Evidence Compass

Technical Report

Is stepped care an effective model for the delivery of treatment for depression and anxiety?

A Rapid Evidence Assessment

September 2014

Australian Government
Department of Veterans' Affairs

Disclaimer

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Please forward any comments or queries about this report to at-ease@dva.gov.au

Acknowledgements

This project was funded by the Department of Veterans' Affairs. We acknowledge the valuable guidance and enthusiastic contribution of our steering committee for this project, which comprised senior personnel from the Department of Veterans' Affairs, the Australian Defence Force, and the scientific community.

We acknowledge the work of staff members from the Australian Centre for Posttraumatic Mental Health who were responsible for conducting this project and preparing this report. These individuals include: Associate Professor Meaghan O'Donnell, Ms Emma Lockwood, Dr Tracey Varker and Dr Lisa Dell.

For citation:

O'Donnell, M., Lockwood, E., Varker, T., & Dell, L. (2014). *What are the effective models for stepped care in the treatment of mental health disorder? A Rapid Evidence Assessment. Report prepared for the Department of Veterans Affairs*. Australian Centre for Posttraumatic Mental Health: Authors.

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Executive Summary

- Depression and anxiety disorders are highly prevalent in the general community. While a number of efficacious treatments exist, their delivery and uptake are sub-optimal.
- Stepped care is a health care delivery model that aims to maximise efficiency of resource allocation. In stepped care, less intensive treatments are offered first, with more intensive treatments reserved for people who do not benefit from initial treatments. Stepped care is self-correcting, with variations to treatment based on regular assessments of patients' changing needs and responses to treatment.
- The aim of this review was to examine the efficacy of stepped care for the treatment of adults with depression or anxiety disorders. Stepped care interventions were defined as those comprising at least two psychological treatments of different intensities *or* at least two treatment modalities, one of which was psychological. Decisions about stepping up had to be based on an evaluation or assessment, done at a pre-specified time interval and with the aim of determining the next step.
- This literature review utilised a rapid evidence assessment (REA) methodology. A search was conducted for systematic reviews and/or meta-analyses of the efficacy of stepped care for the treatment of depressive or anxiety disorders or symptoms. The search identified a systematic review and meta-analysis of the efficacy of stepped care for the treatment of depression by Van Straten and colleagues, published in 2014[1]. As this systematic review included studies up until 2012, an additional literature search covering the period 2012 to 2014 was conducted with respect to depressive disorders and/or symptoms. As no systematic review or meta-analysis of the efficacy of stepped care for anxiety disorders or symptoms was identified, a literature search covering the period 2004 to 2014 was conducted with respect to these.
- Only randomised controlled trials (RCTs) or pseudo-RCTs were eligible for inclusion, reflecting the gold standard of clinical research. Taken together, the findings of the systematic review and meta-analysis by Van Straten and colleagues and the newly identified studies were assessed for strength of the evidence, consistency of evidence, applicability and generalisability to the population of interest.
- These assessments were collated to determine an overall ranking of level of support for stepped care in the treatment of (i) depressive disorders and/or symptoms (ii) anxiety disorders and/or symptoms, and (iii) specific anxiety disorders depending on the evidence available, in this case posttraumatic stress disorder (PTSD) and

obsessive-compulsive disorder (OCD). The ranking categories were ‘Supported’ – clear, consistent evidence of beneficial effect; ‘Promising’ – evidence suggestive of beneficial effect but further research required; ‘Unknown’ – insufficient evidence of beneficial effect; ‘Not supported’ – Clear, consistent evidence of no effect or negative/harmful effect.

- The search identified one additional RCT of a stepped care intervention for depressive disorders or symptoms, and eight RCTs of stepped care interventions for anxiety disorders or symptoms. Of the latter, one was an RCT of a stepped care intervention for OCD, two were RCTs of stepped care interventions for PTSD or PTSD symptoms, and five were RCTs of stepped care interventions for anxiety disorders or symptoms.
- The key findings were that:
    - The majority of studies, including those in the meta-analysis by Van Straten and colleagues found stepped care to be an effective delivery model. They also found that stepped care had a moderate effect size on improving depression symptoms/disorder. Taken together, the evidence for the use of stepped care in the treatment of depressive disorders or symptoms received a ‘Supported’ ranking in this REA.
    - Stepped care for the treatment of anxiety disorders or symptoms received an ‘Unknown’ rating. While the studies were generally of good quality and tested interventions that would be applicable in an Australian context, results were inconsistent and difficult to generalise.
    - Stepped care for the treatment of PTSD or PTSD symptoms received a ‘Promising’ ranking. These studies were of high quality, consistency and applicability, but further research is required to determine the efficacy of the intervention tested in alternative samples and contexts.
    - Stepped care for the treatment of OCD received an ‘Unknown’ ranking, as only one study which had high risk of bias was identified.
- The existing stepped care literature is limited by a range of shortcomings, such as the heterogeneity of stepped care interventions tested, the failure to compare stepped care to matched care or high-intensity interventions and lack of data about cost-effectiveness. However, the results of this REA suggest that the development and trial of stepped care interventions for depression and PTSD in an Australian context would be warranted.

Introduction

Depressive and anxiety disorders are two of the most common mental disorders, with Australian 12-month prevalence rates of 4.1% and 14.4% respectively[2]. Some occupational groups have even higher rates of depression and anxiety than the general community. For example, the prevalence rate of 12-month depressive episode in the Australian Defence Force is significantly higher than that found in the community (6% vs 3%) as is posttraumatic stress disorder (8% vs 5%)[3]. High rates of clinically significant anxiety and depression symptoms (23-33%) have been observed in some samples of veterans even 50 years after combat exposure[4]. As such treatments designed to treat these disorders are essential.

A number of efficacious psychological treatments for depression exist, such as cognitive-behavioural therapy[5,6] and interpersonal therapy[5,7]. Cognitive-behavioural therapy has also been shown to be effective for anxiety disorders such as generalised anxiety disorder (GAD)[8] and obsessive-compulsive disorder (OCD) [9]. However, the delivery and uptake of these treatments is often suboptimal, with the majority of sufferers receiving no treatment[1,10]. Poor uptake of care is associated with many issues including difficulties in accessing care, poor efficiency of care and a limited number of therapists trained in evidence based therapies[1,10].

Over the past decade, different health care delivery models have been developed in an attempt to overcome some of these difficulties. Stepped care is one of these health care delivery models. Fundamental to stepped care is the recognition that there are different treatments for a given disorder, and that these treatments have different levels of intensity associated with them[10] . Under stepped care the first intervention offered to a patient is the least intensive or least restrictive of those available, but still likely to provide significant gain[1,10-12]. The least intensive intervention is usually defined as the intervention that requires the least time from a professional relative to other interventions. However, intensity may also refer to therapists' level of expertise[1] . 'Least restrictive' refers to the impact on patients in terms of cost and personal inconvenience[12,13]. Another central feature of stepped care is that it is self-correcting[10,11] . A patient's progress is monitored systematically, and interventions offered may vary according to a patient's changing needs and response to treatment[1,14]. More intensive treatments may be thus reserved for people who do not benefit from simpler first-line treatments[10,15] .

A key goal of stepped care is to maximise efficiency of resource allocation[15]. If less intensive interventions are able to deliver the desired outcome, this limits the burden of disease and costs associated with more intensive treatments[10,11,14]. As such, stepped care may involve a

hierarchy of interventions of differing intensity. Least intensive interventions may involve watchful waiting or self-help treatments such as bibliotherapy[1,10] . Subsequent steps may include guided self-help, group therapy, brief individual therapy and longer-term therapy, with these being distinguished by the degree of therapist input per patient[10].

Pharmacotherapy is commonly used alongside psychotherapy in the treatment of common mental health problems. However, unlike for psychotherapy, it is not always possible to characterise pharmacotherapy as having different degrees of intensity [1,10]. Thus, the term 'stepped care' can also refer to switching between or adding treatments from either modality[1]. Thus, despite the hierarchies of interventions ordered by intensity inherent in most definitions of stepped care, some authors[12] prefer to emphasise the self-correcting nature of stepped care as opposed to the interventions or structure of interventions comprising it.

Stepped care may be progressive or stratified[11]. In the progressive approach, all patients commence with the least intensive intervention, with subsequent or more intensive interventions only offered to those who do not respond to the least intensive intervention[16]. This approach is based on the assumption that low intensity interventions will help most patients and focuses the weight of services on these interventions, enabling services to treat more patients and optimising use of higher intensity interventions[1,11]. Progressive stepped care may be most appropriate for less severe disorders for which starting patients on too low a step would be unlikely to result in deterioration, or where perceptions of initial 'treatment failure' would not derail later interventions [10,16].

However, for more severe disorders, early intensive treatment may be more clinically and cost-effective than a low-intensity intervention[10] . In the stratified approach, patients may begin their journey at any step of the hierarchy, in accordance with the severity of their symptoms and the available resources[12,14,16]. Thus, the initial treatment a patient receives would not necessarily be the most basic; it is simply less intensive relative to subsequent options.

Stepped care may be contrasted with matched care which is often the default approach for delivering mental health care. In this approach the patient is referred to a certain therapist or therapy, based on the patient's characteristics and preferences. As such, the treatment may vary (e.g. antidepressant medication and/or one of many types of psychotherapy) as well as the setting (primary care, public mental health care, online therapy, group therapy, individual therapy) and the provider (e.g. GP, nurse, psychologist, psychiatrist).

As part of the development of their Guidelines for the treatment of depression in adults[5], the UK National Institute for Clinical Excellence (NICE) systematically reviewed the evidence for

the efficacy of specific interventions for depression as well as of stepped care as a system for delivering these, relative to other approaches. As the systematic review identified only one relevant study[17], which found no clinical benefit of stepped care versus matched care, a narrative review was undertaken. This found that while there was limited evidence for the effectiveness of stepped care interventions in the form of randomised controlled trials (RCT), non-controlled demonstration studies[18] and evidence from other areas (e.g. addiction[13]) indicated that better outcomes could be obtained by delivering care in this way. Following this, the NICE guidelines for the treatment of GAD[8] and OCD and body dysmorphic disorder (BDD)[9] each presented their recommendations within the framework of stratified stepped care models; however, it was subsequently acknowledged that validated criteria to support initial allocations to intervention within such stratified models are lacking[19].

This aim of this review was to examine the efficacy of stepped care for the treatment of adults with depression or anxiety disorders. In consultation with the Department of Veteran's Affairs (DVA) a number of focal conditions were identified and the evidence to support the use of stepped care in the treatment of these was reviewed. This was an iterative process between ACPMH and DVA to capture the conditions of most relevance to DVA. The conditions initially identified were depressive disorders and anxiety disorders (i.e. GAD and posttraumatic stress disorder (PTSD)); however, an initial search of the literature suggested that other anxiety disorders such as OCD might also be considered, as well as anxiety disorders and symptoms thereof taken together.

Method

This literature review utilised a rapid evidence assessment (REA) methodology. The REA is a research methodology which uses similar methods and principles to a systematic review but makes concessions to the breadth and depth of the process, in order to suit a shorter timeframe. The advantage of an REA is that it utilises rigorous methods for locating, appraising and synthesising the evidence related to a specific topic of enquiry. To make a REA rapid, however, the methodology places a number of limitations in the search criteria and in how the evidence is assessed. For example, REAs often limit the selection of studies to a specific time frame (e.g., last 10 years), and limit selection of studies to peer-reviewed published, English studies (therefore not including unpublished pilot studies, difficult-to-obtain material and/or non-English language studies). Also, while the strength of the evidence is assessed in a rigorous and defensible way, it is not necessarily as exhaustive as a well-constructed systematic review and meta-analysis. A major strength, however, is that an REA can inform policy and decision makers more efficiently by synthesising and ranking

the evidence in a particular area within a relatively short space of time and at less cost than a systematic review/meta-analysis.

