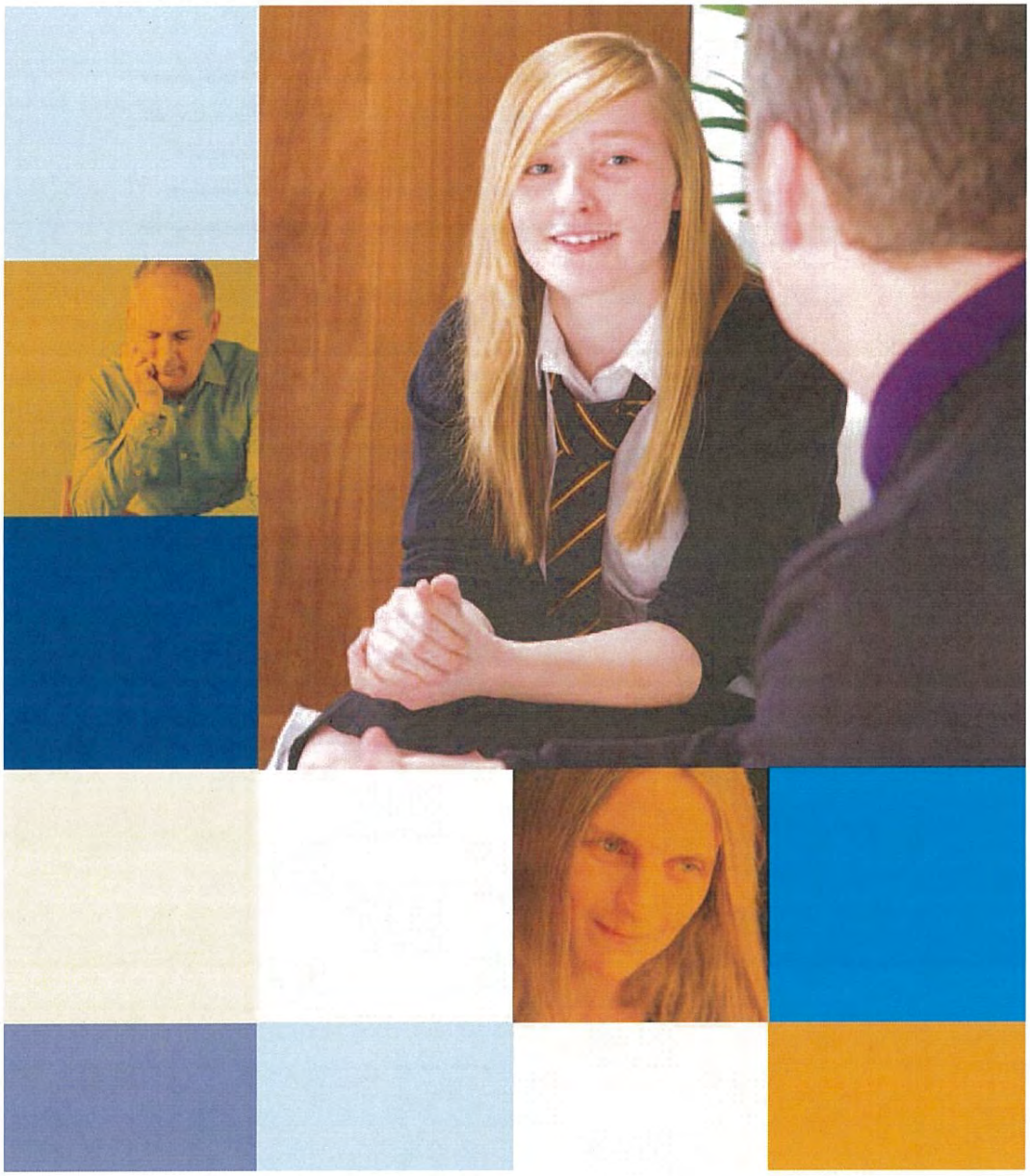


Evidence Review and Treatment Recommendations

5

The purpose of this chapter is to provide an overview of the systematic review process followed by a brief summary of the key research evidence in each area together with the clinical practice recommendations (denoted as "R" and graded A–D), the research recommendations (RR), consensus points (CP), and good practice points (GPP). The criteria used to designate a recommendation type and grading is detailed in "Assessing the body of evidence and generating recommendations" below. The full detail of the evidence review can be seen in Appendix 3.

Approach to the systematic review

Systematic literature reviews use explicit, systematic methods to limit bias and reduce the effect of chance in the review, thereby providing the most reliable and consistent results upon which to draw conclusions and develop clinical practice guidelines. The National Health and Medical Research Council (NHMRC) has published the Procedures and requirements for meeting the 2011 NHMRC standard for clinical practice guidelines to assist developers with the process of producing and disseminating clinical practice guidelines.[1] The document contains the mandatory and desirable requirements for the evidence review component of guideline development. The NHMRC has also produced other resources for guideline developers that have been utilised in the systematic review including, *A guide to the development, evaluation and implementation of clinical practice guidelines*,[2] and handbooks such as, *How to review the evidence: Systematic identification and review of scientific literature*.[3]

Evidence-based guidelines reports should include:

- the development and statement of a specific research question or hypothesis
- a transparent methodical process defined a priori (i.e., a review protocol)
- an exhaustive search for relevant primary (and secondary) research on the topic
- application of inclusion criteria and critical appraisal of the research
- an attempt to answer the research question(s) and to resolve conflicts in the literature
- the identification of issues central to future research on the topic and the practical application of results
- the development of guidelines or recommendations that are based on this evidence (research), and are applicable to the target population or patient group.[2-8]

Research questions

The research questions for the systematic literature review were developed by the working party and underwent finalisation through discussions with the multidisciplinary panel. In exploring the results of the systematic review, gaps in the evidence base were identified where questions could not be (or could only partially be) answered by the existing research. In such cases, suggestions for further research were generated, and are provided throughout the Guidelines document.

For each of these research questions, evidence was collected separately for children under 6 years of age, children 7 to 13 years of age, adolescents 14 to 18 years of age, and adults.



The research questions that the systematic review was commissioned to investigate were:

1. For people exposed to trauma, does pre-incident preparedness training improve outcomes compared to no intervention?
2. For people exposed to trauma, does any pre-incident preparedness training confer any advantage over other pre-incident preparedness training?
3. For people exposed to trauma, do early psychological interventions improve outcomes compared to no intervention?
4. For people exposed to trauma, does any early psychological intervention confer any advantage over other early psychological interventions?
5. For people exposed to trauma, do early pharmacological interventions improve outcomes compared to no intervention?
6. For people exposed to trauma, does any early pharmacological intervention confer any advantage over other early pharmacological interventions?
7. For people exposed to trauma, is a single early intervention more effective than multiple early interventions?
8. For children exposed to trauma, does any intervention delivered through school improve outcomes for the child over no intervention?
9. For children exposed to trauma, does any intervention delivered through school improve outcomes for the child over any other intervention delivered through school?
10. For people with PTSD, do psychological interventions improve outcomes compared to no intervention?
11. For people with PTSD, does any psychological intervention confer any advantage over other psychological interventions?
12. For people with PTSD, is individual therapy more effective than group therapy?
13. For people with PTSD, is the combination of individual therapy and group therapy more effective than either alone?
14. Are established interventions for PTSD effective when self-delivered or self-delivered with practitioner support compared to practitioner-delivered intervention or no intervention?
15. For people with PTSD, do pharmacological interventions improve outcomes compared with placebo?
16. For people with PTSD, does any pharmacological intervention confer any advantage over other pharmacological interventions?
17. For people with PTSD, does psychosocial rehabilitation improve outcomes compared to no intervention?
18. For people with ASD or PTSD, do physical interventions or exercise improve outcomes compared to no intervention?
19. For people with ASD or PTSD, do physical interventions or exercise confer an advantage over psychological or pharmacological interventions?
20. For people with PTSD, is a single intervention more effective than multiple interventions?
21. For people with PTSD, is any intervention (pharmacotherapy, psychotherapy or psychosocial rehabilitation) more effective than any other intervention (pharmacotherapy, psychotherapy or psychosocial rehabilitation)?
22. In the context of PTSD and comorbidity, is sequencing of intervention per diagnosis more effective than simultaneous interventions for both diagnoses?
23. For children with PTSD, does the inclusion of parents/primary caregivers improve outcomes compared to no parent/primary caregiver inclusion?
24. For children with PTSD, does any psychological intervention that includes parents/primary caregivers improve outcomes compared to any other psychological intervention that includes parents/primary caregivers?

