut-off is 16. This measure is also relatively commonly used as an outcome measure. There are various short forms of the CES-D including an eight-, ten- and 11-item scale.

Geriatric Depression Scale - The GDS was developed to assess depression in older people.”

Substance use and addictive disorders

NICE 2011⁴⁵ alcohol use guideline recommends the following tools for identifying people with:

- *The Alcohol Use Disorders Inventory Test (AUDIT)* – for case identification and initial assessment of problem severity.
- *The Severity of Alcohol Dependence Questionnaire (SADQ)* – to assess the presence and severity of alcohol dependence.
- *The Leeds Dependence Questionnaire (LDQ)* – to assess the presence and severity of alcohol dependence.
- *The Alcohol Problems Questionnaire (APQ)* – to assess the nature and extent of the problems associated with of alcohol misuse.
- *The Readiness to Change Questionnaire – Treatment Version (RCQ-TV)* – to assess the motivation to change their drinking behaviour. [UK NICE Alcohol 2011, narrative review, no rating given]

The following excerpts are taken from NICE 2011³⁵ regarding their decision to recommend the above tools. No discussion is given regarding the RCQ-TV as this tool does not relate to diagnosis or assessment of severity.

“Alcohol Use Disorders Inventory Tool (AUDIT) has high internal consistency however data is not available about reliability in young adults. The AUDIT is routinely used for screening but NICE recommends that it has clinical applicability as the basis for a brief intervention or for referral to specialist care.”

“The Severity of Alcohol Dependence Questionnaire (SADQ) (Stockwell et al 1979) is a 20-item questionnaire with a maximum score of 60. Stockwell and colleagues (1983) reported that the SADQ (Stockwell et al., 1979 and 1983) has the following: high test–retest reliability (correlation coefficient ranged from 0.55 to 0.82 across individual questions); good content, criterion and construct validity; and is correlated with physician and self-reported ratings of withdrawal severity, and the quantity of medication to be prescribed during alcohol withdrawal. The SADQ identifies not just dependence but indicates the severity of dependence and hence has utility in a clinical setting. It is routinely used in the UK and is freely available to download or from the author. The SADQ takes very little time to administer and does not require training for administration or scoring.”

“The LDQ (Raistrick et al., 1994) is a ten-item questionnaire that is based on a psychological understanding of dependence and has applicability to the measurement of dependence for any substance. The LDQ had satisfactory test–retest reliability and internal consistency (Thomas & McCambridge, 2008). The LDQ is an applicable diagnostic measure of severity of alcohol dependence and hence can be used for other purposes in a clinical setting, such as for setting treatment goals and outcome monitoring. Further, it is brief and does not require training for administration and scoring. It was developed and validated in the UK, and is free to use.”

“Alcohol Problems Questionnaire (APQ). The results of two studies indicate that the APQ has high reliability and validity for assessing alcohol-related problems in an alcohol-dependent population. The APQ is quick and easy to administer (3-5 minutes, no training required and free to use).”

Anxiety disorders

Tools for the diagnosis of anxiety disorders were discussed in three guidelines NICE 2016³³ CG90, NICE 2011 (checked 2015)³⁶; RANZCP 2017 (draft).

NICE 2016³³ reviewed The Hospital Anxiety and Depression Scale (HADS) (Zigmond and Snaith 1983), which is a measure of depression and anxiety developed for people with physical health problems was reviewed. They report that a total of 21 studies were included in the review, however meta-analysis could not be conducted due to very high heterogeneity (I² 90%) for all subgroups including consultation populations and older adults.

The RANZCP 2017 draft guidelines report four well-established diagnostic interviews that generate reliable and valid diagnosis:

- Structured Clinical Interview for Axis 1 DSM-IV Disorders (First et al., 1997)
- Anxiety Disorders Interview Schedule (Brown and Barlow, 2014)
- Composite International Diagnostic Interview (Kessler and Üstün, 2004)
- Mini-international Neuropsychiatric Interview (Sheehan et al., 1998).

However, these tools may not be feasible in the general practice context as “these interviews often take over an hour to complete. They are mostly used in research settings and almost never used in clinical practice, even though their use has been shown to reduce treatment duration and improve treatment outcome (Andrews et al., 2010a).”

The RANZCP 2017 draft guideline also recommends using one of two free self-report scales. The Penn State Worry Questionnaire-3 (Berle et al., 2011) is a 3-item measure of worry severity and the Generalized Anxiety Disorder-7 (Spitzer et al., 2006) is a 7-item screener for GAD symptoms.

NOTE: The project team is currently liaising with RANZCP to acquire a copy of their evidence profile for this recommendation.

NICE 2011 (checked 2015)³⁶ guideline did not recommend use of a particular tool for the diagnosis of GAD. Instead they give the following recommendation: “There is insufficient evidence on which to recommend a well-validated, self-reporting screening instrument to use in the diagnostic process, and so consultation skills should be relied upon to elicit all necessary information.”

4 Key clinical question two: In workers, what factors assist in the early detection of a comorbid work-related mental health condition?

4.1 Evidence Review round one

The clinical question was written as follows in round one: "In workers, what factors assist in the early detection of a work-related mental health condition?"

4.1.1 PICO

P	Workers
I	Flags
C	Factors that assist in the detection of specified mental health conditions
O	Early detection

4.1.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression or Vicarious trauma)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	((((Measure* or Measurement* or Outcome* or Assessment* or Evaluat* or Test* or Questionnaire* or Scale* or (Mental adj status) or (Psychiatr* adj rating*) or (Patient adj acuity) or Severity of Illness* or (Illness adj Severity) or (Health adj status) or Sickness impact profile* or Indicator* or Investigat** or Examin* or Instrument* or Questionnaire* or Screen* or Quality of life or Diagnos* or Diagnostic* or Diagnostic) adj (tool* or technique* or procedure*)) or tool* or (Personality adj scale*) or (personality adj inventory) or Psychometr* or Sensitiv* or Responsiveness or Valid* or Reliab* or Accura* or index or indices or protocol* or score* or scoring* or guideline* or (Clinical adj decision*) or Surveillance or (timely adj diagnosis) or specific* or precis*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	(((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	((early adj detection) or (early adj diagnosis) or detect*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	2 or 4
6.	1 and 3 and 5

4.1.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or "Vicarious trauma"	Search modes - Boolean/ Phrase
S2	Measure* or Measurement* or Outcome* or Assessment* or Evaluat* or Test* or Questionnaire* or Scale* or (Mental status) or (Psychiatr* rating*) or (Patient acuity) or Severity of Illness* or (Illness adj Severity) or (Health status) or (Sickness impact profile*) or Indicator* or Investigat** or Examin* or Instrument* or Questionnaire* or Screen* or (Quality of life) or Diagnos* or Diagnostic* or ((Diagnostic and (tool* or technique* or procedure*)) or tool* or (Personality scale*) or (personality inventory) or Psychometr* or Sensitiv* or Responsiveness or Valid* or Reliab* or Accura* or index or indices or protocol* or score* or scoring* or guideline* or (Clinical decision*) or Surveillance or (timely diagnosis) or specific* or precis*	Search modes - Boolean/ Phrase
S14	HADS or "MOS Mental Health Inventory" or "Depression Screener" or "Beck Depression Inventory" or "Patient Health Questionnaire" or PHQ or "Primary Care Evaluation of Mental Disorders" or "PRIME-MD" or "BRFSS Anxiety & Depression Optional Module" or "BRFSS Mental Illness & Stigma Optional Module" or MADRS or MADRS-S or "Montgomery Asberg Depression Rating Scale" or "NHIS Non-Specific Distress Battery" or "Areas of Work life Scale" or AWS or "Perceived Stress Scale" or "PSS" or "Positive and Negative Affect Test" or "Psychological Well-Being Scale" or "Primary Care PTSD Screen" or "PC-PTSD"	Search modes - Boolean/ Phrase
S15	(early detection) or (early diagnosis) or detect*	Search modes - Boolean/ Phrase
S16	sensitivity or specificity or precision or accuracy or reliability	Search modes - Boolean/ Phrase
S17	S2 OR S14	Search modes - Boolean/ Phrase
S18	S16 AND S17	Search modes - Boolean/ Phrase
S19	S1 AND S18	Search modes - Boolean/ Phrase
S20	S1 AND S18	Limiters - English Language; Age Groups: Adolescence, 13-18 years, Adult, 19-44 years, Middle Age, 45-64

		years, Aged, 65+ years, Aged, 80 and over Search modes - Boolean/ Phrase
S21	S4 AND S20	Search modes - Boolean/ Phrase
S22	S1 AND S2 AND S4 AND S15	Search modes - Boolean/ Phrase

4.1.4 Search period

Database inception to the 31st of January 2017.

4.1.5 PRISMA round one

Embase, Medline, PsycINFO and AMED returned n=67 records and CINAHL returned n=589 records (Figure 7).

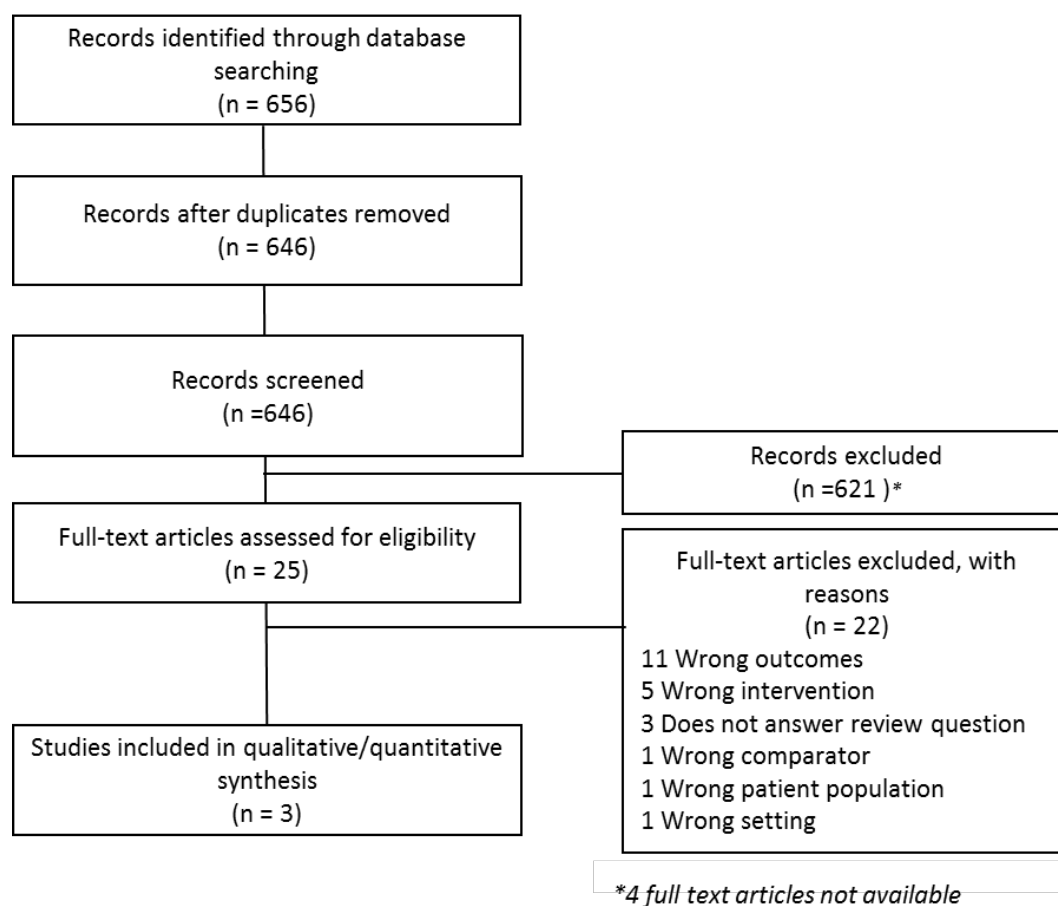


Figure 7. Round one PRISMA chart for key clinical questions 3

4.2 Guideline Development Group recommendation

- Revise Key clinical question 2 to read: *“In workers, what factors assist in the early detection of a comorbid* work-related mental health condition?”*
- Expand search strategy to look guidelines and systematic reviews looking at mental health conditions generally (not just work-related) for factors assisting in early detection.

4.3 Evidence Review round two

4.3.1 PICO

- P Workers
- I Signs and symptoms of a mental health condition that are not a result of a comorbid condition
- C Signs and symptoms for a mental health condition that are a result of a comorbid condition
- O Early detection

4.3.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	(((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	((early adj detection) or (early adj diagnosis) or detect* or (timely adj diagnosis)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	1 and 2 and 3

4.3.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or "Vicarious trauma"	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase

S15	(early detection) or (early diagnosis) or detect* or (timely diagnosis)	Search modes - Boolean/ Phrase
S20	S1 AND S15	Limiters - English Language; Age Groups: Adolescence, 13-18 years, Adult, 19-44 years, Middle Age, 45-64 years, Aged, 65+ years, Aged, 80 and over Search modes - Boolean/ Phrase
S21	S4 AND S20	Search modes - Boolean/ Phrase

4.3.4 Search period

From the 1st of February 2017 to the 30th of April 2017.

4.3.5 PRISMA round two

Embase, Medline, PsycINFO and AMED returned n=150 records and CINAHL returned n=18 records (Figure 8).

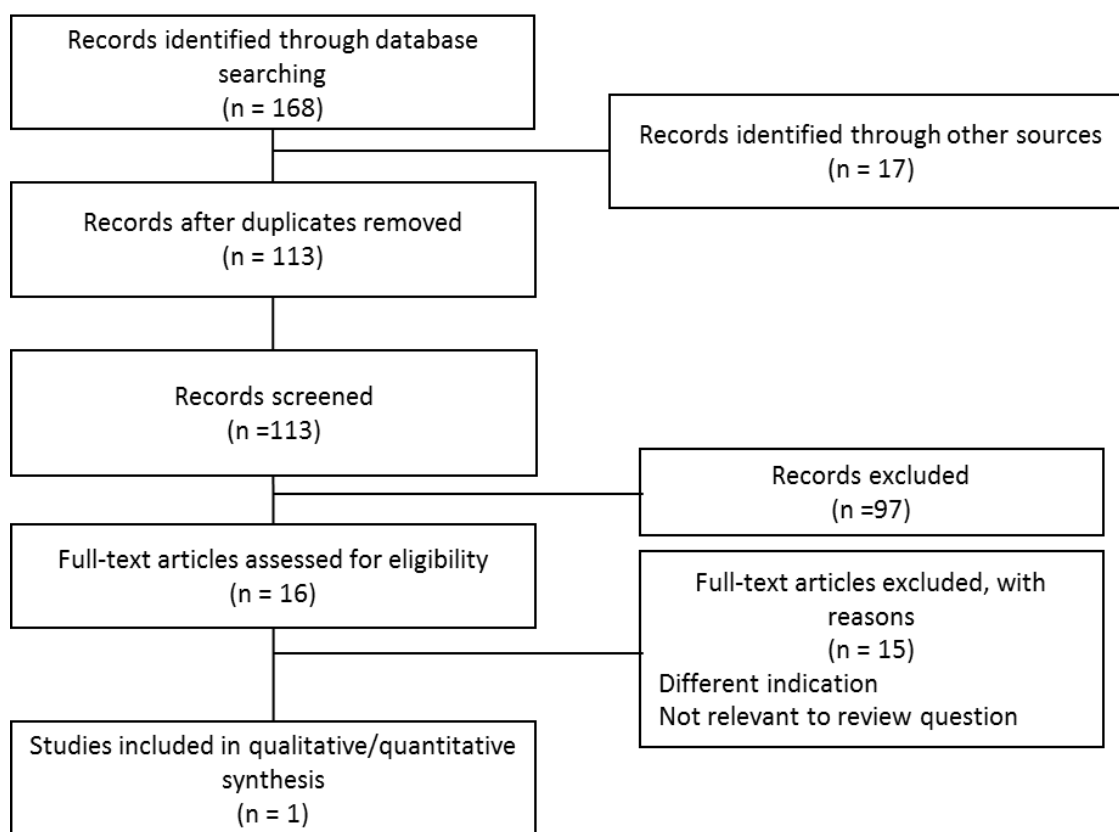


Figure 8. Round two PRISMA chart of key clinical question 2 updates

Together in rounds one and round two the search yielded 3 studies that were included (Figure 9)

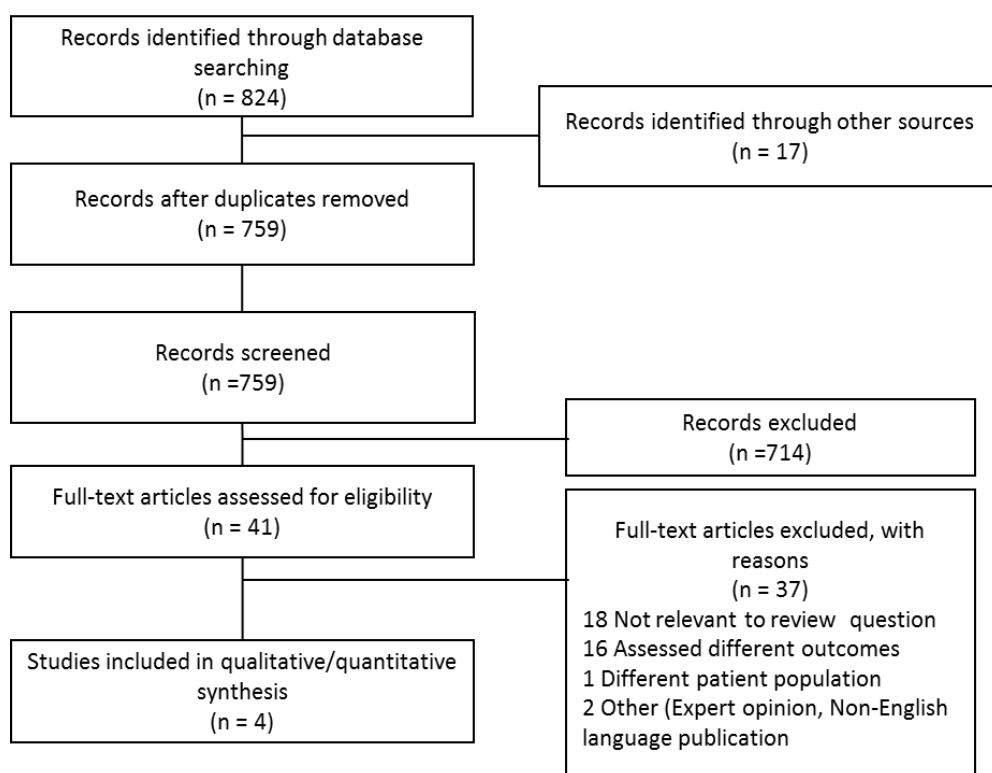


Figure 9. Combined round one and round two PRISMA chart for key clinical question 2

4.4 Guideline Development Group recommendation

- Revise key clinical question 2 to read: “*In workers, what factors assist in the early detection of a comorbid* work-related mental health condition?*”
- Expand search strategy to look guidelines and systematic reviews looking at mental health conditions generally (not just work-related) for factors assisting in early detection.

4.5 Existing Guidelines and Systematic Reviews for Key clinical question 2

4.5.1 PICO

- P Workers
- I Signs and symptoms of a mental health condition that are not a result of a comorbid condition
- C Signs and symptoms for a mental health condition that are a result of a comorbid condition
- O Early detection

4.5.2 Search strategy: Guidelines

The search strategy for existing clinical guidelines that address question two is described in Table 10.

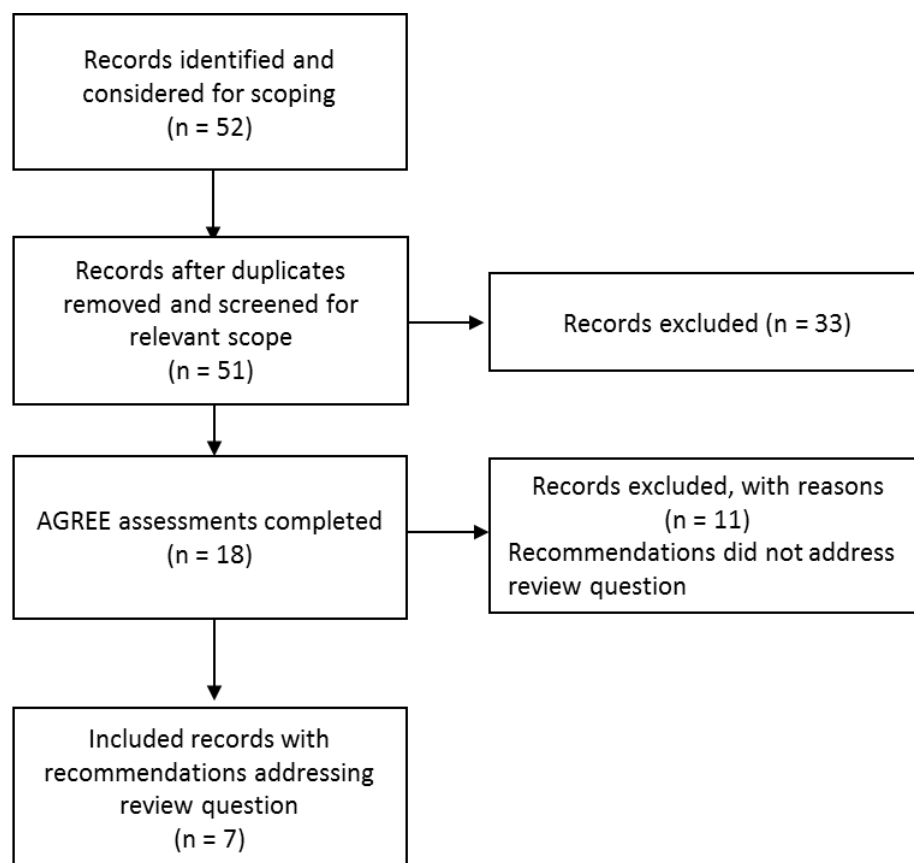
Table 10. Search strategy for existing guidelines for key clinical question 2

Guideline Resource	Search strategy and Limiters
GIN Mental Disorders (Mesh terms), English, National Guideline Clearinghouse/physical medicine and rehabilitation	List review
National Guideline Clearinghouse/psychiatric	List review
National Guideline Clearinghouse psychology	List review
National Guideline Clearinghouse	work AND PTSD AND review return to work work AND depression AND review
NHMRC Clinical Guidelines Portal	List review
RACGP	List review
RANZCP	List review
NICE/Mental health and behavioural conditions	List Review
NICE/Injuries, accidents and wounds	List Review
SIGN	List review
SIGN	Mental health (key word)
WHO	List review
Pubmed	work AND mental health AND guideline (Review)
Google	work AND adjustment disorders AND guideline work-related AND mental illness AND guideline

4.5.3 Search period

Up to the 25th of May 2017.

4.5.4 PRISMA – Guidelines



A total of 7 guidelines were identified in the search (Figure 10).

Figure 10. PRISMA chart of guidelines for key clinical question 2

All seven guidelines were given a rating of at least 70% on the AGREE II checklist. (Table 11)

Table 11. Clinical guidelines offering recommendations that addressed key clinical question 2

Guideline Title	Guideline Author	Date	AGREE II score
Depression: The treatment and management of depression in adults ¹³	NICE	2016	92%
Depression in adults with a chronic physical health problem: recognition and management ¹²	NICE	2015	100%
Diagnosis and Treatment of Post-traumatic Stress Disorder in Emergency Service Workers ⁹⁸	Black Dog Institute, The University of New South Wales	2015	73%
Clinical practice guidelines for the management of rotator cuff syndrome in the workplace ⁹⁹	Hopman et al., The University of New South Wales	2013	83%
Recommendations on screening for depression in adults ⁶⁹	Canadian Task Force on Preventive Health Care	2013	75%
Alcohol-use disorders: diagnosis, assessment and management of harmful drinking and alcohol dependence [CG115] ¹⁵	NICE	2011	83%
Generalised anxiety disorder and panic disorder in adults [CG113] ¹⁶	NICE	2011	83%

4.5.5 Search strategy: Systematic reviews

The search strategy for existing systematic reviews that address question two is described in Table 12.

Table 12. Search strategy for existing systematic reviews for key clinical question two

Systematic Review Resource	Search Strategy and Limiters
Campbell Collaboration Library	List review
Campbell Collaboration Library	Work (keyword search)
Cochrane Library	[[Mental or psychological or psychiatric or stress or distress or depress or mood or affective or adjustment or traumatic or anxiety] AND ["early detection" or "early detect" or "early diagnosis"] AND [comorbid]] RESTRICT by Cochrane reviews
Cochrane Library	Comorbid (Mesh term)
Cochrane Reviews/topic mental health	List review
Cochrane Reviews / topic health and safety at work	List review
Cochrane Reviews/"Work" review group	List review
Cochrane Reviews/"Injuries" review group	List review
Cochrane Reviews/"Drugs and alcohol" review group	List review
Cochrane Reviews/common mental disorders review group	List review
Joanna Briggs Institute	Mental health list review
Joanna Briggs Institute	Depression (keyword)

4.5.6 Search period

Up to the 10th of May 2017.

4.5.7 PRISMA - Systematic reviews

No systematic reviews were identified in the search (Figure 11).

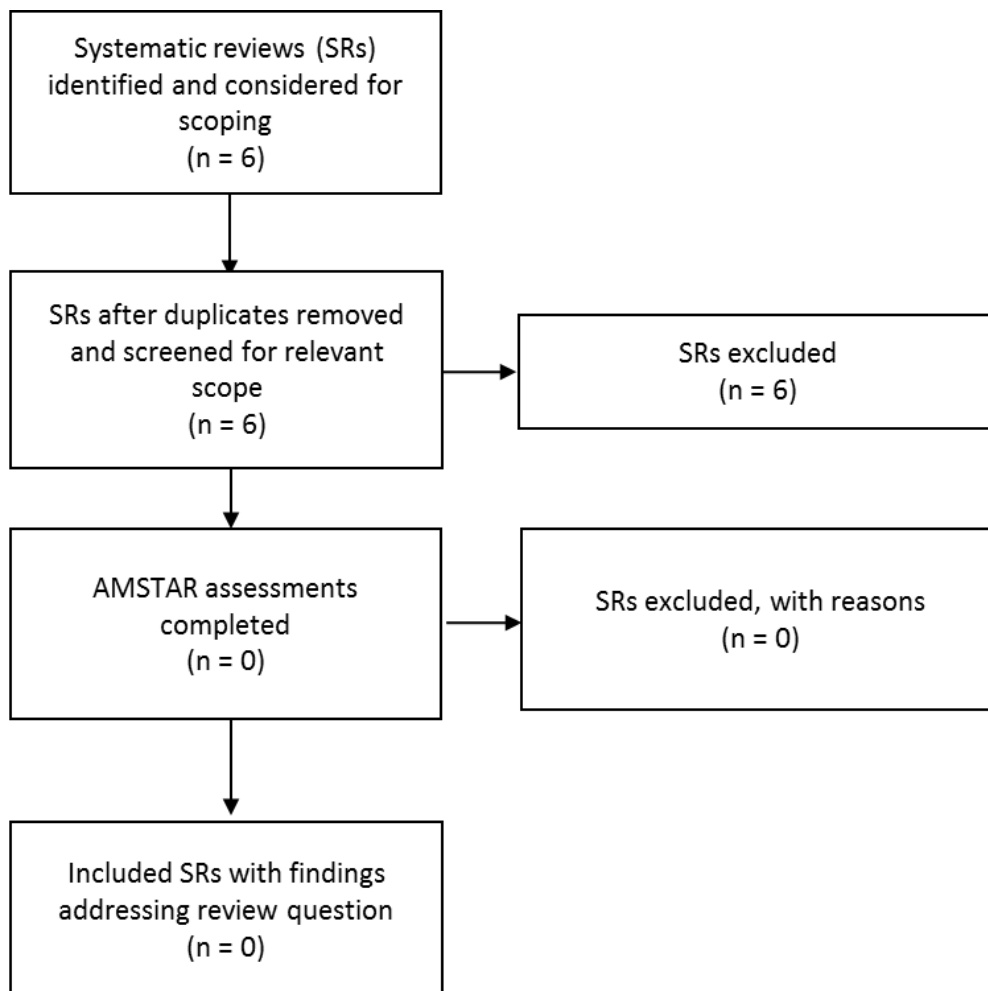


Figure 11. PRISMA chart of systematic reviews for key clinical question 2

4.6 Implications of correction to the “Work” Search String for Key clinical question 2

Implications of correction to the ‘work’ search string are described in Table 13.

Table 13. Key clinical question 2 literature search results and implications arising from search strings used in relation to work

Evidence Review Rounds	Original key clinical question 2. In workers, what factors assist in the early detection of a work-related mental health condition?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
R1	<ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - Work-relatedness - Early detection factors 	Work in the compensable setting	Work	67	589
		If work-relatedness search string had	Work	184 073	No impact

Evidence Review Rounds	Original key clinical question 2. In workers, what factors assist in the early detection of a work-related mental health condition?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
	- Measures	been corrected to "work"			
R2	Revised Key clinical question 2. In workers, what factors assist in the early detection of a comorbid work-related mental health condition? - Mental health conditions (vicarious trauma removed) - Work-relatedness - Early detection factors - Feb-April 2017	Work in the compensable setting	work	150	18
		If work-relatedness search string had been corrected to "work"	Work	615	No impact
Search for guidelines and systematic reviews	Guidelines n=52 Systematic reviews n=6				

4.7 Guideline Development Group recommendation

For key clinical question 2 the review should consider the 615 hits in Ovid that would have occurred as a result of the search string error correction in round 2 in order to inform the final guideline recommendation of the Guideline Development Group.

Following the above recommendation, an updated search was performed for key clinical question 2 and no new studies were identified (Figure 12).

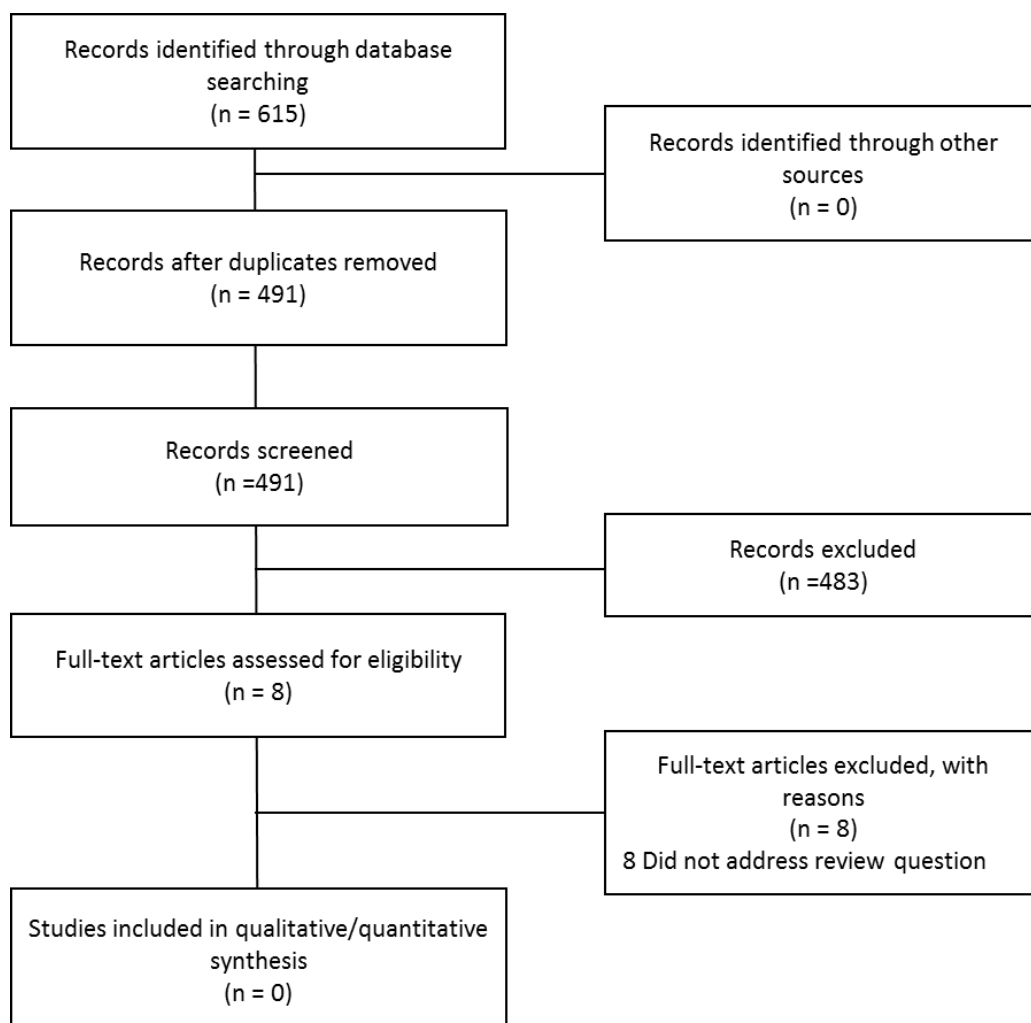


Figure 12. Search outcome for key clinical question 2 following evidence review recommendations

4.8 Findings and GRADE Evidence Profile Tables from Evidence Reviews: Key clinical question 2

4.8.1.1 Evidence-based recommendation

Weak recommendation FOR (low quality of evidence)

For patients with a primary physical or psychological work-related injury, a GP may consider the following factors to assist in the early detection of a comorbid or secondary mental health condition.