Defining the research question

The components of the question for this REA were precisely defined in terms of the population, the interventions, and the outcomes (refer to Appendix 1). Operational definitions were established for key concepts, and specific inclusion and exclusion criteria were defined for screening studies for this REA (see below). As part of this operational definition, the population of interest was defined as adults with a DSM-IV depressive or anxiety disorder or depressive or anxiety symptoms.

Stepped care

Following the observations of Sobell & Sobell[12] , stepped care interventions were defined as comprising at least two psychological treatments of different intensities *or* at least two treatment modalities, one of which was psychological. To qualify as a stepped care intervention, decisions about stepping up had to be based on an evaluation or assessment, done at a pre-specified time interval and with the aim of determining the next step. Stepped care interventions could focus on either treatment or prevention. Outcomes were defined as changes in depression or anxiety symptoms, or changes in the incidence of depressive or anxiety disorders. Furthermore, only studies that employed a RCT or pseudo-RCT methodology were eligible for inclusion. This was due to the 'gold standard' that RCTs possess in clinical research when attempting to determine effectiveness of psychological interventions, and because this was an area with a high volume of literature meaning it was logical to prioritise trials of the highest standard.

Randomised controlled trial

An RCT is a quantitative, comparative, controlled experiment in which the effects of intervention(s) are assessed in participants who were randomised to receive the intervention. Comparisons are made with individuals who were randomised to receive standard treatment/practice, placebo or no treatment. Randomisation requires that all participants have the same chance of being allocated into any of the trial arms and may be conducted via random sequence generation/random number tables/flipping a coin/rolling a dice.

Pseudo-randomised controlled trials

These trials may be listed as ‘RCTs’, but do not adhere to the randomisation procedures required to be classified as an RCT. These trials may have used ‘randomising’ techniques, but they do not appropriately reflect true randomisation principles, or the trials used methods which do not ensure that every participant has the same chance of allocation to one of the trial arms. Examples of pseudo-randomisation techniques include: using any date (odd or even numbers), patient file numbers (odd or even), or patient ID numbers (odd or even).

Search strategy

To identify the relevant literature, systematic bibliographic searches were performed to find relevant trials from the following databases: EMBASE, MEDLINE (Ovid), PsychINFO, the Cochrane Library, Clinical Guidelines Portal (Australia), and the National Guideline Clearinghouse (USA). An example of the search strategy conducted in the Embase database appears in Appendix 2.

Note: The methodology underpinning this REA sought to identify guidelines, meta-analyses or systematic reviews for this particular topic. In searching for guidelines, systematic reviews or meta-analyses, the following procedures were taken in regards to the processing of data sources:

I. Order of precedence: guidelines > meta-analyses > systematic reviews.
II. The most recent guideline, meta-analysis or systematic review was subject to an assessment of quality. If the guideline, meta-analysis or systematic review **did not** satisfy the quality assessment (i.e. a rating of poor), then the next most recent source was assessed in reverse sequential order (e.g. most recent to oldest) until the quality assessment criteria were met.
III. The guideline, meta-analysis or systematic review that satisfied the quality assessment determined what the cutoff year would be for the primary research articles (e.g., if a meta-analysis was published in 2009, then primary research studies from 2008 and earlier would not be assessed). As it was recognised that existing guidelines, meta-analyses or systematic reviews might address the effectiveness of stepped care in the treatment of specific disorders only, any such guidelines, meta-analyses or systematic reviews would determine the cut-off year for primary research articles for those disorders only.

Search terms

The search terms that were included in searching the Title/s, Abstract/s, MeSH terms, Keywords lists were: anxiety, anxiety disorder, generalised anxiety disorder GAD, OCD, panic, obsessive-compulsive, obsessive compulsive, phobia, posttraumatic stress disorder, posttraumatic stress, post-traumatic stress, traumatic stress, stress disorder, depression, major depression, depressive, mood, MDE, MDD, clinical trial, control* trial, treatment, effectiveness, therapy, treatment study, clinical study, control* study. To locate studies of stepped care interventions, search strategies included the search terms “stepped AND care”. An example of the search strategy conducted in the Embase database appears in the Appendix 2.

Paper selection

After conducting searches and identifying any relevant guidelines, systematic reviews or meta-analyses, studies were evaluated according to the following inclusion and exclusion criteria:

Included:
1. Internationally and locally published peer-reviewed research studies 2. Research papers that were published from end date of systematic review, meta-analysis or guideline search (if applicable); if no systematic review, meta-analysis or guideline available, then primary sources published prior to **1st January 2004** until the time that the rapid evidence assessment is conducted (**19th April 2014**) 3. RCTs or pseudo-RCTs of interventions i. comprising multiple psychological treatments of differing intensities, or multiple treatments drawn from different modalities, at least one of which was psychological; ii. in which decisions about stepping were not based on an evaluation or assessment, done at a pre-specified time interval, with the aim of determining the next step; iii. with outcome data on depression or anxiety variables 4. Human Adults (i.e. ≥ 18 years of age) 5. English language

Excluded:
1. Non-English papers 2. Published prior to end date of systematic review, meta-analysis or guideline search 3. Papers where a full-text version is not readily available 4. Validation study 5. Animal studies 6. Qualitative studies 7. Grey literature (e.g., media: websites, newspapers, magazines, television, conference abstracts, theses) 8. Children (≤ 17 years of age) 9. Non-RCT or non-pseudo-RCT design 10. Intervention did not comprise multiple psychological treatments of differing intensities, or multiple treatments drawn from different modalities, at least one of which was psychological 11. Decisions about stepping were not based on an evaluation or assessment, done at a pre-specified time interval, with the aim of determining the next step. 12. No outcome data on depression or anxiety variables

Information management

A screening process was adopted to code the eligibility of papers acquired through search strategy. Papers were directly imported into the bibliographic tool Endnote X5, and then processed using Excel. All records that were identified using the search strategy were screened for relevance against the inclusion criteria. Initial screening for inclusion was performed by one reviewer, and was based on the information contained in the title and abstract. Full text versions of all studies which satisfied this initial screening were obtained.

In screening the full-text paper, the reviewer made the decision on whether the paper should be included or excluded, based on the pre-defined inclusion and exclusion criteria. If the paper met the criteria for inclusion, then it was subject to data abstraction. At this stage in the information management process, 10% of the articles being processed were randomly selected and checked by a second independent reviewer. It was found that there was 100% inter-rater agreement between the two reviewers. The following information was extracted from studies that met the inclusion criteria: (i) study description, (ii) intervention description, (iii) participant characteristics, (iv) primary outcome domain, (v) main findings, (vi) bias and (vii) quality assessment.

Evaluation of the evidence

There were four key components that contributed to the overall evaluation of the evidence. These components were:

- The **strength of the evidence base**, in terms of the quality and risk of bias, quantity of evidence, and level of evidence (study design)
- The **consistency** of the study results
- The **generalisability** of the body of evidence to the target population (e.g. veterans)
- The **applicability** of the body of the evidence to the Australian context

The first two components provided a gauge of the internal validity of the study data in support of efficacy of stepped care interventions. The last two components considered the external factors that may influence effectiveness, in terms of the generalisability of study results to the intended target population, and applicability to the Australian context.

Strength of the evidence base

The strength of the evidence base was assessed in terms of the a) quality and risk of bias, b) quantity of evidence, and c) level of evidence.

a) **Quality and risk of bias** reflected how well the studies were conducted, including how the participants were selected, allocated to groups, managed and followed-up, and how the study outcomes were defined, measured, analysed and reported. The process for assessing quality and bias in individual studies and meta-analyses /systematic reviews is presented below.
   - Individual studies - an assessment was conducted for each individual study with regard to the quality and risk of bias criteria utilising a modified version of the Chalmers Checklist for appraising the quality of studies of interventions[20] (see Appendix 3). Three independent raters rated each study according to these criteria, and together a consensus agreement was reached as to an overall rating of ‘Good’, ‘Fair’, or ‘Poor’.
   - Meta-analyses and systematic reviews - in the instance that either a meta-analysis or systematic review was included in the review they were rated according to an adapted version of the NHMRC quality criteria[21] (see Appendix 4). Three independent raters rated each study according to these criteria, and together a consensus agreement was reached as to an overall rating of ‘Good’, ‘Fair’, or ‘Poor’.

b) **Quantity** of evidence reflected the number of studies that were included as the evidence base for each ranking. The quantity assessment also took into account the number of

participants in relation to the frequency of the outcomes measures (i.e. the statistical power of the studies). Small underpowered studies that were otherwise sound may have been included in the evidence base if their findings were generally similar- but at least some of the studies cited as evidence must have been large enough to detect the size and direction of any effect.

c) **Level of evidence** reflected the study design. The details of the study designs which are covered by each level of evidence are as follows:
   - Level I: A systematic review of RCTs
   - Level II: An RCT
   - Level III-1: A pseudo-randomised controlled trial (i.e. a trial where a pseudo-random method of allocation is utilised, such as alternate allocation).

Overall strength

A judgement was made about the strength of the evidence base, taking into account the quality and risk of bias, quantity of evidence and level of evidence. Agreement was sought between three independent raters and consensus about the strength of the evidence based was obtained according to the categories below:

High beneficial strength
Clear evidence of beneficial effect. One or more Level I studies with a low risk of bias **OR** three or more Level II studies with a low risk of bias

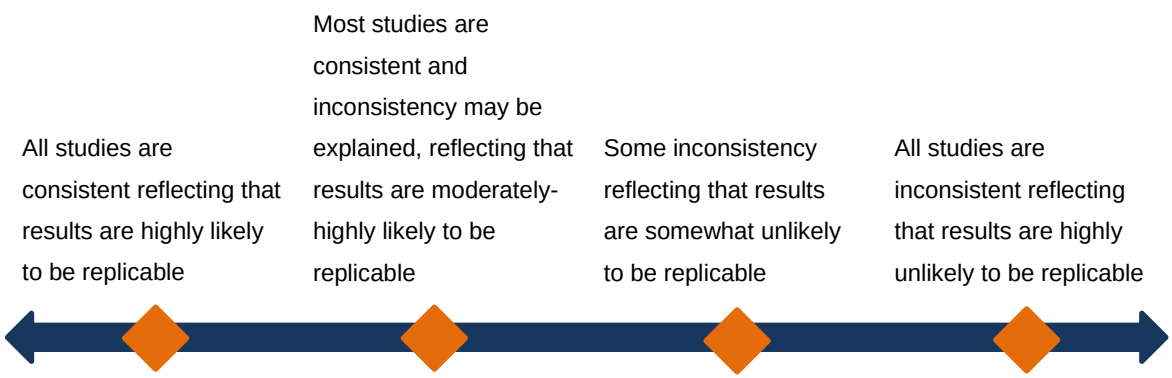
Moderate beneficial strength
*Evidence suggestive of beneficial effect***.** One or two Level II studies with a low risk of bias **OR** two or more Level III studies with a low risk of bias

Low beneficial strength
Insufficient evidence at present. One or more Level I through to Level IV study with a high risk of bias

High non-beneficial strength
No effect or a harmful effect. One or more Level I studies with a low risk of bias **OR** three or more Level II studies with a low risk of bias