Overview of methodology

This systematic review was designed to update the systematic review conducted for the 2007 Australian Guidelines for the Treatment of Adults with ASD and PTSD. That review, and the current review, were both undertaken by Adelaide Health Technology Assessment (AHTA). The 2007 review included studies identified in the National Institute for Clinical Excellence (NICE)[9] guidelines and the Veterans Affairs/Department of Defense (VA/DoD)[10] guidelines. The current review also included the studies identified in that previous systematic review where the research questions were the same, provided they met the inclusion criteria. The current review also reviewed the research on a broader range of questions and included children and adolescents for the first time.

Inclusion criteria

Criteria for including studies in the updated systematic literature review are provided in Boxes 1–190 of Appendix 3. In order to ensure that the selection of studies to answer specific research questions was not biased, these criteria were delineated prior to collating the literature. The type of patient Population, Intervention (treatment), Comparator (against which the treatment's effectiveness is measured), and Outcomes of interest were made explicit – these are known as the PICO criteria and they relate directly to the research question that is being addressed. Additional limits to the literature search were also made clear, such as restricting the search to studies of a certain research design(s) (e.g., likely to provide unbiased or more reliable results), to a certain search period, or a certain language.

Studies were excluded if they:

- did not meet the inclusion criteria
- could not provide adequate data on the outcomes (e.g., data only provided in graphical format, missing information, format or type of data are unable to be used)
- were updated by the same research group on the same research question for the same patients, with no different information provided
- could not be located
- used an analogue for a traumatic event (e.g., student convenience samples).

Studies assessing the benefits of interventions in adults were included if:

- PTSD symptoms were measured
- the main target of the treatment was ASD or PTSD, or preventing the development of these disorders
- for questions pertaining to PTSD, at least 70 per cent of the participants have PTSD, and the remaining participants have symptoms of PTSD following a traumatic event
- for continuous data, at least 50 per cent of the intent-to-treat sample were assessed at the relevant time point.

The inclusion criteria for children and adolescents were the same as for adults, except the inclusion criteria that 70 per cent of participants within a study require PTSD was not applied, as the diagnostic criteria for child and adolescent PTSD is still evolving and relatively undeveloped.[9] All studies, however, were required to include a measure of the child's PTSD symptoms.

Literature sources

To be consistent with the evidence-based guidelines documents that have gone before this one, including the NICE and VA/DoD guidelines and the previous Australian Guidelines, the following databases were searched: Medline, Exerpta Medica Database (EMBASE), PsychINFO, Cumulative Index to Nursing and Allied Health Literature (CINAHL), the Dartmouth College Published International Literature on Traumatic Stress (PILOTS) catalogue and the Cochrane Library (See Table 200 in Appendix 3). To meet NHMRC Minimum Requirements standards, Clinical Evidence and the internet (Google Scholar, and websites of specialty organisations) were also searched (See Table 201 and Appendix E of Appendix 3), and the reference lists of all included studies were scanned for potentially relevant studies. The Australian and New Zealand Clinical Trials Register was searched in January 2012 and, where a relevant study was identified as being completed, the corresponding research groups were contacted to see whether they had any recently published or in press articles in an attempt to ensure the Guidelines were based on the most recent applicable evidence available.

Also, to be consistent with the previous evidence-based guidelines documents, the search was restricted to English language literature and to either a systematic review/meta-analysis of randomised controlled trials (RCTs; level I evidence), or to randomised controlled trials (level II evidence), unless fewer than two randomised controlled trials were identified to answer a particular question, in which case lower levels of evidence were assessed for inclusion.



Search strategies

A series of six separate searches was conducted to extract comparative studies relating to psychological interventions, pharmacological interventions, psychosocial rehabilitation, physical therapies and exercise, and comorbidities, from which relevant papers were identified for each research question. Where the question remained the same from the 2007 guidelines and no new levels of evidence were scoped in the search, the evidence derived from the previous 1996–2004 search was retained and a separate search occurred from 2005 to October 2011. However, for children and adolescents a separate search occurred from 1996 to October 2011 as they were not included in the previous search. The search terms used are listed in Table 202 of Appendix 3. The search terms were developed on a PubMed platform. Similar search strategies were used for the different bibliographic databases, with the same text words being used along with the relevant alternatives to MeSH headings.

Validity assessment

All studies identified through the new searches, and those identified through the previous reviews (AHTA, NICE and VA/DoD), were critically appraised – in terms of internal and external validity – and the statistical and clinical relevance and applicability of results were determined utilising the NHMRC dimensions of evidence (NHMRC 2000a; NHMRC 2000b) and the recently developed NHMRC interim levels and grades of evidence (see Table 205 of Appendix 3). Critical appraisal of the identified studies was performed using the NHMRC quality checklist[3] (see Appendix B of Appendix 3). The checklist for appraising the quality of intervention studies was designed to assess features of randomised trials. Only those trials which reported a correct, blinded randomisation method, and had high rates of follow-up with intention-to-treat analyses conducted, were considered to be low in bias. This rating was applicable to very few studies identified in the systematic review, resulting in the majority of studies being considered to be at moderate or high risk of bias. For cohort studies, a protocol amendment was made, and a checklist by Downs and Black was used (see Appendix B of Appendix 3).

Publication bias was assessed using funnel plots. Comparisons within the review with three or more studies were assessed for publication bias on the primary outcomes (PTSD diagnosis and severity).

The NHMRC dimensions of evidence (Table 204 of Appendix 3) considers three main aspects that are critical to an assessment of evidence: strength of the evidence, size of the effect and relevance of the evidence. The first domain is derived directly from the literature identified as informing a particular intervention. The last two require expert clinical input as part of their determination.

Table 5.1 Evidence dimensions

Type of evidence	Definition
Strength of the evidence	
Level	The study design used, as an indicator of the degree to which bias has been eliminated by design.*
Quality	The methods used by investigators to minimise bias within a study design.
Statistical precision	The *p*-value or, alternatively, the precision of the estimate of the effect. It reflects the degree of certainty about the existence of a true effect.
Size of effect	The distance of the study estimate from the 'null' value, and the inclusion of only clinically important effects in the confidence interval.
Relevance of evidence	The usefulness of the evidence in clinical practice, particularly the appropriateness of the outcome measures used.

*See Table 205 in Appendix 3



Data extraction and analysis

The process of study selection went through six phases, and the number of literature citations retrieved and retained at each phase was documented (See Table 203 of Appendix 3).

Evidence tables were used as a guide to summarise the extraction of data from the individual studies (See Appendix G of Appendix 3).[11] Intention-to-treat analyses should be used in preference to completer data as they limit the effect of selection bias on the results. Therefore, intention-to-treat data was used in preference to completer data, when it was available. However, when such data was not available, completer data was used.

Meta-analyses for specific research questions were conducted originally in the NICE guidelines document9 and updated where appropriate in the previous Australian Centre for Posttraumatic Mental Health (ACPMH) Guidelines. These meta-analyses were again updated, where appropriate, using the results of the new randomised controlled trials identified for this report. Meta-analyses were conducted using a fixed effects model when studies were homogenous ($p>0.05$), or a random effects model in the presence of between-study heterogeneity (where that heterogeneity could not be explained). Effect measures that were extracted or calculated for individual or pooled results included Relative Risk (RR; for count data) and standardised mean differences (SMD; Hedges g) for continuous data. As per the methodology used by NICE, mean post-treatment scores (or follow-up scores) were combined with mean change-from-baseline scores, where the scores were on the same outcome measure.