Patient-related factors

- Greater pain intensity, where physical injury was the precursor to the mental health condition
- Insomnia, low mood, anhedonia and suicidal thoughts
- Any existing substance misuse
- A chronic physical health problem
- Lower self-efficacy (i.e. the capacity for one to cope with difficult demands through one's own effort)
- Lack of social support and personal relationship status (i.e. relationship problems)
- Past experience of, and response to, treatments
- Past history of depression
- Perception of injustice of the compensation claim process

Work-related factors

- Job strain
- Failure to return to work following injury

4.8.1.2 Summary of the evidence identified in the evidence review

Four studies^{30 100-102} met the inclusion criteria for this key clinical question and quality assessment of these studies are presented in Table 14. The review identified several factors which were associated with mental health symptoms, thus could be deemed predisposing factors for a mental health condition. These were work/job-related factors, physical injury, intrinsic patient personality and psychosocial factors (Table 15). The overall quality of the evidence for these potential risk factors was low (Table 15).

Table 14. Downs and Black Checklist quality assessment scores for studies included in key clinical question 2

	Reporting (Overall study quality) (10)	External validity (3)	Internal validity (Study bias) (8)	Internal validity (Confounding and selection bias) (6)	Power of study (1)	Total (28)
Anderson et al 2016	9.5	2	4	4	0	19.5
Ioannou et al 2016	8.5	2	4	3	0	17.5
Pjanic et al 2014	5	3	2	3	1	14
LaMontagne et al 2008	4	3	2	2	1	12
Mean	6.75	2.5	3	3	0.5	15.8
SD	2.7	0.6	1.2	0.8	0.6	3.4

Table 15. GRADE Evidence Profile Table: In workers, what factors assist in the early detection of a comorbid work-related mental health condition?

MHC	No. of studies	Study Design	Quality Assessment (GRADE Criteria)					No. of participants	Effect		GRADE
			Risk of Bias ⁱ	Inconsistency ⁱⁱ	Indirectness	Imprecision	Other Considerations		Absolute	Relative	
Depression; anxiety; adjustment disorder	4 ^{30 100-102}	Case control; cross sections; cohort	Serious	Serious	Not serious	None	Low to moderate quality studies	2 216	-	-	LOW
<p>Outcome: Early detection of MHC</p> <p>Factors which were associated with or contributed to MHC symptoms included;</p> <ul style="list-style-type: none"> • Job strain • failure to RTW following injury • Greater pain intensity, where physical injury was the precursor to MHC • Lower self-efficacy • Lack social support and personal relationship status, i.e. relationship problems • Perception of injustice of the compensation claim process 											

5 Key clinical question three: In patients with a diagnosed mental health condition, what methods are effective at indicating the probability that the diagnosed mental health condition has arisen as a result of work?

5.1 Evidence Review round one

5.1.1 PICO

- P Patients who attend primary care with a diagnosed mental health condition
 I Investigative methods, corroborating information
 C Existing scales and methods
 O Accurate assessment of the contribution of work to the mental health condition

5.1.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression or Vicarious trauma)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	((Measure* or Measurement* or Outcome* or Assessment* or Evaluat* or Test* or Questionnaire* or Scale* or (Mental adj status) or (Psychiatr* adj rating*) or (Patient adj acuity) or Severity of Illness* or (Illness adj Severity) or (Health adj status) or Sickness impact profile* or Indicator* or Investigat** or Examin* or Instrument* or Questionnaire* or Screen* or Quality of life or Diagnos* or Diagnostic* or Diagnostic) adj (tool* or technique* or procedure*)) or tool* or (Personality adj scale*) or (personality adj inventory) or Psychometr* or Sensitiv* or Responsiveness or Valid* or Reliab* or Accura* or index or indices or protocol* or score* or scoring* or guideline* or (Clinical adj decision*) or Surveillance or (timely adj diagnosis) or specific* or precis*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	((General adj (practi* or physician* or doctor)) or (Family adj (practi* or physician* or doctor*)) or (Family adj medic* adj (practi* or doctor*)) or (Primary adj care adj (practi* or physician* or doctor*)) or (((Occupational health adj (practi* or physician* or doctor* or specialist*)) or company) adj physician*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	(((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	1 and 2 and 3 and 4

5.1.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or "Vicarious trauma"	Search modes - Boolean/ Phrase
S2	Measure* or Measurement* or Outcome* or Assessment* or Evaluat* or Test* or Questionnaire* or Scale* or (Mental status) or (Psychiatr* rating*) or (Patient acuity) or Severity of Illness* or (Illness adj Severity) or (Health status) or (Sickness impact profile*) or Indicator* or Investigat** or Examin* or Instrument* or Questionnaire* or Screen* or (Quality of life) or Diagnos* or Diagnostic* or ((Diagnostic and (tool* or technique* or procedure*)) or tool* or (Personality scale*) or (personality inventory) or Psychometr* or Sensitiv* or Responsiveness or Valid* or Reliab* or Accura* or index or indices or protocol* or score* or scoring* or guideline* or (Clinical decision*) or Surveillance or (timely diagnosis) or specific* or precis*	Search modes - Boolean/ Phrase
S3	(General AND (practi* or physician* or doctor)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or ("Primary care" AND (practi* or physician* or doctor*)) or ("Occupational health" AND (practi* or physician* or doctor* or specialist*)) or "company physician**"	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S14	HADS or "MOS Mental Health Inventory" or "Depression Screener" or "Beck Depression Inventory" or "Patient Health Questionnaire" or PHQ or "Primary Care Evaluation of Mental Disorders" or "PRIME-MD" or "BRFSS Anxiety & Depression Optional Module" or "BRFSS Mental Illness & Stigma Optional Module" or MADRS or MADRS-S or "Montgomery Asberg Depression Rating Scale" or "NHIS Non-Specific Distress Battery" or "Areas of Work life Scale" or AWS or "Perceived Stress Scale" or "PSS" or "Positive and Negative Affect Test" or "Psychological Well-Being Scale" or "Primary Care PTSD Screen" or "PC-PTSD"	Search modes - Boolean/ Phrase
S16	sensitivity or specificity or precision or accuracy or reliability	Search modes - Boolean/ Phrase

S17	S2 OR S14	Search modes - Boolean/ Phrase
S18	S16 AND S17	Search modes - Boolean/ Phrase
S19	S1 AND S18	Search modes - Boolean/ Phrase
S20	S1 AND S18	Limiters - English Language; Age Groups: Adolescence, 13-18 years, Adult, 19-44 years, Middle Age, 45-64 years, Aged, 65+ years, Aged, 80 and over Search modes - Boolean/ Phrase
S21	S3 AND S4 AND S20	Search modes - Boolean/ Phrase

5.1.4 Search period

Database inception to the 31st of January 2017.

5.1.5 PRISMA round one

Embase, Medline, PsycINFO and AMED returned n=63 records and CINAHL returned n = 630 records (Figure 13).

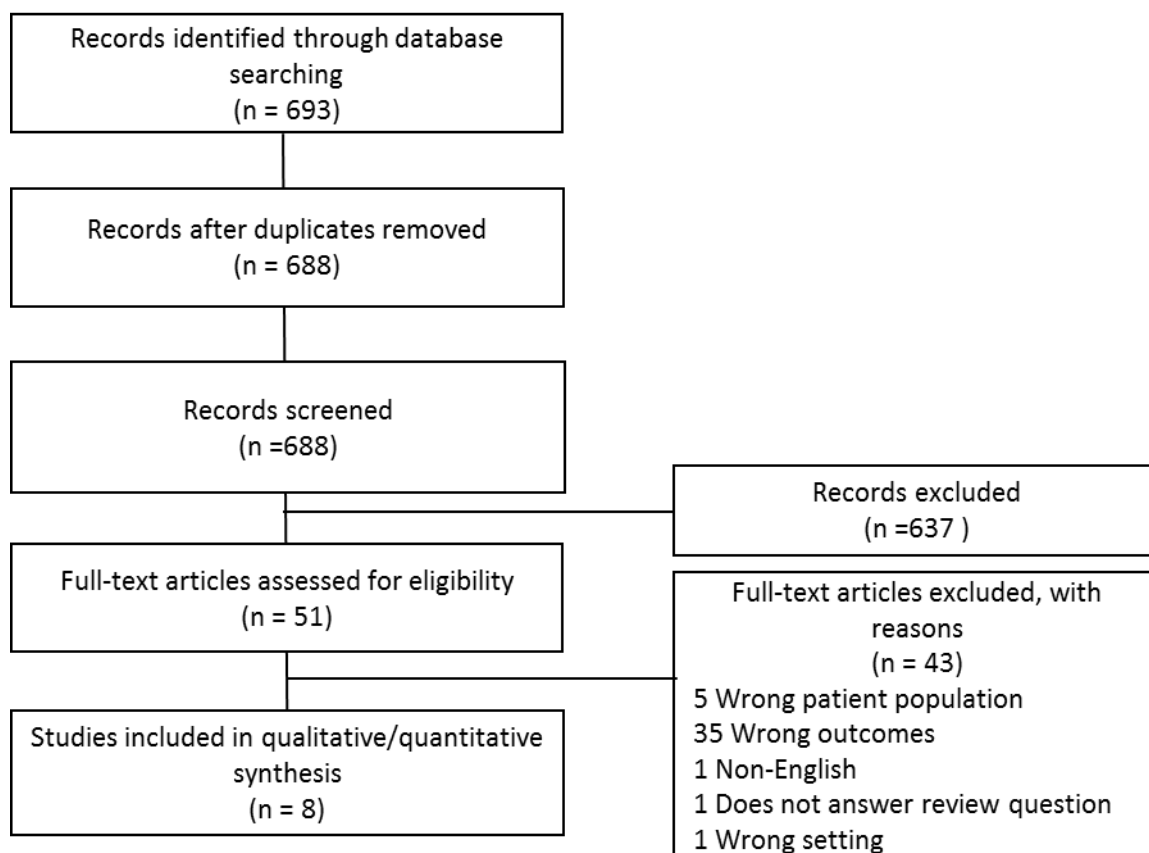


Figure 13. Round one PRISMA chart for key clinical question 3

5.2 Guideline Development Group recommendation

Expand search inclusion criteria to include indicators and tools for mental health conditions arising out of work but not restricted to the context of general practice.

5.3 Evidence Review round two

5.3.1 PICO

- P Patients with a diagnosed mental health condition
- I All methods
- C All methods for a particular condition
- O Assessment of probability of work-relatedness

5.3.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	((Measure* or Measurement* or Outcome* or Assessment* or Evaluat* or Test* or Questionnaire* or Scale* or (Mental adj status) or (Psychiatr* adj rating*) or (Patient adj acuity) or Severity of Illness* or (Illness adj Severity) or (Health adj status) or Sickness impact profile* or Indicator* or Investigat** or Examin* or Instrument* or Questionnaire* or Screen* or Quality of life or Diagnos* or Diagnostic* or Diagnostic) adj (tool* or technique* or procedure*) or tool* or (Personality adj scale*) or (personality adj inventory) or Psychometr* or Sensitiv* or Responsiveness or Valid* or Reliab* or Accura* or index or indices or protocol* or score* or scoring* or guideline* or (Clinical adj decision*) or Surveillance or (timely adj diagnosis) or specific* or precis*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	(((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	1 and 2 and 3

5.3.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression	Search modes - Boolean/ Phrase
S2	Measure* or Measurement* or Outcome* or Assessment* or Evaluat* or Test* or Questionnaire* or Scale* or (Mental status) or (Psychiatr* rating*) or (Patient acuity) or Severity of Illness* or (Illness adj Severity) or (Health status) or (Sickness impact profile*) or Indicator* or Investigat** or Examin* or Instrument* or Questionnaire* or Screen* or (Quality of life) or Diagnos* or Diagnostic* or ((Diagnostic and (tool* or technique* or procedure*)) or tool* or (Personality scale*) or (personality inventory) or Psychometr* or Sensitiv* or Responsiveness or Valid* or Reliab* or Accura* or index or indices or protocol* or score* or scoring* or guideline* or (Clinical decision*) or Surveillance or (timely diagnosis) or specific* or precis*	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S14	HADS or "MOS Mental Health Inventory" or "Depression Screener" or "Beck Depression Inventory" or "Patient Health Questionnaire" or PHQ or "Primary Care Evaluation of Mental Disorders" or "PRIME-MD" or "BRFSS Anxiety & Depression Optional Module" or "BRFSS Mental Illness & Stigma Optional Module" or MADRS or MADRS-S or "Montgomery Asberg Depression Rating Scale" or "NHIS Non-Specific Distress Battery" or "Areas of Work life Scale" or AWS or "Perceived Stress Scale" or "PSS" or "Positive and Negative Affect Test" or "Psychological Well-Being Scale" or "Primary Care PTSD Screen" or "PC-PTSD"	Search modes - Boolean/ Phrase
S16	sensitivity or specificity or precision or accuracy or reliability	Search modes - Boolean/ Phrase
S17	S2 OR S14	Search modes - Boolean/ Phrase
S18	S16 AND S17	Search modes - Boolean/ Phrase
S19	S1 AND S18	Search modes - Boolean/ Phrase
S20	S1 AND S18	Limiters - English Language; Age Groups: Adolescence, 13-18 years, Adult, 19-44 years, Middle Age, 45-64 years, Aged, 65+ years, Aged, 80 and over Search modes - Boolean/ Phrase
S21	S4 AND S20	Search modes - Boolean/ Phrase

5.3.4 Search period

From the 1st of February 2017 to the 30th of April 2017.

5.3.5 PRISMA round two

Embase, Medline, PsycINFO and AMED returned n=144 records and CINAHL returned n=32 records (Figure 14).

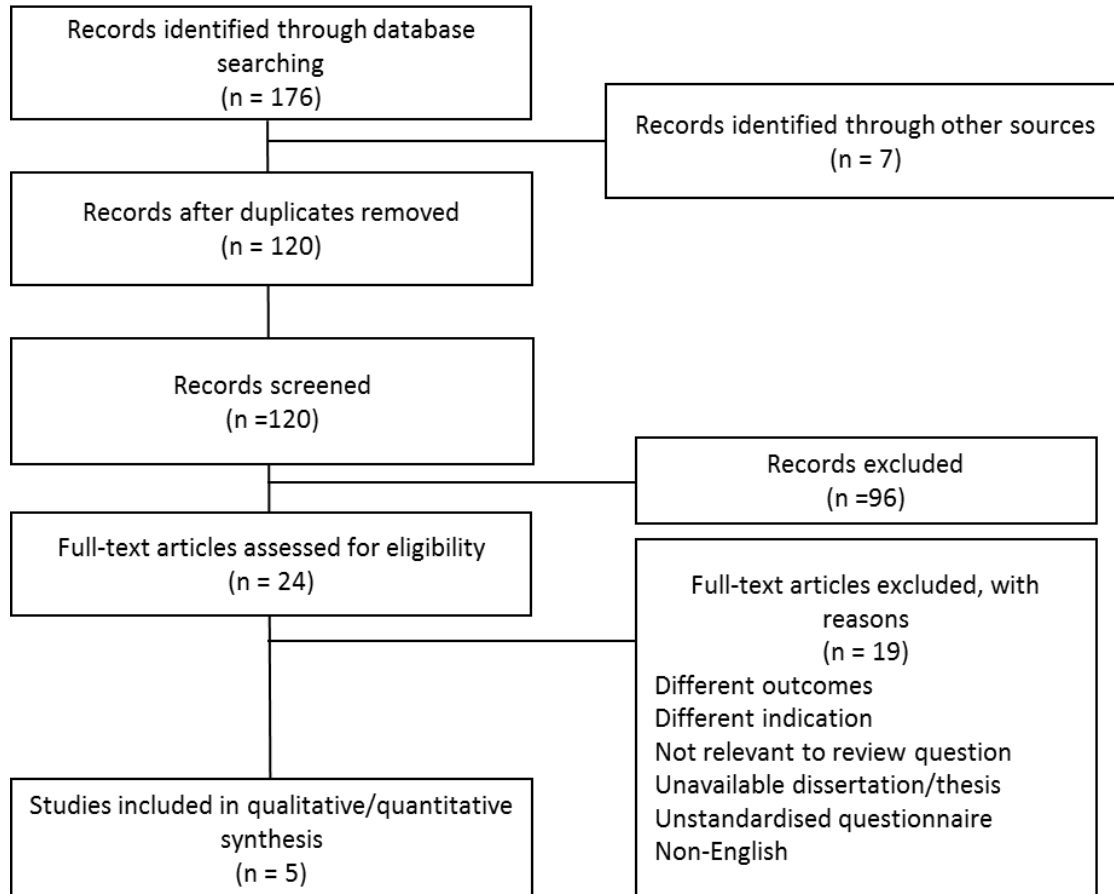


Figure 14. Round two PRISMA chart of key clinical question 3 updates

Together, in rounds one and two, the search yielded 13 studies (Figure 15).

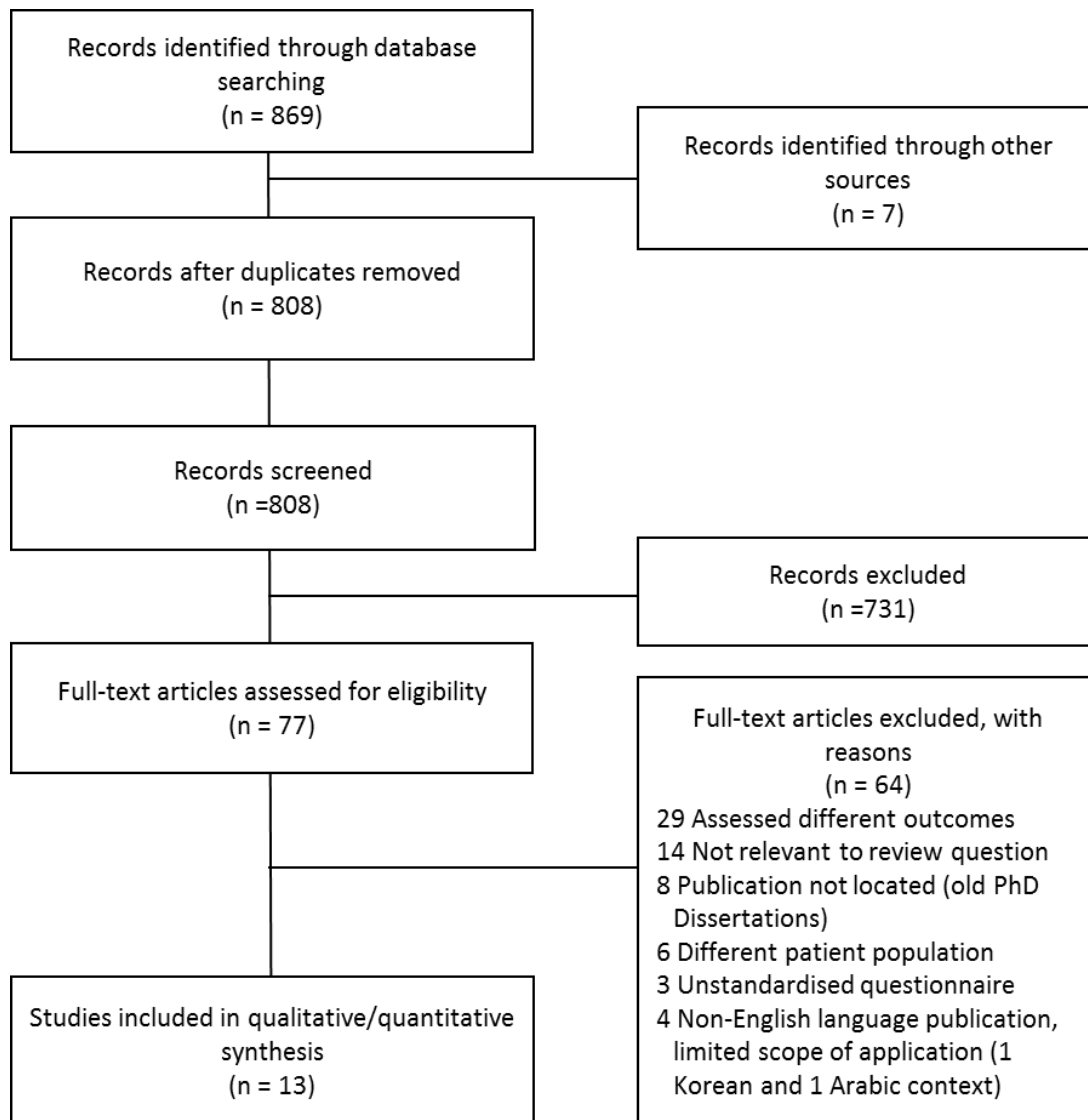


Figure 15. Combined round one and round two PRISMA chart for key clinical question 3

5.4 Implications of correction to the “Work” Search String for Key clinical question 3

Implications of correction to the 'work' search string are described in Table 16.

Table 16 Key clinical question 3 - Implications arising from search strings used in relation to work

Evidence Review Round	Original Key clinical question 3. In patients with a diagnosed mental health condition, what methods are effective at indicating the probability that the diagnosed mental health condition has arisen as a result of work?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
R1	<ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - Work-relatedness - General practice - Tools 	Work in the compensable setting	work	63	630
		If work-relatedness search string had been corrected to "work"	Work	176 676	No impact
R2	<ul style="list-style-type: none"> - No change to key clinical question - Mental health conditions (vicarious trauma removed) - General practice removed - Work-relatedness - Tools - Feb-April 2017 	Work in the compensable setting	work	144	32
		If work-relatedness search string had been corrected to "work"		5 937	No impact

5.5 Guideline Development Group recommendation

For key clinical question 3 the large number of hits in Ovid that would have occurred as a result of the search string error correction would have made the search unfeasible. Our recommendation is to accept the final recommendation as per Guideline Development Group meeting 3.

5.6 Findings and GRADE Evidence Profile Tables from Evidence Reviews: Key clinical question 3

5.6.1.1 Recommendation

Recommendation for future research

On the available evidence, there is no clear support for an instrument to indicate the probability that a mental health condition has arisen out of work; therefore, there is an urgent need to promote research in this area.

5.6.1.2 Summary of the evidence identified in the evidence review

The review aimed to identify reliable and valid workplace assessment tools or instruments which may highlight workplace psychosocial factors with a probable association with mental health conditions. Thirteen studies^{25 28 48 88-97} met the inclusion included. Quality assessment of these studies is presented in Table 17. Thirteen instruments which assessed work/job psychosocial characterises were identified and are listed in the evidence profile table (Table 18). There was limited reliability and validity data for these tools in the work-related context. Notwithstanding the limitations, the instruments may assist in establishing causality or attribution of mental health conditions to work in conjunction with through history taking, including bearing in mind the possibility of malingering, and relevant workplace incident reports. The instruments with the highest quality of evidence (Job Content Questionnaire and Task Diagnosis Survey) pose feasibility difficulties in general practice because commercial use requires a licencing fee. Additionally, Table 19 shows an evaluation of the instruments against the NHS R&D HTA criteria⁸ to aid in selecting instruments for use in clinical practice.

Table 17. Downs and Black Checklist quality assessment scores for studies included in key clinical question 3

	Reporting (Overall study quality)	External validity	Internal validity (Study bias)	Internal validity (Confounding and selection bias)	Power of study	Total
Bennett et al. 2005	7	3	3	2	0	15
Bond 1994	7	3	3	4	0	17
Corner et al. 1997	7	0	4	4	0	15
Gadinger et al. 2012	10	3	3	4	0	20
Thorsen & Bjorner 2010	9	3	3	3	1	19
Matusko et al 2013	7	0	3	1	0	11
Maffeo 1990	6	0	3	1	0	10
Rau et al 2010	10	2	4	4	0	20
Bégat et al 2005	6	3	3	2	0	14
Williams & Cooper 1998	8	2	4	2	0	16
Pejtersen et al 2010	8	3	4	2	0	17
Mahmood et al 2010	8	3	4	2	0	17
Karasek et al 1998	8	2	4	2	0	16
Mean	7.8 (1.3)	2.1 (1.3)	3.5	2.5	0.1	15.9
SD	1.3	1.3	0.5	1.1	0.3	3.0

Table 18. GRADE Evidence Profile Table: In patients with a diagnosed mental health condition, what methods are effective at indicating the probability that the diagnosed mental health condition has arisen as a result of work?

Assessment Instrument	Measured attribute	No. of studies	Study Design	Quality Assessment					No. of participants	Reliability	Validity	GRADE	
				Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations					
Consultants' Mental Health Questionnaire – modified for use with other healthcare professions	Job stress	1 ²⁸	Cross-sectional	Not serious	Unclear	none	Unclear	single study	179	-	-	LOW	
The Stressor Scale for Paediatric Oncology Nurses (SSPON)	Work-related stressors	1 ⁸⁸	Cross-sectional	Not serious	Not serious	none	not serious	single study	250	0.93	-	MOD	
Work environment impact scale (WEIS)	Work impact on people with psychiatric disabilities (85% major depression)	1 ⁸⁹	Cross-sectional	Not serious	Unclear	none	Unclear	single study, small sample	20	-	-	LOW	Authors concluded that WEIS has adequate internal consistency and construct validity
Work environment subscales of the Work-	Work-related psychological stressors	1 ⁹⁰	Cross-sectional	Not serious	Not serious	none	not serious	single study	628	0.74-0.93	0.10-0.34	MOD	Authors concluded good criterion

Assessment Instrument	Measured attribute	No. of studies	Study Design	Quality Assessment					No. of participants	Reliability	Validity	GRADE	
				Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations					
Health-Check (WHC)													validity when correlated with health indicators
Copenhagen Psychosocial Questionnaire II (COPSOQ II)	Psychosocial impact of work environment	^{191,92}	Cross-sectional/ Cohort	Not serious	Not serious	none	not serious		3 974	0.50 - 0.89	-	MOD	
Task Diagnosis Survey (TDS)	Work characteristics (Job demand and job control)	¹²⁵	Case control	Not serious	unclear	none	unclear	single study	343	-	-	HIGH	Significant association with depression
FIT questionnaire	Work characteristics (Job demand and job control)	¹²⁵	Case control	Not serious	None	none	none	single study	343	0.7 - 0.8	0.74 - 0.77	HIGH	Significant association with depression
Work Environment Questionnaire (WEQ)	Nursing environment stress/ satisfaction	¹⁹³	Cross sectional	serious	None	none	none	single study	71	0.91	-	MOD	
Medical report checklist (history of illness items)	Process for establishing causal link between	¹⁹⁴	Cross sectional	serious	unclear	none	unclear	single study	34	-	-	LOW	old paper and unclear from current documents

Assessment Instrument	Measured attribute	No. of studies	Study Design	Quality Assessment					No. of participants	Reliability	Validity	GRADE	
				Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations					
	injury and work												if checklist is still in use.
Clinician-Administered PTSD Scale-organisational stressors domain	Organisational stressors	1 ⁴⁸	Cross sectional	serious	unclear	none	unclear	single study	31	-	-	LOW	
Pressure Management Indicator (PMI)	Occupational stress	1 ⁹⁵	Cohort	Serious	unclear	none	none	single study	14 455	0.76	-	MOD	
Workplace Stressors Assessment Questionnaire	Workplace stressors	1 ⁹⁶	Cross sectional	Not serious	Not serious	None	serious	Some poor validity & low precision for validity	2 361	0.69 – 0.93	0.11 - 0.56	MOD	Absolute correlations (criterion validity) with several instruments
Job Content Questionnaire (JCQ)	psychosocial job assessment instrument	1 ⁹⁷	Cross sectional	Not serious	Not serious	None	None	Criterion validity not assessed	16 601	0.73 – 0.74	-	HIGH	

Table 19. Instrument evaluation using the NHS R&D HTA criteria

Tool	Purpose/Assessed attribute	Appropriateness	Reliability	Validity	Responsiveness	Precision	Interpretability	Acceptability	Feasibility	Comments
Consultants' Mental Health Questionnaire	Job stress	Y	Unclear	Unclear	Unclear	Unclear	Easy	Y	Y	No measures of responsiveness, precision
The Stressor Scale for Paediatric Oncology Nurses (SSPON)	Work-related stressors	Y	Y	Unclear	Unclear	Unclear	Difficult	Fair	Fair	Lengthy (50-items), complex scoring (0-5000)
Work environment impact scale (WEIS)	Work impact on people with psychiatric disabilities	Y	Unclear	Unclear	Unclear	Unclear	Easy	Y	Y	No quantitative reliability validity data. Authors concluded reliability and validity were adequate.
Work environment subscales of the Work-Health-Check (WHC)	Work-related psychological stressors	Y	Y	Poor	Unclear	Unclear	Easy	Y	Y	Poor validity (0.10-0.34) although authors rated as good.
Copenhagen Psychosocial Questionnaire II (COPSOQ II)	Psychosocial impact of work environment	Y	Y	Unclear	Unclear	Unclear	Easy	Y	Y	
Work Environment Questionnaire (WEQ)	Psychological work environment	Y	Y	Y	N/A	N/A	Easy	Y	Y	
Task Diagnosis Survey (TDS)	Work characteristics (Job demand and job control)	Y	Y	Y	N/A	Fair	Difficult	N	N	Requires trained/experienced assessor; good to excellent interrater/test-retest reliability
Medical report checklist (history of illness items)	Process for establishing causal link between injury and work	Y	N	N	N	N	Difficult	Unclear	N	Unclear if checklist is still in use granted the published paper is old (1990)

Clinician-Administered PTSD Scale-organisational stressors domain	Organisational stressors	Y	N/A	N/A	N/A	N/A	Easy	Y	Y	
FIT questionnaire	Work characteristics (Job demand and job control)	Unclear	Y	Y	N/A	Fair	Unclear	Unclear	N	Appears the questionnaire is in German
Pressure Management Indicator (PMI)	Occupational stress	Y	Unclear	Unclear	N/A	N/A	Easy	Fair	Fair	Very old questionnaire, not sure if relevant in today's context.
Workplace Stressors Assessment Questionnaire	Workplace stressors	Y	Y	N/A	N/A	N/A	Easy	Fair	Fair	
Job Content Questionnaire (JCQ)	Psychosocial job assessment instrument	Y	Y	Unclear	N/A	Y	Easy	N	Y	

6 Key clinical question four: When conveying a diagnosis of a work-related mental health condition to a patient, what factors should GPs consider, to ensure that their diagnosis is understood and acknowledged by the patient?

6.1 Evidence Review round one

6.1.1 PICO

- P Patients diagnosed with a work-related mental health condition
- I Factors that must be considered prior to communicating a diagnosis
- C Non-specific factors
- O Patient outcomes to be defined. Clear communication; accurate understanding of the diagnosis; Management of patient expectations regarding recovery

6.1.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression or Vicarious trauma)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	(((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	((Patient adj (Awareness or Knowledge or understanding or comprehension)) or (Health adj literacy) or Patient education or Physician-patient relation*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	(Patient and (Communicati* or Informing or educat* or Sharing or (patient* adj (Communicati* or education))))).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	3 or 4
6.	1 and 2 and 5

6.1.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or "Vicarious trauma"	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S10	(Patient AND (Awareness or Knowledge or understanding or comprehension)) or "Health literacy" or "Patient education" or "Physician-patient relation*"	Search modes - Boolean/ Phrase
S11	(Patient AND (Communicati* OR Informing OR educat*)) OR Sharing OR Communicati* OR education	Search modes - Boolean/ Phrase
S31	S10 OR S11	Search modes - Boolean/ Phrase
S32	S1 AND S4 AND S31	Search modes - Boolean/ Phrase
S33	S3 AND S32	Limiters - English Language; Age Groups: Adolescence, 13-18 years, Adult, 19-44 years, Middle Age, 45-64 years, Aged, 65+ years, Aged, 80 and over Search modes - Boolean/ Phrase

6.1.4 Search period

Database inception to the 31st of January 2017.