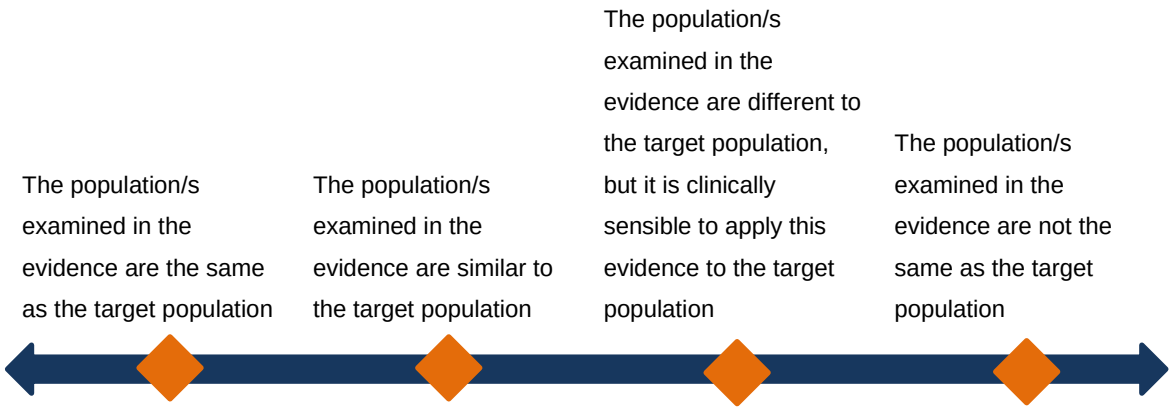
Consistency

The consistency component of the ranking system of the body of the evidence assessed whether the findings were consistent across the included studies (including across a range of study populations and study designs). It was important to determine whether study results were consistent to ensure that the results were likely to be replicable or only likely to occur under certain conditions.



Generalisability

This component covered how well the participants and settings of the included studies could be generalised to the target population. Population issues that might influence this component included gender, age or ethnicity, or level of care (e.g. community or hospital). The generalisability continuum is presented below:



Applicability

This component addressed whether the evidence base was relevant to the Australian context, or to specific local settings (such as rural areas or cities). Factors that may reduce the direct application of study findings to the Australian context or specific local settings include organisational factors (e.g. availability of trained staff) and cultural factors (e.g. attitudes to health issues, including those that may affect compliance). Applicability was ranked as following:

Ranking the evidence

On balance, taking into account the considerations of the strength of the evidence (quality and risk of bias, quantity of evidence and level of evidence), consistency, generalisability and applicability, the total body of the evidence was then ranked into one of four categories: 'Supported'; 'Promising'; 'Unknown'; or 'Not Supported' (see Figure 1). Agreement was sought between three independent raters. A brief overview of the studies that contributed to the ranking results is presented in Appendix 7.

Figure 1: Categories within the intervention ranking system

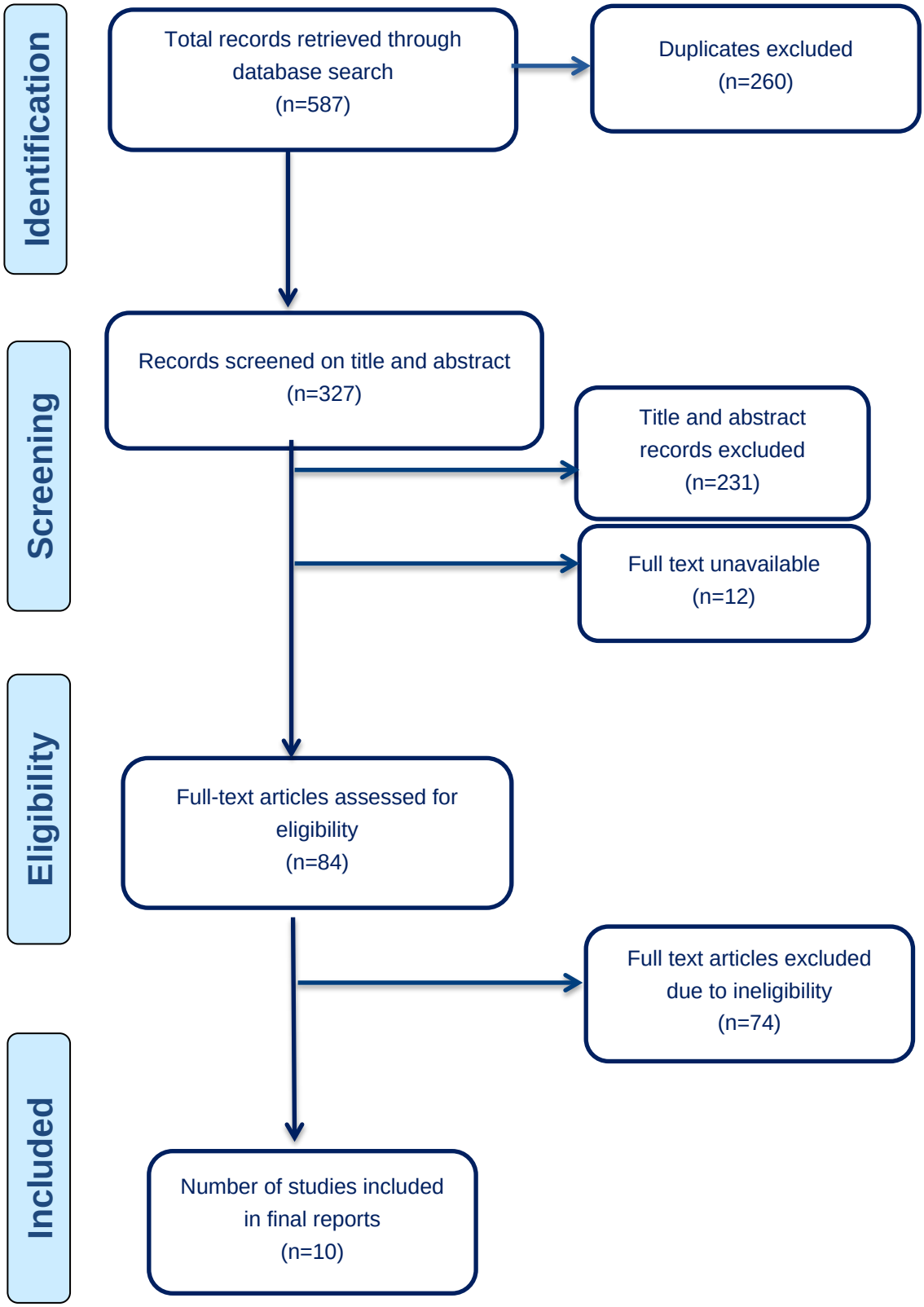
SUPPORTED	PROMISING	UNKNOWN	NOT SUPPORTED
Clear, consistent evidence of beneficial effect	Evidence suggestive of beneficial effect but more research required.	Insufficient evidence of beneficial effect. More research required.	Clear, consistent evidence of no effect or negative / harmful effect

Results

The flowchart in Figure 2 outlines the number of records retrieved at each stage of the REA. The search identified the NICE guidelines for the treatment and management of depression[5], GAD[8] and OCD and BDD[9] which, as noted above, presented their recommendations within the framework of a stratified stepped care model. However, as these guidelines were not based on specific or comprehensive systematic reviews of the efficacy of stepped care for these disorders, these guidelines were not used as a basis for this REA.

The search identified a high quality systematic review and meta-analysis of the efficacy of stepped care in the treatment and prevention of depressive disorders and symptoms by Van Straten and colleagues[1]. As Van Straten and colleagues focused on randomised controlled trials of stepped care interventions that met the criteria outlined above, it was included in this REA. Van Straten and colleagues included studies published up to April 2012 so the REA also considered studies that had been published since then. As such, one additional study examining the efficacy of a stepped care intervention for the treatment of depression was identified[22].

Figure 2. Flowchart representing the number of records retrieved at each stage of the rapid evidence assessment



No additional guidelines, systematic reviews or meta-analyses of the efficacy of stepped care for anxiety were located; hence studies of anxiety outcomes dating back to 2004 were included. A total of nine papers were identified, including eight independent studies (one of which was the additional study identified above)[22-29] and one paper presenting follow-up results[30]. Figures 3 and 4 outline the country of publication and year of publication respectively of the independent, individual study papers for both depression and anxiety located by this REA.

Figure 3. Origin of the studies included in the rapid evidence assessment

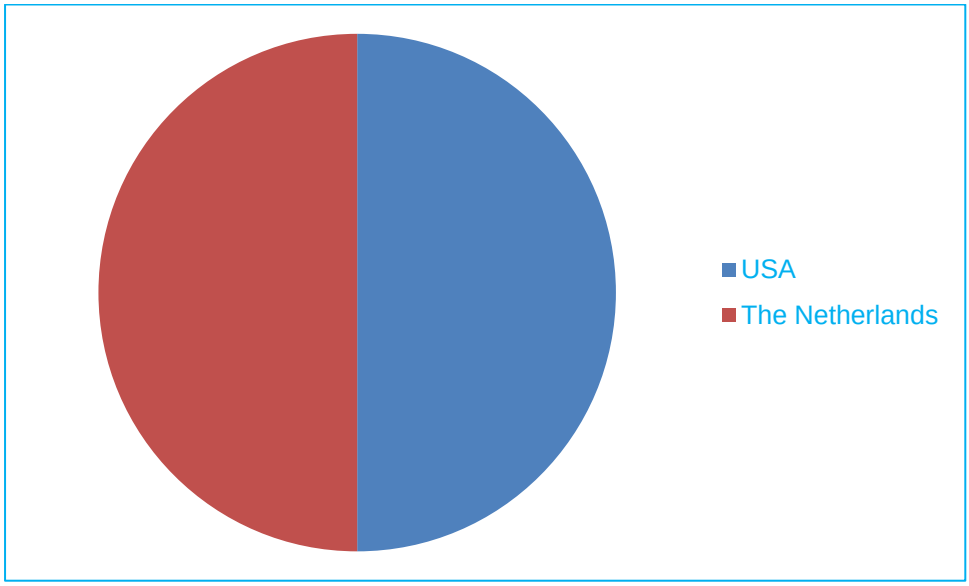
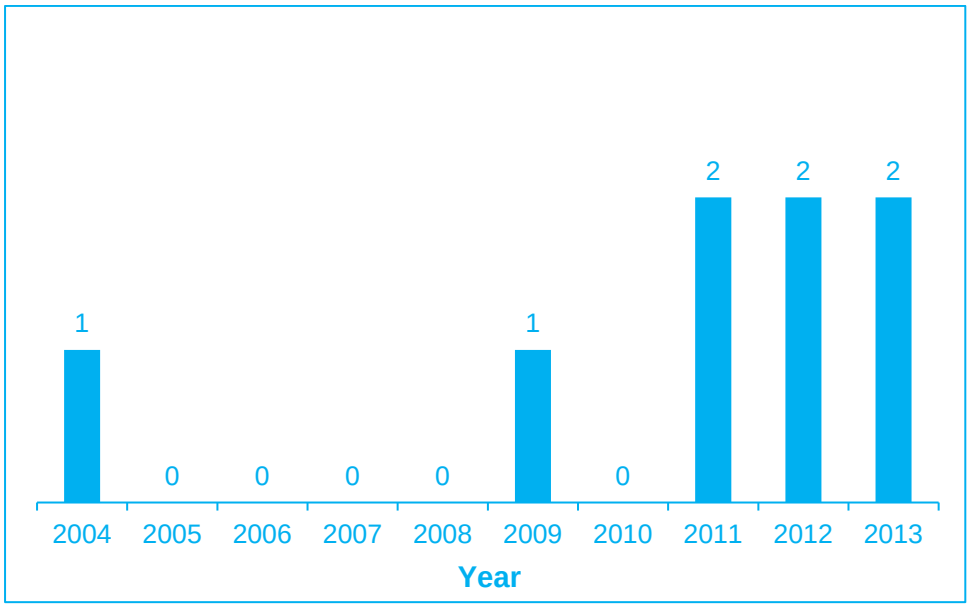