It should be noted that the SMD method does not correct for differences in the direction of the scale. For meta-analyses where some scales increase with disease severity whilst others decrease, the mean values from one set of studies were multiplied by –1 to ensure that all the scales point in the same direction. Heterogeneity in the meta-analysis was assessed using the Cochran Q statistic, and publication bias was tested using the Begg funnel plot. Where a meta-analysis could not be conducted, a qualitative synthesis of the data was undertaken.

Effect sizes were interpreted using methodology developed by NICE (see below) and NHMRC designations of level of evidence were used (Appendix B of Appendix 3).

"For each outcome a clinical statement describing the evidence found was developed. To assess clinical importance where a statistically significant summary was obtained (after controlling for heterogeneity), the Group set thresholds for determining clinical importance, in addition to taking into account the trial population and nature of the outcome.

Two separate thresholds for determining clinical importance were set. For comparisons of one active treatment against waiting list or non-active interventions, a higher threshold was applied than for comparisons of active treatments against one another.

For comparisons of one active treatment against another treatment, the following thresholds were applied: for dichotomous outcomes an RR of 0.80 or less/1.25 or more was considered clinically important, and for continuous outcomes an effect size of approximately 0.5 (a 'medium' effect size; Cohen, 1988) or more (or less than -0.5) was considered clinically important.

For comparisons of active treatment against waiting list, the following thresholds were applied: for dichotomous outcomes an RR of 0.65 or less/1.53 or more was considered clinically important, and for continuous outcomes an effect size of approximately 0.8 (a 'large' effect size; Cohen, 1988) or more (or less than -0.8) was considered clinically important.

In cases where the point estimate of the effect was judged clinically important, a further consideration was made about the precision of the evidence by examining the range of estimates defined by the CI [confidence interval]. Where the effect size was judged clinically important for the full range of plausible estimates, the result was described as evidence favouring intervention x over intervention y (i.e., statement 1, or S1). In situations where the point estimate was clinically important but the CI included clinically unimportant effects, the result was described as limited evidence favouring intervention x over intervention y (i.e., S2). Where a point estimate was judged as not clinically important and the CI did not include any clinically important effects, the result was described as unlikely to be clinically important (i.e., S3). Alternatively, if the range of estimates defined by the CI included clinically important benefits as well as no effect or harmful effects, the result was described as inconclusive (i.e., S4).

S1= There is evidence favouring x over y on…

S2= There is limited evidence favouring x over y on…

S3= There is evidence suggesting that there is unlikely to be a clinically important difference between x and y on…

S4= The evidence is inconclusive and so it is not possible to determine whether there is a clinically important difference between x and y on…." (Adapted from NICE, 2005 p.45)



The same approach to data extraction and analysis was adopted for all trials reviewed for the guidelines, regardless of the nature of intervention. It is acknowledged that this renders direct comparisons between studies of psychological interventions and studies of pharmacological interventions difficult, since they tend to use different control groups. (If such comparisons are of interest, the best approach is a 'head to head' design; regrettably, few such studies exist at this point). Nevertheless, it is the most defensible approach and is routinely used in systematic reviews of this kind. Further discussion of some of these complexities appears below in the "Summary of the literature" subsection of the "Pharmacological interventions for adults with PTSD" section.

All statistical calculations and testing were undertaken using the biostatistical computer package Stata version 12.0.12 Calculations of effect sizes (Hedges g) for individual studies were performed using The Effect Size Generator version 4.1.[13]

Assessing the body of evidence and generating recommendations

Once each included study was assessed according to the three dimensions of evidence, an evidence statement matrix was developed for each group of studies focussing on a particular topic (see the full systematic literature review in Appendix 3). That matrix rated each body of evidence on five components: evidence base, consistency, clinical impact, generalisability, and applicability. Each of those components was given a rating from A to E (or 'not applicable'), with a brief description explaining how that rating was derived. From those evidence statement matrices, a grade for the whole body of evidence supporting each recommendation can be determined (see Appendix B of Appendix 3). As described above, the working party then reviewed the strength of the evidence in each area and generated recommendations accordingly. In addition to the recommendations, the working party was required to provide a grade to indicate the strength of the recommendation. This grade is based on, but not necessarily a direct translation of, the strength of evidence.

NHMRC grades of recommendation are provided to assist users of the clinical practice guidelines in making clinical judgements and to indicate the strength of the recommendation. Grade A and B recommendations are generally based on a body of evidence which can be trusted to guide clinical practice, whereas Grade C and D recommendations must be applied carefully to individual clinical and organisational circumstances, and should be followed with care.[11]

Grade of recommendation	Description
A	Body of evidence can be trusted to guide practice
B	Body of evidence can be trusted to guide practice in most situations
C	Body of evidence provides some support for recommendation(s) but care should be taken in its application
D	Body of evidence is weak and recommendation(s) must be applied with caution

There are many areas of clinical practice for which there is simply no research evidence available. Rather than provide no guidance in these areas, the working party generated Consensus Points (CP – used when a research question was asked of the data, but no evidence was forthcoming) and Good Practice Points (GPP – used when the research question was not asked; this was often because the working party was confident that no evidence existed).

Limitations of the review

This systematic review of the treatments for ASD and PTSD is limited by the following factors. The review:

- does not cover questions pertaining to an assessment of some additional multiple treatments versus other multiple treatments or versus placebo/waitlist for the populations under review
- does not assess levels of evidence lower than randomised controlled trials (level II intervention evidence) for many questions
- does not provide a comprehensive review of potential safety issues (i.e., studies too small to detect many adverse events, particularly rare adverse events) – this is of particular relevance to the section on pharmacological treatments
- excludes some reports if they were updates of previously published studies, and patient follow-up was less than 50 per cent.

These Guidelines were based in part on the NICE systematic review and the VA/DoD guidelines, which both have their own limitations. In updating these Guidelines, some of these limitations must be acknowledged, despite the use of a near-identical methodology.

- Some studies that potentially met the inclusion criteria may have been missed.
- Effect sizes were calculated on the difference in post-treatment scores between the groups, the assumption being that randomisation negated any potential baseline differences between the groups. This assumption may be valid for large trials but is not necessarily correct for small trials.
- Some of the studies included in the reviews presented statistical testing on a large range of outcomes, without correction for multiple comparisons in their analysis. This increases the likelihood that a statistically significant difference will be identified, just through chance.

The full evidence review is available in Appendix 3.

Research questions, evidence summaries and treatment recommendations

As noted at several other points in these Guidelines, the recommendations, CPs and GPPs in these Guidelines are provided on the assumption that they will be implemented by practitioners with appropriate training, qualifications and experience. They are also provided on the assumption that they will be implemented in the context of good clinical practice more broadly. In that light, the first good practice point for this chapter is as follows:

Good practice point

GPP43 Best practice procedures should be adopted when using psychological, psychosocial or pharmacological treatments, including provision of information prior to commencement, monitoring and management of side effects, monitoring of suicide risk, and in the case of pharmacological intervention, appropriate discontinuation and withdrawal practices.

Early psychological interventions for adults exposed to a potentially traumatic event

This section addresses the provision of psychological interventions for all those exposed – not only those who are presenting with adjustment problems. It covers both pre-incident and immediate post-incident options for all, before going on to look at those who develop diagnosable conditions. These "interventions for all" may be provided by a range of personnel many of whom (such as first responders or chaplains) may not be health professionals.



Pre-incident preparedness training

Research questions 1 and 2

1. For people exposed to trauma, does pre-incident preparedness training improve outcomes compared to no intervention?
2. For people exposed to trauma, does any pre-incident preparedness training confer any advantage over other pre-incident preparedness training?