6.1.5 PRISMA round one

Embase, Medline, PsycINFO and AMED returned n=7 records and CINAHL returned n=951 records. (Figure 16)

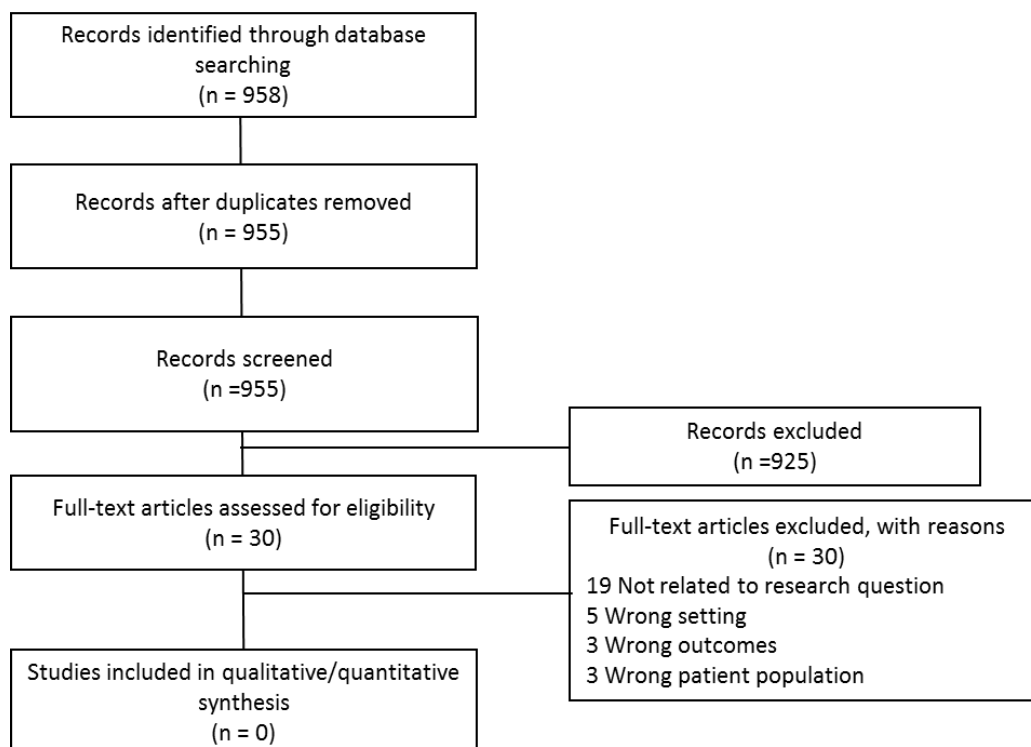


Figure 16. Round one PRISMA chart for key clinical question 4

6.2 Guideline Development Group recommendations

- Remove work-relatedness from search inclusion criteria
- Remove GP focus from search inclusion criteria
- Better define outcome measures (based on analysis of existing guidelines). Include terminology such as patient perceptions, patient satisfaction and acceptance.
- Review existing high-quality guidelines on information pertaining to communication. NICE Depression Guideline¹³ provides recommendations regarding the communication of a mental health condition. Refer to *Experienced Care Chapter*.
- Undertake an AGREE II assessment on existing guidelines.

6.3 Evidence Review round two

6.3.1 PICO

- P Patients with a work-related mental health condition
- I Factors to consider
- C Factors to consider
- O Patient understanding and/or acknowledgement of a diagnosis

6.3.2 Search Strategy: Embase, Medline, PsycINFO and AMED

No change to search strategy. However, updated search was not performed following decision to rely on existing clinical practice guidelines.

6.3.3 Search Strategy: CINAHL

No change to search strategy. However, updated search was not performed following decision to rely on existing clinical practice guidelines (Table 20).

6.3.4 Search period

Updated search was not performed following decision to rely on existing clinical practice guidelines (Table 20).

6.3.5 PRISMA round two

See above note (search period).

6.4 Existing Guidelines and Systematic Reviews for Key clinical question 4

6.4.1 PICO

- P Patients with a work-related mental health condition
- I Factors to consider
- C Factors to consider
- O Patient understanding and/or acknowledgement of a diagnosis

6.4.2 Search Strategy: Guidelines

Table 20. Search strategy for existing guidelines for key clinical question 4

Guideline Resource	Search strategy and Limiters
GIN Mental health (Mesh terms) English, National Guideline Clearinghouse/psychology	List review
National Guideline Clearinghouse/psychiatric	List review
National Guideline Clearinghouse	List review
NHMRC Clinical Guidelines Portal	List review
NHMRC Clinical Guidelines Portal	mental health (keyword) anxiety (keyword) post-traumatic stress disorder (keyword)
Ministry of Health, social services and equality (Spain)	List review
NICE/Mental health and behavioural conditions	List review
NICE/Post traumatic stress disorder List review	List review
RACGP	List review
SIGN/Mental Health	Mental health
RANZCP	List review
WHO	List review
WHO/Mental health and substance abuse	List review
Google	work AND mental health AND guideline anxiety guidelines work-related AND mental illness AND guideline work AND adjustment disorders AND guideline Depression guideline

6.4.3 Search period

Original search: up to the 29th of May 2017.

6.4.4 PRISMA – Guidelines

A total of nine guidelines were identified in the search (Figure 17).

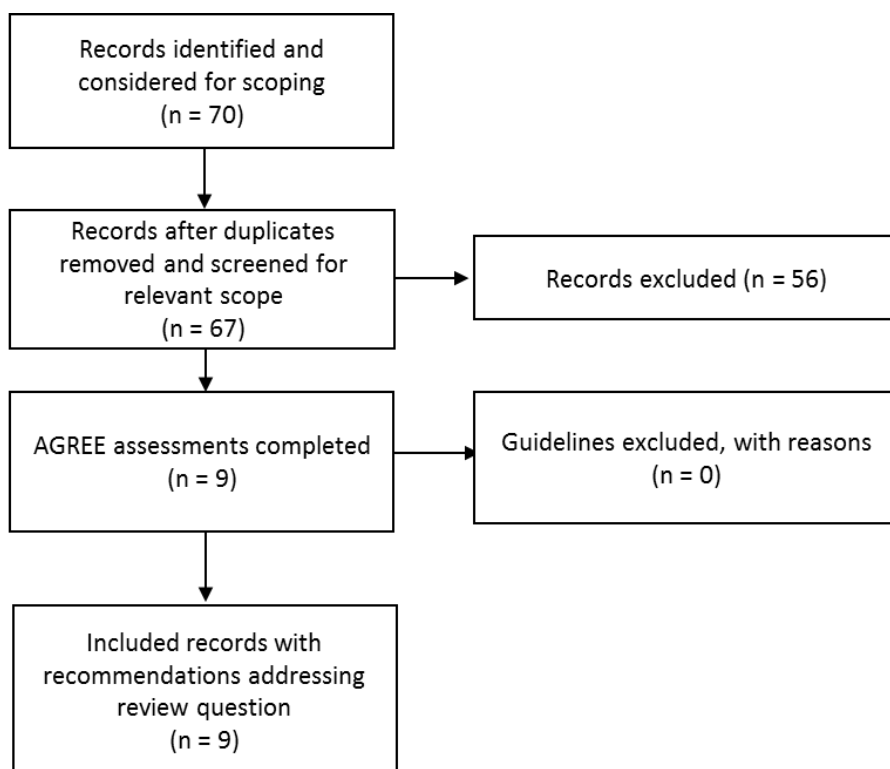


Figure 17. PRISMA chart of guidelines for key clinical question four.

Identified guidelines received an AGREE II rating of between 67% and 100% (Table 21).

Table 21. Clinical Guidelines offering recommendations that addressed key clinical question 4

Guideline Title	Guideline Author	Date	AGREE II score
Depression: The NICE guideline on the treatment and management of depression in adults ³³	NICE	2016	92%
Adult depression in primary care. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI) ⁷⁴	Trangle et al.: Institute for Clinical Systems Improvement	2016	67%
Depression in adults with a chronic physical health problem: recognition and management ¹²	NICE	2009 (updated 2015)	100%
Depression in children and young people: identification and management in primary, community and secondary care ³⁵⁴	NICE	2005 (updated 2015)	92%
Diagnosis and treatment of post-traumatic stress disorder in emergency service workers ⁹⁸	Harvey et al.: Black Dog Institute, The University of New South Wales	2015	73%
Clinical practice guidelines for the management of rotator cuff syndrome in the workplace ⁹⁹	Hopman et al.: The University of New South Wales	2013	83%
Generalised anxiety disorder and panic disorder in adults (CG113) ¹⁶	NICE	2011	83%
Practice guideline for the treatment of patients with panic disorder 2nd edition ⁷⁹	American Psychiatric Association	2010	67%
Clinical practice guideline for management of post-traumatic stress ⁷⁸	Department of Veterans Affairs (VaDoD)	2010	67%

6.4.5 Systematic reviews

The search strategy for existing systematic reviews that address question four is described in Table 22.

Table 22. Search strategy for existing systematic reviews for key clinical question 4

Systematic Review Resource	Search Strategy and Limiters
Campbell Collaboration Library	List review
Cochrane	[[Mental or psychological or psychiatric or stress or distress or depress or mood or affective or adjustment or traumatic or anxiety] AND [employer OR "occupation" OR job OR vocation OR compensate OR workplace] AND [communicate OR information OR share OR liaise OR correspond]] RESTRICT by Cochrane reviews [Mental or psychological or psychiatric or stress or distress or depress or mood or affective or adjustment or traumatic or anxiety] AND ["Physician" or general practitioner or doctor or family physician or family doctor or psychiatrist or psychologist or occupational physician or occupational specialist] AND [diagnosis] and [{"patient awareness" or "patient knowledge" or "patient understanding" or "patient comprehension" or "patient acceptance" or "patient education"}] OR [communication or information or sharing]] work and mental health
Cochrane Reviews/topic health and safety at work	List review
Cochrane Reviews/topic mental health	List review
Cochrane Reviews/"Work" review group	List review
Cochrane Reviews/Common mental disorders review group	List review
Cochrane Reviews/"Injuries" review group	List review
Centre for Reviews and Dissemination Health Technology Assessment Database	work-related AND mental health AND review

6.4.6 Search period

Original search: up to the 29th of May 2017.

6.4.7 PRISMA - Systematic reviews

No systematic reviews were identified in the search (Figure 18).

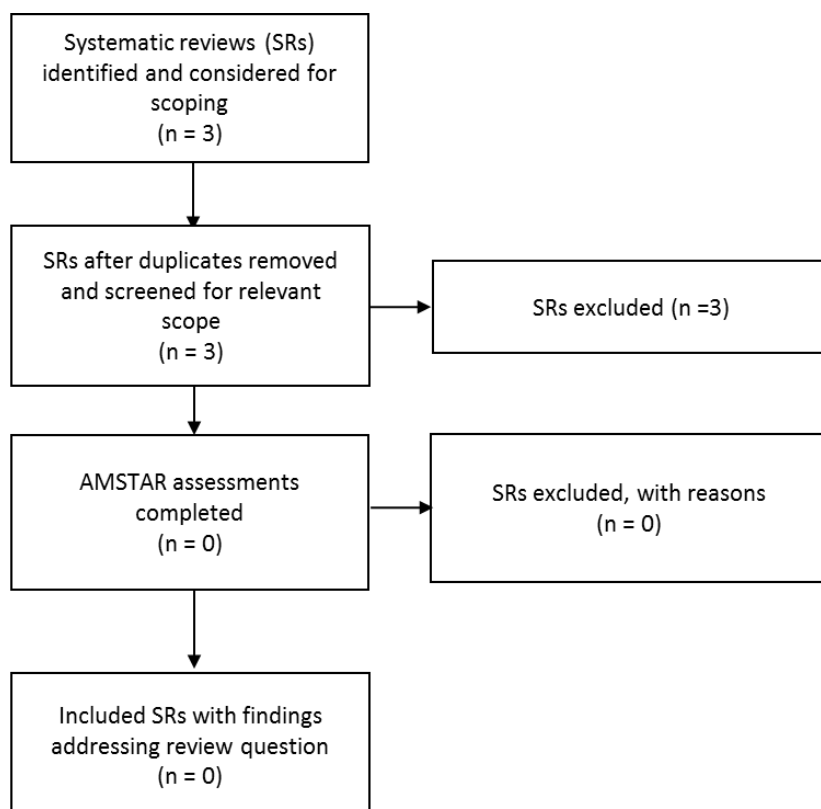


Figure 18. PRISMA chart of systematic reviews for key clinical question 4

6.5 Implications of correction to the “Work” Search String for Key clinical question 4

Implications of correction to the ‘work’ search string are described in Table 23.

Table 23. Key clinical question 4 literature search results and implications arising from search strings used in relation to work

Evidence Review Rounds	Original key clinical question 4. When conveying a diagnosis of a work-related mental health condition to a patient, what factors should a GP consider to ensure that their diagnosis is understood and acknowledged by the patient?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
R1	<ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - General practice - Work-relatedness - Patient understanding - Conveying diagnosis 	Work in the compensable setting	Work	7	951
		If work-relatedness search string had been corrected to “work”	Work	25 082	
R2	No change to key clinical question made. No database searched were secondary to decision to use guidelines and systematic reviews only	N/A	N/A	N/A	N/A
		N/A	N/A	N/A	N/A

Evidence Review Rounds	Original key clinical question 4. When conveying a diagnosis of a work-related mental health condition to a patient, what factors should a GP consider to ensure that their diagnosis is understood and acknowledged by the patient?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
Search for guidelines and systematic reviews	Guidelines n=70 Systematic reviews n=3				

N/A – Round two database searches were not performed for this key clinical question following the decision to use guidelines and systematic reviews only.

6.6 Guideline Development Group recommendation

For key clinical question 4 the large number of hits in Ovid that would have occurred as a result of the search string error correction would have made the search unfeasible. Our recommendation is to accept the final recommendation as per Guideline Development Group meeting 3.

6.7 Findings and GRADE Evidence Profile Tables from Evidence Reviews: Key clinical question 4

6.7.1.1 Evidence-based recommendation

Strong recommendation FOR (low quality of evidence)
To ensure that the diagnosis of a work-related mental health condition is understood by the patient, a GP should: <ul style="list-style-type: none"> • provide information to the patient about the nature of the mental health condition, the recovery expectations and the range of treatments available • provide the patient with educational material in a format that they can understand.

6.7.1.2 Summary of the evidence identified in relevant guidelines

The round one search returned no relevant studies that met the inclusion criteria for key clinical question four and as such a GRADE evidence table of primary studies was not applicable. Instead, evidence review for round two focussed on a targeted search for existing clinical practice guidelines and systematic reviews only. The guidelines meeting the scope for key clinical question four and included relevant recommendations are presented in Table 24.

Table 24. List of existing practice guidelines addressing key clinical question 4

Guideline Title	Guideline Author/Publisher	Date	AGREE-II Score
Depression: The NICE guideline on the treatment and management of depression in adults ³³	NICE	2016	92%
Adult depression in primary care. Bloomington (MN): Institute for Clinical Systems Improvement (ICS) ⁷⁴	Trangle et al.: Institute for Clinical Systems Improvement	2016	67%
Depression in adults with a chronic physical health problem: recognition and management ¹²	NICE	2015	100%
Depression in children and young people: identification and management in primary, community and secondary care ¹⁵⁴	NICE	2015	92%
Diagnosis and treatment of post-traumatic stress disorder in emergency service workers ⁹⁸	Black Dog Institute, The University of New South Wales	2015	73%
Clinical practice guidelines for the management of rotator cuff syndrome in the workplace ⁹⁹	The University of New South Wales	2013	83%
Generalised anxiety disorder and panic disorder in adults (CG113) ¹⁶	NICE	2011	83%
Practice guideline for the treatment of patients with panic disorder 2nd edition ⁷⁹	American Psychiatric Association (APA)	2010	67%
Clinical practice guideline for management of post-traumatic stress ⁷⁸	Department of Veterans Affairs (VaDoD)	2010	67%

We identified and grouped relevant recommendations into four themes around, i) general principles involved in diagnosis that impact on a patient’s understanding; ii) the value of establishing a therapeutic alliance; iii) information to facilitate a patient’s understanding and acknowledgement of their diagnosis, and; iv) the content and type of this information.

6.7.2 *General principles involved in diagnosis that impact on a patient’s understanding*

The NICE 2016³³ guidelines offered a number of consensus-based recommendations regarding principles to consider when diagnosing a patient with depression. These include:

- Be respectful of and sensitive to diverse backgrounds
- Build a trusting relationship and work in an open, engaging and non-judgemental manner
- be aware that stigma and discrimination can be associated with a diagnosis of depression³³ (consensus)
- Negotiating between the person and their family or carer about confidentiality and the sharing of information³³ (consensus)

6.7.3 *The value of establishing a therapeutic alliance*

Two guidelines discussed the value of establishing a therapeutic alliance^{74,79}. Both guidelines were based on low evidence, however the recommendation was labelled as strong. This includes:

- Before initiating treatment, it is important to establish a therapeutic alliance with the patient regarding diagnosis and treatment options (in which there is overlap in the patient's and clinician's definition of the problem and agreement on which steps are to be taken by each) ⁷⁴ (quality of evidence low, strength of recommendation strong)
- Psychiatrists should work to establish and maintain a therapeutic alliance so that the patient’s care is a collaborative endeavour ⁷⁹ (Recommended with substantial clinical confidence, where “Each rating of clinical confidence considers the strength of the available evidence and is based on the best available data” p8)

6.7.4 Information to facilitate a patient's understanding and acknowledgement of their diagnosis?

A number of guidelines^{12 13 16 79 98 99} provided guidance about the type of information that should be given to patients. These included:

- Provide information about the nature and course of depression and range of treatments available¹³ (consensus)
- Advise patients to be vigilant for mood changes, negativity and hopelessness¹² (consensus)
- Provide psycho-education around physical injuries that may lead to mental health symptoms⁹⁹ (consensus)
- Provide education about panic disorder and its treatment⁷⁹ (recommended with substantial clinical confidence, where *"Each rating of clinical confidence considers the strength of the available evidence and is based on the best available data"* p8)
- Treatments available:
 - Explore treatment options in an atmosphere of hope and optimism, explaining the different courses of depression and that recovery is possible¹³ (consensus)
 - Treatment goals⁹⁸ (consensus);
 - Potential for side effects of treatments^{12 16} (consensus)

6.7.5 Type of information and content to consider when offering an information package to a patient

A number of NICE guidelines and the APA 2010 guidelines provided guidance about the type of information that should be given to patients. These included:

- Language that is readily understandable to the patient (consensus¹³, recommended with substantial clinical confidence, where *"Each rating of clinical confidence considers the strength of the available evidence and is based on the best available data"* p8⁷⁹)
- Provide information appropriate to their level of understanding about the nature of depression and the range of treatments available¹⁵⁴
- Avoid clinical language without adequate explanation¹³ (consensus).
- Provide and work proficiently with independent interpreters (that is, someone who is not known to the person with depression) if needed¹³ (consensus).

7 Key clinical question five: In patients with a work-related mental health condition, what GP strategies result in the highest levels of personal recovery and/or return to work?

7.1 Evidence Review round one

The clinical question was written as follows in round one: "In patient with work-related stress, what strategies result in the highest levels of personal recovery and/or return to work?"

7.1.1 PICO

P	Patients with work-related stress
I	Management options
C	All management options
O	Personal recovery; Return to work

7.1.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression or Vicarious trauma)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	((General adj (practi* or physician* or doctor)) or (Family adj (practi* or physician* or doctor*)) or (Family adj medic* adj (practi* or doctor*)) or (Primary adj care adj (practi* or physician* or doctor*)) or (((Occupational health adj (practi* or physician* or doctor* or specialist*)) or company) adj physician*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	(((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	(Strateg* or Intervention* or Treatment* or Care* or manag* or approach* or decision* or action* or Therap* or refer*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	(Return to work or Recov* or Improv* or Resolution* or resolv* or Respon* or outcome* or (treatment adj outcome*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
6.	1 and 2 and 3 and 4 and 5

7.1.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*))	Search modes - Boolean/Phrase

	or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or ((("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or "Vicarious trauma"	
S3	(General AND (practi* or physician* or doctor)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or ("Primary care" AND (practi* or physician* or doctor*)) or ("Occupational health" AND (practi* or physician* or doctor* or specialist*)) or "company physician*"	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S5	Strateg* or Intervention* or Treatment* or Care* or manag* or approach* or decision* or action* or Therap* or refer*	Search modes - Boolean/ Phrase
S6	"Return to work" or Recov* or Improv* or Resol* or resolv* or Respon* or outcome* or "treatment outcome"	Search modes - Boolean/ Phrase
S13	"Return to work" OR Evaluation* OR Decision* OR Prognosis OR Indicat* OR Guide* OR marker* OR Absenteeism OR "Sick* leave" OR "Sickness certificat*" OR "Work Schedule Tolerance*" OR "Work performance*" OR "Work abilit*" OR "work capacit*" OR "work disabilit*" OR "work read*" OR "Modified work" OR "modified dut*" OR "Work read*"	Search modes - Boolean/ Phrase
S23	S1 AND S4 AND S5 AND S6 AND S13	Search modes - Boolean/ Phrase
S24	S3 AND S23	Search modes - Boolean/ Phrase

7.1.4 Search period

Database inception until 31st of January 2017.

7.1.5 PRISMA round one

Embase, Medline, PsycINFO and AMED returned n=4 records and CINAHL returned n=1614 records (Figure 19).

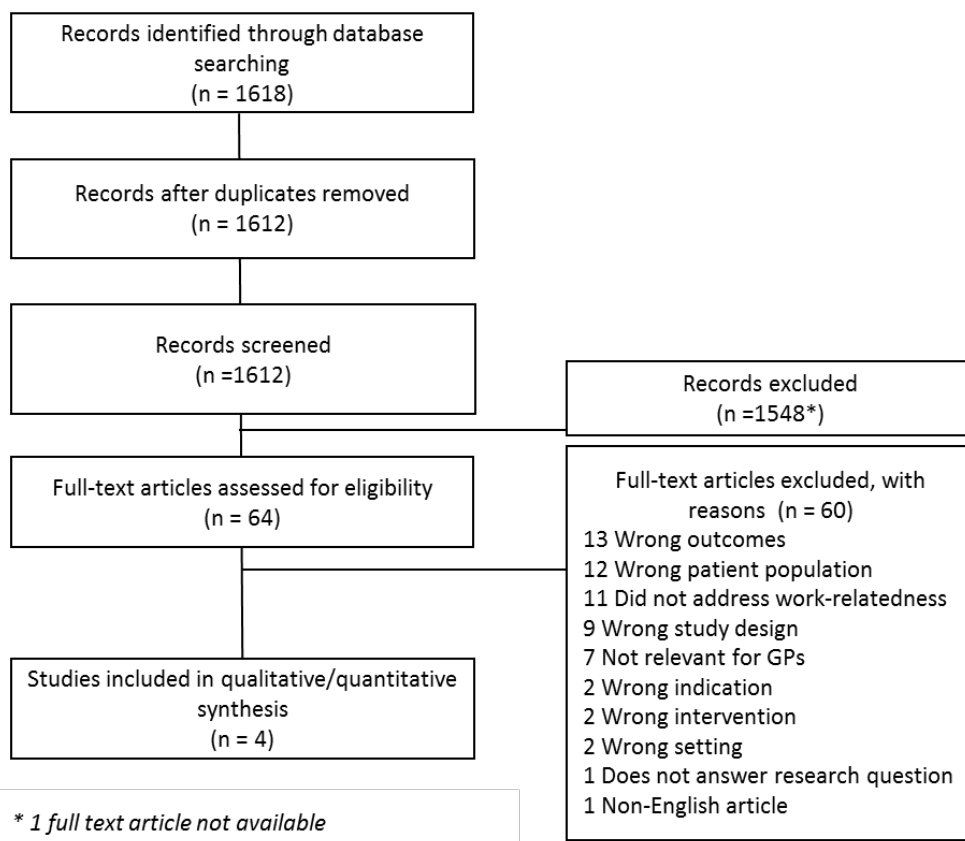


Figure 19. Round one PRISMA chart for key clinical question 5

7.2 Guideline Development Group recommendations

- Include the 30 studies that were originally excluded from full text review due to not focusing on work-relatedness/wrong patient population and due to the sample not being GPs.
- Revise the key clinical question to read: "in patients with a mental health condition, what GP strategies result in the highest level of personal recovery and/or return to work?"

7.3 Evidence Review round two

7.3.1 PICO

- P Patients with mental health conditions
- I Health professional strategies
- C All health professional strategies
- O Personal recovery and/or return to work

7.3.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1. ((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition*

or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2. ((General adj (practi* or physician* or doctor)) or (Family adj (practi* or physician* or doctor*)) or (Family adj medic* adj (practi* or doctor*)) or (Primary adj care adj (practi* or physician* or doctor*)) or (((Occupational health adj (practi* or physician* or doctor* or specialist*)) or company) adj physician*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3. (((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4. (Strateg* or Intervention* or Treatment* or Care* or manag* or approach* or decision* or action* or Therap* or refer*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5. (Return to work or Recov* or Improv* or Resolution* or resolv* or Respon* or outcome* or (treatment adj outcome*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
6. 1 and 2 and 3 and 4 and 5

7.3.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression	Search modes - Boolean/ Phrase
S3	(General AND (practi* or physician* or doctor)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or ("Primary care" AND (practi* or physician* or doctor*)) or ("Occupational health" AND (practi* or physician* or doctor* or specialist*)) or "company physician"	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S5	Strateg* or Intervention* or Treatment* or Care* or manag* or approach* or decision* or action* or Therap* or refer*	Search modes - Boolean/ Phrase
S6	"Return to work" or Recov* or Improv* or Resol* or resolv* or Respon* or outcome* or "treatment outcome"	Search modes - Boolean/ Phrase
S13	"Return to work" OR Evaluation* OR Decision* OR Prognosis OR Indicat* OR Guide* OR marker* OR Absenteeism OR "Sick* leave" OR "Sickness certificat*" OR "Work Schedule Tolerance*" OR "Work performance"	Search modes - Boolean/ Phrase

	OR "Work abilit*" OR "work capacit*" OR "work disabilit*" OR "work read*" OR "Modified work" OR "modified dut*" OR "Work read*"	
S23	S1 AND S4 AND S5 AND S6 AND S13	Search modes - Boolean/Phrase
S24	S3 AND S23	Search modes - Boolean/Phrase

7.3.4 Search period

From the 1st of February 2017 to April 2017.

7.3.5 PRISMA round two

Embase, Medline, PsycINFO and AMED returned n=6 records and CINAHL returned n=38 records (Figure 20).

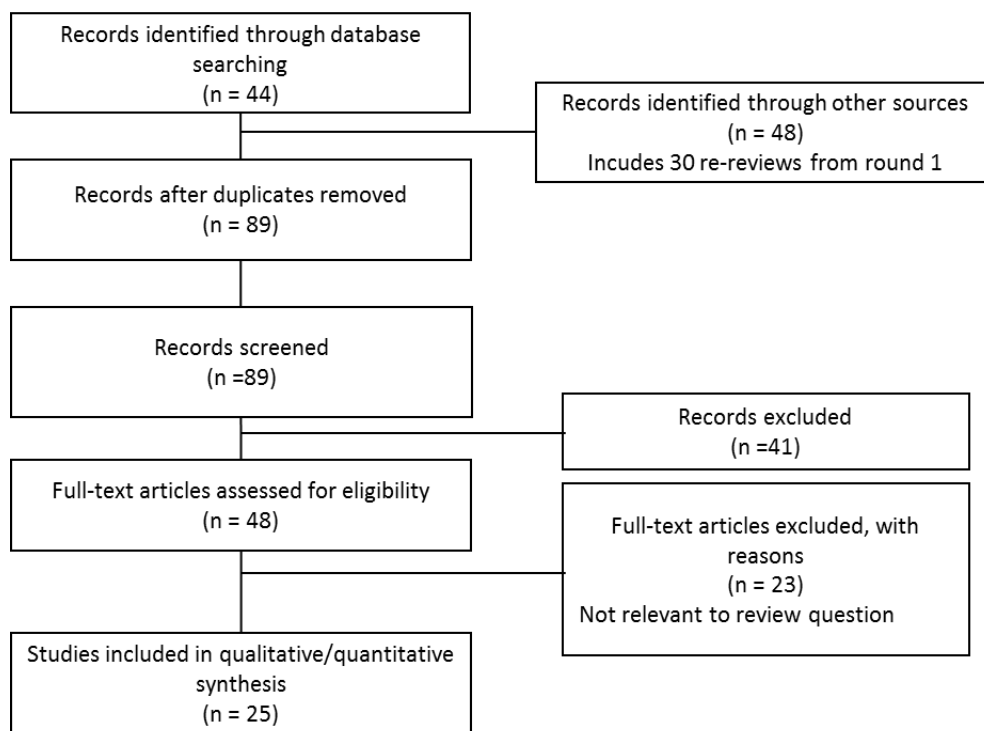


Figure 20. Round two PRISMA chart of key clinical question 5 updates

Together in rounds one and round two the search yielded 29 studies that were included (Figure 21).

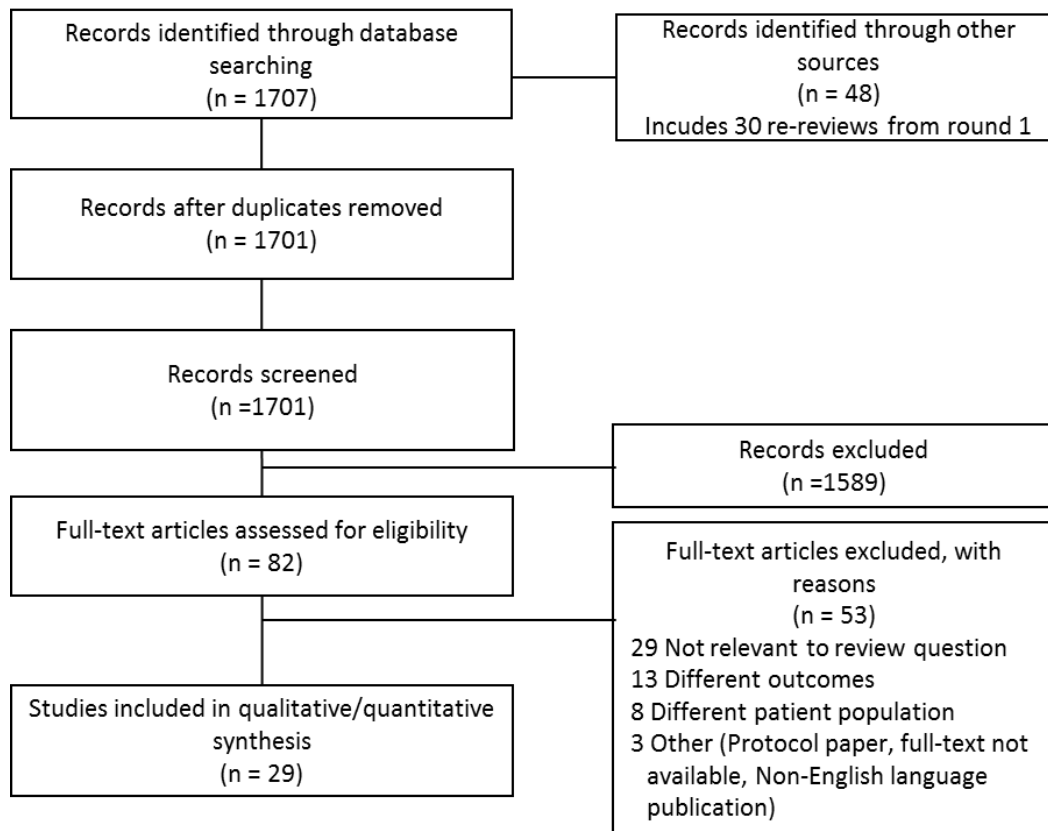


Figure 21. Combined round one and round two PRISMA chart for key clinical question 5

7.4 Implications of correction to the “Work” Search String for Key clinical question 5

Implications of correction to the ‘work’ search string are described in Table 25.