Figure 4. Year of publication of studies included in the rapid evidence assessment



Summary of the evidence

Depression

Stepped care for the treatment and/or prevention of depressive disorders or depressive symptoms

The Van Straten review included 14 studies, six of which were conducted in the US[31-36] , six in the Netherlands [25,27,37-40], one in Chile [41] and one in India[42]. Five of these studies [27,36-39] used samples of elderly participants, while six [31-35,38] used samples with comorbid medical conditions. Eleven of these studies examined the efficacy of stepped care interventions for the treatment of depressive disorders or symptoms [25,31-36,38,40-42], while three examined the efficacy of stepped care for preventing the onset of depressive disorders in symptomatic samples [27,37,39]. Like this REA, Van Straten and colleagues included studies of interventions that comprised at least two psychological treatments of different intensities or at least two treatment modalities, of which one of was psychological. For each of these, decisions about stepping up were based on assessments done at pre-specified time intervals with the aim of determining the next step. In six studies [25,27,37-39,42], treatment was delivered in steps of increasing therapeutic intensity. In the other eight studies [31-34,36,40,41,43], the stepped care intervention had at least two treatment modalities and no progression of increasing intensity. All studies compared stepped care to usual care. A meta-analysis of the 10 studies that were treatment-focused and had post-treatment data found a moderate effect size (*d*=0.38 at post-intervention) for stepped care interventions (note- four studies were excluded from the meta-analysis due to insufficient data). Stepped care interventions in which treatment was delivered in steps of increasing intensity had a significantly smaller effect size (*d*=0.07) than interventions not arranged in steps of increasing intensity (*d*=0.41). Location of study, physical health comorbidity and diagnostic status at baseline were not related to effect size. Of the three prevention-focused studies (i.e. among those not included in the meta-analysis), two found positive effects for stepped care interventions, while the other found no difference.

As noted, the REA identified one additional study whose results had been published since Van Straten et al conducted their search of the literature. Oosterbaan and colleagues [22] assessed the efficacy relative to usual care of an 8-month collaborative stepped care intervention for individuals with common mental disorders, in 158 adults in primary care in the Netherlands. Step 1 of the intervention was a self-help course, with guidance provided through five 45-minute sessions over 3.5 months in primary care, as well as antidepressant medication for those participants with moderately severe depressive symptoms. Participants who failed to respond to Step1 proceeded to Step 2: CBT and antidepressant medication

provided by a specialist out-patient mental health service. Participants with severe symptoms went directly to Step 2 at the outset, making the intervention stratified stepped care. Participants in the usual care condition were free to obtain the services of their choice which in practice meant that a majority of usual care participants received antidepressants and/or a referral to specialised mental healthcare. Considering all participants regardless of diagnosis, participants in the stepped care group had higher rates of treatment response and significantly larger reductions in depressive symptoms at the 4-month mark; however, no significant differences were found between the stepped care and usual care groups at 8-month post-test and 12-month follow-up. A similar pattern of results was found for participants being treated specifically for depression, with the exception that no significant differences were found for depressive symptoms at either 4 or 8 months. A summary of the studies is found in the evidence profile presented in Appendix 5 in detail and in Appendix 7 as a brief overview.

The findings from the Van Straten systematic review and meta-analysis taken together with the additional RCT identified by the REA, the overall strength of the evidence base supporting the use of stepped care in the prevention and/or treatment of depressive symptoms or disorders was judged to be high according to the criteria employed by this REA. The applicability to an Australian context of interventions comprising cognitive behavioural or problem solving therapies of varying intensities combined with antidepressant medication was likewise rated as strong. The generalisability of studies undertaken in the USA and the Netherlands was well regarded, with the caveat that some of the studies included in the Van Straten review focused on elderly people or people with comorbid medical conditions. Given the Van Straten meta-analysis found a moderate effect for stepped care interventions on depression the overall consistency of results was considered acceptable. Against this background of high quality and applicability and reasonable consistency and generalisability, the evidence for stepped care in the treatment and prevention of depressive symptoms or disorders in adults was ranked as ‘Supported’.

Anxiety

As noted above, the REA identified eight studies examining the efficacy of stepped care for anxiety. Of these eight studies, four were conducted in the USA[24,26,28,29] and four in the Netherlands [22,25,30,39]. Five of these interventions focused on the prevention or treatment of anxiety disorders or symptoms, two focused on the treatment of PTSD or PTSD symptoms and one focused on the treatment of OCD. The three groups of studies are described below.

All studies compared stepped care to usual care, variously defined and outlined below. A summary of the studies is found in the evidence profile presented in Appendix 6 in detail and in Appendix 7 as a brief overview.

Stepped care interventions for the treatment and/or prevention of anxiety disorders or anxiety symptoms

The Oosterbaan study described above also assessed the efficacy of its collaborative stepped care intervention relative to usual care for anxiety and stress-related disorders. As noted above, and considering all participants regardless of diagnosis, participants in the collaborative stepped care group had higher rates of treatment response and significantly larger reductions in anxiety symptoms at the 4-month mark, but no significant differences were found between the collaborative stepped care and usual care groups at 8-month post-test and 12-month follow-up. A similar pattern of results was found for participants being treated for anxiety disorders.

Kronish and colleagues [24] assessed the efficacy of a model of stepped care for the treatment of anxiety symptoms relative to usual care in a sample of 157 participants recently hospitalised with acute coronary syndrome. In this intervention, stepped care was not organised as a series of interventions of increasing intensity but allowed for participant choice of problem solving therapy and/or pharmacotherapy with 'stepping up' entailing switching between the two or augmentation of pharmacotherapy. Usual care was determined by the patient's treating physicians, who were informed that their patients were participating in a trial and that they had elevated depressive symptoms. However, the actual uptake of interventions by the usual care group was not reported. At post-treatment, the intervention group had significantly decreased anxiety symptoms relative to the usual care group; this result held when depression symptoms were controlled for. Unexpectedly, a subgroup analysis suggested that the stepped care intervention had a beneficial effect on anxiety in women but not men.

A study by Van't Veer-Tazelaar and colleagues [27] assessed the efficacy relative to usual care of a sequenced four-step program comprising of watchful waiting (Step 1), CBT-based bibliotherapy (Step 2), brief CBT-based problem solving therapy (Step 3) and referral to primary care (Step 4) in a sample of 170 elderly participants in primary care. Participants in the usual care condition were free to obtain the services of their choice. Participants in the usual care group received antidepressant or anxiolytic-sedative medications at similar rates to those in the intervention group. The 12 month rate of both depressive and anxiety disorders was significantly lower in the intervention group than in the usual care group, and was maintained at 24-month follow-up [30]. A later study by Dozeman and colleagues [39]

assessed the efficacy relative to usual care of a similar program in a sample of 185 elderly participants in nursing homes. Again, participants in the usual care condition were free to obtain the services of their choice (or receive whatever services that that were deemed appropriate). Participants in the usual care group received additional counselling and medication at similar rates to those in the intervention group. In this study, however, the stepped care intervention was not effective in reducing the incidence of anxiety disorders relative to usual care.

Another study of a sequenced four-step program was undertaken by Seekles and colleagues [25] , who compared an intervention comprising watchful waiting (Step 1), guided self-help (Step 2), problem-solving therapy (Step 3) and pharmacotherapy and/or referral for specialized mental health care (Step 4) to usual care in a sample of 120 adults in primary care. Participants in the usual care group were advised to see their GPs to discuss treatment options. About half did so, and a quarter received mental health care. While anxiety symptoms decreased significantly over the course of the study for both groups; there was no significant difference in symptom reduction between them.

The majority of these studies were regarded as being of relatively low risk of bias but only two found a significant positive effect; hence the overall strength of the evidence base for the use of stepped care in the prevention and/or treatment of anxiety symptoms or disorders was judged to be moderate. The applicability to an Australian context of interventions comprising of cognitive behavioural or problem solving therapies of varying intensities combined with antidepressant medication was likewise rated as strong. The five studies were undertaken in the USA and the Netherlands, however, three focused on elderly people or people with comorbid medical conditions, limiting their generalisability to veteran or general populations. Consistency was also limited, with three studies returning a null finding, creating concerns about replicability. Another potential obstacle to replicability is the heterogeneity of interventions across studies. As such, the evidence for stepped care in the treatment and prevention of anxiety symptoms or disorders in adults was ranked as ‘Unknown’.

Stepped care interventions for the treatment of PTSD or PTSD symptoms

Two studies have examined the efficacy of stepped care for PTSD and PTSD symptoms. Zatzick and colleagues [28] developed an intervention in which stepped care was embedded within a collaborative care approach and compared this to usual care in a sample of 120 in acutely injured trauma survivors. Participants in the intervention group received case management for six months post-injury, as well as motivational interviewing if they

demonstrated signs of alcohol abuse. All participants, including those in the usual care condition, received a list of community referrals; 21% of those in the usual care condition had at least one appointment with a specialist mental health professional during the year after injury. Three months after the injury, participants in the intervention group who were assessed as having PTSD were given a choice of CBT, pharmacotherapy, or both. The rate of PTSD in the intervention group did not significantly change over 12 months, whereas the rate of PTSD in the usual care group increased by 6%. Zatzick and colleagues [29], in a second study,subsequently refined their intervention to include behavioural activation as part of the case management component and compared it to usual care in a new sample of 207 injury survivors drawn from the same site. While participants in the intervention group did not have lower rates of PTSD after 12 months compared to usual care (PTSD screening and baseline and follow-up interviews), they did have significantly less severe symptoms and evidenced greater rates of treatment response.

These two studies were regarded as being of relatively low risk of bias and both found a significant positive effect; hence the evidence base for the use of stepped care in the treatment of PTSD symptoms or disorders was judged to be consistent and moderately strong. The applicability to an Australian context of interventions comprising cognitive behavioural therapies combined with pharmacotherapy was likewise rated as strong. However, the two studies focused on injury survivors of limited socioeconomic means (e.g. 11% of participants in the first study were homeless) hence limiting their generalisability. These considerations taken together, the evidence for stepped care in the treatment and prevention of anxiety symptoms or disorders in adults was ranked as ‘Promising.

Stepped care interventions for treatment of OCD

This REA located one RCT that examined the efficacy of stepped care for OCD. Tolin and colleagues [26] compared stepped care exposure and response prevention (ERP) to standard ERP in a sample of 34 individuals with OCD. The stepped care intervention comprised bibliotherapy plus counselling (Step 1) and standard ERP (Step 2). In Step 1, counsellors answered questions and provided suggestions for implementing ERP; but did not perform or model it within sessions. No significant differences in response rates were found between the two groups at posttreatment, representing a positive finding for the intervention as it was compared to a higher-intensity treatment as opposed to usual care. However, the high risk of bias of this study (e.g. small sample size; failure to specify randomisation method; high rates of drop-outs). Given the strength of the evidence base was low due to a single study with high risk of bias, generalisability, consistency, and applicability were not rated, and the evidence for stepped care in the treatment of OCD was ranked as ‘Unknown’.