Selection criteria

Population	People exposed to trauma (including the subgroup with ASD)
Intervention	Pre-incident preparedness training, delivered by any method
Comparator	1. No training
	2. Other pre-incident preparedness training
Outcome	Primary outcome: symptoms of ASD or PTSD
	Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity.
	Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials. As fewer than two Level II studies were found, then pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, and case-control studies were also considered.
Search Period	1966 to October 2011 for adults, children and adolescents[a]
Language	English

[a] New research questions

Summary of the literature

There is very little controlled research on the capacity of preparing people to cope with the stress of a potentially traumatic event. Preparedness training can involve a collection of strategies to enhance expectations of recovery, and to provide education about adaptive coping strategies to reduce any adverse impact of traumatic experience. Only one study was noted in the evidence review.14 In this study, education prior to assault resulted in less PTSD. However, this is limited evidence and has not been replicated. Accordingly, we recognise that the field of research at this point of time is in its infancy, and systematic intervention for preparedness training cannot be backed by a body of data.

Consensus point

CP1 For adults likely to be exposed to a potentially traumatic event, pre-incident preparedness training may facilitate psychological adaptation following the event.

Research recommendation

RR3 There is an urgent need for carefully controlled research to study the content and possible benefits of preparedness training prior to trauma exposure.



Early psychological interventions for all
Research questions 3, 4 and 7

3. For people exposed to trauma, do early psychological interventions improve outcomes compared to no intervention?

4. For people exposed to trauma, does any early psychological intervention confer any advantage over other early psychological interventions?

Selection criteria

Population	People exposed to trauma, including the subgroup of patients with ASD
Intervention	Early psychological intervention (e.g., debriefing, trauma-focussed counselling, education – performed within one month of trauma)
Comparator	No intervention (e.g., assessment only)
Outcome	Primary outcomes: symptoms of ASD and PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies.
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

7. For people exposed to trauma, is a single early intervention more effective than multiple early interventions?

Selection criteria

Population	People exposed to trauma, including the subgroup of patients with ASD
Intervention	Single early psychological or pharmacological intervention
Comparator	Early combined psychological or combined pharmacological interventions (within one month of the traumatic event) or combined psychological and pharmacological interventions (within one month of the traumatic event)
Outcome	Primary outcomes: symptoms of ASD or PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies.
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Trials addressing question 3 are as follows:

- one study tested an educational intervention against control[15]
- seven studies (eight publications) compared psychological debriefing to no debriefing in adults[16-23]
- one study compared trauma-focussed counselling with monitoring control[24]
- one study compared the provision of an intensive care unit (ICU) diary to a waitlisted control.[25]

Studies addressing question 4 are as follows:

- two studies compared a collaborative care program with usual[26,27]
- one study compared immediate versus delayed psychological[28]
- one study compared emotional debriefing with educational debriefing[29]
- two studies compared cognitive behavioural therapy (CBT) with usual care[30,31]
- one study compared an interactive self-help workbook with an information booklet.[32]

Studies addressing question 7 are as follows:

- one study compared educational intervention against debriefing plus education[15]
- three studies compared trauma-focussed CBT with either acupoint stimulation or hypnosis against CBT alone.[33-35]

Summary of the literature

The quality of studies on universal early interventions for all survivors of potentially traumatic events is limited, in part, because of the difficulties in trial design in the immediate phase after potentially traumatic events. It should be noted that group interventions have been rarely tested in field trials, even though this was the initial format for debriefing interventions.

Twelve comparisons were identified in the evidence review that investigated the effectiveness of psychological debriefing in preventing PTSD and related conditions.[15-23,28,29] At this time there is no evidence of benefit in reducing traumatic stress symptoms from early individual or group debriefing interventions. Although the research is limited, there is some evidence that those who received debriefing were at increased risk of PTSD diagnosis, changing jobs, and interference with everyday functioning compared to controls. Gamble's study[18] suggests that two sessions of information and support provided by a domain-specific expert, four to six weeks apart following traumatic childbirth, may have (limited) utility. One study[23] showed early debriefing with victims of crime was better than delayed, but there was no comparison to controls. There are conflicting outcomes regarding different versions of 'debriefing' when compared to each other (even within the same study).

Recommendation		Grade
R1	For adults exposed to a potentially traumatic event, a one-session, structured, psychological intervention in the acute phase, such as psychological debriefing, should not be offered on a routine basis for the prevention of PTSD.[15-35]	B

Good practice points

GPP44	For adults exposed to a potentially traumatic event, if required, provide practical and emotional support, facilitate ways to manage distress and access social supports, and promote positive expectations.
GPP45	Adults exposed to a potentially traumatic event who wish to discuss the experience, and demonstrate a capacity to tolerate associated distress, should be supported in doing so. In doing this, the practitioner should keep in mind the potential adverse effects of excessive ventilation in those who are very distressed.
GPP46	For adults exposed to a potentially traumatic event, a stepped care approach tailored to individual need is advised. This would involve ongoing monitoring of people who are more distressed and/or at heightened risk of adverse mental health impact, with targeted assessment and intervention when indicated.
GPP47	For adults who develop an extreme level of distress or are at risk of harm to self or others, thorough diagnostic assessment and appropriate interventions should be provided.

Research recommendation

RR4	In view of the importance of providing a best practice response for adults exposed to a potentially traumatic event for high-risk industries and for the general community, future research should examine the most effective strategy to adopt for all those exposed to a traumatic event.

Psychological treatment for adults with ASD or acute PTSD

This section covers interventions for people who develop a diagnosable condition – ASD or acute PTSD – in the immediate aftermath of trauma exposure (within the first four weeks).

Research questions 3, 4 and 7

Note that the same research questions were used to generate data for this section and the section "Early psychological interventions for all" – see above boxes for details.

3. For people exposed to trauma, do early psychological interventions improve outcomes compared to no intervention?
4. For people exposed to trauma, does any early psychological intervention confer any advantage over other early psychological interventions?
7. For people exposed to trauma, is a single early intervention more effective than multiple early interventions?

The following studies reported on early psychological interventions for individuals who were exposed to traumatic events within the past month and developed ASD or acute PTSD:

- five studies (six publications) compared CBT with supportive counselling[3633,34,37-39]
- one study compared CBT with an assessment condition[39]
- one study compared CBT with prolonged exposure (PE)[38]
- two studies compared the cognitive and PE components of CBT with waitlist[40,41]
- one study compared PE with supportive counselling[38]
- one study compared an assessment condition with supportive counselling[39]
- one study compared eye movement desensitisation and reprocessing (EMDR) with a waitlisted control[42]
- one study compared a self-help booklet with no information.[43]

Summary of the literature

Ten studies were identified in the evidence review on early interventions for adults with ASD or early PTSD,[33,34,36-43] six of which had been published since the 2007 Guidelines.[34,39-43] Although a newer field of enquiry relative to chronic PTSD, there is a substantial body of evidence of moderate quality indicating that trauma-focussed cognitive behavioural therapy (TF-CBT), comprising prolonged exposure and cognitive restructuring, is beneficial in reducing subsequent PTSD symptoms in people who present with ASD or acute PTSD. It is important to note that these studies are distinct from debriefing programs that provide intervention to all trauma survivors, because CBT approaches adopt an indicated intervention that aims to alleviate symptoms in people with a diagnosis of ASD or early PTSD.

Although there are a few studies favouring prolonged exposure over cognitive restructuring, both interventions are typically provided. On balance, provision of exposure therapy seems important in the treatment planning. TF-CBT appears beneficial relative to both waitlist and nondirective supportive counselling. It should be noted that a preponderance of studies have come from a limited number of centres, and therefore further replications are needed.

Sessions that involve imaginal exposure require 90 minutes to ensure that therapy is adequate in those sessions. Following diagnosis, assessment and treatment planning, five to ten sessions of trauma-focussed treatment is usually sufficient. Longer treatment may be required if symptoms do not abate during treatment.