Table 25. Key clinical question 5 literature search results and implications arising from search strings used in relation to work

Evidence Review Rounds	Original key clinical question 5. In patients with work-related stress, what GP strategies result in the highest levels of personal recovery and/or return to work?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
R1	<ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - General practice - Work-relatedness - Strategies - Return to work and recovery 	Work in the compensable setting	work	4	1614
		If work-relatedness search string had been corrected to "work"	Work	4 725	No impact
R2	<p>Revised Key clinical question 5. In patients with a mental health condition, what GP strategies result in the highest level of personal recovery and/or return to work?</p> <ul style="list-style-type: none"> - Mental health conditions (vicarious trauma removed) - General practice - Work-relatedness - Strategies - Return to work and recovery - Feb – April 2017 	Work in the compensable setting	Work	6	38
		If work-relatedness search string had been corrected to "work"	Work	126	No impact

7.5 Guideline Development Group recommendation

For key clinical question five the review should consider the 126 hits in Ovid that would have occurred as a result of the search string error correction in round two in order to inform the final guideline recommendation of the Guideline Development Group.

Following the above recommendation, an updated search was performed for key clinical question five and two new studies were identified for inclusion as shown in Figure 22.

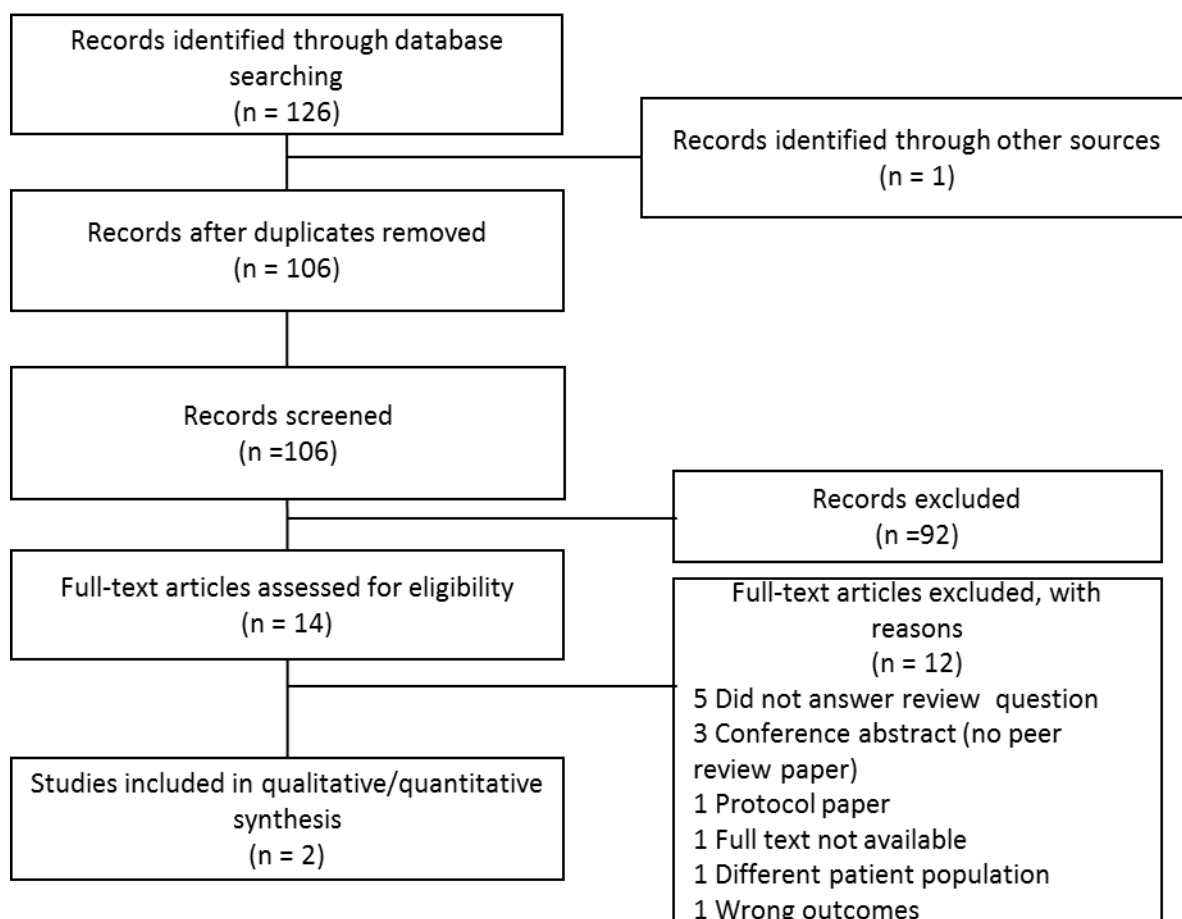


Figure 22. Search outcome for key clinical question 5 following evidence review recommendations

7.6 Findings and GRADE Evidence Profile Tables from Evidence Reviews: Key clinical question 5

7.6.1.1 Recommendation

Recommendation for future research

On the available evidence, there is no clear support for an intervention in a general practice setting to improve personal recovery or return to work in patients with a work-related mental health condition; therefore, there is an urgent need to promote research in this area.

Weak recommendation FOR (moderate quality of evidence)

In patients with a secondary work-related mental health condition, where the primary condition was a musculoskeletal injury, a GP may consider work-directed cognitive behavioural therapy.

7.6.1.2 Summary of the evidence identified in the evidence review

Sixteen studies¹⁰³⁻¹¹⁸ of varying design comparing test interventions to usual care were included for this key clinical question. Two papers¹¹³⁻¹¹⁹ were publications of the same study, with one reporting interim results¹¹⁹ while the other reported the final results¹¹³. The 16 studies and their methodological quality are presented in Table 26. While there was a trend towards greater return to work or personal recovery in favour of interventions, the effects were highly varied and not significant, with highly variable effect. One moderate quality observational study¹¹² showed a collaborative care intervention (vs. usual care) may significantly lead to symptoms remission at six months and one low quality study¹⁰⁷ suggested multidisciplinary care (vs. GP usual care) may increase rates of return to work at three months. In relation to e-

health, the overarching principle is in the opportunity for an alternative means of service provision rather than the content specifics. The overall evidence from primary studies is summarised in Table 27.

Additionally, existing systematic reviews identified through database searches or other sources were considered in key clinical question 5. The reviews that covered the scope for this key clinical question and were used to inform the recommendation are listed in the summary of evidence identifies in relevant published systematic reviews.

Table 26. Downs and Black Checklist quality assessment scores for studies included in key clinical question 5

	Reporting (Overall study quality)	External validity	Internal validity (Study bias)	Internal validity (Confounding and selection bias)	Power of study	Total
Bender et al 2016 ¹⁰³	8	1	6	2	0	26
Brouwers et al 2006 ¹⁰⁴	9	3	5.5	5.5	0	22.5
King et al 2014 ¹⁰⁵	8	2.5	4.5	5	0	20.5
Kivi et al 2014 ¹⁰⁶	8.5	2.5	4	6	0.5	22
Netterstrøm et al 2013 ¹⁰⁷	7	1	4	3	0	15
Nieuwenhuijsen et al 2003 ¹⁰⁸	8.5	2	4	3.5	0	18.5
Prang et al 2016 ¹⁰⁹	9	1	5	3.5	0	18.5
Rebergen et al 2009 ¹¹⁰	8	1	6	5.5	0	19.5
Rost et al 2004 ¹¹¹	8.5	1	4.5	4.5	0	18.5
Shippee et al 2013 ¹¹²	9	2.5	4	3.5	0	19.5
Vlasveld et al 2012 ¹¹⁹ and 2013 ¹¹³	9	2	5.5	6	0	22.5
Volker et al 2015 ¹¹⁴	10	3	6	6	1	26
van der Klink et al 2003 ¹¹⁵	11	2	7	6	0	26
Fleten and Johnsen et al 2006 ¹¹⁶	11	3	4	5	0	23
Nystuen and Hagen 2006 ¹¹⁷	9	2	6	6	0	23
Holst et al 2017 ¹¹⁸	6.5	1.5	3	4	0	15
Mean	8.8	1.9	4.9	4.7	0.1	21.4
SD	1.2	0.8	1.1	1.3	0.3	3.2

Table 27. GRADE Evidence Profile Table: In patients with a mental health condition, what GP strategies result in the highest levels of personal recovery and return to work?

MHC	No. of studies	Quality Assessment (GRADE Criteria)						No. of participants		Effect		GRADE	Comments
		Study Design	Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations	Intervention (n)	Control (n)	Absolute	Relative		
Return to Work													
Anxiety and depression	1 ¹⁰⁴	RCT	Not serious	None	Not serious	Not serious	Single study, Dutch context	86	77	5.0% (5, 16)	-	MOD	
<p>Intervention: Social worker led program (“activating and supporting the patient to restore coping and to adopt a problem-solving approach toward his/her problems”) vs. GP usual care</p> <p>Outcome: Return to work – intervention vs. control partial or full time return to work rates - no significant difference</p>													
Stress, Depression	2 ¹⁰⁷ 1 ¹³	RCT	Not serious	None	Serious	Serious	Context applicability (Dutch & Danish settings)	125	120	6% to 31%	-	MOD	
<p>Interventions: Multidisciplinary/Collaborative care - teams comprising specialist in occupation medicine, psychologists, care manager vs GP usual care</p> <p>Outcome: Return to work – Full time return to work rates, intervention vs. control. One low quality study with significantly higher return to work rate at 3 months. No difference from second, high-quality study at 12 months follow-up</p>													
PTSD	1 ¹⁰³	Quasi-RCT	Serious	Not serious	none	serious	Single non-RCT or mod quality	68	58	-13% (2, -26)	-	LOW	No difference between multidisciplinary program vs. GP usual care
<p>Intervention: Multidisciplinary assessment and treatment program comprising return to work coordination, education, and referral to specialised mental health vs. GP usual care</p> <p>Outcome: Return to work – Full return to work rates higher but not significant for control at six months</p>													
Anxiety plus depression	1 ¹¹⁰	RCT	Serious	None	Serious	Serious	Context applicability (Dutch police)	125	115	15% (3, 27)	-	LOW	

MHC	No. of studies	Quality Assessment (GRADE Criteria)						No. of participants		Effect		GRADE	Comments
		Study Design	Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations	Intervention (n)	Control (n)	Absolute	Relative		
							officers); low quality study						
<p>Intervention: Care delivered by occupational physicians (OP) trained in guideline based care vs OP usual care</p> <p>Outcome: Return to work – significantly greater full-time return to work rates at 12 months, in favour of intervention</p>													
depression, anxiety, and somatization disorders	1 ¹¹⁴	RCT	Not serious	none	Not serious	none	Dutch study	74	57	6.2(-10, 22.3)	-	MOD	
<p>Intervention: "E-health module embedded in collaborative occupational health care" aimed at 'sick listed employees' cognitions regarding return to work with physical or psychological symptoms and options to resume work at least on a partial basis while symptoms are still present, plus email decision aid for treating occupational physicians vs. OP usual care</p> <p>Outcome: Return to work (Full-time return to work rates) – greater but non-significant return to work rate for the intervention</p>													
Adjustment disorders	1 ¹¹⁵	RCT	None	None	Not serious	Serious	Context applicability (Dutch)	109	83	-11.7(-21.0, -3.9)	-	HIGH	3 months RTW rates
<p>Intervention: Trained occupational physician delivered activating intervention: graded activity over three stages, 1) information on understanding the origin and cause of the loss of control and doing less demanding tasks; 2) draw up an inventory of stressors and to develop problem solving strategies for these causes of stress, and; 3) put these problem-solving strategies into practice and extend their activities to include more demanding ones. Emphasis on active role in recovery process. Usual care control</p> <p>Outcome: Partial or full return to work-significantly greater return to work rates in favour for the intervention at three months; no difference at 12 months [0(-4.4, 3.4)].</p>													
Depression & other MH disorders	1 ¹¹⁶	RCT	Not serious	None	Serious	Not serious	Context applicability (Norwegian study, unclear what other MHCs were)	79	90	-	1.36 (0.98 to 1.89)	MOD	Hazard ratio, MH subgroup (compared to control)
<p>Intervention: Minimal intervention delivered via post package: information about return to work on modified duties, and questionnaire with themes around capacity to return to work on modified duties, vs control (no details)</p> <p>Outcome: Return to work (length of sick leave) – no difference between intervention and control at 12 months follow-up</p>													

MHC	No. of studies	Quality Assessment (GRADE Criteria)						No. of participants		Effect		GRADE	Comments
		Study Design	Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations	Intervention (n)	Control (n)	Absolute	Relative		
Psychological distress or burnout	1 ¹¹⁷	RCT	Not serious	No serious	Serious	Serious	No quantitative data; Includes burnout Norwegian context	25	15	Reported no difference		LOW	Includes burnout
<p>Intervention: Individual or group solution focussed practice; eight weekly sessions of four hours on coping strategies, support between the participants and solutions and goals for the future. Half the time was spent in a plenary session where a topic of the day was introduced and discussed. These topics were: 1) introduction; 2) Self-esteem; 3) Quality sick-leave; 4) Communication; 5) Conflict handling; 6) Difficult choices; 7) Coping with stress, and; 8) Follow-up Control= Usual care.</p> <p>Outcome: Return to work (length of sick leave) – no data but reportedly no difference (no data) at 12 months</p>													
Stress; PTSD/ Anxiety; Adjustment disorder; other	2 ¹⁰⁸ 109	Cohort	Serious	Serious	Not serious	None	Moderate quality cohort studies	8 458	-	0.3 to 0.83		MOD	Hazard ratios suggest longer time to return to work
<p>Non-interventional studies: 1) Retrospective data audit to assess quality of occupational rehab services for adjustment disorders and 2) modelling that evaluated factors that have an influence on return to work for those with stress, PTSD/anxiety and other mental health conditions</p> <p>Outcome: Return to work (time to first return to work): patient who consulted a psychologist, psychiatrists or chemist (prescription) intervention or received care that deviated from guideline recommendation were 17% to 70% likely to take longer to return to work</p>													
Personal Recovery													
Anxiety and depression	1 ¹⁰⁴	RCT	Not serious	None	Not serious	Not serious	Single study, Dutch context	86	77	1.1 to 3.6			Mean difference
<p>Intervention: Social worker led program (“activating and supporting the patient to restore coping and to adopt a problem-solving approach toward his/her problems”) vs. GP usual care</p> <p>Outcome: Personal recovery (Symptom reduction measured by various instruments [HADS, 4DSQ, SF-36] – No significant difference, but trend towards symptom improvements from intervention</p>													
Stress, Depression	2 ¹⁰⁷ 113	RCT	Not serious	None	Serious	None	Context applicability (Dutch &	125	120	0.03 to 1.8	-	MOD	Mean difference

MHC	No. of studies	Quality Assessment (GRADE Criteria)						No. of participants		Effect		GRADE	Comments
		Study Design	Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations	Intervention (n)	Control (n)	Absolute	Relative		
							Danish settings)						
	<p>Interventions: Multidisciplinary/collaborative care - teams comprising specialist in occupation medicine, psychologists, care manager vs GP usual care</p> <p>Outcome: Personal recovery (symptom reduction measured by various instruments [Symptom Checklist 92, PHQ-9]) – non-significant effect</p>												
Depression	1 ¹⁰⁶	RCT	Not serious	None	Not serious	None	Swedish study	30	35	-7.1(-29.6, 16.3)		HIGH	
	<p>Intervention: 12-week self-directed internet based cognitive-based therapy (CBT) program vs usual care</p> <p>Outcome: Personal recovery (recovery rates [BDI-II]) – no difference in rate of recovery. Similarly, there were no difference in rates of deterioration [-7.1(22.9, 6.2)] or suicide risk [MADRS mean difference-0.79(-5.11, 3.53)]</p> <p>A secondary follow-up study of patient experiences suggested the self-directedness aspect of the intervention indicated some participants found it facilitated patient empowerment, personal responsibility and improve mood, but others found intervention stressful</p>												
Depression; Depression + Anxiety	1 ¹⁰⁵	RCT	Not serious	None	Not serious	None	UK study			-			
	CBT vs Counselling (BDI)							58	49	0(-3.75, 3.75)		HIGH	
	CBT vs Counselling (SAS)							58	49	0.09(-0.11, 0.29)			
	CBT vs Counselling (BSI)							58	49	0.18(-0.11, 0.47)			
	CBT vs GP (BDI)							58	23	-2(-7.14, 3.14)			
	CBT vs GP (SAS)							58	23	-0.05(-0.31, 0.21)			
	CBT vs GP (BSI)							58	23	-0.1(-0.49, 0.29)			
	Counselling vs GP (BDI)							49	23	-2(-6.2, 2.2)			
	Counselling vs GP (SAS)							49	23	-0.14(-0.41, 0.13)			
	Counselling vs GP (BSI)							49	23	-0.31(-0.70, 0.08)			

MHC	No. of studies	Quality Assessment (GRADE Criteria)						No. of participants		Effect		GRADE	Comments
		Study Design	Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations	Intervention (n)	Control (n)	Absolute	Relative		
	<p>Intervention: Counselling, CBT and GP care; internet-delivered CBT (iCBT) vs usual care</p> <p>Outcome: Personal recovery (symptom reduction measured by various instruments [BSI, BDI, SAS*]) – All interventions resulted in significant improvement in symptoms at 12 months and were equally as effective as each other in reducing symptoms at 12 months.</p>												
Depression, PTSD	2 ¹⁰³ 1 ¹²	Non-RCT	Serious	Not serious	none	none	Moderate quality non-RCTs	226	237			LOW	Non-RCTs
	<p>Interventions Collaborative care (nursing, allied health; motivational interviewing, teaching, self-management and information sharing with primary care providers and psychiatrists) and multidisciplinary assessment and treatment program comprising return to work coordination, education, and referral to specialised mental health vs GP usual care</p> <p>Outcome: Personal recovery (symptom reduction measured by various instruments [PHQ-9, MPSS*]) – No significant difference in PTSD symptoms at six months in one study¹⁰³ and a significant improvement depressive symptoms favouring intervention at six months in the other study¹¹²</p>												
depression, anxiety, and somatization disorders	1 ¹¹⁴	RCT	Not serious	none	Not serious	none	High quality RCT; Dutch context	74	57	-	1.16 to 1.21	MOD	Non-significant odds ratios
	<p>Intervention: “E-health module embedded in collaborative occupational health care” aimed at ‘sick listed employees’ cognitions regarding return to work with physical or psychological symptoms and options to resume work at least on a partial basis while symptoms are still present, plus email decision aid for treating occupational physicians vs OP usual care</p> <p>Outcome: Personal recovery (remission): no difference in symptom remission or response</p>												
Depression	1 ¹¹²	Non-RCTs	Serious	Not serious	none	Not serious	Moderate quality non-RCTs	158	179	21.2% (10.8, 31.2)	-	LOW	
	<p>Interventions: Collaborative care (nursing, allied health; motivational interviewing, teaching, self-management and information sharing with primary care providers and psychiatrists)</p> <p>Outcome: Personal recovery (remission rates): significant symptom remission at six months in favour of the collaborative care vs GP usual care</p>												
Depression	1 ¹¹¹	RCT	Serious	None	None	serious	Low quality RCT	107	131	0.9			Non-significant mean difference of 0.9 months less for

MHC	No. of studies	Quality Assessment (GRADE Criteria)						No. of participants		Effect		GRADE	Comments
		Study Design	Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations	Intervention (n)	Control (n)	Absolute	Relative		
													comparator than intervention
<p>Intervention: Enhanced primary care intervention (physicians and care managers trained in guidelines based management of depression)</p> <p>Outcome: Personal recovery (other – antidepressant use); One low quality study, no evidence that an enhanced primary care management program reduced the number of months of antidepressant use</p>													
Adjustment disorder	1 ¹¹⁵	RCT	None	None	Not serious	Serious	Context applicability (Dutch)	85	68	-	-	HIGH	
<p>Interventions: see above</p> <p>Outcome: Personal recovery – psychopathology symptoms (4DSQ and SCL-90): No difference at three and 12 months; CHIME (meaning in life, Empowerment) proxy (Mastery Scale "...life changes as being under his or her control...") – no difference at three and 12 months</p>													
Psychological distress or burnout	1 ¹¹⁷	RCT	Not serious	No serious	Serious	Serious	Includes burnout; Norwegian context	25	15	15.5	LOW		Significant mean difference in favour of intervention
<p>Intervention: see above</p> <p>Outcome: Personal recovery (health status-SF-36 Mental Health dimension) – better (mental) health status following in the mental health subgroup at six months</p>													

*Acronyms of assessment tools:
 4DSQ – 4-Dimensional symptom questionnaire
 BSI - Brief Symptom Inventory
 BDI - Beck Depression Inventory
 HADS – Hospital anxiety and depression scale
 MPSS - Modified PTSD Symptom Scale
 PHQ-9 – Patient health questionnaire-9 item
 SAS - Social Adjustment Scale
 SCL-90 – Symptom Checklist-90 Item

7.6.1.3 Summary of the evidence identified in relevant published systematic reviews

In addition to the evidence from primary studies outlined in the evidence Table 27, a further targeted search for systematic reviews and meta-analyses was performed in Embase, Medline, PsycINFO and AMED from inception to the 6th of November 2017. Seven relevant reviews were included (Figure 23). One of the excluded reviews which explored return to work outcomes¹²⁴ included six studies; four of which we included in our systematic review and two we excluded. This systematic review was considered in search round one and excluded to avoid duplication with our systematic review findings.

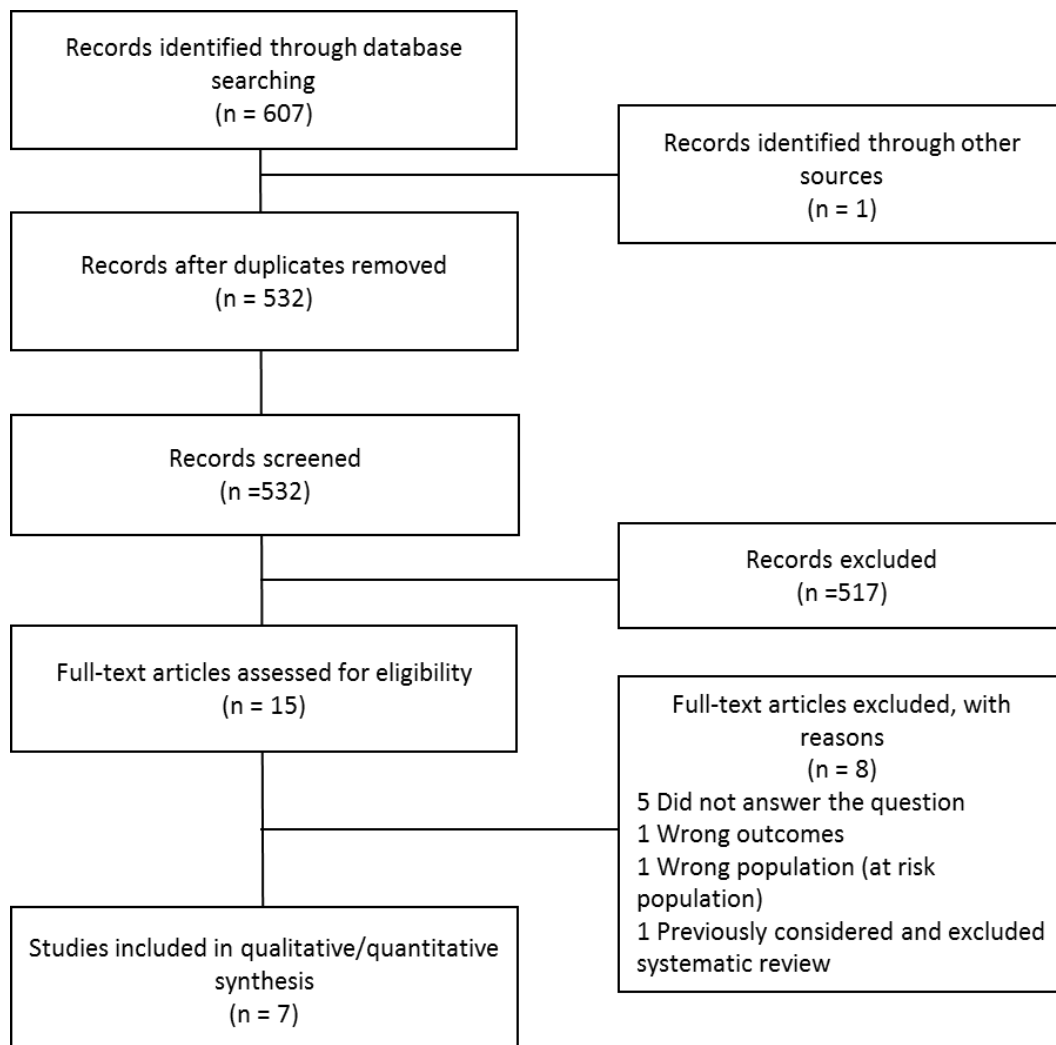


Figure 23. PRISMA chart of additional screening and review for meta-analyses and reviews for question 5

The included reviews varied in quality with AMSTAR scores ranging from zero to nine (Table 28). Risk of bias was high mainly due to a literature search strategy that was not comprehensive, methods not specifying duplicate screening/data extraction, and lack of characteristics and quality assessment of studies included in the reviews. The main findings centred on personal recovery outcomes (symptom improvements) in patients with depression¹²⁵⁻¹²⁷, anxiety^{128 129} or other mental disorders and/or addictive disorders^{130 131}. A summary of findings is presented in Table 29.

Table 28. List of existing systematic reviews addressing key clinical question 5

Review Title	Review Author	Review type	AMSTAR score [#]
Effectiveness of workplace interventions in return-to-work for musculoskeletal, pain-related and mental health conditions: an update of the evidence and messages for practitioners	Cullen et al 2017 ¹²⁰	Systematic review	7
Interventions for enhancing return to work in individuals with a common mental illness: systematic review and meta-analysis of randomized controlled trials	Nigatu et al 2016 ¹²¹	Systematic review	7
Interventions to improve return to work in depressed people	Nieuwenhuijsen et al 2014 ¹²²	Cochrane systematic review	10
Interventions to facilitate return to work in adults with adjustment disorders	Arends et al 2012 ¹²³	Cochrane systematics review	10
Improving the management of depression in primary care	Brody 2003	Narrative review (not extracted)	4

[#]Scores out of a total of 11

Table 29. Summary evidence table of systematic reviews that addressed the scope for key clinical question 5

Review	Review type	AMSTAR score	Main Findings	Risk of Bias	GRADE
Intervention: Pharmacotherapy or multifaceted intervention for depression					
Outcome: Personal recovery (symptom response or remission)					
Pharmacological treatment of depression. Consulting with Dr Oscar ¹²⁶	Narrative review	0	Single database searched to Jan 1999, unclear how many trials/studies were included: A step-up approach underpinned by optimising antidepressant dose and allowing sufficient time for antidepressant to work; where there is no response to treatment to consider changing the antidepressant or combining different classes or augmentation (i.e. with lithium, thyroid hormones etc.). The author acknowledged that further evidence of efficacy in relation to switching antidepressants or augmentation was required.	High	LOW
Identification and management of depression in primary care settings. A meta-review of evidence ¹²⁵	Narrative meta-review	0	A meta-review of systematic reviews, unclear how many reviews were included: No difference in selective serotonin reuptake inhibitors (SSRIs) and Tri-cyclic antidepressants (TCAs) and further indicated there was a lack of evidence for the efficacy of antidepressants in primary care setting for mild depression.	High	LOW
Chronic disease management for depression in primary care: a summary of the current literature and implications for practice ¹²⁷	Systematic review	2	Unclear how many trials/studies were included: "Multifaceted interventions [provider education, screening, psychiatric consultation, using treatment algorithms, case management, relapse prevention plans, registries etc.] have demonstrated their effectiveness in improving (symptom remission, depression scores) outcomes for depression patients seen and treated in primary care settings. Although it is not clear which components of these multifaceted interventions are most likely to bring about beneficial outcomes"	High	LOW
Intervention: Exercise for anxiety disorder					
Outcome: Personal recovery (symptom response or remission)					
Exercise for anxiety disorders: systematic review ¹²⁹	Systematic review	8	Findings from eight RCTs of a variety of exercise interventions (structured, very light, walking, strenuous, weightlifting), no details of frequency or duration of intervention, follow-up ranging from eight weeks to 10 months: Regardless of type (aerobic vs non-aerobic), exercise may reduce anxiety symptoms but is less effective than antidepressants but may be useful as "an adjunctive treatment for anxiety disorders" rather than a substitute for antidepressant. The authors state that further well conducted RCTs are needed.	Low	HIGH

Effects of aerobic exercise on anxiety disorders: a systematic review ¹²⁸	Systematic review	7	Included 10 studies, 85% reported high risk of bias: Compared to placebo exercise may significantly improve clinical outcomes but is less effective than antidepressants, thus "Exercise cannot replace conventional treatments, such as SSRIs or CBT, though, can still be recommended as an additional treatment modality."	High	LOW
Intervention: Multidisciplinary care Outcome: Personal recovery (abstinence)					
Improving general medical care for persons with mental and addictive disorders: systematic review ¹³¹	Systematic review	5	Informed by only two out of six included RCTs from 1999 and 2001 respectively: <ul style="list-style-type: none"> Care provided by primary care medical practitioner and expert addiction counsellor: Rates of abstinence from alcoholism were significantly greater in the intervention (75% vs 48%) in medically ill patients with alcoholism. Care provided primary care medical practitioner, medical assistant, and nurse: No difference in abstinence overall but a subgroup of those with addictive related medical and mental disorders also showed significantly greater abstinent rates (69% vs 55%), while there was no difference in the full group with addiction and other comorbidities. 	Unclear	LOW
Intervention: Primary care physicians trained in CBT for depression and anxiety Outcome: Personal recovery (depression and anxiety symptoms)					
Training primary care physicians in cognitive behavioural therapy: A review of the literature ¹³⁰	Systematic review	4	Two out of nine included studies evaluated the effect of primary care physicians trained in CBT on patients' mental health condition outcomes. One showed a significant improvement in global psychological distress, the other found no difference on depression and anxiety outcomes.	Unclear	LOW

8 Key clinical question six: In workers with a mental health condition, what information should a GP consider to determine whether a person has capacity to work?

8.1 Evidence Review round one

The clinical question was written as follows in round one “In workers, what information should a GP consider to determine a person’s capacity to (return to) work?”

8.1.1 PICO

- P Workers
- I Factors that determine a person’s capacity to (return to) work (e.g. recovery goal setting)
- C All factors regarding patient care
- O Managing patient expectations; Patient satisfaction; Return to work; Adopting or utilising a strength-based approach; Vocational assessments; Improvement of sleep disorders, Function, Social interaction

8.1.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression or Vicarious trauma)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	(((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	(Return to work or Recov* or Improv* or Resolution* or resolv* or Respon* or outcome* or (treatment adj outcome*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	(Return to work or Evaluation* or Decision* or Prognosis or Indicat* or Guide* or marker* or Absenteeism or Sick leave or Sickness certificat* or Work Schedule Tolerance* or Work performance* or (Work adj (abilit* or capacit* or disabilit* or read*)) or (Modified adj (work or dut*)) or (Work adj read*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	3 or 4
6.	1 and 2 and 5

8.1.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	“Mental health” or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*	Search modes - Boolean/ Phrase

	or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or ((“Post traumatic” OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or “Vicarious trauma”	
S3	(General AND (practi* or physician* or doctor)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or (“Primary care” AND (practi* or physician* or doctor*)) or (“Occupational health” AND (practi* or physician* or doctor* or specialist*)) or “company physician*”	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or “job related” or “work related” or “employment related” or “trade related” or “occupational disease*” or “occupational illness*” or “occupational health” or Compensation or claim*	Search modes - Boolean/ Phrase
S6	“Return to work” or Recov* or Improv* or Resol* or resolv* or Respon* or outcome* or “treatment outcome”	Search modes - Boolean/ Phrase
S13	“Return to work” OR Evaluation* OR Decision* OR Prognosis OR Indicat* OR Guide* OR marker* OR Absenteeism OR “Sick* leave” OR “Sickness certificat*” OR “Work Schedule Tolerance*” OR “Work performance*” OR “Work abilit*” OR “work capacit*” OR “work disabilit*” OR “work read*” OR “Modified work” OR “modified dut*” OR “Work read*”	Search modes - Boolean/ Phrase
S35	S6 OR S13	Search modes - Boolean/ Phrase
S36	S1 AND S4 AND S35	Search modes - Boolean/ Phrase
S37	S3 AND S36	Limiters - English Language; Age Groups: Adolescence, 13-18 years, Adult, 19-44 years, Middle Age, 45-64 years, Aged, 65+ years, Aged, 80 and over Search modes - Boolean/ Phrase

8.1.4 Search period

Database inception to the 31st of January 2017.