Discussion

This REA aimed to examine the efficacy of stepped care for the treatment of adults with depression or anxiety disorders. Stepped care met the criteria for a 'Supported' treatment delivery method for depressive disorders and symptoms, and a 'Promising' delivery method for PTSD and PTSD symptoms. The systematic review and meta-analysis by Van Straten and colleagues[1] found a moderate positive effect size for stepped care interventions that could be readily replicated in an Australian context; however, this needs to be considered alongside the heterogeneous nature of the studies included. In addition, while the Van Straten review was of high quality overall, the authors failed to give examples of studies that were excluded on the basis of not adhering to their definition of stepped care. Thus, it is difficult to assess the degree of bias inherent in their inclusion of studies, which may have in turn influenced their effect size estimate. Nonetheless, the finding of this REA echoes that of the narrative review in the NICE Guidelines for the treatment of depression, which concluded that stepped care was the best developed system for ensuring access to cost-effective interventions for a wide range of people[5].

In the case of PTSD or PTSD symptoms, two high quality studies of an applicable intervention with consistent results were limited only by their potential lack of generalisability, and the single research team implementing them. In contrast, the efficacy for the use of stepped care in the prevention and/or treatment of anxiety disorders and symptoms generally, and the treatment of OCD specifically, is still unknown. Although the interventions tested could easily be implemented in an Australian context, high drop-out rates, potentially non-generalisable samples and inconsistent results made it impossible to recommend that they be done so in the absence of more research.

Given that one of the rationales for stepped care is the increasing cost of high-intensity psychological interventions (or of untreated mental illness), the efficacy of stepped care needs to be considered in the context of its cost-effectiveness[10,14]. Seven[27,31,34-36,41,44] of the studies included in the Van Straten review of stepped care for depression were accompanied by studies of their cost-effectiveness. While the findings of two of these [41,44] related to studies undertaken in Chile and India respectively, and were thus hard to generalise to the Western world, the remaining five either reported savings or incremental costs that were offset by the health gains. Of the additional studies identified by this REA, the OCD study by Tolin and colleagues[26] directly compared the cost of stepped ERP with standard ERP and found that stepped ERP was significantly less expensive to both participants and third-party payers. In contrast, among the studies with anxiety disorders or

symptoms in general as outcomes, Bosmans and colleagues[45] found that the intervention in Dozeman et al [39] was not cost-effective relative to usual care. Thus, while there are indications that stepped care might be cost-effective[1], further research is required, particularly in relation to matched care or high-intensity interventions (to be discussed below). In addition, when considering the cost-effectiveness of stepped care relative to other interventions, researchers need to ensure that cost savings within services are not offset by increased costs or burdens elsewhere, such as in other sectors and to patients themselves[10].

Our inability to rank stepped care models for the treatment of PTSD and other anxiety disorders as Promising likely reflects methodological limitations in stepped care efficacy studies as much as the efficacy of those models themselves. In RCTs of stepped care, drop-out rates tend to be high, or initial sample sizes tend to be small, reducing study power. High drop-out rates may be a function of poor motivation and relatively mild symptoms consequent to inclusive study recruitment practices, e.g. screening vs referral[46], which may in turn diminish the effect sizes of interventions[25] . Of relevance, the Van Straten review noted that the many of the studies they included failed to report drop-out or recovery rates after each step, or the numbers of participants who took up subsequent steps. This is important, not just for assessing the degree of implementation of stepped care interventions within trials purporting to evaluate same, but to assess the extent to which participants may become discouraged after the failure of a low-intensity treatment[1,16].

Another general limitation of the stepped care efficacy literature is the failure to compare stepped care interventions to controls other than usual care* which, as noted by Van Straten and colleagues, may mean 'no care at all'[1]. Indeed, of the studies identified in this REA, only those by Oosterbaan and colleagues[22], Seekles and colleagues[25] and Zatzick and colleagues[28] compared stepped care to something approximating matched care, in which a substantial proportion of the usual care group were referred to specialist mental health care on an individual basis. Notably, the first two of these studies did produce significant findings. Given that stepped care is intended as a cost-effective substitute for matched care or high-intensity psychological interventions for all, stepped care interventions should be compared not just with usual care but with these. In such comparisons, the equivalency or non-inferiority of stepped care to matched care or high-intensity treatment would need to be established using the appropriate analytic procedures and sample sizes (compared to those used for establishing differences in efficacy[10]). Of the studies identified by this REA, only one compared a stepped care intervention to a high intensity intervention (ERP for OCD [26]);

* The study comparing stepped care with matched care identified by the NICE Guidelines was not included in the Van Straten et al systematic review.

however, the shortcomings of this study make it hard to generalise its findings. Furthermore, the cost-effectiveness of stepped care relative to matched care or with high-intensity psychological treatment (not just usual care) also needs to be established [1,10].

Nonetheless, findings of a positive effect for stepped care relative to (minimal) usual care are still of interest, as they speak to the capacity of stepped care to deliver interventions at appropriate doses in a structured way. This REA was unable to determine the efficacy of stepped care relative to alternative models of service delivery, which may include collaborative care, matched care and medication management [5]. While the NICE Depression Guidelines noted that stepped care remains the best developed system for ensuring access to cost-effective interventions for depression (and by extrapolation, anxiety), there is limited evidence to suggest it should be the dominant model of treatment relative to these alternate systems. For example, stepped care interventions are often delivered within a collaborative care framework which includes enhanced communication between multiple professionals in addition to the structured management plan and scheduled follow-ups characteristic of stepped care [47]. This makes it difficult to disentangle the effect of stepped care intervention from that of the collaborative care framework in which it is embedded [5]. Among the studies identified by this REA, the two Zatzick studies [28,29] examining the efficacy of stepped care for PTSD, as well as the studies led by Oosterbaan [22] and Kronish [24] utilised a team-based approach to care; as did several of the studies considered in the review by Van Straten and colleagues.

These collaborative care interventions were also those that comprised combinations of psychological and pharmacological treatments not distinguished by intensity as opposed to multiple psychological treatments of differing intensities. The meta-analysis by Van Straten and colleagues found a significantly greater effect for the stepped care interventions of the former type compared to the latter. However, they cautioned against concluding that stepped care with an element of ‘matching’ was superior to stepped care in which treatments are organised by intensity, with individuals commencing with the least intensive treatment regardless of presentation. This was because there were only two studies of stepped care comprising multiple psychological treatments of differing intensities that were treatment- rather than prevention-focused, and the superior effect of non-hierarchically arranged stepped care was attributable to one study[41]. Furthermore, the hierarchically arranged stepped care interventions that were prevention-focused demonstrated large effects. Of the subsequent studies identified by this REA in relation to anxiety, four were comprised of hierarchically arranged psychological interventions, but only one of these[27] returned a finding of positive effect. Given the difficulty discussed above of assessing efficacy for anxiety of interventions developed for depression, and the general paucity of treatment-

focused studies for hierarchically arranged stepped care for depression, this REA is unable to make any clear assertions about the relative efficacy of hierarchically –arranged vs non-hierarchically arranged stepped care interventions.

Implications

On the basis of these findings, the development and trial of stepped care interventions for depression and PTSD in an Australian context would be warranted. As noted above, non-inferiority studies comparing stepped care with matched care or high-intensity interventions should be a research priority. These studies should be preceded by pilot studies that validate step-up or stratification criteria and accompanied by assessments of cost-effectiveness[1,19]. Given the heterogeneity of the stepped care interventions previously studied, direct comparisons of progressive stepped care interventions with stratified stepped care interventions or stepped care not characterised by series of interventions of increasing intensities would also be of interest[1]. When reporting the outcomes of trials of stepped care interventions, researchers need to detail what treatment was actually received by participants in the usual care conditions as well as rates of recovery after each step and progression to the next step of participants in the intervention conditions[1]. This is important not just to examine the possibility that participants may be reluctant to commence higher-intensity treatments after the failure of lower intensity treatment [1,10,16], but to clarify exactly what treatments are being compared.

This review did not identify any studies of stepped care interventions in veteran samples. When developing, evaluating or implementing stepped care interventions in veteran populations, a number of issues need to be considered. Firstly, stigma is a major concern for veterans with mental disorders and may reduce help-seeking behaviour [48]. A low-intensity intervention as the first step of a stepped care approach, such as self-help or relaxation, may thus be more palatable to veterans than high-intensity ‘talk therapy’ interventions such as CBT, and may aid in assessing or increasingly readiness for subsequent, more traditional interventions [28,29]. On the other hand, veterans may prefer higher-intensity interventions to some lower-intensity interventions (e.g. individual to group therapy)[49,50], perhaps owing to similar stigma-related concerns. This preference for higher intensity interventions may also apply to the general population[10]. Either way, stepped care interventions for veterans will need to take into account this population’s specific experiences and concerns in order to maximise uptake and efficacy.

Limitations of the rapid evidence assessment

The findings from this REA should be considered alongside its limitations. In order to make this review 'rapid', some restrictions on the methodology were necessary. These limitations included: the omission of potentially relevant papers that were published prior to or after the defined search period; the omission of non-English language papers; and reference lists of included papers not hand-searched to find other relevant studies. In particular, the specificity of our search terms and the potential for stepped care interventions to be embedded within other delivery frameworks, e.g. collaborative care, means that interventions meeting our criteria but not identified by their developers or evaluators as 'stepped' may not have appeared in our search results. Furthermore, with respect to depression outcomes, this REA included only studies that had been published since the search underpinning the systematic review by Van Straten et al[1] was undertaken. Thus, if Van Straten et al missed any important papers, our review would not have taken these into account. Finally, although we did evaluate the evidence in terms of its strength, consistency, generalisability and applicability, these evaluations were not as exhaustive as a systematic review methodology.

The information presented in this REA is a summary of information presented in available papers. We recommend reader's source the original papers if they would like to know more about a particular area.

Conclusion

The findings of this REA build upon those of the Van Straten et al[1] review and the NICE Guidelines for the treatment of depression in adults[5], in that it found that evidence for stepped care in the treatment and/or prevention of depression or depressive symptoms met criteria for a 'Supported' ranking. The finding of a positive effect for stepped care relative to (minimal) usual care speaks to the capacity of stepped care to deliver interventions at appropriate doses in a structured way. There is also emerging evidence to suggest this is also the case for the treatment of PTSD. However, with respect to anxiety disorders and symptoms and OCD specifically, the efficacy of stepped care is still unknown. Additional studies are needed to determine the efficacy and cost-effectiveness of stepped care relative to matched care or higher-intensity treatments and the relative efficacy of stepped collaborative care and stepped care comprising a sequence of interventions of increasing interventions. Nonetheless, the development and trial of stepped care interventions for veteran populations in an Australian context is warranted, with specific attention to this population's experiences and concerns in order to maximise uptake and efficacy.