Recommendation		Grade
R2	For adults displaying symptoms consistent with ASD or PTSD in the initial four weeks after a potentially traumatic event, individual trauma-focussed cognitive behavioural therapy, including exposure and/or cognitive therapy, should be considered if indicated by a thorough clinical assessment.[33,34,36-43]	**C**

Psychological interventions for adults with PTSD

Research questions 10 and 11

10. For people with PTSD do psychological interventions improve outcomes compared to no intervention?
11. For people with PTSD, does any psychological intervention confer any advantage over other psychological interventions?

Selection criteria

Population	People with PTSD
Intervention	Psychological intervention (e.g., TF-CBT, stress management therapy, eye movement desensitisation and reprocessing, narrative exposure therapy, supportive counselling, interapy, thought field therapy)
Comparator	1. No intervention (e.g., assessment only) 2. Other psychological intervention
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

The following studies were identified in relation to question 10:

- twenty-nine studies compared trauma-focussed CBT against a waitlist/control condition in adults[44-72]
- one study compare a trauma affect regulation therapy against a waitlist condition in adults[73]
- six studies compared EMDR against waitlist in adults[65,69,74-76]
- two studies compared problem-solving therapy against a waitlist condition in adults[62,73]
- one study compared interpersonal psychotherapy against a waitlist condition in adults[77]
- one study compared psychodynamic therapy against a waitlist condition in adults[48]
- one study compared hypnotherapy against a waitlist condition in adults[49]
- two studies compared supportive counselling against a waitlist condition in adults[47,56]
- two studies compared group CBT against a waitlist condition in adults[78,79]
- one study compared group and individual CBT against a waitlist condition in adults[80]
- one study compared group imagery rehearsal therapy against a waitlist condition in adults[81]
- four studies compared stress management therapy against a waitlist condition in adults[55,58,71,82]
- two studies compared narrative exposure therapy against a waitlist condition in adults[83,84]
- two studies compared a spiritually based intervention against waitlist.[85,86]



The following comparisons are discussed for question 11:

- sixteen studies compared trauma-focussed CBT against treatment as usual in adults[87-102]
- three studies (four citations) compared EMDR against treatment as usual in adults[82,95,103,104]
- one study compared narrative exposure therapy against treatment as usual in adults[99]
- one study compared 'the counting method' against treatment as usual in adults[94]
- nine studies compared trauma-focussed CBT against stress management therapies in adults[55,56,62,71,105-109]
- six studies (seven citations) compared trauma-focussed CBT against supportive counselling in adults, including one study where both conditions were delivered over the internet[47,56,110-114]
- one study compared trauma-focussed CBT against psychoeducation in adults[115]
- one study compared trauma-focussed CBT against hypnotherapy in adults[48]
- one study compared trauma-focussed CBT against psychodynamic therapy in adults[48]
- one study compared trauma-focussed CBT against the counting method in adults[94]
- one study compared narrative exposure therapy against supportive counselling in adults[116]
- two studies compared narrative exposure therapy against brief psychoeducation in adults[116,117]
- one study compared narrative exposure therapy against stress inoculation training[118]
- one study compared narrative exposure therapy with cognitive processing therapy including NET[119]
- one study compared narrative exposure therapy with cognitive processing therapy without NET[119]
- one study compared written emotional disclosure with a control writing condition in adults[120]
- one study compared supportive counselling against brief psychoeducation in adults[116]
- one study compared CBT (non-trauma-focussed) against present centred therapy[73]
- three studies (four citations) compared CBT with an exposure component against CBT without an exposure component in adults[105,119,121,122]
- two studies compared trauma-focussed CBT against "other" therapies in adults: skills training plus exposure; skills training plus supportive counselling, and supportive counselling plus exposure[123]; and imaginal exposure (IE), *in vivo* exposure (IVE), imaginal plus *in vivo* exposure (I/IVE), and imaginal and *in vivo* exposure with cognitive therapy (I/IVE/CR)[124]
- six studies compared EMDR against trauma-focussed CBT in adults[65,68,71,95,106,125]
- three studies compared EMDR against stress management therapies in adults[71,82,105]
- one study compared EMDR against supportive counselling in adolescents/adults[126]
- one study compared EMDR against "the counting method" in adults[95]
- one study compared EMDR against emotional freedom techniques in adults[127]
- one study compared stress management against supportive counselling[56]
- one study compared group CBT (trauma-focussed) against group CBT (non-trauma-focussed) in adults[128]
- one study compared group CBT (videoconference) against group CBT (same-room)[129]
- one study compared group non-trauma focussed CBT against group psychoeducation[130]
- one study compared group imagery rehearsal therapy against group sleep and nightmare management.[131]

Summary of the literature

The evidence review identified 29 studies that compared TF-CBT to waitlist or control conditions[44-72] and a further 38 studies that compared TF-CBT to treatment as usual or another intervention.[47,49,55,56,62,71,87-102,105-115,119,122-124] Six studies compared EMDR to waitlist[65,68,74-76] and a further 9 studies compared EMDR to treatment as usual or another intervention.[71,82,95,103,104,106,126,127] The most studied form of therapy for adults with PTSD is trauma-focussed therapy, which involves direct engagement with the traumatic memory. There are variants of trauma-focussed therapies that differentially emphasise exposure to trauma memories, traumatic reminders, or cognitive restructuring. These interventions have been called prolonged exposure, cognitive processing therapy, cognitive therapy, narrative exposure therapy, and eye movement desensitisation and reprocessing, to name just a few. They each show significant positive treatment effects for adults with PTSD, with cognitive behaviour therapy that incorporates imaginal and *in vivo* exposure, as well as cognitive restructuring, having received the most attention. Multiple trials indicate that trauma-focussed therapy (comprising exposure and/or cognitive restructuring which engage with the trauma memory) results in greater reduction in PTSD symptoms than supportive counselling, thereby providing solid evidence that it is a relatively stronger intervention than generic psychotherapeutic support. In terms of the weight of evidence, more trials have been conducted on cognitive behavioural therapy than other forms of trauma-focussed therapies.

EMDR has repeatedly been shown to be effective in reducing PTSD symptoms relative to waitlist, and also to nondirective counselling. There are six studies directly comparing CBT to EMDR,[65,69,71,95,106,125] and the evidence suggests that the two variants of trauma-focussed therapy are not statistically different. This conclusion is made on the basis of head-to-head comparisons. Of considerable debate has been the contribution of the eye movements as an active treatment component in EMDR.

Although stress-inoculation training has been shown to have some treatment gains in treating adults with PTSD, these effects are not as great as exposure or cognitive restructuring.

Recent trials have explored the efficacy of CBT techniques with internet-delivered or assisted formats. While the number of trials is limited, they do show some benefits in reducing PTSD symptoms. Again, engagement with the trauma memory seems central to the treatment.

Sessions that involve imaginal exposure require 90 minutes to ensure that therapy is adequate in those sessions. Following diagnosis, assessment and treatment planning, eight to twelve sessions of trauma-focussed treatment are usually sufficient. More treatment sessions are likely to be required in cases of multiple traumas.

Importantly, in interpreting the above cited study findings, it must be noted that participants in trials of psychological treatment are often taking medication concurrently. The contribution of these medications to treatment outcomes in research trials has not been investigated.