8.1.5 PRISMA round one

Embase, Medline, PsycINFO and AMED returned n=103 records and CINAHL returned n=1625 records (Figure 24).

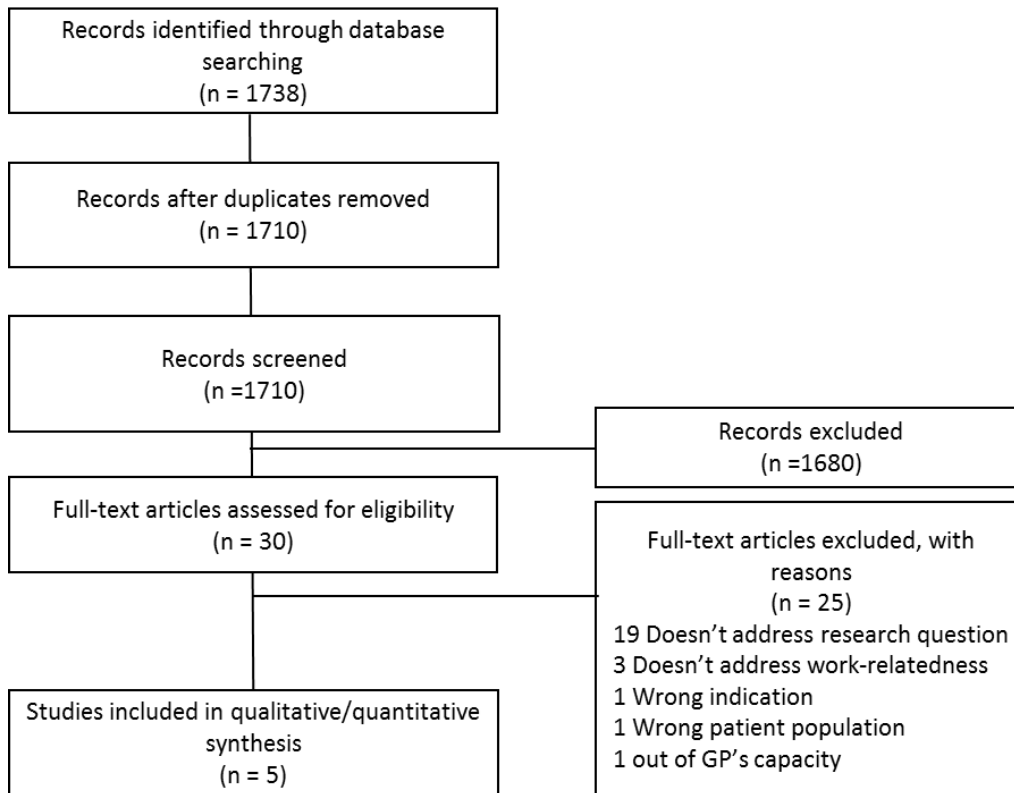


Figure 23. Round one PRISMA chart for key clinical question 6

8.2 Guideline Development Group recommendations

- Revise Key clinical question 6 to read: "In workers with a mental health condition, what information should a GP consider to determine whether a person has capacity to return to work?"
- Remove GP aspect from search inclusion criteria.
- Better define search outcomes to include: alternative duties, suitable duties, considering patient factors (health and wellbeing), workplace/work environment (e.g. psychosocial) factors. Readiness to face stigma when returning to work.

8.3 Evidence Review round two

8.3.1 PICO

- P Workers with mental health conditions
- I Types of information
- C Between types of information
- O Determination of capacity to return to work

8.3.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1. ((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or

condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, t
2. (Recov* or Improv* or Resolution* or resolv* or Respon* or outcome* or progress or (personal adj recovery) or CHIME or connectedness or hope or optimism or identity or (meaning adj life) or empowerment or (treatment adj outcome*) or (failure adj improve) or ((patient or worker or employee) adj (health or wellbeing))).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3. ((Return* adj work) or rtw or Absenteeism or Sick leave or Sickness certificat* or Work Schedule Tolerance* or Work performance* or (Work adj (abilit* or capacit* or disabilit* or read*)) or (suitable adj dut*) or (alternative adj dut*) or (Modified adj (work or dut*)) or (Work adj read*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4. (Evaluation* or Decision* or Indicat* or prognosis or Guide* or marker* or Work Schedule Tolerance* or Absenteeism or Work performance* or (work adj environment)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5. 1 and 2 and 3 and 4 and ((General adj (practi* or physician* or doctor)) or (Family adj (practi* or physician* or doctor*)) or (Family adj medic* adj (practi* or doctor*)) or (Primary adj care adj (practi* or physician* or doctor*)) or (Occupational adj (practi* or physician* or doctor* or specialist*)) or (company adj physician*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
6. limit 5 to English language

8.3.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression	Search modes - Boolean/ Phrase
S3	(General AND (practi* or physician* or doctor)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or ("Primary care" AND (practi* or physician* or doctor*)) or ("Occupational health" AND (practi* or physician* or doctor* or specialist*)) or "company physician"	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S6	"Return to work" or Recov* or Improv* or Resol* or resolv* or Respon* or outcome* or "treatment outcome"	Search modes - Boolean/ Phrase

#	Query	Limiters/Expanders
S13	"Return to work" OR Evaluation* OR Decision* OR Prognosis OR Indicat* OR Guide* OR marker* OR Absenteeism OR "Sick* leave" OR "Sickness certificat*" OR "Work Schedule Tolerance*" OR "Work performance*" OR "Work abilit*" OR "work capacit*" OR "work disabilit*" OR "work read*" OR "Modified work" OR "modified dut*" OR "Work read*"	Search modes - Boolean/ Phrase
S35	S6 OR S13	Search modes - Boolean/ Phrase
S36	S1 AND S4 AND S35	Search modes - Boolean/ Phrase
S37	S1 AND S3 AND S4 AND S35	Limiters - English Language; Age Groups: Adolescence, 13-18 years, Adult, 19-44 years, Middle Age, 45-64 years, Aged, 65+ years, Aged, 80 and over Search modes - Boolean/ Phrase

8.3.4 *Search period*

Database inception to the 30th of April 2017.

8.3.5 *PRISMA round two*

Embase, Medline, PsycINFO and AMED returned n=316 records and CINAHL returned n=2024 records. This search outcome included all those studies previously identified in Round 1.

Together in rounds one and two, the search yielded 12 studies* that were included (Figure 25)

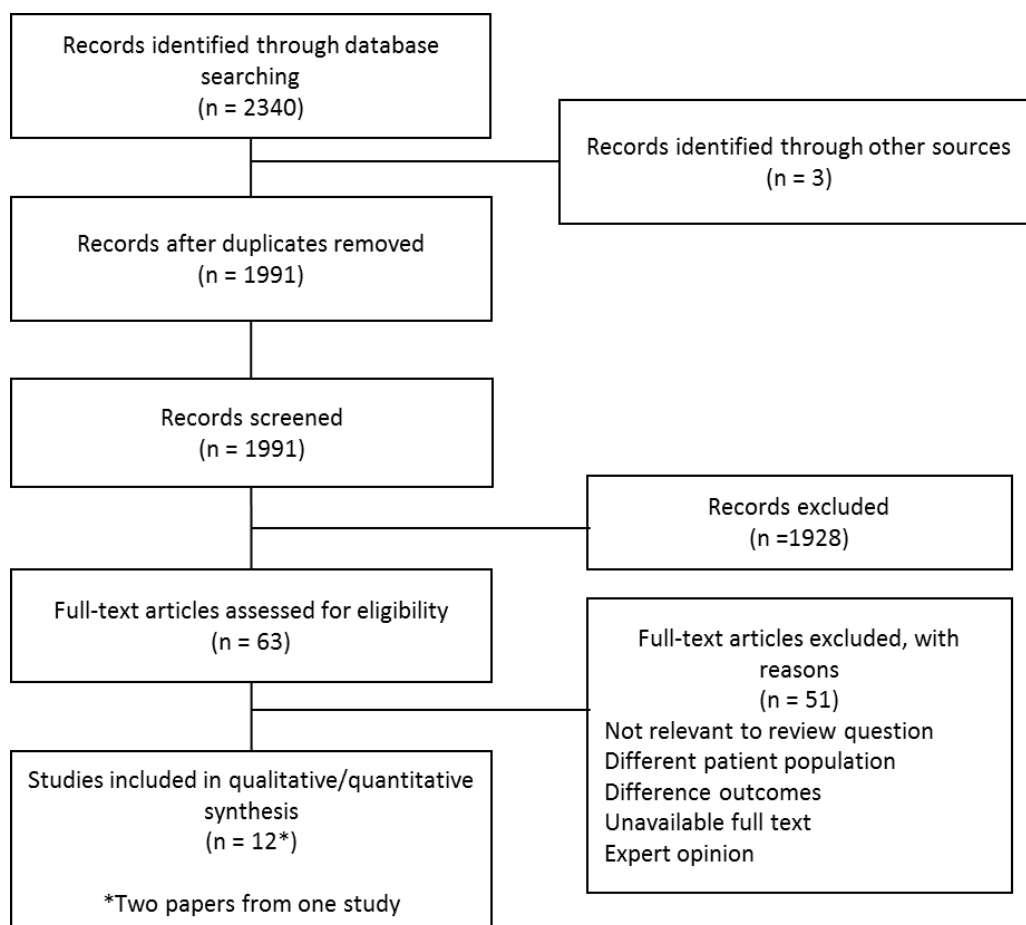


Figure 24. Combined round one and round two PRISMA chart for key clinical question 6

8.4 Implications of correction to the “Work” Search String for Key clinical question 6

Implications of correction to the ‘work’ search string are described in Table 30.

Table 30. Key clinical question 6 literature search results and implications arising from search strings used in relation to work

Evidence Review Rounds	Original key clinical question 6. In workers, what information should a GP consider to determine whether a person is capable and has capacity to (return to) work?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
R1	<ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - Work-relatedness - Return to work/work capacity 	Work in the compensable setting	work	103	1625
		If work-relatedness search string had been corrected to “work”	Work	274 335	No impact
R2	Revised Key clinical question 6. In workers with a mental health condition, what information should a GP consider to	Work in the compensable setting	work	316	2024
		If work-relatedness search string had been corrected to “work”	Work	No impact	No impact

	determine whether a person has capacity to return to work? <ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - Return to work/work capacity (including "alternative duties", "suitable duties") - Recovery (including CHIME) - Inception to 30th April 2017 	No impact; "work" was not included in the search concept because it was implicit in the "return to work"			
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8.5 Guideline Development Group recommendation

No change for key clinical question six because of return to work in the search. Our recommendation is to accept the final recommendation as per Guideline Development Group meeting 3.

8.6 Findings and GRADE Evidence Profile Tables from Evidence Reviews: Key clinical question 6

8.6.1.1 Consensus-based recommendation

Consensus-based recommendation
<p>A GP should consider the following patient and work factors when determining whether a patient has the capacity to work.</p> <p>Patient factors</p> <ul style="list-style-type: none"> • Severity of the mental health condition • Presence of comorbidities • Presence of sleep disturbance • Higher conscientiousness pre-injury • Attitude towards work • Patient motivation to work • Ability to work • Personal circumstances (personal relationships, finances, housing arrangements, level of physical activity) • Social deprivation (social/cultural disadvantage) <p>Work-related factors</p> <ul style="list-style-type: none"> • Work environment • GP's knowledge about the patient's workplace and its limitations • Suitability of work • Size of the workplace • Conflicts with the person's supervisor • Ongoing work-related stressors (e.g. conflict with colleagues in the workplace) • Availability of duties that are non-stigmatising and, where possible, commensurate with the worker's level of experience and seniority

8.6.1.2 Summary of the evidence identified in the evidence review

We identified a total of 11 publications meeting the inclusion criteria for key clinical question 6. The publications included two papers ¹⁶⁰ ¹⁶¹ from the same study. Quality assessment scores for the studies are presented in Table 31. Another publication was an existing 2015 clinical practice guideline (AGREE-II score 73%) from the Black Dog Institute ¹⁶².

Table 31. Downs and Black Checklist quality assessment scores for studies included in key clinical question 6

	Reporting (Overall study quality)	External validity	Internal validity (Study bias)	Internal validity (Confounding and selection bias)	Power of study	Total
Foley et al 2013 ¹⁶³	9	3	4	5	0	21
Arends et al 2014 ¹⁶⁴	10	3	5	4	0	22
Hees et al 2012a ¹⁶¹ b ¹⁶⁰	9	3	5	4	0	21
Corbiere et al 2015 ¹⁶⁵	6	2	4	3	0	15
Shiels and Gabbay 2007 ¹⁶⁶	8	2	5	3	0	18
Soklaridis et al 2011 ¹⁶⁷	7	2	5	3	0	17
Linder et al 2009 ¹⁶⁸	7	3	2	2	0	14
Shiels et al 2004 ¹⁶⁹	10	3	4	2	0	19
Moretelmans et al 2007 ¹⁷⁰	8	3	4	2	0	17
Macdonald et al 2012 ¹⁷¹	7	3	4	2	0	16
Mean	8.1	2.7	4.2	3	0	18
SD	1.4	0.5	0.9	1.1	0.0	2.7

Qualitative narrative descriptions the 10 included primary studies were derived from the views of workers/patients, health practitioners, unions, and employers were identified from the 10 studies. These are summarised in Table 32, forming the basis for information which GPs may consider in determination of capacity to return to work. The information gives considerations to both physical and psychosocial factors, including personal and workplace psychosocial factors. Some of the information has direct implications for consideration/implementation within the scope of GP practice, while other information, particularly relating to the workplace environment, may be useful for awareness purposes in relation to GP decisions around return to work planning.

The Black Dog guidelines in addition, listed the following consensus-based recommendations that were considered to be relevant to this question:

1. Positions should be provided that allow alternative duties that are non-stigmatizing and, where possible, commensurate with the worker's level of experience and seniority.
2. Clinicians should consider the possibility of adjusted duties and partial return to work as ways of promoting recovery and reducing the risk of long-term sickness absence.
3. The risk of self-harm, aggression and violence needs to be regularly assessed throughout each stage of treatment in any emergency worker with PTSD. The risk of these behaviours recurring requires reassessment when returning a worker to frontline duties.

Table 32. GRADE Evidence Profile Table: In workers with a mental health condition, what information should a GP consider to determine whether a person has capacity to return to work?

MHC	No. of studies	Study Design	Quality Assessment (GRADE Criteria)					No. of participants	Effect		GRADE	Comments
			Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations		Absolute	Relative		
Common MHCs; Two hypotheticals for sickness absence: one psychological and one of a physical nature.	3 ^{161-163,164}	RCT	Not serious	Serious	Not Serious	none	European studies; Fitness for work assessed in hypothetical cases	337			MOD	
<p>Outcome: Capacity to return to work:</p> <ul style="list-style-type: none"> Information for GP to consider “...consider information relating to social, domestic, financial, lifestyle and workplace factors, including workload, job satisfaction, job strain, work ethic, inter staff relationships and employee support mechanisms” Relationship between worker/supervisor and supervisor “conflicts with supervisor increased the odds of recurrent sickness at six and 12 months” Patient motivation to return to work “...25% of our participants achieved symptom remission without achieving long term return to work, underlines the importance of targeting ... multiple factors ... vocational rehab professionals, employers and patients who all regard work motivation as crucial for achieving a return to work” 												
Depression, anxiety, adjustment disorders, unspecified mild mental disorders, unspecified work disability/limitations	7 ¹⁶⁵⁻¹⁷¹	Cross-sectional; cohort	not serious	not serious	serious	not serious	Mixed group of patients/employees, health practitioners, unions, employers	4 720	-	-	MOD	
<p>Outcome: Capacity to return to work:</p> <p>Managing patient expectations</p> <ul style="list-style-type: none"> Patient age: Every year of age above an average of 40-year-old was significantly associated with 5% more likelihood of long term absence (>28 weeks), contributing 4% to risk of long term sickness absence Multiplicative effect of age and social deprivation on long term sickness absence, “older and more deprived claimants were significantly more likely to have over 28 weeks certification.” Gender: males had a 36% chance of long term absence, although the effect of this was very small (0.2% contribution to risk of sickness absence) 												

	<ul style="list-style-type: none"> • Mid mental disorders were significantly associated with a greater risk of long term sickness compared to other largely, physical conditions – an 88% likelihood and contributing 18.5% to risk of long term absence “...diagnosis and age appear to have significant effects on risk of long term patient incapacity...” • Individualised approach to managing expectations, taking into account “...type of job, the patient’s home situation, relationship with employers, provision for occupational health input from employers” and motivation “...notwithstanding the benefits of work, remaining in work could be detrimental for some patients ... GPs must establish, in negotiation with the depressed patient, what role work assumes in their illness experience and how work features in the planned management of depression” <p>Return to work</p> <ul style="list-style-type: none"> • Work environment: unhealthy psychosocial workplace and work policies may impede return to work vs work practices that promote employees’ mental health wellbeing, “A toxic work climate can take many forms: harassment, excessive competitiveness resulting from performance management policies or a demotivating atmosphere ... (1) it can create an environment conducive to burnout or depression and (2) it can promote relapses.” “...a work environment sensitive to mental health issues is a facilitator of the return-to-work.” • Physical comorbidity/musculoskeletal pain were significantly associated with depression in those experiencing difficulty returning to work • Appropriate medical treatment and access to specialist mental health service “...some employees go on sick leave for a few weeks without having any medical or psychological treatment, and increasing the chances of relapse when returning to work.” “...lack of access to specialized mental health consultation has also been reported as being a barrier to return-to-work.” • Family physicians lack of knowledge of the workplace and its limitations; underscores collaborative aspects of decisions around capacity assessment and return to work planning • Social deprivation is a risk factor for longer term work incapacity and “...a substantial proportion of the patients with mild mental problems may fall into this category” and “...may benefit from interventions to enable them to recover and return to work, reducing their risk of long-term absence from the workforce” <p>Vocational assessments and strength based approach</p> <ul style="list-style-type: none"> • Collaboration with the organisations’ stakeholders to facilitate suitability of work and interdisciplinary meeting to facilitate information sharing and formulation of strategies to maximise return to work; taking into account workplace psychosocial environment, modified duties “The return-to-work rate can be doubled for sick-listed employees that have access to modified work compared to sick-listed employees that do not have access to modified work.” • Multidisciplinary working ability assessment reports and recommendation regarding the process and plan for return to work, i.e. rehabilitation that may be medical and/or vocational, or return to work on modified duties <p>Improvement of sleep disorders, function, social interaction</p> <ul style="list-style-type: none"> • Assess/identify presence of or persistent difficulty with sleep, participation in leisure activities as potential indicators of symptomatic recovery
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	<p>“The psychiatric–somatic comorbidity group showed higher frequencies for insomnia ‘every night’ (37%) and ‘often’ (43%), as did also the psychiatric only group (35 and 43%)”</p> <p>“More patients with the psychiatric diagnosis only (42%) than with somatic diagnosis only (24%) had ceased all earlier leisure activities, and about half of all patients reported less leisure activity than before”</p> <ul style="list-style-type: none"> • Patient physical and psychosocial capability. Workers experiencing difficulty resuming work significantly exhibited physical activity and functional limitations: consider personal/extra-vocational personal circumstances (despondency or unhappiness with personal life), and the patient’s/employee’s attitude towards work (anxieties about returning to the work environment related to work absence) • Differential diagnosis – assessment of possible malingering. Return to work may be impeded in situations where the patient has personal gain, or where there is an incentive for prolonged absence. <p>Patient satisfaction</p> <ul style="list-style-type: none"> • None of the studies considered patient satisfaction
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9 Key clinical question seven: What is appropriate communication with the patient’s workplace, in order to appropriately manage a work-related mental health condition?

9.1 Evidence Review round one

The clinical question was written as follows in round one: “For GPs who are managing patients with compensation claims, what is appropriate communication with the patient’s workplace, in order to appropriately investigate and manage a work-related mental health condition?”

9.1.1 PICO

- P GPs with patients who describe work-related mental health problems
- I Appropriate communication with the workplace
- C GPs not contacting the workplace
- O Appropriate investigation of a work-related mental health condition; Avoidance of issue with employer; Patient satisfaction; Patient may return to work early (if mediation occurs early)

9.1.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression or Vicarious trauma)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	((General adj (practi* or physician* or doctor)) or (Family adj (practi* or physician* or doctor*)) or (Family adj medic* adj (practi* or doctor*)) or (Primary adj care adj (practi* or physician* or doctor*)) or (((Occupational health adj (practi* or physician* or doctor* or specialist*)) or company) adj physician*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	(((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	(Communicat** or Inform* or Liais* or Shar* or Educat* or correspond*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	1 and 2 and 3 and 4

9.1.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	“Mental health” or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*	Search modes - Boolean/Phrase

	or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or "Vicarious trauma"	
S3	(General AND (practi* or physician* or doctor)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or ("Primary care" AND (practi* or physician* or doctor*)) or ("Occupational health" AND (practi* or physician* or doctor* or specialist*)) or "company physician"	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S9	Communicat* OR Inform* OR Liais* OR Shar* OR correspond* OR Disclos* OR Report*	Search modes - Boolean/ Phrase
S29	S1 AND S3 AND S4 AND S9	Search modes - Boolean/ Phrase
S30	S1 AND S3 AND S4 AND S9	Limiters - English Language; Age Groups: Adolescence, 13-18 years, Adult, 19-44 years, Middle Age, 45-64 years, Aged, 65+ years, Aged, 80 and over Search modes - Boolean/ Phrase

9.1.4 Search period

Database inception to the 31st of January 2017.

9.1.5 PRISMA round one

Embase, Medline, PsycINFO and AMED returned n=4 records and CINAHL returned n=1295 records (Figure 26).

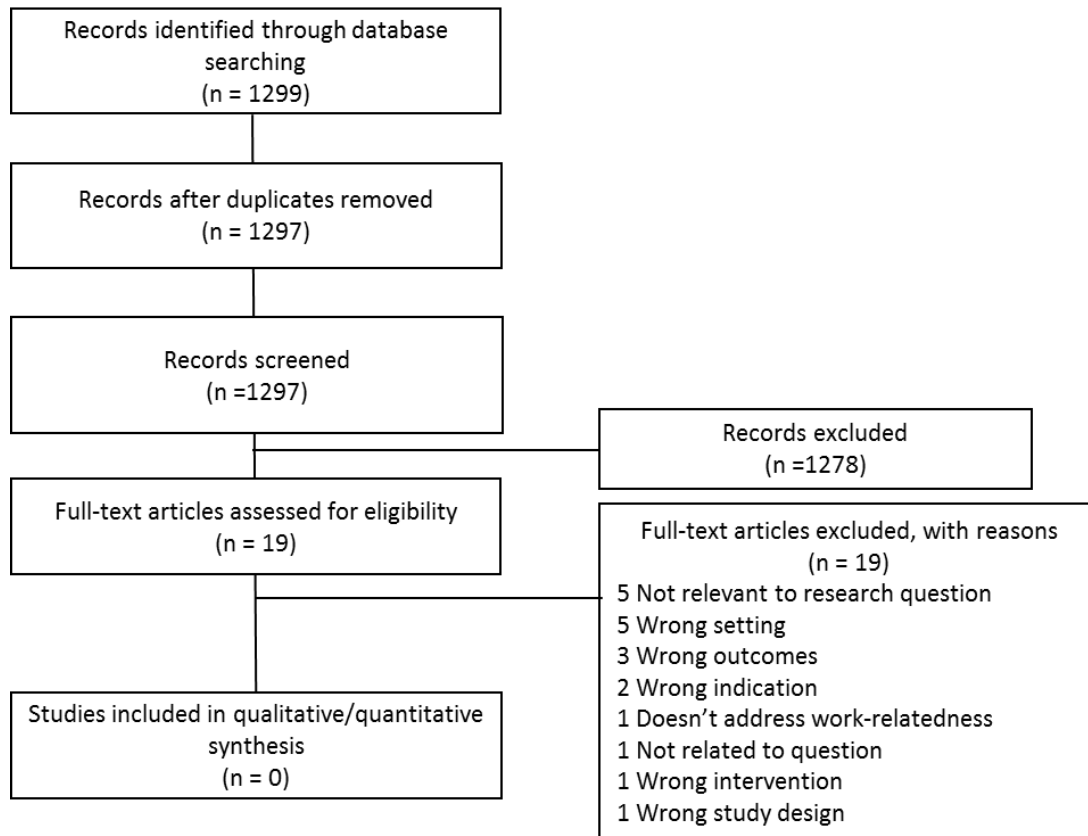


Figure 25. Round one PRISMA chart for key clinical question 7

9.2 Guideline Development Group recommendations

- Revise Key clinical question 7 to read: "What is appropriate communication with the patient's workplace, in order to appropriately manage a work-related mental health condition?"
- Remove GP focus from search strategy inclusion criteria.
- Expand search strategy to include relevant existing clinical guidelines and systematic reviews.

9.3 Evidence Review round two

9.3.1 PICO

- P Workers with a mental health claim
- I Appropriate communication with a workplace
- C Inappropriate communication with a workplace
- O Appropriate management

9.3.2 Search Strategy: Embase, Medline, PsycINFO and AMED

No change to search strategy.

9.3.3 Search Strategy: CINAHL

No change to search strategy.

9.3.4 Search period

From the 1st of February 2017 to the 30th of April 2017.

9.3.5 PRISMA round two

Embase, Medline, PsycINFO and AMED returned n=4 records and CINAHL returned n=35 records (Figure 27).

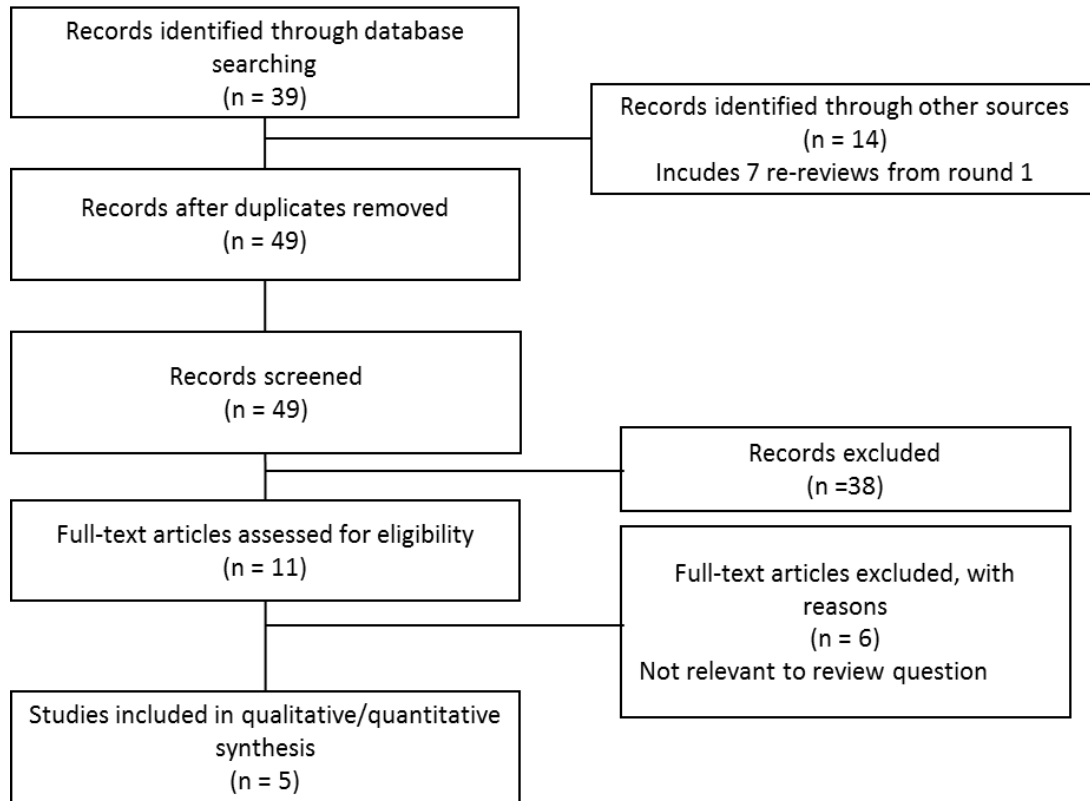


Figure 26. Round two PRISMA chart of key clinical question 7 updates

Together in round one and round two the search yielded 5 studies that were included (Figure 28).

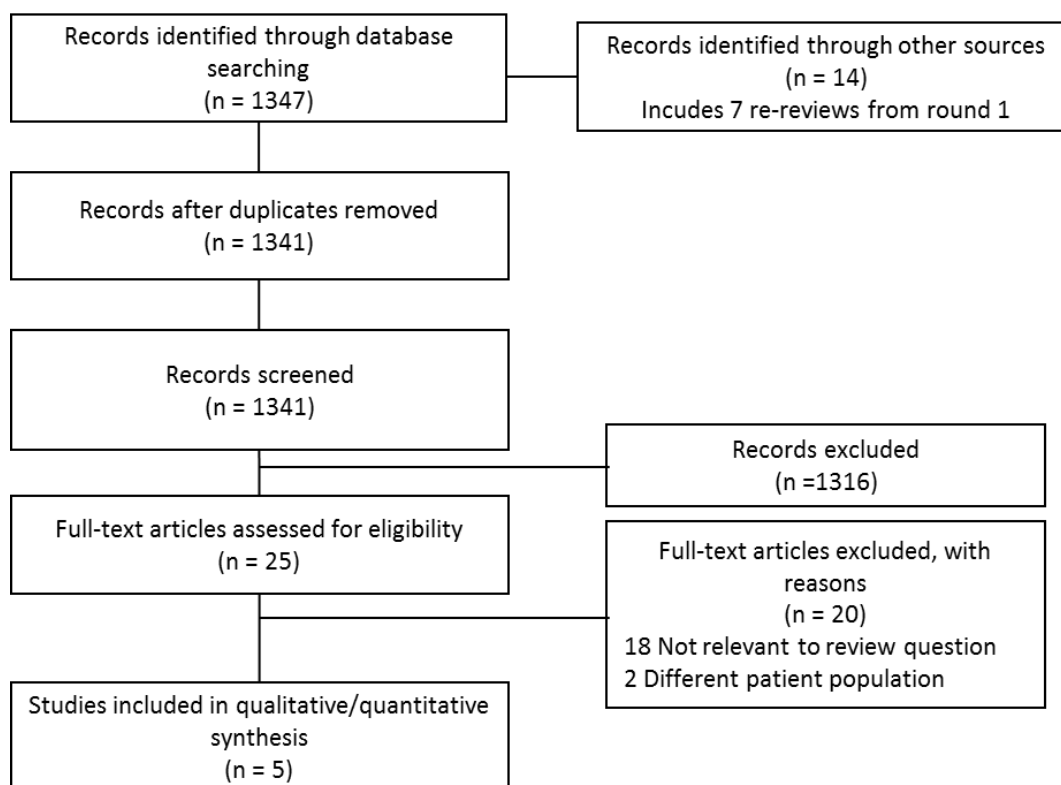


Figure 27. Combined round one and round two PRISMA chart for key clinical question 7

9.4 Existing Guidelines and Systematic Reviews for Key clinical question 7

9.4.1 PICO

- P Workers with a mental health claim
- I Appropriate communication with a workplace
- C Inappropriate communication with a workplace
- O Appropriate management

9.4.2 Search Strategy: Guidelines

The search strategy for existing clinical guidelines that address question two is described in Table 33.