References

1. Van Straten A, Hill J, Richards DA, Cuijpers P. Stepped care treatment delivery for depression: A systematic review and meta-analysis. *Psychological Medicine.* 2014.
2. Australian Bureau of Statistics. National Survey of Mental Health and Wellbeing: summary of results, 2007. Canberra: ABS, 2007. (ABS Cat. No. 4326.0.). 2007; http://www.abs.gov.au/ausstats/abs@.nsf/mf/4326.0 Accessed 23 June, 2014.
3. McFarlane AC, Hodson SE, Van Hooff M, Davies C. *Mental health in the Australian Defence Force: 2010 ADF Mental Health and Wellbeing Study: Full report.* Canberra: Department of Defence;2011.
4. Ikin JF, Sim M, McKenzie D, et al. Anxiety, post-traumatic stress disorder and depression in Korean War veterans 50 years after the war. *British Journal of Psychiatry.* 2007;190:475-483.
5. National Collaborating Centre for Mental Health. *Depression: the Treatment and Management of Depression in Adults (Update).* Leicester and London: The British Psychological Society and the Royal College of Psychiatrists. ; 2010.
6. Beck AT, Rush AJ, Shaw BF, Emery G. *Cognitive Therapy of Depression*. New York: Wiley; 1979.
7. Klerman GL, Weissman M, Rounsaville B, Chevron E. *Interpersonal Therapy of Depression*. New York: Basic Books; 1984.
8. National Collaborating Centre for Mental Health. *Generalised Anxiety Disorder in Adults: Management in Primary, Secondary and Community Care.* Leicester and London: The British Psychological Society and the Royal College of Psychiatrists; 2011.
9. National Collaborating Centre for Mental Health. *Obsessive-compulsive Disorder: Core Interventions in the Treatment of Obsessive-compulsive Disorder and Body Dysmorphic Disorder.* Leicester and London: The British Psychological Society and the Royal College of Psychiatrists.; 2006.
10. Bower P, Gilbody S. Stepped care in psychological therapies: access, effectiveness and efficiency. Narrative literature review. *British Journal of Psychiatry.* 2005;186:11-17.
11. Ekers D, Webster L. An overview of the effectiveness of psychological therapy for depression and stepped care service delivery models. *Journal of Research in Nursing.* 2013;18(2):171-184.
12. Sobell MB, Sobell LC. Stepped care as a heuristic approach to the treatment of alcohol problems. *Journal of Consulting and Clinical Psychology.* 2000;68(4):573-579.
13. Davison GC. Stepped care: Doing more with less? . *Journal of Consulting and Clinical Psychology.* 2000;68(4):580-585.
14. National Institute for Health and Care Excellence. A stepped-care approach to commissioning high-quality integrated care for people with common mental health disorders. . 2011. http://publications.nice.org.uk/commissioning-stepped-care-for-people-with-common-mental-health-disorders-cmg41/3-a-stepped-care-approach-to-commissioning-high-quality-integrated-care-for-people-with-common. Accessed 14 April 2014.
15. Haaga DAF. Introduction to the special section on stepped care models in psychotherapy. . *Journal of Consulting and Clinical Psychology.* 2000;68(4):547-548.
16. Wilson GT, Vitousek KM, Loeb KL. Stepped care treatment for eating disorders. *Journal of Consulting and Clinical Psychology.* 2000;68(4):564-572.
17. Van Straten A, Tiemens B, Hakkaart L, Nolen WA, Donker MCH. Stepped care vs. matched care for mood and anxiety disorders: A randomized trial in routine practice. *Acta Psychiatrica Scandinavica.* June 2006;113(6):468-476.

18. Clark DM, Layard R, Smithies R, Richards DA, Suckling R, Wright B. Improving access to psychological therapy: Initial evaluation of two UK demonstration sites. *Behaviour Research and Therapy.* November 2009;47(11):910-920.

19. National Collaborating Centre for Mental Health. *Common mental health disorders: Identification and pathways to care*. London & Leicester: The British Psychological Society and the Royal College of Psychiatrists; 2011.

20. NHMRC. *A guide to the development, implementation, and evaluation of clinical practice guidelines*. Canberra: National Health and Medical Research Council; 1999.

21. NHMRC. *How to review the evidence: Systematic identification and review of the scientific literature*. Canberra: National Health and Medical Research Council; 2000.

22. Oosterbaan DB, Verbraak MJ, Terluin B, et al. Collaborative stepped care v. care as usual for common mental disorders: 8-month, cluster randomised controlled trial. *British Journal of Psychiatry.* 2013;203(2):132-139.

23. Dozeman E, van Marwijk HW, van Schaik DJ, et al. Contradictory effects for prevention of depression and anxiety in residents in homes for the elderly: a pragmatic randomized controlled trial. *International Psychogeriatrics.* 2012;24(8):1242-1251.

24. Kronish IM, Chaplin WF, Rieckmann N, Burg MM, Davidson KW. The effect of enhanced depression care on anxiety symptoms in acute coronary syndrome patients: Findings from the COPES trial. *Psychotherapy and Psychosomatics.* 2012;81(4):245-247.

25. Seekles W, van Straten A, Beekman A, van Marwijk H, Cuijpers P. Stepped care treatment for depression and anxiety in primary care. A randomized controlled trial. *Trials.* 07 Jul 2011;12(171).

26. Tolin DE, Diefenbach GJ, Gilliam CM. Stepped care versus standard cognitive-behavioral therapy for obsessive-compulsive disorder: A preliminary study of efficacy and costs. *Depression and Anxiety.* 2011;28(4):314-323.

27. Van't Veer-Tazelaar PJ, Van Marwijk HWJ, Van Oppen P, et al. Stepped-care prevention of anxiety and depression in late life: A randomized controlled trial. *Archives of General Psychiatry.* March 2009;66(3):297-304.

28. Zatzick D, Roy-Byrne P, Russo J, et al. A Randomized Effectiveness Trial of Stepped Collaborative Care for Acutely Injured Trauma Survivors. *Archives of General Psychiatry.* May 2004;61(5):498-506.

29. Zatzick D, Jurkovich G, Rivara FP, et al. A randomized stepped care intervention trial targeting posttraumatic stress disorder for surgically hospitalized injury survivors. *Annals of Surgery.* 2013;257(3):390-399.

30. Van't Veer-Tazelaar PJ, Van Marwijk HWJ, Van Oppen P, et al. Prevention of late-life anxiety and depression has sustained effects over 24 months: A pragmatic randomized trial. *American Journal of Geriatric Psychiatry.* March 2011;19(3):230-239.

31. Davidson KW, Rieckmann N, Clemow L, et al. Enhanced depression care for patients with acute coronary syndrome and persistent depressive symptoms: Coronary psychosocial evaluation studies randomized controlled trial. *Archives of Internal Medicine.* 12 Apr 2010;170(7):600-608.

32. Davidson KW, Bigger JT, Burg MM, et al. Centralized, stepped, patient preference-based treatment for patients with post-acute coronary syndrome depression: CODIACS vanguard randomized controlled trial. *JAMA Internal Medicine.* 10 Jun 2013;173(11):997-1004.

33. Ell K, Xie B, Quon B, Quinn D, Dwight-Johnson M, Lee PJ. Randomized controlled trial of collaborative care management of depression among low-income patients with cancer. *Journal of Clinical Oncology.* 2008;26:4488-4496.

34. Ell K, Katon W, Xie B, et al. Collaborative care management of major depression among low-income, predominantly hispanic subjects with diabetes: A randomized controlled trial. *Diabetes Care.* April 2010;33(4):706-713.

35. Katon W, Von Korff M, Lin EH, et al. The Pathways Study. A randomized trial of collaborative care in patients with diabetes and depression. *Archives of General Psychiatry.* 2004;61:1042-1049.

36. Unutzer J, Katon W, Callahan C, et al. Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial. *Journal of the American Medical Association.* 2002;288:2836-2845.

37. Apil SRA, Hoencamp E, Haffmans PMJ, Spinhoven P. A stepped care relapse prevention program for depression in older people: A randomized controlled trial. *International Journal of Geriatric Psychiatry.* 2012;27(6):583-591.

38. Bot M, Pouwer F, Ormel J, Slaets JP, de Jonge P. Predictors of incident major depression in diabetic outpatients with subthreshold depression. *Diabetic Medicine.* 2010;27(11):1295-1301.

39. Dozeman E, Van Marwijk HWJ, Van Schaik DJF, et al. Contradictory effects for prevention of depression and anxiety in residents in homes for the elderly: A pragmatic randomized controlled trial. *International Psychogeriatrics.* August 2012;24(8):1242-1251.

40. Huijbregts K, de Jong F, Van Marwijk H, et al. A target-driven collaborative care model for major depressive disorder is effective in primary care in the Netherlands. A randomized clinical trial from the depression initiative. *Journal of Affective Disorders.* 2013;146:328-337.

41. Araya R, Rojas G, Fritsch R, et al. Treating depression in primary care in low-income women in Santiago, Chile: a randomised controlled trial. *Lancet.* 2003;361:995-1000.

42. Patel V, Weiss HA, Chowdhary N, et al. Effectiveness of an intervention led by lay health counsellors for depressive and anxiety disorders in primary care in Goa, India (MANAS): A cluster randomised controlled trial. *The Lancet.* December 18-31 2010;376(9758):2086-2095.

43. Katon W, Unützer J, Russo J. Major depression: The importance of clinical characteristics and treatment response to prognosis. *Depression and Anxiety.* 2010;27(1):19-26.

44. Patel V, Weiss HA, Chowdhary N, et al. Effectiveness of an intervention led by lay health counsellors for depressive and anxiety disorders in primary care in Goa, India (MANAS): a cluster randomised controlled trial. *Lancet.* 2010;376(9758):2086-2095.

45. Bosmans JE, Dozeman E, Van Marwijk HWJ, et al. Cost-effectiveness of a stepped care programme to prevent depression and anxiety in residents in homes for the older people: A randomised controlled trial. *International Journal of Geriatric Psychiatry.* February 2014;29(2):182-190.

46. Cuijpers P, van Straten A, van Schaik A, Andersson G. Psychological treatment of depression in primary care: a meta-analysis. *British Journal of General Practice.* 2009;59:e51-60.

47. Archer J, Bower P, Gilbody S, et al. Collaborative care for depression and anxiety problems. *Cochrane Database of Systematic Reviews.* 2012(10). http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD006525.pub2/abstract.

48. Kracen A, Mastnak J, Loaiza K, Matthieu M. Group therapy among OEF/OIF veterans: treatment barriers and preferences. *Military Medicine.* 2013;178(1):e146-149.

49. Pietrzak R, Johnson D, Goldstein M, Malley J, Southwick S. Perceived stigma and barriers to mental health care utilization among OEF-OIF veterans. *Psychiatric Services.* 2009;60(8):1118-1122.

50. Hoge CW, Castro CA, Messer SC, McGurk D, Cotting DI, Koffman RL. Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine.* 2004;351(1):13-22.

Appendix 1

Population Intervention Comparison Outcome (PICO) framework

The question was formulated within a Population Intervention Comparison Outcome (PICO) framework. Application of a PICO framework helps to structure, contain and set the scope for the research question. Inclusion of intervention and comparison components is dependent on the question asked, and may not be appropriate for all question types.

- **What are the effective models for stepped care in the treatment of mental health disorder?**
    - **PICO format:** In adults with symptoms of anxiety or depression, have stepped care interventions been shown to be effective in RCT or pseudo-RCT in reducing these symptoms or preventing the onset of an anxiety or depressive disorder?