To varying degrees, the studies cited in this section also include adults with PTSD as a result of prolonged and/or repeated trauma (e.g., studies by Resick and Foa). Two studies[49,123] specifically provided support for the effectiveness of graded trauma-focussed CBT for adult survivors of childhood sexual assault. Thus, there is evidence to support the use of trauma-focussed psychological interventions in adults with PTSD following prolonged and/or repeated trauma. Issues of chronic self-harm and suicidal ideation are more likely in this group and, therefore, may warrant special attention or consideration. The adult presenting with these issues may have a comorbid personality disorder that requires management. In such cases, more time and attention to stabilisation and engagement may be required in preparation for trauma-focussed therapy, as outlined in Cloitre et al.[49,123] papers. Distress tolerance and coping capacity in some individuals may become compromised over periods of developmental, prolonged or repeated trauma. Individuals who do not respond optimally to exposure therapy because of emotional over-reactivity may benefit from assistance in enhancing coping resources, both practical and emotional, before further proceeding with exposure therapy. In some cases, however, the individual with PTSD may have ongoing suicidality until the traumatic experience is addressed, in which case delay in trauma focus therapy should be avoided.

Recommendations		Grade
R3	Adults with PTSD should be offered trauma-focussed cognitive behavioural interventions or eye movement desensitisation and reprocessing.[44-72,74-76,82,87-115,123,124,126-128]	A
R4	Where symptoms have not responded to a range of trauma-focussed interventions, evidence-based non-trauma-focussed psychological interventions (such as stress inoculation training) may be considered.[55,56,62,71,82,105-109,118]	D

Consensus point

CP2	On the basis of some evidence that *in vivo* exposure (graded exposure to feared/avoided situations) contributes to treatment gains, it is recommended that *in vivo* exposure be included in treatment.

Good practice points

GPP48	Where symptoms have not responded to one form of first line trauma-focussed intervention (trauma-focussed cognitive behavioural therapy or eye movement desensitisation and reprocessing), health practitioners may consider the alternative form of trauma-focussed intervention.
GPP49	For adults with PTSD with several problems arising from multiple traumatic events, traumatic bereavement, or where PTSD is chronic and associated with significant disability and comorbidity, sessions using specific treatments to address those problems may be required.
GPP50	Where adults have developed PTSD and associated features following exposure to prolonged and/or repeated traumatic events, more time to establish a trusting therapeutic alliance and more attention to teaching emotional regulation skills may be required.
GPP51	Prescribed medication can continue while people are undertaking psychological treatments and any changes should only occur in close consultation with the treating physician. However, some medications, such as benzodiazepines, may interfere with some effective psychological treatments.
GPP52	Sessions that involve imaginal exposure may require up to 90 minutes to avoid premature termination of therapy while anxiety is still high, and to ensure appropriate management of distress.

Research recommendations

RR5	Mechanisms underpinning effective treatments should be subject to systematic research.
RR6	There should be large and well-controlled trials of new and emerging interventions for PTSD.
RR7	Further research is required to evaluate the extent to which treatments with demonstrated efficacy are effective when delivered by non-specialist practitioners in real-world settings. The focus of research should not be restricted to outcomes only, but should also include factors such as cost-effectiveness, acceptability for practitioners and clients, treatment fidelity, and success of practitioner training.

Research question 12

12. For people with PTSD, is individual therapy more effective than group therapy?

Selection criteria

Population	People with PTSD
Intervention	Individual therapy (e.g., psychodynamic psychotherapy, individual cognitive behavioural therapies, EMDR, narrative exposure therapy, image rehearsal therapy, supportive counselling, hypnosis)
Comparator	Group therapy (e.g., supportive therapy, psychoeducation, psychodynamic therapy, group CBT such as anxiety management, stress inoculation, assertiveness training, prolonged exposure, cognitive restructuring)
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions



Research question 13

13. For people with PTSD, is the combination of individual therapy and group therapy more effective than either alone?

Selection criteria

Population	People with PTSD
Intervention	Individual therapy and group therapy (see research question 12 for examples)
Comparator	Individual therapy or group therapy (see research question 12 for examples)
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder / conduct disorder / oppositional defiant disorder / attachment reactive disorder / social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature

Two studies were identified in the evidence review comparing group therapy to no intervention.[78,79] There were no studies comparing group versus individual treatment. Overall, the prevailing evidence base rests on psychological interventions that are administered at an individual level, and on this basis it is recommended that psychological therapy be individually, rather than group, administered.

Recommendation		Grade
R5	Group cognitive behavioural therapy (trauma-focussed or non-trauma-focussed) may be provided as adjunctive to, but not be considered an alternative to, individual trauma-focussed therapy.[44-72,74-76,78-80,82,87-115,123,124,126-128]	C

Research question 14

14. Are established interventions for PTSD effective when self-delivered or self-delivered with practitioner support, compared to practitioner-delivered intervention or no intervention?

Selection criteria

Population	People with PTSD
Intervention	Self-delivered psychological intervention with/without face-to-face practitioner support (e.g., web-based interapy or telephone support)
Comparator	1. Practitioner-delivered psychological intervention 2. No treatment (e.g., assessment only)
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature

The evidence review identified four studies that pertained to this question: three comparing internet-delivered CBT to waitlist or control,[132-134] and one that compared a CBT self-help booklet to practitioner-delivered CBT and waitlist.[53] (In all of these studies, at least 70% of participants had a diagnosis of PTSD). There is limited evidence from this small number of studies that internet-delivered therapy, either as the sole treatment or with the support of a therapist, can be somewhat beneficial in reducing PTSD symptoms. Internet programs that have been shown to have some moderate treatment effects have employed CBT techniques, in the form of psychoeducation, exposure (often in the form of writing about one's trauma experience), anxiety management, and cognitive restructuring.

The single study that investigated the effects of self-help (booklet) intervention for adults with PTSD, found no support relative to repeated assessments. Therefore, there is as yet no evidence that a booklet-based self-administered approach based on CBT techniques is beneficial.

Recommendation		Grade
R6	Internet-delivered trauma-focussed therapy involving trauma-focussed cognitive behavioural therapy may be offered in preference to no intervention.[132-134]	C

Early pharmacological interventions for adults exposed to a potentially traumatic event

Early pharmacological interventions for all

This section addresses the provision of pharmacological interventions for all those exposed – not only those who are presenting with adjustment problems.

Research questions 5 and 6

5. For people exposed to trauma, do early pharmacological interventions improve outcomes compared to no intervention?
6. For people exposed to trauma, does any early pharmacological intervention confer any advantage over other early pharmacological interventions?

Selection criteria

Population	People exposed to trauma, including the subgroup of patients with ASD
Intervention	Early pharmacological intervention, (e.g., imipramine, propranolol, benzodiazepines, other sympatholytics, other antidepressants, anticonvulsants, antipsychotics, chloral hydrate, given within one month of trauma)
Comparator	No intervention (e.g., assessment only)
Outcome	Primary outcomes: symptoms of ASD or PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies.
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature

With regard to interventions for all, the evidence review identified only two studies of pharmacotherapy as a preventive intervention for all adults exposed to a potentially traumatic incident. One small study with a high risk of bias found no clinically important differences between propranolol and placebo for people exposed to a potentially traumatic event.[135] Another small study found limited evidence favouring administration of hydrocortisone over placebo, although this was an atypical ICU sample experiencing 'toxic shock'.[136] Thus, consistent with the 2007 Guidelines, there is insufficient literature to support the use of drug treatments as a preventive intervention non-selectively (i.e., in the absence of any reported symptoms) with populations exposed to potentially traumatic events. Given the risk of harm associated with population-wide administration of medication to all those exposed to the event, these guidelines recommend against this approach.

	Recommendation	Grade
R7	For adults exposed to a potentially traumatic event, drug treatments should not be used for all those exposed as a preventive intervention.[135,136]	C

Good practice point

GPP53. Where significant sleep disturbance does not settle in response to reassurance, sleep hygiene and appropriate psychological interventions, cautious and time-limited use of appropriate sleep medication may be helpful for adults.

Pharmacological treatment for adults with ASD or acute PTSD

This section covers pharmacological interventions for people who develop a diagnosable condition – ASD or acute PTSD – in the immediate aftermath of trauma exposure (within the first four weeks).

Research questions 5 and 6

Note that the same research questions were used to generate data for this section and for the section "Early pharmacological interventions for all"– see above boxes for details.