Table 33. Search strategy for existing guidelines for key clinical question 7

Guideline Resource	Search strategy and Limiters
GIN Mental Disorders (Mesh terms), English National Guideline Clearinghouse	Work
NHMRC	List review
Centre for Reviews and Dissemination Health Technology Assessment Database	Return to work
RACGP	List review
RANZCP	List review
NICE/Mental health and behavioural conditions	List Review
NICE/Injuries, accidents and wounds	List Review
NICE	Work (keyword)
SIGN	List review
WHO/Chronic diseases, injuries and disability	List review

WHO/non-communicable diseases and risk factors	List review
WHO/Mental health and substance abuse	List review
PubMed	work AND psychosocial AND guideline
Google	work AND depression AND guideline work-related AND psychological AND guideline work AND adjustment disorders AND guideline work AND stress AND guideline work-related AND mental health AND guideline work-related AND mental health AND review

9.4.3 Search period

Original search: up to the 29th of May 2017.

9.4.4 PRISMA – Guidelines

One guideline was identified in the search (Figure 29).

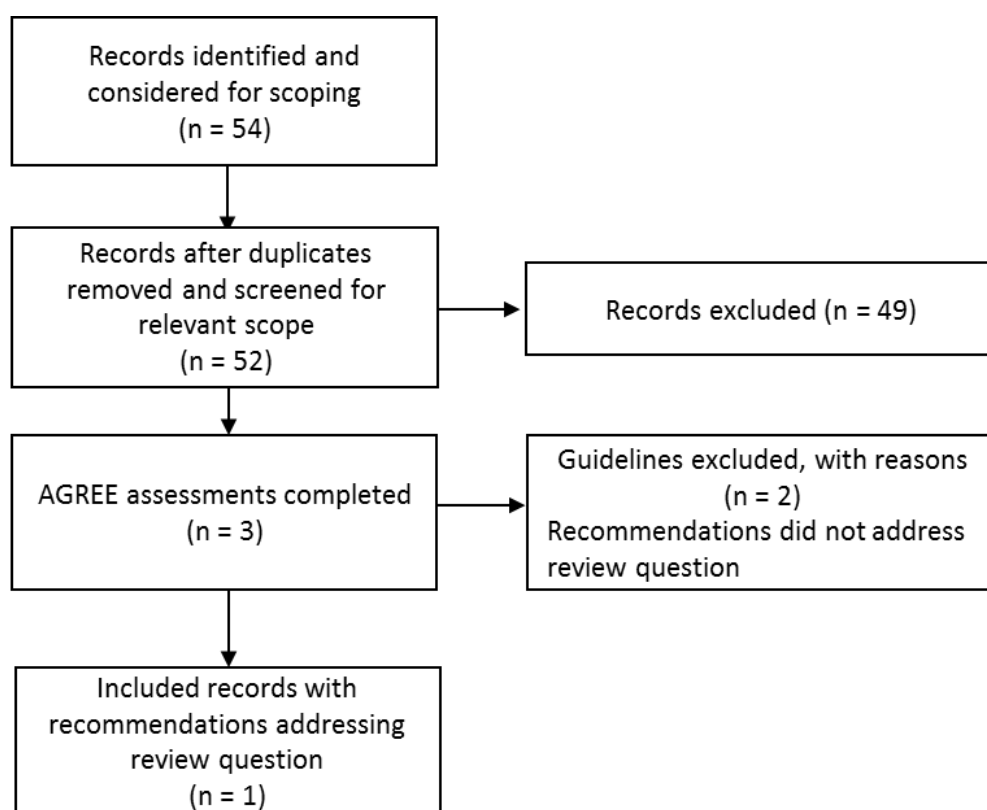


Figure 28. PRISMA chart of guidelines for key clinical question 7

The guideline was given an AGREE II rating of 67% (Table 34).

Table 34. Clinical Guidelines offering recommendations that addressed key clinical key clinical question 7

Review Title	Author	Date	AGREE II
Best practices for return-to-work/ stay-at-work interventions for workers with mental health conditions ¹⁵¹	Pomaki et al., Occupational Health and Safety Agency for Healthcare in British Columbia	2010	67%

9.4.5 Search Strategy: Systematic reviews

The search strategy for existing systematic reviews that address question two is described in Table 35.

Table 35. Search strategy for existing systematic reviews for key clinical question 7

Systematic Review Resource	Search Strategy and Limiters
Campbell Collaboration Library	List review
Campbell Collaboration Library	Work (keyword)
Cochrane Library	[[Mental or psychological or psychiatric or stress or distress or depress or mood or affective or adjustment or traumatic or anxiety] AND [employer OR "occupation" OR job OR vocation OR compensate OR workplace] AND [communicate OR information OR share OR liaise OR correspond]] RESTRICT by Cochrane reviews
Cochrane Reviews	Work AND mental health AND guideline Work and mental health Return to work Work-related
Cochrane Reviews/topic health and safety at work	List review
Cochrane Reviews/"Work" review group	List review
Cochrane Reviews/Common mental disorders	List review
Cochrane Reviews/"Injuries" review group	List review
Cochrane Work>Our Evidence>Occupational health outcome	List review
Centre for Reviews and Dissemination Health Technology Assessment Database	Return to work Work-related AND mental health AND review Work AND psychological AND review Work AND depression AND review
PubMed	Work AND mental illness AND review
Google	Work AND psychological AND guideline Work AND PTSD AND review Work-related AND psychological AND review Work AND depression AND review

9.4.6 Search period

Original search: up to the 29th of May 2017.

9.4.7 PRISMA - Systematic reviews

No systematic reviews were identified in the search (Figure 30).

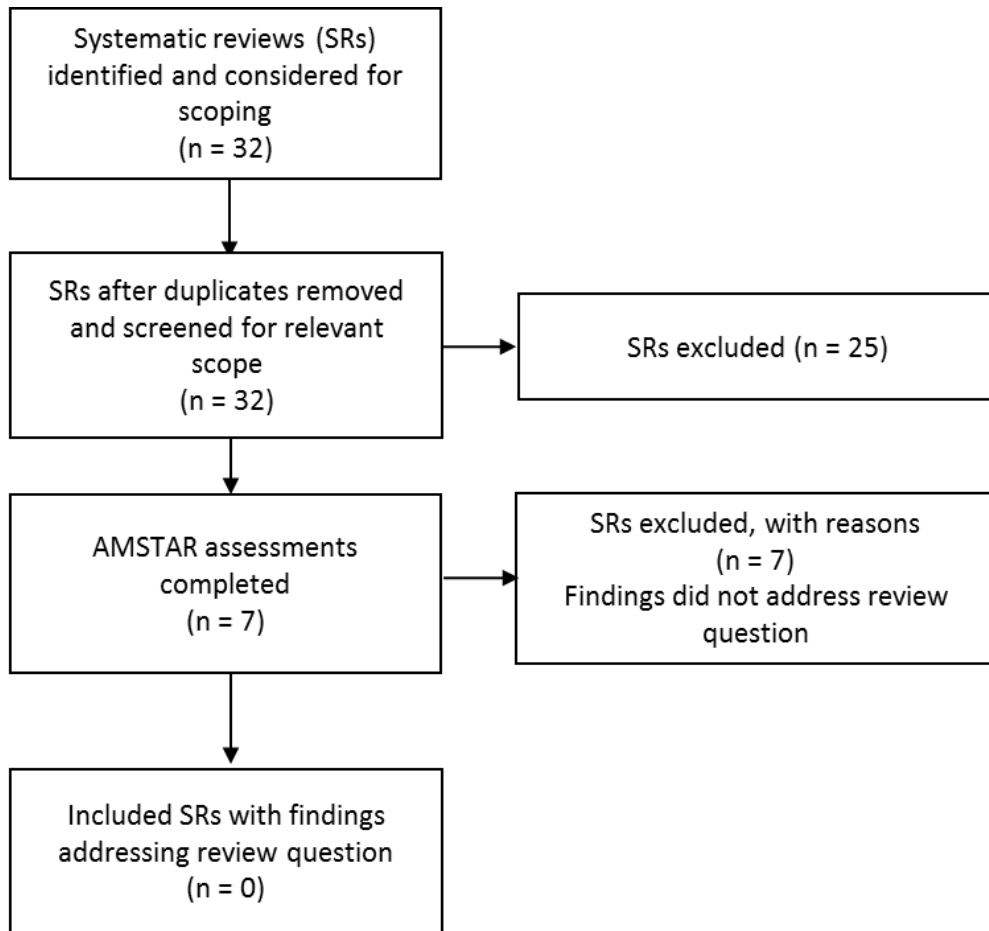


Figure 29. PRISMA chart of systematic reviews for key clinical question 7

9.5 Implications of correction to the “Work” Search String for Key clinical question 7

Implications of correction to the ‘work’ search string are described in Table 36.

Table 36. Key clinical question 7 literature search results and implications arising from search strings used in relation to work

Evidence Review Rounds	Original key clinical question 7. For GPs who are managing patients with compensation claims, what is appropriate communication with the patient’s workplace, in order to appropriately investigate and manage a work-related mental health condition?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
R1	<ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - General practice - Work-relatedness - Communication 	Work in the compensable setting	work	4	1295
R2	<p>Revised Key clinical question 7. What is appropriate communication with the patient’s workplace, in order to appropriately manage a work-related mental health condition?</p> <ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - General practice - Work-relatedness - Communication - Feb – April 2017 	Work in the compensable setting	work	4	35
		If work-relatedness search string had been corrected to “work”	Work	110	No impact
Search for guidelines and systematic reviews	Guidelines n=54 Systematic reviews n=32				

9.6 Guideline Development Group recommendation

For key clinical question 7 the review should consider the 110 hits in Ovid that would have occurred as a result of the search string error correction in round 2 in order to inform the final guideline recommendation of the Guideline Development Group.

Following the above recommendation, an updated search was performed for key clinical question 7 and no new studies were identified for inclusion as shown in Figure 31.

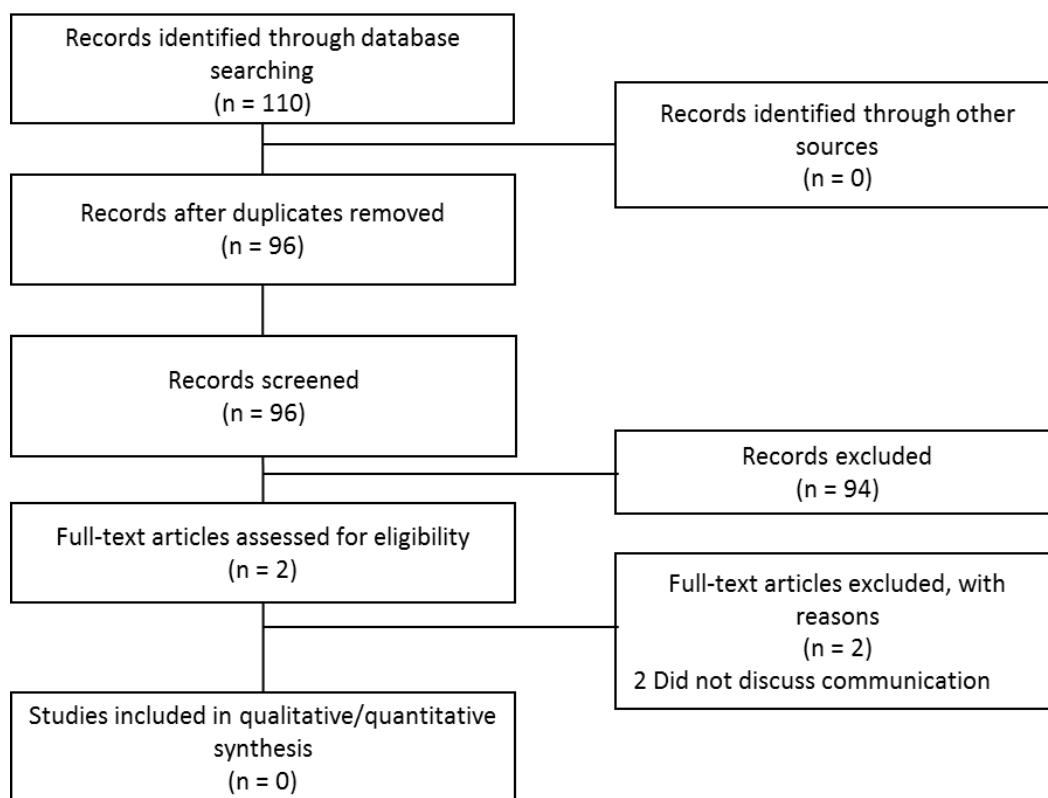


Figure 30. Search outcome for key clinical question 7 following evidence review recommendations

9.7 Findings and GRADE Evidence Profile Tables from Evidence Reviews: Key clinical question 7

9.7.1.1 Evidence-based recommendations

Strong recommendation FOR (Moderate quality of evidence)

A GP should use telephone and/or face-to-face methods to communicate between a worker, supervisor, healthcare provider(s), union representatives and other disability management stakeholders.

Strong recommendation FOR (High quality of evidence)

A GP should consider using a trained workplace rehabilitation provider, if available, to coordinate and negotiate return to work among stakeholders.

9.7.1.2 Summary of the evidence identified in the evidence review

Two cross-sectional studies ^{152 153} (Table 37) and one existing guideline (AGREE-II score 67%) ¹⁵¹ were included for this key clinical question. The two studies provided a qualitative evidence narrative on work-related stress and depression (Table 38). One explored collaboration between occupational health services and the workplace ¹⁵² and the other described GPs' practices with dealing with work-related depressive disorders ¹⁵³. Three key themes were identified pertaining to 1) communication content; 2) issues around patient/worker privacy/confidentiality, and; 3) the key stakeholders involved in the communication concerning workplace health matters.

Table 37. Downs and Black Checklist quality assessment scores for studies included in key clinical question 7

	Reporting (Overall study quality)	External validity	Internal validity (Study bias)	Internal validity (Confounding and selection bias)	Power of study	Total
Kinnunen-Amoroso & Liira 2016 ¹⁵²	6.0	2.0	4.0	2.5	0	14.5
Sylvian et al 2015 ¹⁵³	6.0	2.0	3.5	3.0	0	14.5
Mean	6.0	2.0	3.8	2.8	0	14.5
SD	0	0	0.4	0.4	0	0

9.7.1.3 Summary of the evidence identified in relevant guidelines

The summary of evidence for the use of a trained negotiator was given in the clinical guideline as follows: “*Strong evidence: Both return-to-work coordination and negotiation among stakeholders are required to accomplish individualized return-to-work strategies. To be successful, these return-to-work strategies may need to be coordinated by a trained return-to-work coordinator.* This recommendation was based on high quality evidence.” The authors assessed the evidence base for this recommendation as being of high quality (Table 38)

“*Moderate evidence: In-person or telephone contacts can result in earlier return to work and higher rates of return to work (Dewa, Hoch, Carmen, Guscott, & Anderson, 2009; Rebergen, Bruinvels, Bezemer, et al., 2009) and can also be cost-effective modes of structured and planned close communication between the worker, supervisor, healthcare provider(s), union representative and other return-to-work stakeholders*” p28 Pomaki et al. ¹⁵¹ The authors assessed the evidence base for this recommendation as being of high quality (Box 1).

Box 1. Evidence supporting recommendations extracted from Pomaki et al ¹⁵¹

High quality

Corbière, M., & Shen, J. (2006). A systematic review of psychological return-to-work interventions for people with mental health problems and/or physical injuries. *Canadian Journal of Community Mental Health*; 25(2), 261-288.

Fleten, N., & Johnsen, R. (2006). Reducing sick leave by minimal postal intervention: a randomised, controlled intervention study. *Occupational and Environmental Medicine*, 63(10), 676-682.

Steffick, D. E., Fortney, J. C., Smith, J. L., & Pyne, J. M. (2006). Worksite disease management programs for depression - Potential employer benefits. *Disease Management & Health Outcomes* 14(1), 13-26.

Rebergen, D. S., Bruinvels, D. J., Bezemer, P. D., van der Beek, A. J., & van Mechelen, W. (2009). Guideline-based care of common mental disorders by occupational physicians (CO-OP study): a randomized controlled trial. *Journal of Occupational & Environmental Medicine*, 51(3), 305-312.

Rebergen, D. S., Bruinvels, D. J., van Tulder, M. W., van der Beek, A. J., & van Mechelen, W. (2009). Cost-effectiveness of guideline-based care for workers with mental health problems. *Journal of Occupational & Environmental Medicine*, 51(3), 313-322.

Medium quality

British Occupational Health Research Foundation. (2005). *Workplace interventions for people with common mental health problems: Evidence review and recommendations*. London, UK: British Occupational Health Research Foundation (BOHRF).

Caveen, M., Dewa, C. S., & Goering, P. (2006). The influence of organizational factors on return-to-work outcomes. *Canadian Journal of Community Mental Health*, 25(2), 121-142.

National Institute for Health and Clinical Excellence. (2009b). *Managing long-term sickness absence and incapacity for work*. London, UK: National Institute for Health and Clinical Excellence (NICE). van der Klink, J. J. L., Ausems, C. M. M., Beijderwellen, B. D., Blonk, R., Bruinvels, D. J., Dogger J., et al. (eds.). (2007).

Handelen van de bedrijfsarts bij wekenden met psychische problemen [Guideline for the Management of Mental Health Problems by Occupational Physicians]. Utrecht, NL: NVAB [Netherlands Society of Occupational Medicine].

Low quality

Dewa, C. S., Hoch, JS, Carmen, G., Guscott, R., & Anderson, C. (2009). Cost, effectiveness, and cost-effectiveness of a collaborative mental health care program for people receiving short-term disability benefits for psychiatric disorders. *Canadian Journal of Psychiatry*, 54(6), 379-388.

Verdonk, P., de Rijk, A., Klinge, I., & de Vries, A. (2008). Sickness absence as an interactive process: Gendered experiences of young, highly educated women with mental health problems. *Patient Education and Counseling*, 73(2), 300-306.

Wald, J., & Alvaro, R. (2004) Psychological factors in work-related amputation: considerations for rehabilitation counselors. *Journal of Rehabilitation*, 70(4), 6-15.

Table 38. GRADE Evidence Profile Table: What is appropriate communication with the patient’s workplace in order to appropriately manage a work-related mental health condition?

MHC	Quality Assessment (GRADE Criteria)							No. of participants	Effect		GRADE	Comments
	No. of studies	Study Design	Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations		Absolute	Relative		
Stress, Depression	1 ¹⁵² 153	Cross-sectional	Serious	Not serious	Not serious	None	Low quality studies; Finnish and Canadian contexts	226	N/A	N/A	LOW	-
<p>Intervention: N/A</p> <p>Outcome: Appropriate communication with the workplace – (information/content, principle, stakeholders):</p> <ul style="list-style-type: none"> • Content/Information to be communicated between practitioners and the workplace <ul style="list-style-type: none"> ○ Clear communication from the practitioner to the workplace about what workplace adjustments may be needed to mitigate work-related stress and facilitate return to work ○ “The OPs alone can’t change the working conditions and the enterprises need more adequate information from OHS [occupational health services – occupational physicians and psychologists] what they [enterprise/workplace] can do...” to better manage work-related stress • Principles to observe practitioner/patient/worker privacy/confidentiality in communication <ul style="list-style-type: none"> ○ Some reservations about communicating with the workplace and whether communication is relevant, “Information is never exchanged directly with employers, mostly to preserve confidentiality of information, and is not even seen as relevant” ○ Thus, communication with third parties needs to observe patient (worker) privacy and confidentiality and this is balanced against the practitioner’s need for information to clarify the work situation for the purpose of formulating a return to work plan ○ The need for balanced GP engagement with the workplace to inform and enable the GP to make “...valid judgment about the person’s ability to return to work” balanced against privacy and confidentiality protections • Communication key stakeholders <ul style="list-style-type: none"> ○ Health practitioner and occupational safety representative, human resource manager, supervisors and enterprise administrations are the key partners in communication concerning an injured worker 												

10 Key clinical question eight: In patients with work-related mental health conditions, what interventions are effective at managing comorbid substance misuse and addictive disorders by GPs?

10.1 Evidence Review round one

10.1.1 PICO

P	Patients with comorbidities
I	Interventions to manage mental health comorbidities (specifically related and addictive disorders)
C	Compare between interventions
O	Evidence-based management of comorbidities

10.1.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression or Vicarious trauma)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]]
2.	((General adj (practi* or physician* or doctor)) or (Family adj (practi* or physician* or doctor*)) or (Family adj medic* adj (practi* or doctor*)) or (Primary adj care adj (practi* or physician* or doctor*)) or (((Occupational health adj (practi* or physician* or doctor* or specialist*)) or company) adj physician*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	(((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	(Strateg* or Intervention* or Treatment* or Care* or manag* or approach* or decision* or action* or Therap* or refer*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	((Other adj (illness* or disorder* or condition*)) or comorbid substance abuse* or substance abuse* or comorbid drug use* or comorbidit* or prescription drug misuse* or substance-related disorder* or (addicti* adj disorder*) or addition).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
6.	1 and 2 and 3 and 4 and 5 [NB. returned 0 hits]
7.	1 and 2 and 4 and 5 [returned results (2065) when work (3) was excluded]

10.1.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S ₁	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or "Vicarious trauma"	Search modes - Boolean/ Phrase
S ₃	(General AND (practi* or physician* or doctor*)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or ("Primary care" AND (practi* or physician* or doctor*)) or ("Occupational health" AND (practi* or physician* or doctor* or specialist*)) or "company physician*"	Search modes - Boolean/ Phrase
S ₄	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S ₅	Strateg* or Intervention* or Treatment* or Care* or manag* or approach* or decision* or action* or Therap* or refer*	Search modes - Boolean/ Phrase
S ₁₂	"Other illness*" OR "other disorder*" OR "other condition*" OR "comorbid substance abuse*" OR "substance abuse*" OR "comorbid drug use*" OR comorbidit* OR "prescription drug misuse*" OR "substance-related disorder*" OR "substance addicti*" OR "substance related disorder*" OR addict* OR "alcohol abuse"	Search modes - Boolean/ Phrase
S ₃₄	S ₁ AND S ₃ AND S ₄ AND S ₅ AND S ₁₂	Search modes - Boolean/ Phrase

10.1.4 Search period

Database inception to the 31st the January 2017.

10.1.5 PRISMA round one

Embase, Medline, PsycINFO and AMED returned n=2065 records and CINAHL returned n=403 records, however no studies met the inclusion criteria (Figure 32).

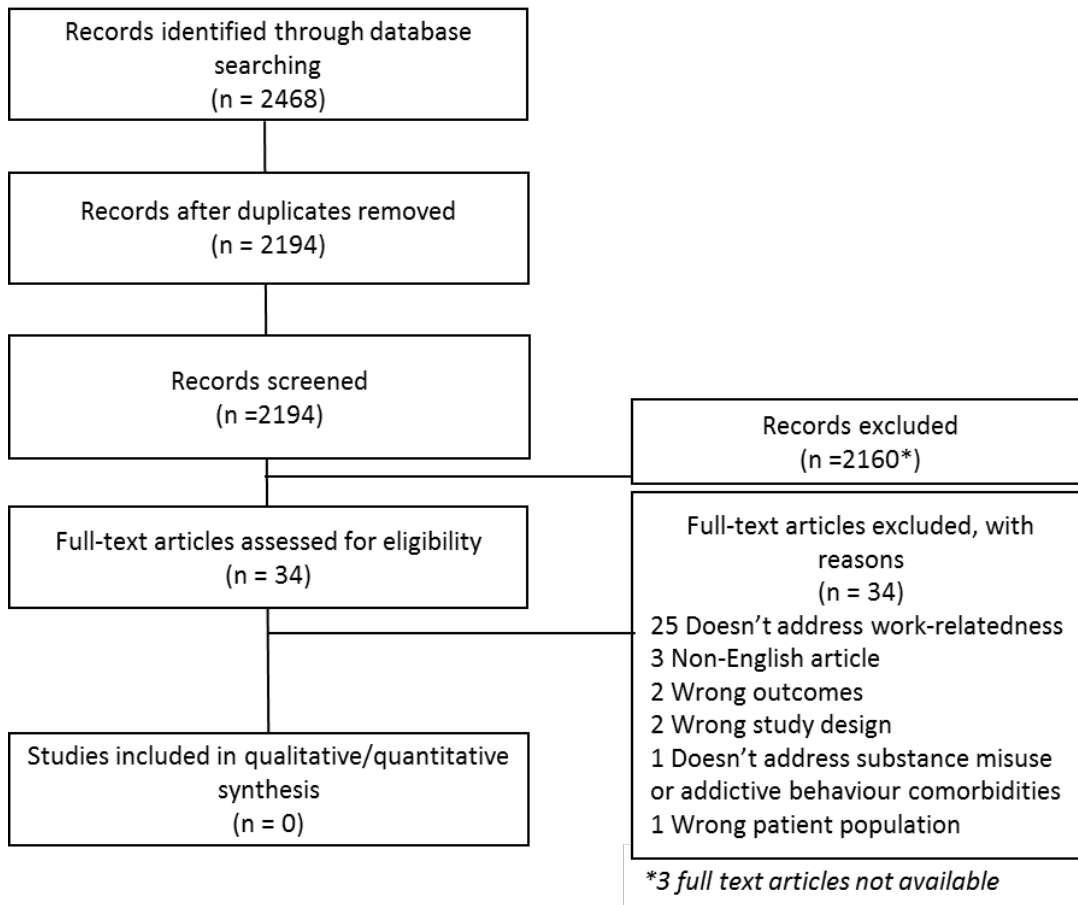


Figure 31. Round one PRISMA chart for key clinical question 8

10.2 Guideline Development Group recommendations

- Remove work-relatedness focus from search inclusion criteria
- Remove GP aspect from search inclusion criteria
- Supplement the findings of the search for existing systematic reviews and guidelines on the management of mental health conditions and comorbid substance abuse (e.g. PTSD guidelines).

10.3 Evidence Review round two

10.3.1 PICO

- P Patients with a work-related mental health condition
- I Interventions for managing comorbid substance misuse and addictive disorders
- C All interventions for managing comorbid substance misuse and addictive disorders
- O Effective management

10.3.2 Search Strategy: Embase, Medline, PsycINFO and AMED

No change to search strategy.

10.3.3 Search Strategy: CINAHL

No change to search strategy.

10.3.4 Search period

From the 1st of February 2017 to the 30th of April 2017.

10.3.5 PRISMA round two

Embase, Medline, PsycINFO and AMED returned n=92 records and CINAHL returned n=12 records (Figure 33).

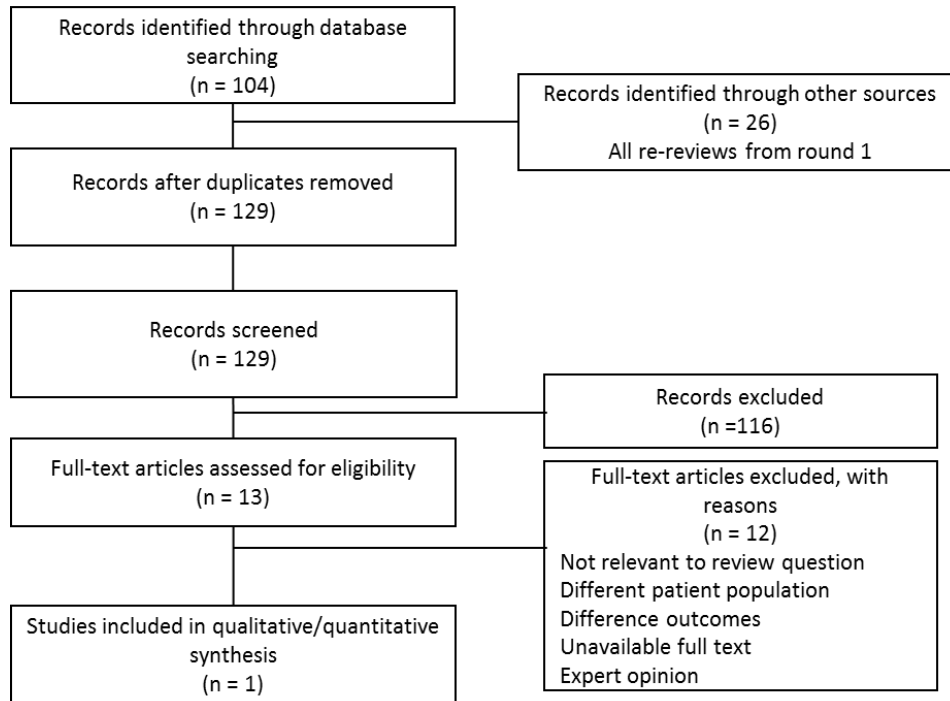


Figure 32. Round two PRISMA chart of key clinical question 8 updates

Together in rounds one and round two the search yielded 1 studies that met the eligibility criteria (Figure 34)

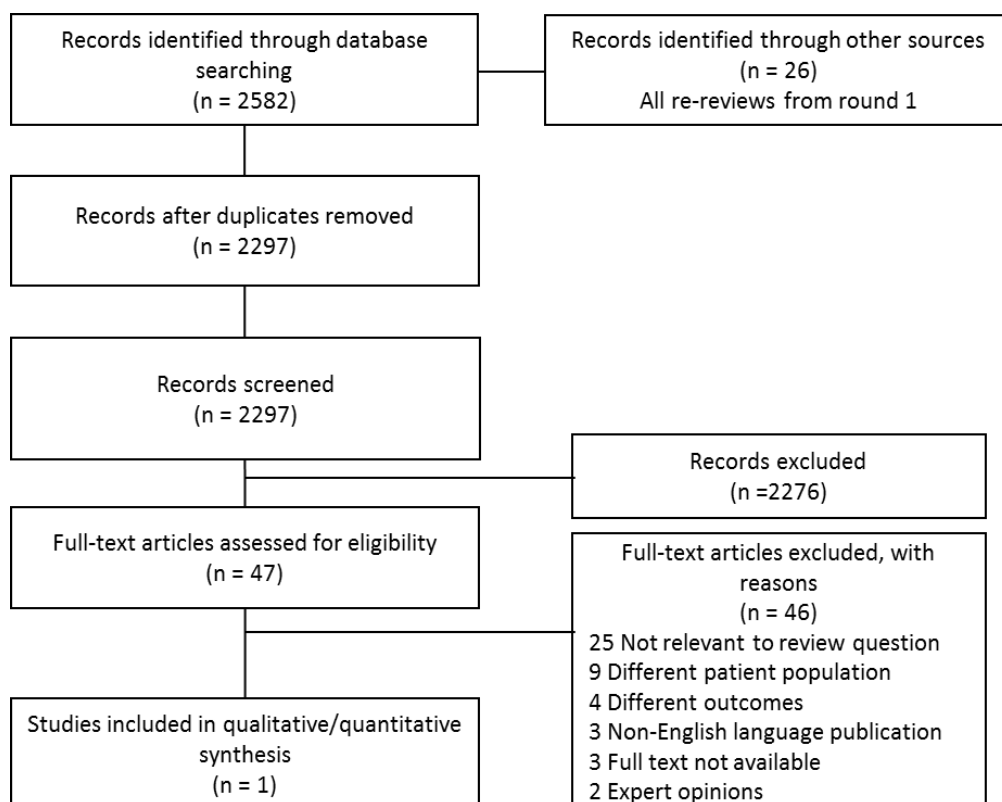


Figure 33. Combined round one and round two PRISMA for key clinical question 8

10.4 Existing Guidelines and Systematic Reviews for key clinical question 8

10.4.1 PICO

- P Patients with a work-related mental health condition
- I Interventions for managing comorbid substance misuse and addictive disorders
- C All interventions for managing comorbid substance misuse and addictive disorders
- O Effective management

10.4.2 Search Strategy: Guidelines

The search strategy for existing clinical guidelines that address question two is described in Table 39.

Table 39. Search strategy for existing guidelines for key clinical question 8

Guideline Resource	Search strategy and Limiters
GIN	Mental Disorders (Mesh terms), English
National Guideline Clearinghouse (NGC)/psychiatry	List review
National Guideline Clearinghouse/psychology	List Review
NHMRC Clinical guidelines portal	List review
RACGP	List review
RANZCP	List review
NICE/Mental health and behavioural conditions	List review
NICE/Mental health and behavioural conditions/alcohol	List review
SIGN	List review
SIGN	Mental health (key word)
WHO	List review
Google	work AND adjustment disorders AND guideline

10.4.3 Search period

Up to the 25th of May 2017

10.4.4 PRISMA – Guidelines

A total of six clinical guidelines were identified to meet the scope and outcomes for key clinical question 8 (Figure 35). An additional seventh guideline ⁷³ was identified through guideline review of other key clinical questions and included. The guidelines and their quality scores are presented in Table 40.