P Patient, Problem, Population	**I** Intervention	**C** Comparison (*optional*)	**O** Outcome *when defining "more effective" is not acceptable unless it describes **how** the intervention is more effective*
AGE ≥ 18 GENDER (no specification) With a DSM-IV depressive or anxiety disorder (i.e. GAD, PTSD or OCD) identified through a diagnostic interview, or depressive or anxiety symptoms established by scoring above a cut-off on a relevant questionnaire	Interventions: • Identified as 'stepped care' by the evaluating study; • Comprising at least two psychological treatments of different intensities, or at least two treatment modalities, one of which is psychological; and • In which decisions about stepping up were based on a systematic clinical evaluation or questionnaire assessment, done at a pre-specified time interval and with the aim of determining the next step		Effectiveness as defined within the methodological constraints of each RCT or pseudo-RCT, assessed by: • Changes in depression or anxiety symptoms, either on general symptom measures or measure of symptoms of specific disorders • Changes in incidence of depressive or anxiety disorders, either specific disorders or depressive or anxiety disorders generally

Appendix 2

Information retrieval/management

The following is an example of the search strategy conducted in the Embase database:

Step	Search Terms	Results
S1	(anxiety or "anxiety disorder" or GAD or OCD or panic or "obsessive-compulsive" or "obsessive compulsive" or phobia).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword] (human and english language and yr="2004 -Current")	114,914
S2	MeSH Heading= (anxiety/ or anxiety disorder or generalized anxiety disorder) (human and english language and yr="2004 -Current")	82,511
S3	S1 OR S2	114,914
S4	(PTSD or "posttraumatic stress" or "post-traumatic stress" or "traumatic stress" or "stress disorder").mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword] (human and english language and yr="2004 -Current")	22,936
S5	MeSH Heading= (posttraumatic stress disorder [Disease Management, Drug Therapy, Therapy]) (human and english language and yr="2004 -Current")	4,475
S6	S4 OR S5	22,936
S7	(depression or depressive or mood or MDE or MDD).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword] (human and english language and yr="2004 -Current")	216,626
S8	MeSH Heading= (major depression or depression) (human and english language and yr="2004 -Current")	134,516
S9	S7 OR S8	216,626
S10	S3 OR S6 OR S9	275,584
S11	("clinical trial" or "control* trial" or "treatment" or effectiveness or therapy or "treatment study" or "clinical study" or "control* study").mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword] (human and english language and yr="2004 -Current")	3,457,646
S12	MeSH Heading= (clinical trial) (human and english language and yr="2004 -Current")	359,018
S13	S12 OR S13	3,457,646
S14	(stepped and care).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword] (human and english language and yr="2004 -Current")	824
S15	S10 OR S11 OR S14	290

Appendix 3

Quality and bias checklist

Checklist for appraising the quality of studies of interventions

Completed		
Yes	No	
		1. **Method of treatment assignment**
		• Correct, blinded randomisation method described OR randomised, double-blind method stated AND group similarity documented
		• Blinding and randomisation stated but method not described OR suspect technique (eg allocation by drawing from an envelope)
		• Randomisation claimed but not described and investigator not blinded
		• Randomisation not mentioned
		2. **Control of selection bias after treatment assignment**
		• Intention to treat analysis AND full follow-up
		• Intention to treat analysis AND <25% loss to follow-up
		• Analysis by treatment received only OR no mention of withdrawals
		• Analysis by treatment received AND no mention of withdrawals OR more than 25% withdrawals/loss-to-follow-up/post-randomisation exclusions
		3. **Blinding**
		• Blinding of outcome assessor AND patient and care giver (where relevant)
		• Blinding of outcome assessor OR patient and care giver (where relevant)
		• Blinding not done
		• Blinding not applicable
		4. **Outcome assessment (if blinding was not possible)**
		• All patients had standardised assessment
		• No standardised assessment OR not mentioned
		5. Additional Notes
		• Any factors that may impact upon study quality or generalisability

Appendix 4

Meta-analyses and systematic reviews checklist

Study Type				Systematic review	Error Categories
Citation:					
Y	N	NR	NA	Quality Criteria	
				A. Was an adequate search stragegy used?	
				• Was a systematic search streagy reported?	I
				• Were the databases search reported?	III
				• Was more than one database searched?	III
				• Were search terms reported?	IV
				• Did the litarature search include hand searching?	IV
				B. Were the inclusion criteria apprpriate and applied in an unbiased way?	
				• Were inclusion/exclusion criteria reported?	II
				• Was the inclusion criteria applied in an unbiased way?	III
				• Was only level II evidence included?	I=IV
				C. Was a quality assessment of included studies undertaken?	
				• Was the quality of the studies reported?	III
				• Was a clear, pre-determined strategy used to assess study quality?	IV
				D. Were the characteristics and results of the individual studies appropriately summarised?	
				• Were the characteristics of the individual studies reported?	III
				• Were baseline demographic and clinical characteristics reported for patients in the individual studies?	IV
				• Were the results of the individual studies reported?	III
				E. Were the methods for pooling the data appropriate?	
				• If appropriate, was a meta-analysis conducted?	III-IV
				F. Were the sources of heterogenity explored?	
				• Was a test for heterogeneity applied?	III-IV
				• If there was heterogeneity, was this discussed or the reasons expored?	III-IV
Comments					
Quality raitng: [Good/Fair/Poor]				Systematic review:	
				Included studies:	

Note: Quality criteria adapted from NHMRC (2000) How to use the evidence: assessment and application of scientific evidence. HNMRC, Canberra.

[a] Assess criterion using Y (yes), N(no), NR (not reported) or NA (not applicable).

[b] Error categories as follows: (I) leads to exclusion of the study; (II) automatically leads to a poor rating; (III) leads to a one grade reduction in quality rating (eg, good to fair, or fair to poor); and (IV) errors that may or may not be sufficient to lead to a decrease in rating.

[c] Where applicablem provide clarification for any of the criteria, particularly where it may results in downgrading of the study quality. For quality assessment of systematic reviews, this should include a statement regarding the methodologcal quality of the studies included in the systematic review.

[d] Quality ratings are good, fair, or poor.

Appendix 5

Evidence Profile- Depression

Authors & year	Design	Intervention (I) and Comparison (C)	Focus of intervention	Baseline Diagnosis	Primary Outcome domain (Measure(s))	Secondary Outcome domain (Measure(s))	Setting and characteristics of sample	Participants	
								I	C
Van Straten, Hill, Richards & Cuijpers, 2014	Systematic review and meta-analysis (12 RCTs, 2 cluster RCTS)	(I): Stepped care (SC) (C): Usual care (11 studies) or enhanced usual care (3 studies)	8 Treatment studies, 3 Prevention studies	The presence or absence of a DSM-IV diagnosis of depressive disorder obtained through interview, or depressive symptoms according to a questionnaire	Various, including MINI, SCID, CIDI, CES-D, BDI, PHQ, SCL, K10, CIS-R, GHQ.	Various	Adults in primary care (4 studies), adults with comorbid physical conditions (6 studies), elderly people (5 studies) *Countries where studies were conducted:* Chile (1 study), India (1 study), Netherlands (6 studies), USA (6 studies)	NA	NA
Study quality was overall relatively high. A meta-analysis of the 10 studies that were treatment-focused and had post-treatment data found an overall post-intervention effect size of d=0.38 (95% CI 0.18-0.57). Effect sizes at specific time points were d=0.57 (2-4 months; 95% CI 0.21-0.94), d=0.34 (6 months; 95% CI programs 0.20-0.48), d=0.43 (9-12 months; 95% CI 0.20 -0.65) and d=0.26 (18 months; ns). Heterogeneity was high for all effect sizes. SC with interventions arranged by progressive intensity had significantly less effect than SC not arranged as such (d=0.07 vs d=0.41, p <0.01). Location of study, physical health comorbidity and diagnostic status at baseline were not related to effect size. Of the three prevention-focused studies, two found positive effects for SC on 12-month rates of major depressive disorder, while the other found no difference.									
Oosterbaan, Verbraak, Terluin,. Hoogendoorn, Peyrot, Muntingh & van Balkom, 2013	Cluster RCT	(I): Collaborative stepped care (CSC) (C): Care as usual (CAU)	Treatment	DSM-IV diagnosis of depressive or anxiety disorder (MINI)	- % of patients responding to and remitting after treatment (CGI-I; CGI-S)	- Anxiety symptoms (HRSA) -Depressive symptoms (CES-D) - Phobic behaviour (FQ) -General symptoms (SCL-90-R) - Quality of life (SF-36).	Adults in primary care in the Netherlands N=158	N = 94 Mean age: 37 (12) 63% female	N=64 Mean age: 39 (12) 61% female

Authors & year	Design	Intervention (I) and Comparison (C)	Focus of intervention	Baseline Diagnosis	Primary Outcome domain (Measure(s))	Secondary Outcome domain (Measure(s))	Setting and characteristics of sample	Participants	
								I	C
Description of intervention and comparison: Step 1: A 3.5-month guided self-help course, with five 45-minute sessions, provided in primary care, with AD medication offered to patients with a moderately severe disorder. Step 2: CBT in combination with AD medication provided by a specialist out-patient mental health service. Within each step, participants were allocated to a depression, anxiety or stress treatment program, depending on their diagnosis. Remission was evaluated after 4 months, using the CGI-S. Participants with scores of at least 3 on the CGI-S (i.e. mild severity or worse) proceeded to the second-step treatment. Patients with stress-related disorders or mild or moderately severe anxiety or depressive disorders started at Step 1. Participants with a severe disorder went directly to Step 2. Participants assigned to CAU could obtain any service normally available in The Netherlands. **Results**: At 4-month mid-test CSC was superior to CAU: 74.7% v. 50.8% responders (P = 0.003) and 57.8% v. 31.7% (P = 0.002); however, at 8-month post-test and 12-month follow-up no significant differences were found. A similar pattern of response and remission results was found for the specific depression treatment program. Compared with patients in the CAU group, CSC patients had a significantly larger reduction in depressive symptoms (CES-D) after 4 months. However, for the depression treatment programme no significant differences were found between groups at any time point.								

Appendix 6

Evidence Profile- Depression

Authors & year	Design	Intervention (I) and Comparison (C)	Focus of intervention	Baseline Diagnosis	Primary Outcome domain (Measure(s))	Secondary Outcome domain (Measure(s))	Setting and characteristics of sample	Participants	
								I Mean age (SD) Gender (%)	C Mean age (SD) Gender (%)
Dozeman, van Marwijk, van Schaik, Smit, Stek, van der Horst, Bohlmeijer & Beekman, 2012	RCT	(I): Stepped care (C): Usual care	Prevention	A score of at least 8 on the CES-D, but no depressive or anxiety disorder (MINI)	- Cumulative 12 month incidence of depressive and anxiety disorders (MINI)	- Depression symptoms (CES-D) - Anxiety (HADS-A)	Elderly people in nursing homes in the Netherlands Total sample size: N=185	n= 93 Mean age: 85 (7) 72% female	N= 92 Mean age: 84 (6) 73.9% female
Description of intervention and comparison: Step 1: watchful waiting. Step 2: Activity scheduling. Step 3: life review with GP. Step 4: additional specialist treatment. After one month of watchful waiting, assessments took place in cycles of three months. Failure to improve by at least 5 points on the CES-D determined step-up, while those with a decrease of 0-5 points received further monitoring. Participants who had a CES-D score ≥ 16 after 7 months went to Step 4. Residents in the usual care group had access to any form of health care that was considered appropriate. **Results**: The intervention was not effective in reducing the incidence of anxiety disorders relative to the usual care group (IRR = 1.32; 95% CI = 0.48–3.62).									
Kronish, Rieckmann, Burg & Davidson, 2012	RCT	(I): Enhanced depression care (COPES) (C): Care as usual (CAU)	Treatment	A score from 10-45 on the BDI 1 week and 3 months post hospitalisation for acute coronary syndrome (ACS).	- Anxiety (HADS-A)		US patients with ACS Total sample size: N=157	n= 80 Mean age: 59 (11) 54% female	n= 77 Mean age: 61 (11) 53% female
Description of intervention and comparison: Stepped care was embedded within a collaborative care approach, which included participant choice of psychotherapy (PST) and/or pharmacotherapy. Symptoms were reviewed every 8 weeks. Patients who achieved recovery from depression (at least a 50% reduction on PHQ-9 score and fewer than 3 of 9 symptoms) were followed up monthly. Participants who had not responded to treatment at a given time point had a treatment plan developed that could include change and/or augmentation of ADs or a change from ADs to PST or vice versa. Usual care was defined by the patient's treating physicians, who were informed that their patients were participating in a trial and that they had elevated depressive symptoms or met the criteria for a major depressive episode. **Results**: At post-treatment, COPES participants showed a significant decrease in HADS-A compared to baseline whereas there was no significant change in usual care patients (effect size of 0.53). Controlling for depression, the effect of enhanced care on anxiety decreased, but remained significant. A subgroup analysis suggested a benefit of enhanced care on anxiety in women but not men.									
Oosterbaan, Verbraak, Terluin,. Hoogendoorn, Peyrot, Muntingh & van Balkom, 2013	Cluster RCT	(I): Collaborative stepped care (CSC) (C): Care as usual (CAU)	Treatment	DSM-IV diagnosis of depressive or anxiety disorder (MINI)	- % of patients responding to and remitting after treatment (CGI-I; CGI-S)	- Anxiety symptoms (HRSA) - Depressive symptoms (CES-D) - Phobic behaviour (FQ) - General symptoms (SCL-90-R) Quality of life (SF-36)	Adults in primary care in the Netherlands Total sample size: N=158	n= 94 Mean age: 37 (12) 63% female	n= 64 Mean age: 39 (12) 61% female