5. For people exposed to trauma, do early pharmacological interventions improve outcomes compared to no intervention?
6. For people exposed to trauma, does any early pharmacological intervention confer any advantage over other early pharmacological interventions?

Summary of the literature

With regard to interventions for people with ASD (or PTSD within four weeks of exposure), the evidence review identified one small study with a low risk of bias published since the last Guidelines. That study, part of a large and well-designed trial conducted by Shalev and colleagues in Israel, found no clinically important differences between escitalopram (a selective serotonin reuptake inhibitor (SSRI) antidepressant) and placebo in patients recently exposed to trauma.[41] No other randomised trials have explored the use of pharmacotherapy for ASD or PTSD within four weeks of the trauma. Thus, consistent with the 2007 Guidelines, there is insufficient literature to guide any positive recommendations about the use of medication as an early intervention for ASD or related conditions. However, we do recognise the benefits of pharmacological interventions in terms of managing current acute symptoms in certain cases. Since this is a relatively common scenario for practitioners, we provide several good practice points for this area.

Recommendation		Grade
R8	The routine use of pharmacotherapy to treat ASD or early PTSD (i.e., within four weeks of symptom onset) in adults is not recommended.[41]	D

Good practice points

GPP54 Pharmacotherapy may be indicated if the severity of the person's distress cannot be managed by psychological means alone, particularly when there is a pattern of extreme hyperarousal, sleep disturbance or nightmares.

GPP55 For people who have a prior psychiatric history that has responded well to medication, the prescription of an appropriate medication should be considered if a progressive pattern of clinically significant symptoms, such as persistent intrusions with increasing affective distress, begins to emerge.

GPP56 For adults with ASD or early PTSD, where significant sleep disturbance does not settle in response to reassurance, sleep hygiene and appropriate psychological interventions, cautious and time-limited use of appropriate sleep medication may be helpful.

Research recommendation

RR8 The effect of pharmacological treatment of ASD on subsequent PTSD status and severity following cessation of medication should be investigated. These studies may go beyond common psychotropic medication to include other agents that have shown promise such as narcotic analgesics, cortisol, and alcohol.

Pharmacological interventions for adults with PTSD

Research questions 15 and 16

15. For people with PTSD, do pharmacological interventions improve outcomes compared with placebo?
16. For people with PTSD, does any pharmacological intervention confer any advantage over other pharmacological interventions?

Selection criteria

Population	People with PTSD
Intervention	Pharmacological intervention (e.g., SSRIs, other second-generation antidepressants, tricyclic antidepressants, monoamine oxidase inhibitors, benzodiazepines, mood stabilisers, anti-convulsants, and some non-benzodiazepine hypnotics and anti-anxiety medications)
Comparator	1. Placebo 2. Other pharmacological intervention
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1996 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Studies addressing question 15 are as follows:

- four studies compared paroxetine and placebo[137-140]
- eight studies compared sertraline against placebo[141-148]
- six studies compared fluoxetine and placebo[149-154]
- one study compared citalopram against placebo [147]
- one study compared amitriptyline against placebo[155]
- one study compared brofaromine against placebo[156]
- one study compared mirtazapine against placebo[157]
- two studies compared venlafaxine against placebo[146,158]
- one study compared nefazodone against placebo[159]
- one study compared olanzapine and placebo[160]
- four studies compared risperidone against placebo[161-164]
- one study compared topiramate against placebo[165]
- one study compared tiagabine and placebo[166]
- one study compared divalproex against placebo[167]
- one study compared guanfacine against placebo[168]
- two studies compared prazosin against placebo[169,170]
- one study compared eszopiclone against placebo[171]
- one study compared selective neurokinin-1 receptor antagonist GR205171 against placebo[172]
- one study compared methylenedioxymethamphetamine (MDMA) against placebo[173]
- one study compared Chinese herbal formula against placebo[174]
- one study compared hydrocortisone sodium succinate against placebo[175]
- one study compared imipramine plus psychotherapy against placebo[176]
- one study compared phenelzine plus psychotherapy against placebo plus psychotherapy.[176]



Studies addressing question 15 are as follows:

- one study compared paroxetine 20mg against paroxetine 40mg[139]
- one study compared fluoxetine 20mg against fluoxetine 40mg[177]
- one study compared fluoxetine against moclobemide[178]
- one study compared fluoxetine against tianeptine[178]
- one study compared reboxetine against fluvoxamine[179]
- one study compared amitriptyline against paroxetine[180]
- one study compared mirtazapine against sertraline[181]
- one study compared mirtazapine against paroxetine[182]
- one study compared venlafaxine against sertraline[146]
- one study compared nefazodone against sertraline[183]
- one study compared tianeptine against moclobemide.[178]

Summary of the literature

In reviewing the evidence base for the use of pharmacotherapy in the treatment of PTSD, some caveats are warranted. First, pharmacological trials are routinely designed to compare the active drug to placebo. There is now considerable data to show that placebo interventions routinely produce substantial symptom reductions in many disorders. These large placebo effects often render the effect size for the drug intervention small or insignificant, despite relatively large pre- to post-treatment changes (in both groups). Thus, the drug may still be a valuable intervention even if the difference from placebo is small. In comparing pharmacotherapy trials with psychotherapy trials, the size of the post-treatment change in the control requires consideration in determining the relative effect size ascribed to the active treatment.

Second, it is reasonable to assume that different groups of pharmacological agents have relatively specific mechanisms of action due to their biological effects impacting on different neurotransmitter systems. This contrasts to psychological treatments where non-specific effects account for some of their therapeutic value. PTSD is a heterogeneous disorder, with quite different clinical presentations all meeting criteria for a diagnosis, and recent research has begun to shed light on possible subtypes. Research to date, however, has not explored differential treatment response according to clinical profile. It may be, for example, that certain drug types work better for PTSD that is characterised by dysphoria and a high overlap with depressive symptoms, while others may be more effective in high anxiety presentations. If so, it is likely that potential beneficial effects may be lost in clinical trials on heterogeneous groups of PTSD patients.

Notwithstanding those caveats, the fact is that pharmacological interventions for PTSD have, to date, been somewhat disappointing. Up till now no drug has been specifically developed for PTSD, rather, medications designed for a variety of other disorders have been trialled in PTSD to ascertain their therapeutic value. The lack of development of drugs specific to PTSD is somewhat surprising, given that it is the most prevalent disorder in the National Mental Health and Wellbeing Study in Australia.[184] Also, a range of neurobiological abnormalities have been documented and good animal models exist that would provide excellent platforms for the development of novel pharmacological agents for PTSD.

The evidence review identified four studies of paroxetine in the treatment of PTSD, two of which were published since 2007.[137-140] Three had a moderate risk of bias and one had a high risk of bias. The evidence from these studies suggested no clinical benefit from paroxetine in comparison to placebo for the treatment of PTSD in a mixed trauma population. This finding held up when only intent to treat data were used. No differences were found between 20mg and 40mg of paroxetine.[139]

The evidence review identified eight studies of sertraline in the treatment of PTSD, one of which was published since 2007.[141-148] Two had a low risk of bias, four had a moderate risk, and two had a high risk. Only five of these were able to be included in the meta-analysis due to the nature of data reported. There was relatively strong evidence suggesting no clinically important benefit of sertraline over placebo for the treatment of PTSD. One small study favoured sertraline in veterans with combat-related PTSD, although no difference was found for depression or attrition.

The evidence review identified six studies of fluoxetine in the treatment of PTSD, all of which were published prior to 2007.[149-154] Two of these had a low risk of bias and four had a moderate risk. One was not able to be included in the meta-analysis. While limited evidence favoured fluoxetine over placebo for the treatment of PTSD, the intent to treat analyses showed no difference. No evidence was found for a clinically important effect in combat veterans, and there was no difference between 20mg and 40mg dosages.