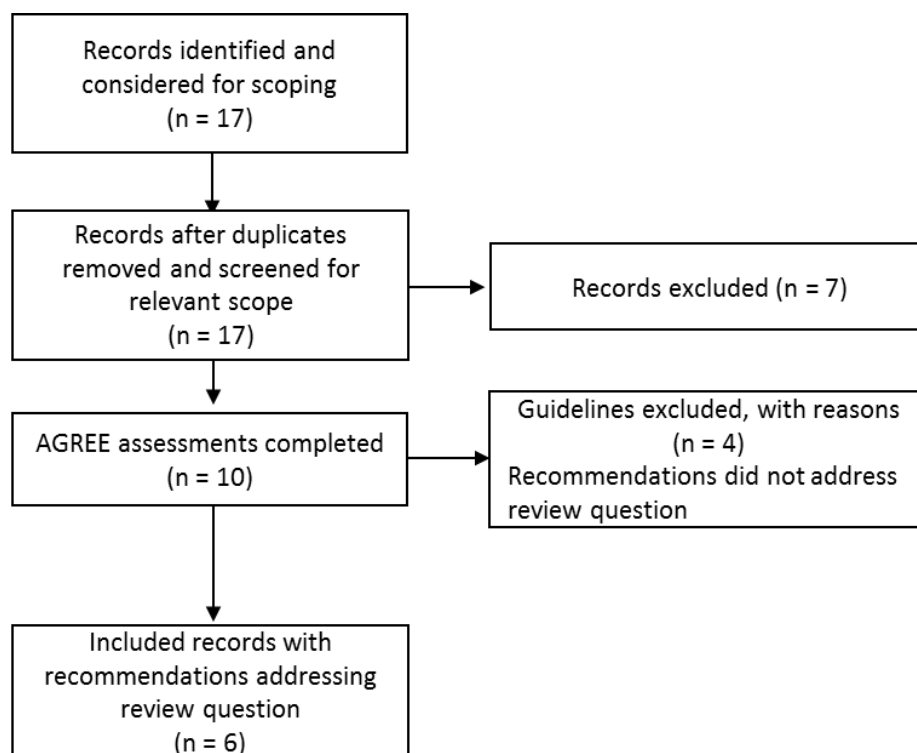


Figure 34. PRISMA chart of guidelines for key clinical question 9

Table 40. Clinical Guidelines offering recommendations that addressed key clinical question 8

Guideline Title	Guideline Author	Date	AGREE-II score
Clinical practice guideline for the management of substance use disorders ⁶⁶	Department of Veteran's Affairs	2015	83%
Generalised anxiety disorder and panic disorder in adults ¹⁶	NICE	2011	83%
Alcohol-use disorders: diagnosis, assessment and management of harmful drinking and alcohol dependence ¹⁵	NICE	2011 (Updated 2015)	90%
Drug misuse in over 16s: opioid detoxification ¹⁵⁵	NICE	2007 Updated 2014	83%
Diagnosis and Treatment of Post-traumatic Stress Disorder in Emergency Service Workers ⁹⁸	Harvey et al.: Black Dog Institute, The University of NSW	2015	73%
Prescribing drugs of dependence in general practice ¹⁵⁶	RACGP	2015	67%
Australian guidelines for the treatment of acute stress disorder and post-traumatic stress disorder ⁷³	Phoenix Australia	2013	75%

10.4.5 Search Strategy: Systematic reviews

The search strategy for existing systematic reviews that address question two is described in Table 41.

Table 41. Search strategy for existing systematic reviews for key clinical question 8

Systematic Review Resource	Search Strategy and Limiters
Campbell Collaboration	List review
Cochrane	[[Mental or psychological or psychiatric or stress or distress or depress or mood or affective or adjustment or traumatic or anxiety] AND [substance misuse or substance abuse or drug or alcohol or addict or addiction] AND [comorbid or co-morbid] RESTRICTED to Cochrane reviews
Cochrane Reviews/Common mental disorders review group	List review
Cochrane Reviews/topic mental health	List review
Joanna Briggs Institute	Mental health -List review

10.4.6 Search period

Up to the 25th of May 2017.

10.4.7 PRISMA - Systematic reviews

A total of two systematic reviews were identified in the search (Figure 36).

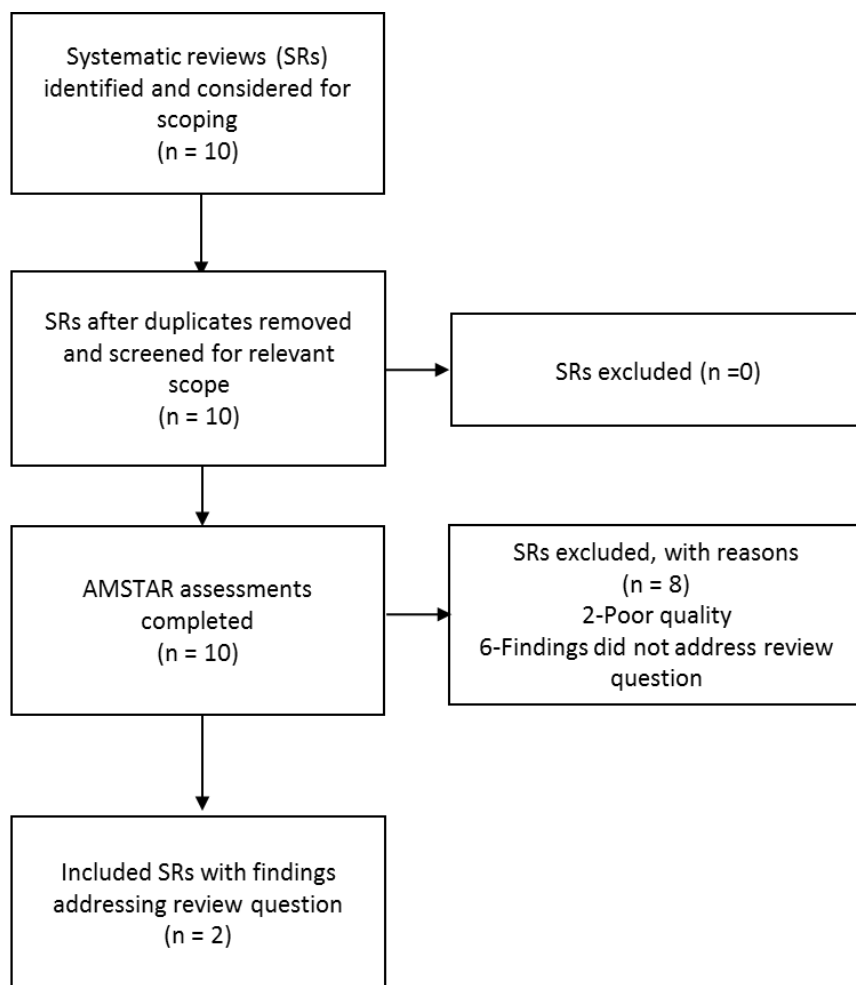


Figure 35. PRISMA flow chart of systematic reviews for key clinical question 8

Both systematic reviews rated highly on the AMSTAR checklist (Table 42).

Table 42. Systematic reviews with findings addressing key clinical question 8

Review Title	Review Author	Date	AMSTAR score (?/11)	Review type
Psychological therapies for post-traumatic stress disorder and comorbid substance use disorder ¹⁵⁷	Roberts et al	2016	10	Cochrane review
Pharmacotherapy for anxiety and comorbid alcohol use disorders ¹⁵⁸	Ipser et al	2015	11	Cochrane review

10.5 Implications of correction to the “Work” Search String for Key clinical question 8

Implications of correction to the ‘work’ search string are described in Table 43.

Table 43. Key clinical question 8 literature search results and implications arising from search strings used in relation to work

Evidence Review Rounds	Original key clinical question 8. In patients with work-related mental health conditions, what interventions are effective at managing comorbid substance misuse and addictive disorders by GPs?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
R1	<ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - General practice - Work-relatedness - Comorbid substance use - Strategies 	Work in compensable setting	Work	0	403
		Excluded work in compensable setting	work	2065	403
		If work-relatedness search string had been corrected to “work”	Work	1 263	No impact
R2	No change made to key clinical question. <ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - General practice - Work-relatedness - Comorbid substance use - Strategies - Feb – April 2017 	Excluded work in compensable setting	Work	92	12
		If work-relatedness search string had been corrected to “work”	Work	29	No impact
Search for guidelines and systematic reviews	Guidelines n=17 Systematic reviews n=10				

10.6 Recommendations arising from the Guideline Development Group meeting

No change for key clinical question 8 because the search without “work” was broader.” Our recommendation is to accept the final recommendation as per Guideline Development Group meeting 3.

10.7 Findings and GRADE Evidence Profile Tables from Evidence Reviews: Key clinical question 8

10.7.1.1 Evidence-based recommendation

Recommendation for future research

On the available evidence, there is no clear support for an intervention in a general practice setting to manage comorbid substance misuse and addictive disorders; therefore, there is an urgent need to promote research in this area.

Weak recommendation FOR (very low quality of evidence)

For work-related PTSD, a GP may consider individual-based trauma-focused psychological therapy delivered along with substance use disorder therapy.

10.7.1.2 *Summary of the evidence identified in the evidence review*

The evidence review produced a single RCT, which was assessed as being of high quality (Table 44). This study investigated brief interventions to reduce problematic drinking, which included a stepped-care model using alcohol-related telephone counselling. The intervention found no significant effect on alcohol consumption in patients with comorbid anxiety or depression (Table 46). The intervention was associated with reduced alcohol consumption among those with comorbid anxiety and/or depression; the reduction was not significant in contrast to a significant reduction in those without comorbid anxiety and/or depression.

Table 44. Downs and Black Checklist quality assessment scores for study included in key clinical question 8

	Reporting (Overall study quality)	External validity	Internal validity (Study bias)	Internal validity (Confounding and selection bias)	Power of study	Total
Grothues et al 2008	10	3	6	6	1	25

10.7.1.3 *Summary of the evidence identified in existing relevant guidelines and systematic reviews*

Two existing high quality Cochrane systematic reviews (Table 45) ^{157,158} met the scope for this key clinical question. The first review ¹⁵⁷ explored the efficacy of psychological therapies in people with PTSD and/or substance use disorder (SUD). This study reviewed thirteen studies of low to very low quality that assessed the effect of individual trauma-focused psychological therapy delivered alongside SUD therapy on PTSD severity and SUD severity. The authors concluded showing that individual trauma-focused psychological therapy delivered alongside SUD therapy was more effective at reducing PTSD severity post-treatment compared with treatment as usual/minimal intervention, although effect sizes were small. Similar improvements were also observed at long-term follow-up. Improvements in SUD was only observed at long-term follow-up.

The second review ¹⁵⁸ aimed to assess the effects of pharmacotherapy for treating anxiety in people with comorbid alcohol use disorders. The authors concluded that the evidence-base for the effectiveness of medication in treating anxiety disorders and comorbid alcohol use disorders is currently inconclusive. There was a small amount of evidence for the efficacy of medication, but this was limited and of very low quality. The majority of the data for the efficacy and tolerability of medication were for selective serotonin reuptake inhibitors; there were insufficient data to establish differences in treatment efficacy between medication classes or patient subgroups.

Table 45. List of existing reviews addressing key clinical question 8

Review Title	Review Author	Review type	AMSTAR score
Psychological therapies for post-traumatic stress disorder and comorbid substance use disorder ¹⁵⁷	Roberts et al ¹⁵⁷	Cochrane systematic review	10
Pharmacotherapy for anxiety and comorbid alcohol use disorders ¹⁵⁸	Ipser et al ¹⁵⁸	Cochrane systematic review	11

Table 46. GRADE Evidence Profile Table: In patients with work-related mental health conditions, what interventions are effective at managing comorbid substance misuse and addictive disorders by GPs?

MHC	Quality Assessment (GRADE Criteria)							No. of participants		Effect		GRADE	Comments
	No. of studies (n)	Study Design	Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations	Intervention	Control	Absolute	Relative		
Drinking problems and comorbid depressive and/or anxiety disorders	1 ⁵⁹	RCT	None	None	None	Not serious	Single high quality RCT	131	139	6.9 to 7.1g/alcohol/day	-	HIGH	Non-significant effect
	<p>Intervention: Brief interventions (BI) to reduce problematic drinking which included alcohol related telephone counselling: Stepped care (max 3 sessions at one, three, and six months from baseline), or full care (four sessions immediately following baseline assessment, plus after one, three, and six months, vs control (no alcohol related intervention/counselling, only sent health behaviour information booklet)</p> <p>Outcome: Effective management (alcohol consumption):</p> <ul style="list-style-type: none"> • The intervention had a greater but non-significant reduction in alcohol consumption at 12 months. • The intervention was significantly associated with reduced alcohol consumption in those without comorbid anxiety/depression than those with comorbid anxiety/depression. 												

11 Key clinical question nine: In patients with a diagnosis of a work-related mental health condition, what factors adversely affect progress in the patient’s condition?

11.1 Evidence Review round one

The clinical question was written as follows in round one “In patients with work-related mental health conditions who are not improving, what strategies should a general practitioner undertake to improve the patient’s condition?”

11.1.1 PICO

- P Patients with work-related mental health conditions
- I Symptoms and signs that indicate poor recovery, e.g. risk factors about chronicity
- C Symptoms and signs that do not indicate poor recovery
- O Early detection of slow patient recovery, patient satisfaction (regarding recovery)

11.1.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression or Vicarious trauma)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	((((Delay* or slow* or rapid* or quick* or late*) adj (progress* or recover* or respon*)) or evaluation* or (Prognosis or Recover* or Respon*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	1 and 2 and 3

11.1.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or "Vicarious trauma"	Search modes - Boolean/ Phrase
S3	(General AND (practi* or physician* or doctor)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or ("Primary care" AND (practi* or physician* or doctor*)) or ("Occupational health" AND (practi* or physician* or doctor* or specialist*)) or "company physician"	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S6	"Return to work" or Recov* or Improv* or Resol* or resolv* or Respon* or outcome* or "treatment outcome"	Search modes - Boolean/ Phrase
S8	((Delay* OR slow* OR rapid* OR quick* OR late*) AND (progress* OR recover* OR respon*)) OR evaluation* OR Prognosis OR Recover* OR Respon*	Search modes - Boolean/ Phrase
S13	"Return to work" OR Evaluation* OR Decision* OR Prognosis OR Indic* OR Guide* OR marker* OR Absenteeism OR "Sick* leave" OR "Sickness certificat*" OR "Work Schedule Tolerance*" OR "Work performance*" OR "Work abilit*" OR "work capacit*" OR "work disabilit*" OR "work read*" OR "Modified work" OR "modified dut*" OR "Work read"	Search modes - Boolean/ Phrase
S25	S1 AND S4 AND S6 AND S8 AND S13	Search modes - Boolean/ Phrase
S26	S3 AND S25	Search modes - Boolean/ Phrase

11.1.4 Search period

Database inception to the 31st of January 2017.

11.1.5 PRISMA round one

Embase, Medline, PsycINFO and AMED returned n=80 records and CINAHL returned n=1300 records (Figure 37).

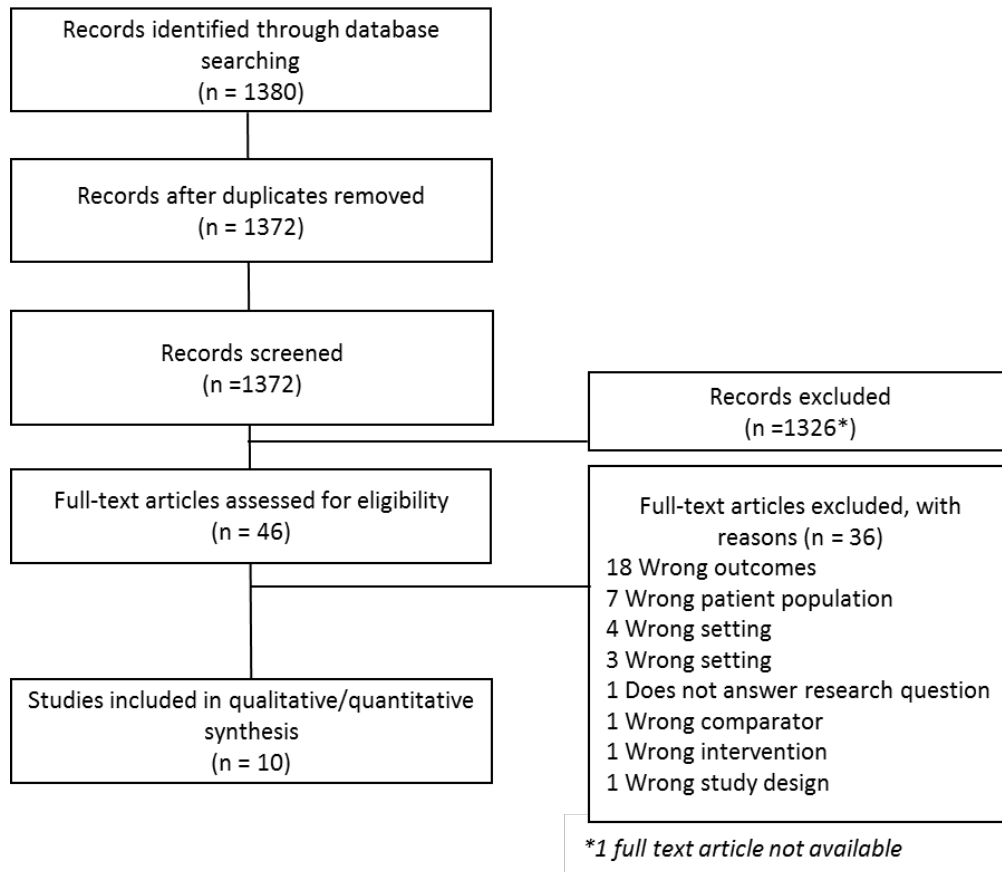


Figure 36. Round one PRISMA chart for key clinical question 9

11.2 Guideline Development Group recommendations

- Revise Key clinical question 9 to read: “In patients with a diagnosis of a work-related mental health condition what factors adversely affect progress in the patient’s condition?”
- Outcomes to be revised to “personal recovery” and “return to work” (as per Key clinical question 5).
- Remove ‘work-relatedness’ from search strategy and include eight studies that were originally excluded.

11.3 Evidence Review round two

11.3.1 PICO

- P Patients with a work-related mental health condition
- I Signs and symptoms of delayed recovery
- C Signs and symptoms that do not indicate delayed recovery
- O Personal recovery, return to work

11.3.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	((Delay* or slow* or rapid* or quick* or late*) adj (progress* or recover* or respon*)) or evaluation* or (Prognosis or Recover* or Respon*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	(Recov* or Improv* or Resolution* or resolv* or Respon* or outcome* or progress or (personal adj recovery) or CHIME or connectedness or hope or optimism or identity or (meaning adj life) or empowerment or (treatment adj outcome*) or (failure adj improve) or ((patient or worker or employee) adj (health or wellbeing))).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	((Return* adj work) or rtw or Absenteeism or Sick leave or Sickness certificat* or Work Schedule Tolerance* or Work performance* or (Work adj (abilit* or capacit* or disabilit* or read*)) or (suitable adj dut*) or (alternative adj dut*) or (Modified adj (work or dut*)) or (Work adj read*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	1 and 2 and (3 or 4)
6.	((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
7.	5 and 6

11.3.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression	Search modes - Boolean/ Phrase
S3	(General AND (practi* or physician* or doctor)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or ("Primary care" AND (practi* or physician* or doctor*)) or ("Occupational	Search modes - Boolean/ Phrase

	health" AND (practi* or physician* or doctor* or specialist*) or "company physician**"	
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/Phrase
S6	"Return to work" or Recov* or Improv* or Resol* or resolv* or Respon* or outcome* or "treatment outcome**"	Search modes - Boolean/Phrase
S8	((Delay* OR slow* OR rapid* OR quick* OR late*) AND (progress* OR recover* OR respon*)) OR evaluation* OR Prognosis OR Recover* OR Respon*	Search modes - Boolean/Phrase
S13	"Return to work" OR Evaluation* OR Decision* OR Prognosis OR Indicat* OR Guide* OR marker* OR Absenteeism OR "Sick* leave" OR "Sickness certificat*" OR "Work Schedule Tolerance*" OR "Work performance*" OR "Work abilit*" OR "work capacit*" OR "work disabilit*" OR "work read*" OR "Modified work" OR "modified dut*" OR "Work read**"	Search modes - Boolean/Phrase
S25	S1 AND S4 AND S6 AND S8 AND S13	Search modes - Boolean/Phrase
S26	S3 AND S25	Search modes - Boolean/Phrase

11.3.4 Search period

Database inception to the 30th of April 2017.

11.3.5 PRISMA round two

Embase, Medline, PsycINFO and AMED returned n=285 records and CINAHL returned n=1325 records (Figure 38). Records identified in Round 1 were identified again in the broader search strategy applied in Round 2.

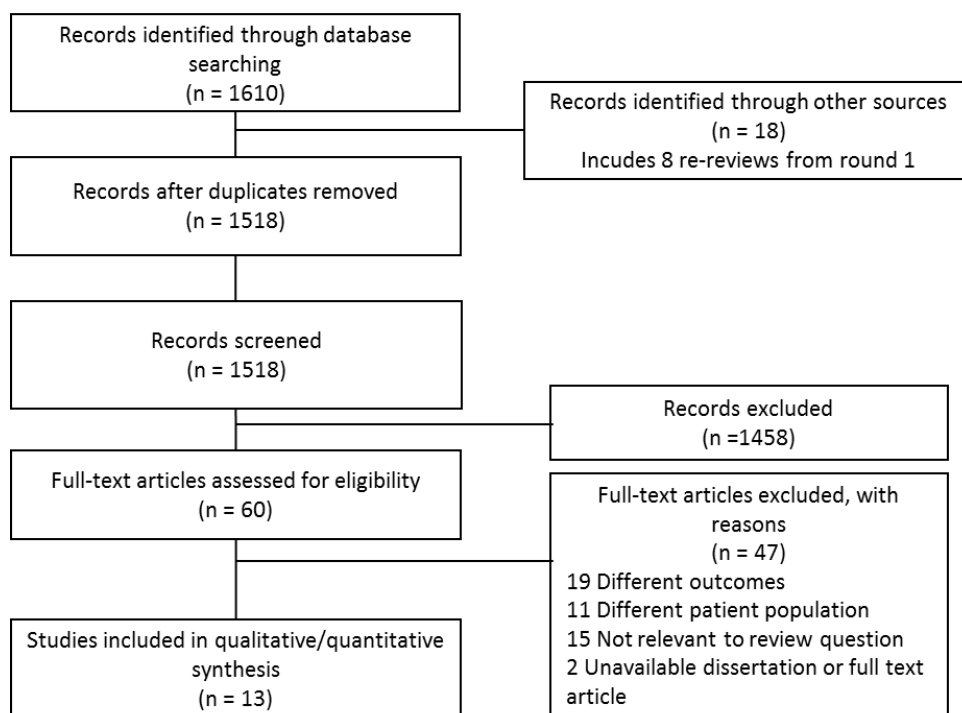


Figure 37. Combined round one and round two PRISMA chart for key clinical question 9

11.4 Implications of correction to the “Work” Search String for Key clinical question 9

Implications of correction to the ‘work’ search string are described in Table 47.

Table 47. Key clinical question 9 literature search results and implications arising from search strings used in relation to work

Evidence Review Rounds	Original key clinical question 9. In patients with a diagnosis of a work-related mental health condition, what features (factors) lead to delayed progress in the patient’s condition?	Ovid implication	CINAHL implication	Ovid count	CINAHL count
R1	<ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - Work-relatedness - Delayed progress 	Work in the compensable setting	work	80	1 300
		If work-relatedness search string had been corrected to “work”	Work	149 450	No impact
R2	Revised Key clinical question: In patients with a diagnosis of a work-related mental health condition what factors adversely affect progress in the patient’s condition? <ul style="list-style-type: none"> - Mental health conditions (excluded vicarious trauma) - Work-relatedness - Delayed progress (included failure to improve) - Return to work (included alternative duties) - Inception – 30th April 2017 	Work in the compensable setting removed	Work removed	1 641 352	4 344
		Work in the compensable setting	work	285	1 325
		If work-relatedness search string had been corrected to “work”	Work	4 187	No impact

11.5 Guideline Development Group recommendation

For Key clinical question 9 the large number of hits in Ovid that would have occurred as a result of the search string error correction would have made the search unfeasible. Our recommendation is to accept the final recommendation as per Guideline Development Group meeting 3.

11.6 Findings and GRADE Evidence Profile Tables from Evidence Reviews: Key clinical question 9

11.6.1.1 Evidence-based recommendation

Strong recommendation FOR (high quality of evidence)

A GP should consider the following factors that might affect progress in a patient's condition.

Medical factors

- Alcohol intake, smoking, drug dependence
- Persistent symptoms prior to going on sick leave
- Higher degree of severity of mental health conditions (distress, depression, anxiety and somatisation)
- Longer duration of symptoms and longer sick leave duration at baseline
- Extensive physical injury
- Chronic pain
- Overweight, underweight
- Quality of rehabilitation services

Personal/patient factors

- Stressful life factors outside of work
- Patients aged > 40 years

Health behaviours and attitudes

- Attitude towards return to work
- Reduced expectations by patients about being able to return to work

Employment/workplace factors

- Job/work stress
- Poor communication with supervisor/employer
- Harassment and bullying as a precursor to the mental health condition.

11.6.1.2 Summary of the evidence identified in the evidence review

Eleven primary studies ^{53 108 109 132-139}, a systematic review ¹⁴⁰ and one narrative review ¹⁴¹, met the inclusion for key clinical question 9. These studies and their quality appraisal results are listed in Tables 48, 49, and 50. The review identified factors that may be associated with adverse progress as inferred from delayed return to work and personal recovery. These factors related to workplace, personal/psychosocial, and medical/health attributes which can act as prognostic red flags at assessment and evaluation. Overall evidence from the primary studies is presented in Table 51. The two review papers ^{140 141} identified similar factors, although Blank et al. ¹⁴⁰ concluded that there was little robust evidence about what factors carry the greatest risk for sickness absence.

Table 48. Downs and Black Checklist quality assessment scores for studies included in key clinical question 9

	Reporting (Overall study quality)	External validity	Internal validity (Study bias)	Internal validity (Confounding and selection bias)	Power of study	Total
Aakvik et al 2010 ¹³²	10	3	4	2	0	19

Anderson et al 2011 ¹³³	10	3	4	3	0	20
Brouwers et al 2009 ¹³⁵	8	3	7	6	0	24
Dollard et al 1999 ¹³⁶	6	2	0	1	0	9
Engblom et al 2009 ¹³⁷	6	3	4	2	0	15
Nieuwenhuijsen et al 2003 ¹⁰⁸	8	3	4	3	0	18
Prang et al 2016 ¹⁰⁹	9	0	5	4	0	18
Bryngelson et al 2012 ¹³⁹	8	3	5	4	0	20
Russell et al 1995 ⁵³	6	1	5	4	0	16
Salmi et al 2009 ¹³⁸	8	3	3	3	0	17
Mean	7.9	2.4	4.1	3.2	0.0	17.6
SD	1.5	1.1	1.8	1.4	0.0	3.9

Table 49. Adapted CASP quality checklist assessment of qualitative studies included in key clinical question 9

CASP Domain	Brijnath et al 2014 ¹³⁴
Research design	3
Sampling	2
Data collection	2
Data analysis	7
Findings/Results	5
Research value	6
	Total (/26) 25
	Suitability High value

Table 50. List of existing reviews addressing key clinical question 9

Review Title	Review Author	Method used	AMSTAR score
A systematic review of the factors which predict return to work for people suffering episodes of poor mental health	Blank et al 2008 ¹⁴⁰	Systematic review	7
Work and common psychiatric disorders	Henderson et al 2011 ¹⁴¹	Narrative non-systematic review	0

Table 51. GRADE Evidence Profile Table: In patients with a diagnosis of a work-related mental health condition, what factors adversely affect progress in patient’s condition?

MHC	No. of studies (n)	Quality Assessment (GRADE Criteria)						No. of patients	Effect		GRADE	Comments
		Study Design	Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations		Absolute	Relative		
Minor mental health condition (i.e. distress, depression, anxiety and somatisation)	1 ¹³⁵	RCT	none	not serious	not serious	not serious	single study	194	-	0.275 to 0.926	HIGH	Low odds (OR) of returning to work within 6 months
	<p>Outcome: Personal recovery and return to work – factors significantly associated with lower odds of returning to work by 6 months</p> <ul style="list-style-type: none"> • Persistent symptoms prior to going on sick leave • Type and severity of MHC symptoms (i.e. Anxiety vs. depression, somatization) with greater depressive symptoms associated with non-return to work at 6 months. • Absenteeism > 3 weeks at time of evaluation 											
PTSD, depression, and anxiety disorder, stress, adjustment disorders and other unspecified MHC/psychiatric diagnoses	9 ^{53 108 109 132- 134 137- 139 142}	Cross-sectional/cohort/case control	Serious	Serious	Not serious	serious	Several studies from a varying healthcare systems	365 593	-	-	HIGH	Include two large secondary database analysis
	<p>Outcome: Return to work and personal recovery – factors associated with delayed return to work and/or recovery:</p> <ul style="list-style-type: none"> • Employment sectors: Agriculture, construction, wholesale and retail, financial services, • Employment/workplace: supervisor employer communication, harassment and bullying as precursor to mental health condition; job/work stress • "...type of stress precipitant..." i.e. "critical incident " plus "chronic work stressors" led to lengthy sick leave/delayed return to work • Socioeconomic factors: education, income/low pay, work experience, and working hours; risk of unemployment has an influence on the type and length of sickness certification • Medical factors: Greater mental health condition symptom severity (i.e. GHQ-28, Derogatis Stress Profile) was associated with failure to return to work within four months; extensive physical injury, chronic pain; quality of rehabilitation services; workers who consulted psychiatrist, psychologist or chemist were more likely (12-46%) to take longer to return to work within a two-year period; Drug treatment and physiotherapy were associated with 75-79% likely to be on sickness absence for more than 90 days • Health behaviours: Alcohol intake, smoking, drug dependence, overweight, underweight, negative mindset towards recovery • Personal/patient factors: Stressful life factors outside of work; older age (>40) was associated with a negative prognosis of return to work within two years and these patients were less often recommended additional rehabilitation" 											

12 Key clinical question ten: In patients with work-related mental health conditions who are not improving, what strategies should a general practitioner undertake to improve the patient's condition?

12.1 Evidence Review round one

12.1.1 PICO

P	Patients with work-related mental health conditions
I	Review (holistic), (include barriers)
C	Assessment upon initial presentation
O	Patient recovery, patient satisfaction

12.1.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1.	((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Anxiety or stress or Depression or Vicarious trauma)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
2.	((General adj (practi* or physician* or doctor)) or (Family adj (practi* or physician* or doctor*)) or (Family adj medic* adj (practi* or doctor*)) or (Primary adj care adj (practi* or physician* or doctor*)) or (((Occupational health adj (practi* or physician* or doctor* or specialist*)) or company) adj physician*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	(((((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	(Strateg* or Intervention* or Treatment* or Care* or manag* or approach* or decision* or action* or Therap* or refer*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	1 and 2 and 3 and 4

12.1.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression or "Vicarious trauma"	Search modes - Boolean/ Phrase
S3	(General AND (practi* or physician* or doctor)) or (Family AND (practi* or physician* or doctor*)) or (Family medic* (practi* or doctor*)) or ("Primary care" AND (practi* or physician* or doctor*)) or ("Occupational health" AND (practi* or physician* or doctor* or specialist*)) or "company physician"	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S5	Strateg* or Intervention* or Treatment* or Care* or manag* or approach* or decision* or action* or Therap* or refer*	Search modes - Boolean/ Phrase
S6	"Return to work" or Recov* or Improv* or Resol* or resolv* or Respon* or outcome* or "treatment outcome"	Search modes - Boolean/ Phrase
S8	((Delay* OR slow* OR rapid* OR quick* OR late*) AND (progress* OR recover* OR respon*)) OR evaluation* OR Prognosis OR Recover* OR Respon*	Search modes - Boolean/ Phrase
S27	S1 AND S3 AND S4 AND S5 AND S8	Search modes - Boolean/ Phrase
S28	S6 AND S27	Search modes - Boolean/ Phrase

12.1.4 Search period

Database inception to the 31st of January 2017.