Authors & year	Design	Intervention (I) and Comparison (C)	Focus of intervention	Baseline Diagnosis	Primary Outcome domain (Measure(s))	Secondary Outcome domain (Measure(s))	Setting and characteristics of sample	Participants	
								I Mean age (SD) Gender (%)	C Mean age (SD) Gender (%)
Description of intervention and comparison: Step 1: A 3.5-month guided self-help course, with five 45-minute sessions, provided in primary care, with AD medication offered to patients with a moderately severe disorder. Step 2: CBT in combination with AD medication provided by a specialist out-patient mental health service. Within each step, participants were allocated to a depression, anxiety or stress treatment program, depending on their diagnosis. Remission was evaluated after 4 months, using the CGI-S. Participants with scores of at least 3 on the CGI-S (i.e. mild severity or worse) proceeded to the second-step treatment. Patients with stress-related disorders or mild or moderately severe anxiety or depressive disorders started at Step 1. Participants with a severe disorder went directly to Step 2. Participants assigned to CAU could obtain any service normally available in The Netherlands. **Results**: At 4-month mid-test CSC was superior to CAU: 74.7% v. 50.8% responders (P = 0.003) and 57.8% v. 31.7% (P = 0.002); however, at 8-month post-test and 12-month follow-up no significant differences were found. A similar pattern of response and remission results was found for the specific anxiety treatment program. Compared with those in the CAU group, CSC participants had a significantly larger reduction in anxiety symptoms (HRSA, FQ) after 4 months. In the anxiety treatment programme scores on the HRSA were also significantly more reduced at 4 months for CSC compared with CAU.									
Seekles, van Straten, Beekman, van Marwijk & Cuijpers, 2011	RCT	(I): Stepped care (C): Usual care	Treatment	DSM-IV diagnosis of major depression, minor depression, dysthymia, panic disorder, social phobia or GAD (CIDI), minor anxiety (score of 12 or more on the HADS)	- Depression symptoms (IDS) - Anxiety symptoms (HADS) - Daily functioning (WSAS)		Adults in primary care in the Netherlands Total sample size: N=120	n= 60 Mean age: 51 (10) 68% female	n= 60 Mean age: 49 (12) 62% female
Description of intervention and comparison: Step 1: watchful waiting. Step 2: guided self-help. Step 3: problem-solving therapy. Step 4: pharmacotherapy and/or referral for specialized mental health care. Scores of at least 14 on the IDS, at least 8 on the HADS and at least 6 on the WSAS CES-D determined step-up. Usual care participants were advised to see their GP to discuss treatment options. **Results**: Symptoms of anxiety decreased significantly over 24 weeks for both groups; however, there was no significant difference in symptom reduction between the two groups.									
Tolin, Diefenbach & Gilliam, 2011	RCT	(I): Stepped care exposure and response prevention (ERP) (C): Standard ERP	Treatment	DSM-IV diagnosis of OCD (ADIS-IV)	- OCD symptoms (Y-BOCS)		US adults in outpatient mental health care Total sample size: N=185	n= 19 Mean age: 36 (15) 68% female	n= 15 Mean age: 33 (11) 47% female
Description of intervention and comparison: Step 1: bibliotherapy plus counselling. The therapist answered questions regarding ERP, and provided suggestions for implementing ERP; however, no ERP was performed or modelled within these sessions. Step 2: Standard ERP, including modelling within sessions. Participants assigned to the standard ERP condition received ERP as per Step 2. Failure to improve by at least 5 points on the Y-BOCS determined step-up. **Results:** No significant differences in response rates were found between the two samples at posttreatment (50% stepped care versus 42% standard ERP, p=.66).									
Primary paper van't Veer-Tazelaar, van Marwijk, van Oppen, van Hout, van der Horst, Cuijpers, Smit & Beekman, 2009 *Follow-up paper* van't Veer-Tazelaar, van Marwijk, van	RCT	(I): Preventive stepped care (C): Usual care (UC)	Prevention	A score of at least 16 on the CES-D, but *no* depressive or anxiety disorder (MINI)	- Cumulative 12-month incidence of anxiety and depressive disorders (MINI)		Adults aged over 75 in primary care in the Netherlands Total sample size: N=170	n= 86 Mean age: 82 (4) 70% female	n= 84 Mean age: 81 (4) 77% female

Authors & year	Design	Intervention (I) and Comparison (C)	Focus of intervention	Baseline Diagnosis	Primary Outcome domain (Measure(s))	Secondary Outcome domain (Measure(s))	Setting and characteristics of sample	Participants	
								I Mean age (SD) Gender (%)	C Mean age (SD) Gender (%)
Oppen, van der Horst, Smit, Cuijpers & Beekman, 2011									
Description of intervention and comparison: Step 1: watchful waiting. Step 2: CBT-based bibliotherapy. Step 3: brief CBT-based problem solving therapy. Step 4:referral to primary care. A score of at least 16 on CES-D, administered every three months, determined step-up. Participants assigned to UC had unrestricted access to usual care for their depression or anxiety concerns. **Results**: The 12 month rate of depressive and anxiety disorders was significantly lower in the intervention group than in the UC group (12 % v.24%; relative risk, 0.49; 95% CI 0.24 to 0.98). The rate of anxiety disorders in the intervention group after 12 months was not significantly different from that of depressive disorders. These results were maintained at 24-month follow-up.									
Zatzick; Roy-Byrne, Russo, Rivara, Droesch, Wagner, Dunn, Jurkovich, Uehara & Katon, 2004	RCT	(I): Stepped collaborative care (SCC) (C): Usual care (UC)	Treatment	A score of at least 45 on the PCL and/or at 16 on the CES-D in the surgical ward	- DSM-IV diagnosis of PTSD (PCL)	DSM-IV diagnosis of alcohol abuse or dependence (CIDI)	US patients admitted to hospital for surgery after injury Total sample size: N=120	n= 59 Mean age: 37 (13) 32% female	n= 61 Mean age: 44 (16) 33% female
Description of intervention and comparison: Stepped care was embedded within a collaborative care approach. For the first 6 months after injury, all SCC participants received case management. All participants with positive alcohol toxicology test results on admission, or who demonstrated post-injury alcohol abuse received motivational interviewing (MI). Three months after the injury, each SCC participant was administered the SCID PTSD module, and participants with PTSD were given their preference of CBT, pharmacotherapy, or combined treatment. During the PTSD intervention, the TSS performed brief assessments of adherence to medication and symptom relapse, outside scheduled sessions. From 6 to 12 months after the injury, participants had their symptoms periodically reassessed and participants who remained symptomatic with PTSD and/or alcohol abuse received ongoing support and MI and PTSD treatments. All participants, including those in the UC condition, received a list of community referrals. **Results**: The SCC group demonstrated no difference (−0.07%; 95% CI, −4.2% to 4.3%) in the adjusted rates of change in PTSD from baseline to 12 months, whereas the UC group had a 6% increase (95% CI, 3.1%-9.3%). The intervention effect on PTSD commenced at 3 months, with between-group differences reaching trend level at 6 months, and significance at 12 months.									
Zatzick, Jurkovich, Rivara, Russo, Wagner, Wang, Dunn, Lord, Petrie, O'Connor & Katon, 2013	RCT	(I): Stepped collaborative care (C): Usual care	Treatment	A score of at least 35 on the PCL in the surgical ward and following discharge.	-PTSD symptoms and diagnosis (CAPS; PCL) -PTSD remission and treatment response (CAPS)	- Depressive symptoms (PHQ) - Alcohol use (AUDIT-C).	US patients admitted to hospital for surgery after injury Total sample size: N=207	n= 104 Mean age: 39 (13) 52% female	n= 103 Mean age: 38 (13) 44% female
Description of intervention and comparison: As for Zatzick et al (2004). Behavioural activation was also part of case management. UC participants underwent PTSD screening, and baseline and follow-up interviews **Results:** Regression analyses demonstrated significant CAPS ($p < 0.01$), and PCL-C ($p < 0.001$) group by time interaction effects in favour of SCC over the course of the year. The intervention also achieved a significant impact on PTSD treatment response (OR = 1.93, 95% CI = 1.0 -3.7). PTSD remission criteria also demonstrated significant reductions over the course of the year ($p < 0.01$). No significant treatment effects were observed for PTSD diagnostic criteria over the course of the year (OR = 1.4, 95% CI = 0.8, 2.5).									

Appendix 7

Evaluation list

Type of Intervention	Included Studies
Supported	
• Stepped care interventions for the treatment and/or prevention of depressive disorders or depressive symptoms	• Van Straten, Hill, Richards & Cuijpers, 2014 (systematic review and meta-analysis) • Oosterbaan, Verbraak, Terluin,. Hoogendoorn, Peyrot, Muntingh & van Balkom, 2013
Promising	
• Stepped care interventions for the treatment and/or prevention of PTSD or PTSD symptoms	• Zatzick; Roy-Byrne, Russo, Rivara, Droesch, Wagner, Dunn, Jurkovich, Uehara & Katon, 2004 • Zatzick, Jurkovich, Rivara, Russo, Wagner, Wang, Dunn, Lord, Petrie, O'Connor & Katon, 2013
Unknown	
• Stepped care interventions for treatment and/or prevention of anxiety disorders or anxiety symptoms	• Dozeman, van Marwijk, van Schaik, Smit, Stek, van der Horst, Bohlmeijer & Beekman, 2012 • Kronish, Rieckmann, Burg & Davidson, 2012 • Oosterbaan, Verbraak, Terluin,. Hoogendoorn, Peyrot, Muntingh & van Balkom, 2013 • Seekles, van Straten, Beekman, van Marwijk & Cuijpers, 2011 • van't Veer-Tazelaar, van Marwijk, van Oppen, van Hout, van der Horst, Cuijpers, Smit & Beekman, 2009 • van't Veer-Tazelaar, van Marwijk, van Oppen, van der Horst, Smit, Cuijpers & Beekman, 2011
• Stepped care interventions for treatment of OCD	• Tolin, Diefenbach & Gilliam, 2011
Not Supported	
• Nil	• Nil