12.1.5 PRISMA round one

Embase, Medline, PsycINFO and AMED returned n=4 records and CINAHL returned n=1879 records (Figure 39).

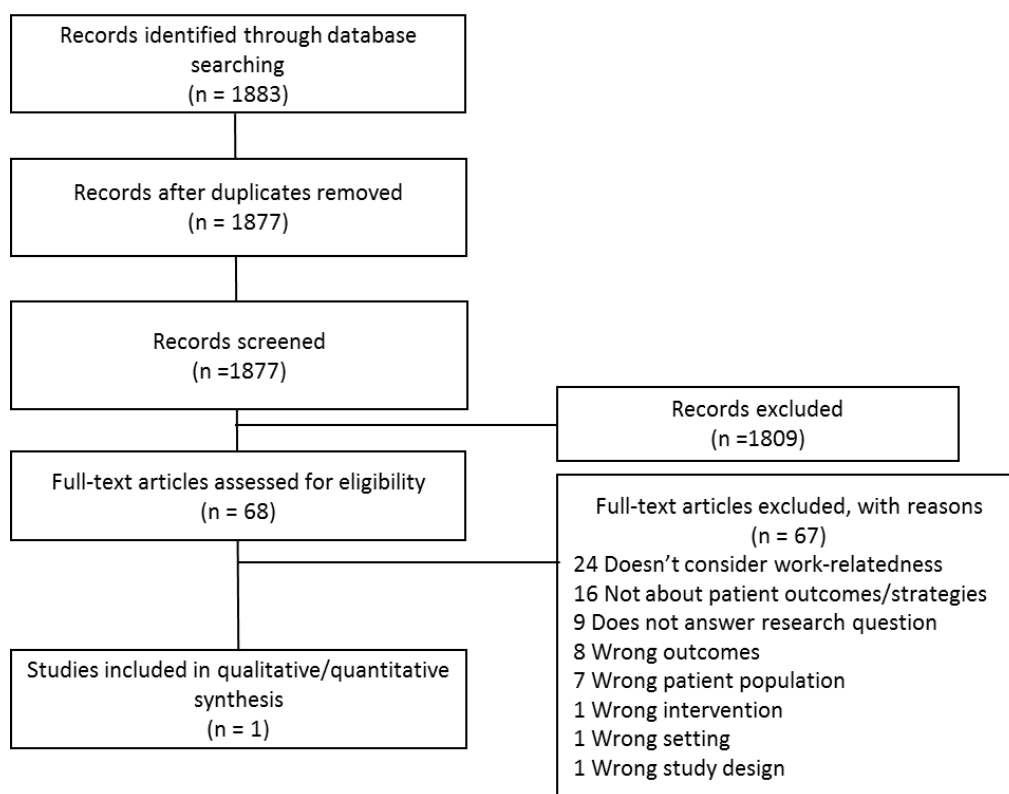


Figure 38. Round one PRISMA chart for key clinical question 10

12.2 Guideline Development Group recommendations

- Include 24 studies (that were originally excluded from full text review due to not addressing work-relatedness)
- Include studies that don't focus specifically on GPs.
- Remove work-relatedness and general practitioner from the search strategy (work-relatedness returned to "re-narrow" the search).
- Add to the search strategy: treatment resistance, and failure to improve.

12.3 Evidence Review round two

12.3.1 PICO

P	Patients with work-related mental health conditions
I	Strategies
C	All strategies
O	Non-improvement

12.3.2 Search Strategy: Embase, Medline, PsycINFO and AMED

1. ((Mental adj health) or (Psychiatric adj (disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Post traumatic adj (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]

2.	(Strateg* or Intervention* or Treatment* or Care* or manag* or approach* or decision* or action* or Therap* or refer*).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
3.	(((Delay* or slow* or rapid* or quick* or late*) adj (progress* or recovery)) or (treatment adj resistance) or respon* or evaluation* or Prognosis or (fail* adjz improve*)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
4.	(((Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or ((job or work or employment or trade) adj related) or occupational) adj (disease* or illness* or health)) or Compensation) adj (claim* or compensation)).mp. [mp=ab, hw, ti, tn, ot, dm, mf, dv, kw, fx, nm, kf, px, rx, ui, sy, tc, id, tm]
5.	1 and 4
6.	2 and 3 and 5

12.3.3 Search Strategy: CINAHL

#	Query	Limiters/Expanders
S1	"Mental health" or (Psychiatric AND (health or disorder* or illness* or disease* or condition* or ailment* or episode*)) or (Mental AND (health or disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Psychological AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Depressive AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering)) or (Mood AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Affective AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or (Adjustment AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or ("Post traumatic" OR traumatic) AND (disorder* or illness* or disease* or condition* or ailment* or episode* or suffering or stress* or distress)) or Anxiety or stress or Depression	Search modes - Boolean/ Phrase
S4	Worker* or staff or employee* or workplace* or vocation* or work or occupation* or employment or job or trade or "job related" or "work related" or "employment related" or "trade related" or "occupational disease*" or "occupational illness*" or "occupational health" or Compensation or claim*	Search modes - Boolean/ Phrase
S5	Strateg* or Intervention* or Treatment* or Care* or manag* or approach* or decision* or action* or Therap* or refer*	Search modes - Boolean/ Phrase
S6	"Return to work" or Recov* or Improv* or Resol* or resolv* or Respon* or outcome* or "treatment outcome"	Search modes - Boolean/ Phrase
S8	((Delay* OR slow* OR rapid* OR quick* OR late*) AND (progress* OR recover* OR respon*)) OR evaluation* OR Prognosis OR Recover* OR Respon* OR "treatment resistance" or "failure to recover"	Search modes - Boolean/ Phrase
S27	S1 AND S4 AND S5 AND S8	Search modes - Boolean/ Phrase
S28	S6 AND S27	Search modes - Boolean/ Phrase

12.3.4 Search period

Database inception to the 30th of April 2017

12.3.5 PRISMA round 2

Embase, Medline, PsycINFO and AMED returned n=131 records and CINAHL returned n=1923 records. (Figure 40) This search outcome included all those studies previously identified in Round 1.

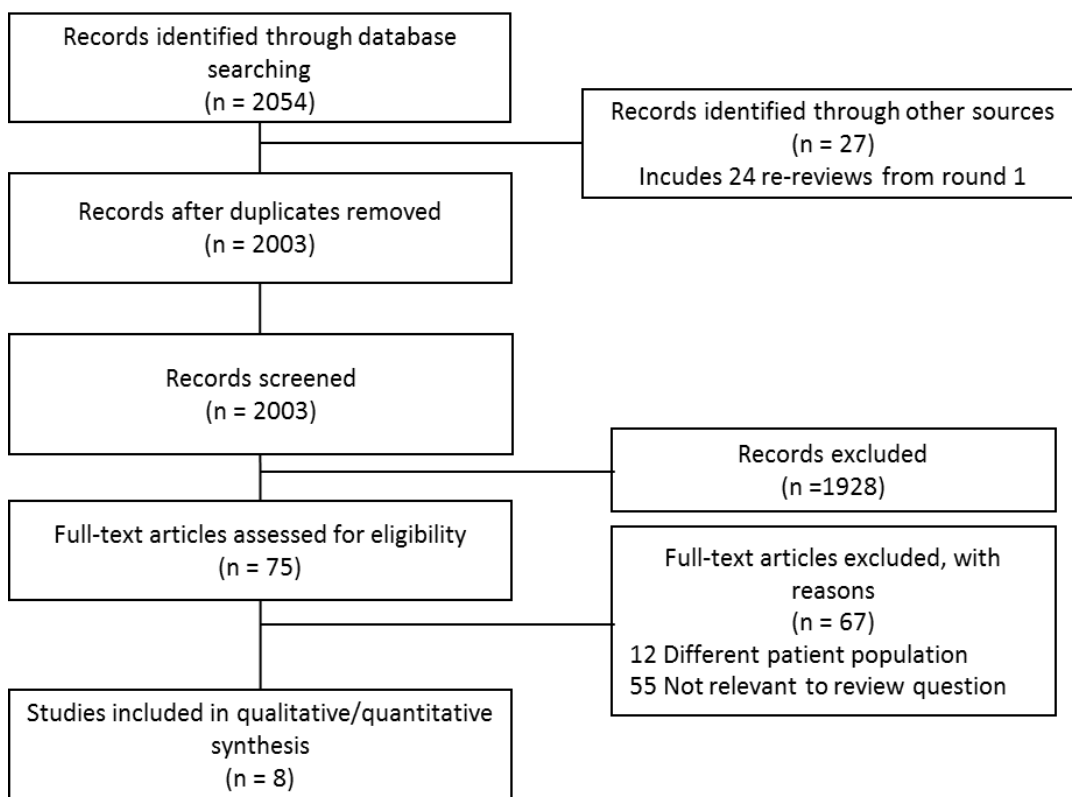


Figure 39. Combined round one and round two PRISMA chart for key clinical question 10

12.4 Implications of correction to the “Work” Search String for Key clinical question 10

Implications of correction to the ‘work’ search string are described in Table 52.

Table 52. Key clinical question 10 literature search results and implications arising from search strings used in relation to work

Evidence Review Rounds	Original key clinical question 10. In patients with work-related mental health conditions who are not improving, what strategies should a general practitioner undertake to improve the patient’s condition (e.g. identify recurrent/continuing stressors, new symptoms/signs, new comorbidities such as D&A use)	Ovid implication	CINAHL implication	Ovid count	CINAHL count
R1	<ul style="list-style-type: none"> - Mental health conditions (included vicarious trauma) - General practice - Work-relatedness - Strategies for non-improvement 	Work in the compensable setting	work	4	1879
		If work-relatedness search string had been corrected to “work”	Work	8 673	No impact

R2	<ul style="list-style-type: none"> - No change to key clinical question made. - Mental health conditions (excluded vicarious trauma) - General practice - Work-relatedness - Non-improvement (included treatment resistance, failure to improve) - Strategies - Inception – 30th April 2017 	Work in the compensable setting	work	131	1923
		If work-relatedness search string had been corrected to "work"	Work	100 609	No impact

12.5 Guideline Development Group recommendation

For Key clinical question 10 the large number of hits in Ovid that would have occurred as a result of the search string error correction would have made the search unfeasible. Our recommendation is to accept the final recommendation as per Guideline Development Group meeting 3.

As a consequence of an error in the work concept search strategy (see methods section 4.4) the Guideline Development Group advised the project team to consider a targeted screening for systematic reviews and meta-analysis within the n=8 673 search results. Therefore, the search results from the four Ovid databases (AMED, EMBASE, MEDLINE and PsycINFO) were retrieved on the 11th of October 2017 (a later date which yielded slightly more than the original result of n=8673). This round of review returned no relevant reviews for inclusion. The search results are shown in Figure 41 and an explanation of the review process and outcome is detailed below.

In order to streamline screening to systematic reviews and meta-analyses, limitations were applied to the approximately n=8770 search results. The limitations were performed in three stages:

1. Using the Ovid inbuilt auto limits, "Meta-Analysis" and "Systematic Reviews." The pro for this approach is that it is much more specific and limits publications to systematic reviews and meta-analysis only as study design methods. The con is any reviews that are general and are not classified as systematic or meta-analytic in design are excluded. Also, the limits are not valid in AMED and MEDLINE in Ovid which means publications indexed in AMED and MEDLINE are excluded.
2. Manually including the limit search terms as additional key words in the search strategy. This approach is sensitive but poor on specificity. It does not confine itself to systematic review and/or meta-analysis as study design methods but picks up the search terms as long as they appear in the publication (regardless of whether the publication/study itself is a systematic review and/or meta-analysis in its design).
3. Finally, the two approaches were checked for overlaps. This showed that 82 publications from the first approach were a subset of the 1324 (manually limited search), resulting in a combined total of n=1342.

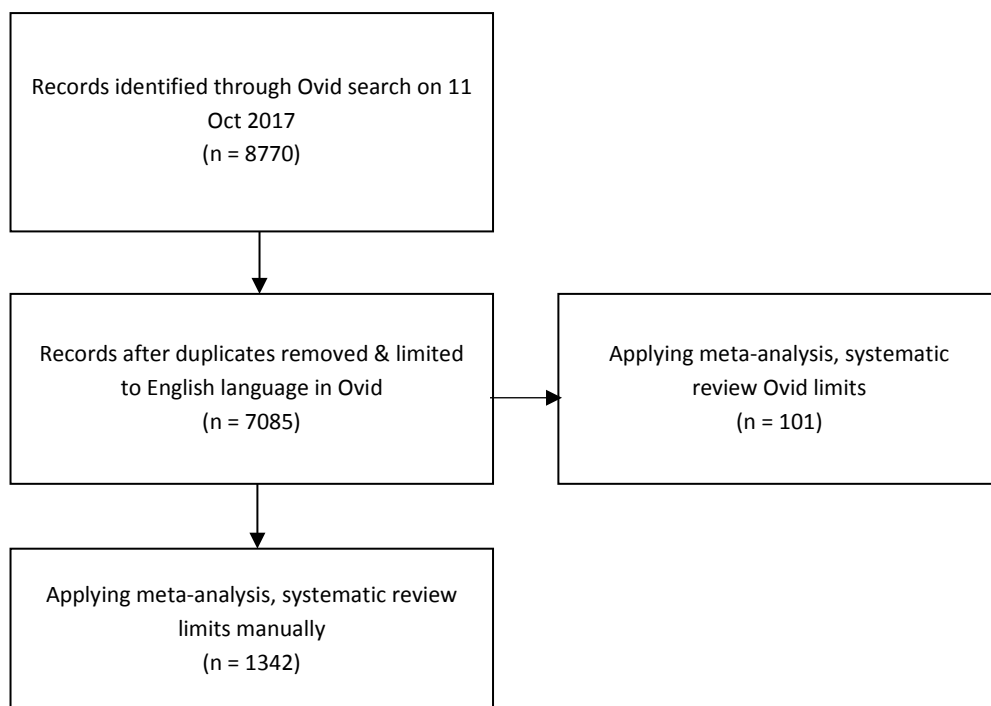


Figure 40. Flow chart showing results and option when meta-analysis or systematic reviews limits are applied to the search

Further deduplication in EndNote resulted in n=1112 titles/abstracts. The titles/abstracts were then merged with titles from previous reviews and previously screened publications were removed leaving n=1064 which were then exported to Covidence for screening. Another 15 duplicates were flagged by Covidence leaving a final screening list of n=1049.

Screening inclusion criteria were:

- Quantitative, qualitative and narrative systematic reviews and/or
- Meta-analysis, and
- The interventions had to address the non-improving patient scope.

Screening exclusion criteria were:

- Publications of primary research,
- Non-systematic expert opinion/reviews and commentaries,
- Systematic reviews and/or meta-analyses of interventions aimed at primary treatment of mental health conditions rather than the other end of the spectrum of non-improving or treatment resistant mental health conditions.

The results of the screening/review process are shown in Figure 42. A total of 22 papers were selected for full text review. The 16 publications that were excluded for not answering questions 6 were largely due to a different patient population (i.e. not the non-improving patients) or the interventions were system or practice performance targeted rather than patient and patient outcomes targeted. The remaining six publications were non-systematic reviews (commentary, clinical focus or expert opinions, non-systematic overview literature review). Thus, no additional reviews were added following a research for meta-analyses and reviews for question 10.

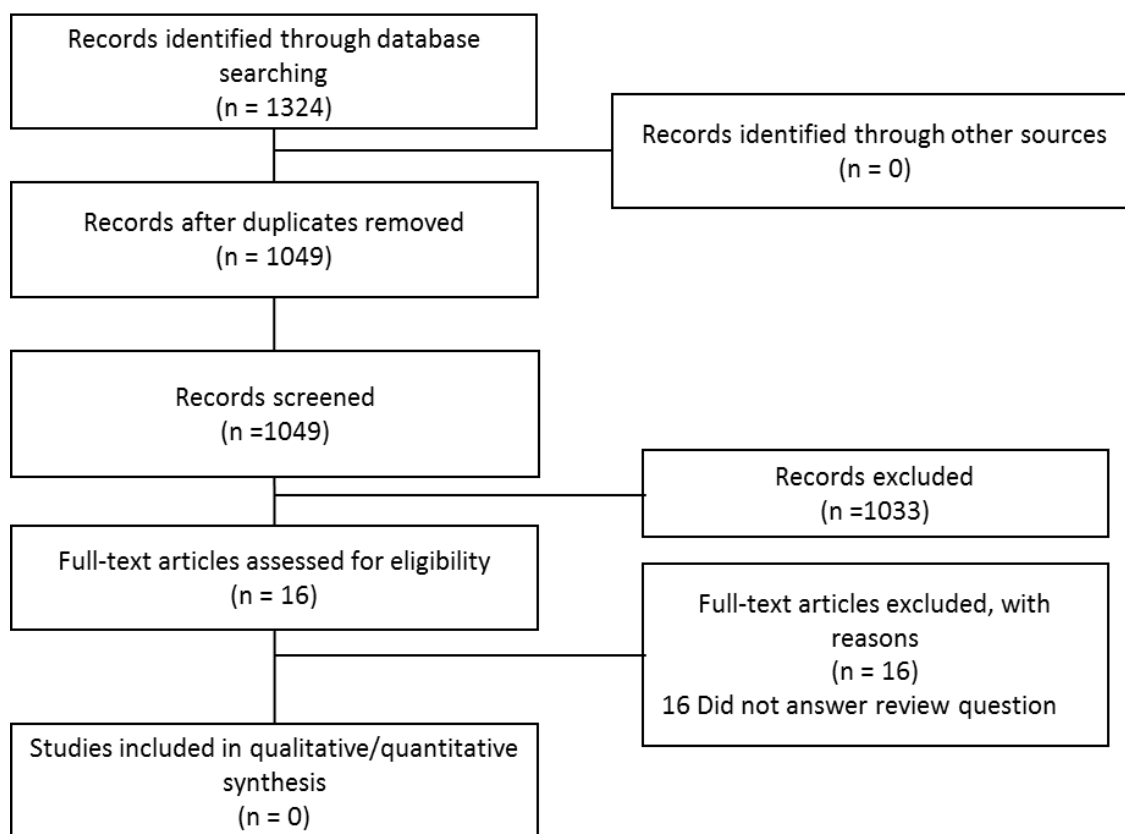


Figure 41. PRISMA chart of additional screening and review for meta-analyses and reviews for question 10

12.6 Findings and GRADE Evidence Profile Tables from Evidence Review: Key clinical question 10

12.6.1.1 Evidence-based recommendation

Recommendation for future research
 On the available evidence, there is no clear support for an intervention in a general practice setting to improve personal recovery or return to work in patients with a work-related mental health condition who are not improving; therefore, there is an urgent need to promote research in this area.

Weak recommendation FOR (high quality of evidence)
 Where no work-related or non-work-related stressors can be identified, and where persistent depression is present, a GP may consider the following evidence-based approaches to treat the persistent depression:

- collaborative care between relevant health professionals for patients with persistent depression
- cognitive behavioural therapy as an adjunct to pharmacotherapy for patients with treatment-resistant depression.

12.6.1.2 Summary of the evidence identified in the evidence review

Six studies ¹⁴³⁻¹⁴⁸ (Table 53) and two non-systematic narrative reviews ^{149 150} (Table 54) met the inclusion for key clinical question 10. Evidence from the primary studies is summarised in Table 55. The evidence identified service provision and therapeutic interventional strategies that were associated with increased prospects of patient recovery and satisfaction. Limited evidence identified medication compliance and medico-psychosocial factors that potentially contribute to poorer recovery and may be worthwhile considering for decision making around formulating care and management plans. While no causality is implied in the association between non-return to work, and disability recurrence with persistent depression, the findings may have implications for the type of sickness certification vis-à-vis the idea of “work as rehabilitation.”

Table 53. Downs and Black Checklist quality assessment scores for studies included in key clinical question 10

	Reporting (Overall study quality)	External validity	Internal validity (Study bias)	Internal validity (Confounding and selection bias)	Power of study	Total
Fortney et al 2013	9	3	5	5.5	0	22.5
Franche et al 2009	9.5	2.5	4	3	0	19
Rzewuska et al 2015	9.5	3	4	3.5	0	20
Teh et al 2009	8	2.5	4.5	4	0	19
Thompson et al 2000	9.5	2.5	5	5	0.5	22.5
Wiles et al 2014	11	3	5	5	0.5	24.5
Mean	9.4	2.8	4.6	4.3	0.2	21.3
SD	1.0	0.3	0.5	1.0	0.3	2.3

The two reviews ^{149 150} that met the scope for our key clinical question scored very low on the AMSTAR scores and did not specifically address outcomes pertaining to our key clinical question. (Table 54). Nevertheless, they provided a qualitative narrative of factors to consider in patients with depression that does not responds to antidepressant. These factors include:

- Differential diagnosis (i.e. adjustment disorder, bereavement, cognitive disorder, personality style, or dysthymia). For instance, cognitive dysfunction may be “the primary driver of disability and work impairment among our patients with major depressive disorder”, thus may be worthwhile assessing using validated instruments in every depressed patient.
- Monitoring compliance with medication; “as many as 70% of primary care patients fail to adhere to either short- or long-term AD treatment” due to side-effects.
- Review of treatment strategies, i.e. aggressively managing side effects in order to improve adherence and “a barrage of negative thinking, underpinned by automatic, dysphoria-perpetuating thoughts that are more catastrophic than their [patients’] actual lives, may respond to a cognitive behavioural therapy approach”.
- Treating physician “watching and waiting” to see if symptoms resolve spontaneously within two to four weeks.
- Consultation with or referral to a psychiatrist to “sort out complex medication or diagnostic considerations”, or the patient fails to respond to an adequate dose or multiple trials of medications.

Table 54. List of existing reviews addressing key clinical question 10

Review Title	Review Author	Review type	AMSTAR score
A generalist's guide to treating patients with depression with an emphasis on using side effects to tailor antidepressant therapy	Bostwick 2010 ¹⁴⁹	Non-systematic narrative review	2
The impact of cognitive challenges in major depression: the role of the primary care physician	Mattingly et al 2016 ¹⁵⁰	Non-systematic narrative review	1

Table 55. GRADE Evidence Profile Table: In patients with work-related mental health conditions who are not improving, what strategies should a general practitioner undertake to improve the patient's condition?

MHC	No. of studies (n)	Quality Assessment (GRADE Criteria)						No. of participants		Effect		GRADE	Comments
		Study Design	Risk of Bias	Inconsistency	Indirectness	Imprecision	Other Considerations	Intervention	Control	Absolute	Relative		
Depression	1 ¹⁴³	RCT	Not serious	none	Not serious	none	US study: primary care	153	165	26% to 32%	-	HIGH	Significantly favoured interventions (CBT or telemedicine collaborative care)
	<p>Intervention: telemedicine-based collaborative care (intensive Rx; on-site primary care providers and off-site depression care managers (at the R.N. level), pharmacists (at the Pharm.D. level), psychologists (at the Ph.D. level), and psychiatrist) vs centre-based collaborative care (on-site primary care providers and trained on-site nurse depression care managers)</p> <p>Outcome: Personal recovery – Significantly greater response rates in favour of the intervention at six, 12, and 18 months</p>												
Treatment resistant depression	1 ¹⁴⁴	RCT	Not serious	none	none	none	UK Study; general practice	206	213	24% to 25%		HIGH	
	<p>Interventions: 12-18 sessions of cognitive behavioural therapy as an adjunct to usual care vs GP usual care alone (antidepressant medication as well as continued support and advice from the GP)</p> <p>Outcome: Personal recovery - Significantly greater response rates in favour of the intervention at six, and 12, and 18 months</p>												
	1 ¹⁴⁴	RCT	Not serious	none	none	none	UK Study; general practice	206	213	4.1 to 6.0		HIGH	Adjusted mean difference SF-12 mental subscale
<p>Intervention: 12-18 sessions of cognitive behavioural therapy as an adjunct to usual care vs. GP usual care alone (antidepressant medication as well as continued support and advice from the GP)</p> <p>Outcome: Personal recovery - Reduction in depressive symptoms (SF-12 Mental subscale) in favour of intervention at 6 and 12 months.</p>													
Depression	1 ¹⁴⁵	RCT	Not serious	None	None	None	Compared compliance with two drugs	69	68				Moderate correlation; -0.46 (fluoxetine), -0.56 (dothiepin)
	<p>Intervention: Treatment with fluoxetine (SSRI) vs dothiepin (tricyclic antidepressants); SSRI presumably better tolerated side effects</p>												

	Outcome: Personal recovery (symptoms score [Hamilton depression scale]) – reduction in symptoms that significantly equally correlated with compliance with either medication												
Depression	1 ¹⁴³	RCT	Not serious	None	Not serious	Not serious	US study: primary care	150	159	9% to 16%	-	HIGH	
	<p>Intervention: telemedicine-based collaborative care (intensive Rx; on-site primary care providers and off-site depression care managers (at the R.N. level), pharmacists (at the Pharm.D. level), psychologists (at the Ph.D. level), and psychiatrist) vs. centre-based collaborative care (on-site primary care providers and trained on-site nurse depression care managers)</p> <p>Outcomes: Patient satisfaction: Patient satisfaction level (satisfied or very satisfied) rates - Significantly greater satisfaction level rates at 6 months, with no difference at 12 months</p>												
	1 ¹⁴⁴	RCT	Not serious	None	none	Not serious	One high quality study	206	213	12.7% to 24%	-	HIGH	
	<p>Intervention: telemedicine-based collaborative care (intensive Rx; on-site primary care providers and off-site depression care managers (at the R.N. level), pharmacists (at the Pharm.D. level), psychologists (at the Ph.D. level), and psychiatrist) vs. centre-based collaborative care (on-site primary care providers and trained on-site nurse depression care managers)</p> <p>Outcome: Personal recovery – Remission (BDI-II) rates – significantly greater in favour of the intervention at 6 and 12 months</p>												
Depression and/or anxiety, panic disorder (1.6%)	3 ¹⁴⁶⁻¹⁴⁸	Cohort/cross-sectional	serious	serious	Not serious	serious	Low moderate quality studies (includes 1.65 with panic disorder)	1 289		-	1.19 to 19.80	MOD	Odds ratio range
	<p>Intervention: Non-interventional epidemiological studies</p> <p>Outcomes: Poor personal recovery (Factors that increased the odds of poor recovery):</p> <ul style="list-style-type: none"> Significantly greater odds of persistent depressive symptoms in those failing to return to work or had recurring of disability at six months following musculoskeletal injury <ul style="list-style-type: none"> Factors identified from those with depression or anxiety (persistent, transient or gradual recovered) vs those who reporting no symptoms) at 12 months (significant OR): <ul style="list-style-type: none"> - Concurrent depression and anxiety - Older age (≥70 years old) - Comorbid pain secondary to physical injury - Poor coping with pain - Female gender - Lack of social support Patient reporting high pain interference were less likely to achieve symptom response (Hamilton Anxiety Rating Scale, Generalised Anxiety Disorder Severity Scale: OR range from 0.26 to 0.28). 												

13 Appendices

13.1 Appendix 1 Quality Assessment of Diagnostic Accuracy Studies (QUADAS) Checklist

Source: <https://bmcmmedresmethodol.biomedcentral.com/articles/10.1186/1471-2288-3-25>

QUADAS Item	Yes	No	Unclear
1. Was the spectrum of patients representative of the patients who will receive the test in practice?			
2. Were selection criteria clearly described?			
3. Is the reference standard likely to correctly classify the target condition?			
4. Is the time period between reference standard and index test short enough to be reasonably sure that the target condition did not change between the two tests?			
5. Did the whole sample or a random selection of the sample, receive verification using a reference standard of diagnosis?			
6. Did patients receive the same reference standard regardless of the index test result?			
7. Was the reference standard independent of the index test (i.e. the index test did not form part of the reference standard)?			
8. Was the execution of the index test described in sufficient detail to permit replication of the test?			
9. Was the execution of the reference standard described in sufficient detail to permit its replication?			
10. Were the index test results interpreted without knowledge of the results of the reference standard?			
11. Were the reference standard results interpreted without knowledge of the results of the index test?			
12. Were the same clinical data available when test results were interpreted as would be available when the test is used in practice?			
13. Were uninterpretable/ intermediate test results reported?			
14. Were withdrawals from the study explained?			

13.2 Appendix 2 NHMRC Technical Report Requirements Checklist

B. Scope and Purpose

Requirement	Addressed in our tech report? Yes/No
Mandatory	
B.1 The purpose of the guideline is stated, including the clinical questions (see Requirement C.1), issue or problems the guideline addresses.	Yes Introduction chapter section 1.1 and 1.3

C. Evidence Review

Requirement	Addressed in our tech report? Yes/No
Mandatory	
C.1 Clinical questions addressed by the guideline are stated in a structured and consistent format to define the boundaries of the topic, i.e. by specifying the relevant population, intervention/s (e.g. treatment/s or diagnostic test/s), comparator/s and outcomes measured.	Yes Introduction chapter section 1.3. Each key clinical question was framed following the PICO format and the different PICO elements are stated in each key clinical question chapter 3 through 12
C.2. Systematic searches for evidence are undertaken and the search strategy is documented, including the search terms and databases searched.	Yes Methods chapter. Search strategies are provided in each key clinical question chapter 3 through 12
C.3. The population groups specified in the search strategy include Aboriginal and Torres Strait Islander peoples and any population subgroups that have been identified (see Requirement B.4 and B.5).	Although special needs groups were not explicitly specified, our search was inclusive. Therefore, any relevant literature on such groups would have been picked up by our search and considered for review. The consultation phase aims to canvas input from special interest group stakeholders in organisations such as the RACGP, RACP and Aboriginal and Torres Strait Islander bodies.
C.4. The publication period covered by the searches is stated, and the latest date is within 12 months of the first day of public consultation and within 20 months of submission of the final draft guideline to NHMRC for approval.	Yes Methods chapter section 2.1. The substantive search period was up to end of April 2017 and the last targeted search (key clinical question 4) was on 6 th November 2017. Public consultation is scheduled for January 2018 and NHMRC approval in November 2018. Thus, the search period aligns well with these dates to meet the criterion.
C.5. The inclusion and exclusion criteria used to select studies for appraisal are described.	Yes Methods chapter sections 2.1.1-2.1.2
C.6. For each clinical question, the developer has provided an evidence table, which summarises the systematic assessment and critical appraisal of all studies that meet the inclusion criteria (i.e. the body of evidence on which a recommendation will be based). Each evidence table should include information on study design, outcomes, level of evidence, the findings of meta-analysis (if performed) and other relevant information.	Yes Chapters 3-12 provide summary evidence tables for each key clinical question.
C.7 For each clinical question, the developer has provided an evidence statement form, which documents the synthesis and evaluation of the body of evidence to determine the grade of each recommendation, according	Yes Methods chapter section 2.5 outlines the process and using GRADE for quality of evidence rating and the strength of the recommendations. The elements of the NHMRC evidence statement form are incorporated into

to an NHMRC-approved method (NHMRC grades for recommendations ¹⁰ or GRADE ¹¹).	the summary evidence table for each key clinical question (chapters 3-12)
Desirable	
C.3.1 The population groups specified in the search strategy include groups such as culturally and linguistically diverse communities or other groups for whom specific sociocultural factors (including ethnicity, gender, age, disability, socioeconomic status and location) in treatment or prevention outcomes should be considered.	See C.3 above
C.3.2 Search strategies include search terms to identify evidence related to consumers' perceptions and experiences	Yes A focused aspect of this is addressed by key clinical question 4
C.3.3 Dependent on the guideline scope, the search strategy is designed to identify evidence for all relevant alternatives for screening, prevention, diagnosis or treatment of the condition addressed by the guideline, including relevant complementary and alternative medicine approaches.	Yes There scope was inclusive of all strategies for the diagnosis and management of mental health conditions; for example, one of the searched databases was a designated allied and complementary medicine database
C.3.4 Search strategies include search terms to identify evidence related to cost effectiveness and resource implications of practice.	No This was outside the scope of our guideline and evidence review.

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