Two studies investigating venlafaxine vs. placebo were identified. Both were large studies with moderate risk of bias. There was no evidence of a clinically important benefit of venlafaxine over placebo for the treatment of PTSD in a mixed trauma population.

The evidence review identified four studies of risperidone in the treatment of PTSD, one of which had been published since 2007.[161-164] One (the most recent study, with a large combat veteran sample) had a low risk of bias. One had a moderate risk, and two had a high risk of bias. The evidence from these studies suggested no clinically important difference between risperidone and placebo for the treatment of PTSD, either in mixed trauma or combat PTSD populations.

The evidence review identified two studies of prazosin in the treatment of PTSD.[169,170] Both were published after 2007 and both were at moderate risk of bias. Those studies found no clinically important differences between prazosin and placebo for the treatment of PTSD symptoms or depressive symptoms, although one found greater improvement in global functioning in those receiving prazosin.

A large number of single studies explored the effects of different drugs compared with placebo, or compared with another drug, in the treatment of PTSD (e.g., moclobemide, tianeptine, citalopram, reboxetine, amitriptyline, imipramine, brofaramine, phenelzine, mirtazapine, nefazodone, olanzapine, topiramate, tiagabine, divalproex, guanfacine, eszopiclone, GR2051717, tianeptine, glucocorticoid, and methylenedioxymethamphetamine (MDMA). Of these, eight had been published after 2007 (two on antidepressants,[180,182] three on anticonvulsants,[165-167] one on a non-benzodiazepine hypnotic,[171] one on a selective neurokinin-1 receptor antagonist (GR2051717),[172] one on intravenous glucocorticoid,[175] and one on MDMA[173]). Although one or two showed promise, the results of most of these trials were either inconclusive or showed no clinically significant effect.

Moving away from mainstream western pharmacotherapy, the review identified one recent trial (with moderate risk of bias) of a Chinese herbal formula compared with placebo.[174] That study found no clinically significant differences between the conditions.

In reviewing these data, two conclusions are apparent. First, surprisingly little research has been conducted over recent years in a consistent way on individual drugs, or even classes of drugs. The approach has not been strategic, systematic or coherent. Rather, recent pharmacotherapy research has been characterised by single trials of a wide range of medications. The result is that our knowledge of pharmacological interventions has not substantially increased in the last five years. Second, those new trials that have appeared do not seem to have substantially changed the overall evidence. The vast majority of trials have produced disappointing results with little evidence to support the use of medication over placebo in the treatment of PTSD.

In interpreting the recommendations in this section, it is also important to note that all agents have the potential for negative effects. This is true also, of course, for psychological therapies – it is not unusual for symptoms to increase in the short term before they improve – although there is greater awareness of potential side effects from medications. As a result, adults with PTSD may be reluctant to accept pharmacological treatment or, alternatively, side effects may lead to discontinuation. Side effects associated with the SSRIs, for example, include headaches, nausea, loss of libido and agitation. The novel antipsychotics, particularly olanzapine, are associated with substantial weight gain and a risk of type 2 diabetes. The potential for adverse side effects, combined with the questionable benefits, should raise caution in the widespread use of pharmacotherapy in PTSD.

In summary, little evidence has emerged in the last five years to warrant a substantial modification to the 2007 Guidelines recommendations with regard to pharmacotherapy for PTSD. The evidence continues to suggest that larger clinical effects are likely to be obtained from trauma-focussed psychological treatment than from pharmacological treatment in most people with PTSD. We do not, however, believe that the available evidence warrants a negative recommendation to avoid pharmacological treatments. The reality is that they will remain the most accessible treatment for a large section of the population. On the basis of the (albeit mixed) evidence reported in this review, and on that of other credible meta-analyses such as the Cochrane review,[185] we believe there is insufficient new evidence to justify changing the 2007 recommendation favouring the SSRIs as the first choice of medication for the treatment of PTSD. The evidence regarding specific types of SSRI medication is conflicting and often of poor quality, with no single SSRI type consistently emerging as more efficacious than any other. Thus, we do not consider there is sufficient data to warrant recommending one SSRI over another, and have chosen to retain the 2007 recommendation that leaves the final decision regarding the specific drug to the clinician. Other new generation (and old generation) antidepressants will continue to be recommended as a second line medication, as will the atypical antipsychotics such as risperidone and olanzapine. Naturally, the potential interaction of medications prescribed for any physical health issues with those recommended for PTSD and comorbid psychological disorders needs to be considered in treatment decisions. For example, the potential benefits of prazosin in the treatment of PTSD may argue for its usage in the treatment of hypertension in patients who have this physical comorbidity.

Importantly, in interpreting the above cited study findings, the range of trauma populations included in the above studies and the pharmacotherapies provided are generalisable to the PTSD populations in Australia and the Australian healthcare context.

Recommendations		Grade
R9	Drug treatments for PTSD should not be preferentially used as a routine first treatment for adults, over trauma-focussed cognitive behavioural therapy or eye movement desensitisation and reprocessing.[44-72,74-76,82,87-115,123,124,126-128,137-176]	B
R10	Where medication is considered for the treatment of PTSD in adults, selective serotonin reuptake inhibitor antidepressants should be considered the first choice.[137-182]	C

Good practice points

GPP57 Selective serotonin reuptake inhibitor antidepressant medication should be considered for the treatment of PTSD in adults when:

a) the person is unwilling or not in a position to engage in or access trauma-focussed psychological treatment

b) the person has a comorbid condition or associated symptoms (e.g., severe depression and high levels of dissociation) where selective serotonin reuptake inhibitors are indicated

c) the person's circumstances are not sufficiently stable to commence trauma-focussed psychological treatment (as a result, for example, of severe ongoing life stress such as domestic violence)

d) the person has not gained significant benefit from trauma-focussed psychological treatment.

GPP58 Where a decision has been made to commence pharmacotherapy, the person's mental state should be regularly monitored with a view to commencing adjunctive psychological treatment if/when appropriate. In the interim, supportive psychotherapy with a substantial psychoeducational component should be offered.

GPP59 Where significant sleep disturbance or excessive distress does not settle in response to reassurance, sleep hygiene and evidence-based psychological interventions, or other non-drug intervention, cautious and time-limited use of appropriate sleep medication may be helpful. If the sleep disturbance is of more than one month's duration and medication is likely to be of benefit in the management of the person's PTSD, a suitable antidepressant should be considered. The risk of tolerance and dependence are relative contraindications to the use of hypnotics for more than one month except if their use is intermittent.

GPP60 Where symptoms have not responded adequately to pharmacotherapy, further consultation with a specialist in the field should be undertaken to determine the appropriateness of:

a) increasing the dosage within approved limits

b) switching to an alternative antidepressant medication

c) adding prazosin, risperidone or olanzapine as an adjunctive medication

d) reconsidering the potential for psychological intervention.

GPP61 When an adult with PTSD has responded to drug treatment without experiencing any adverse effects, it should be continued for at least 12 months before gradual withdrawal.

Psychosocial rehabilitation interventions

Research question 17

17. For people with PTSD, does psychosocial rehabilitation improve outcomes compared to no intervention?

Selection criteria

Population	People with PTSD
Intervention	Psychosocial rehabilitation (e.g., teaching self-care and independent living skills techniques, providing supported housing, marital/family skills training, social skills training, vocational rehabilitation and case management) in addition to a psychological intervention or pharmacological intervention
Comparator	1. No intervention (e.g., assessment only)
Outcome	Primary outcome: functional improvement, quality of life Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature

The evidence review identified two studies that compared outcomes from psychosocial rehabilitation with those from no intervention. One moderate quality trial compared provision of psychosocial group support to that of assessment only on mothers' mental health.[186] The other trial, which had a high risk of bias, assessed the benefit of family group psychoeducation with assessment only on a number of mental health visits made by the participant and their family.[187] There is limited evidence from these trials of increased treatment-seeking and improved mental health in participants of psychosocial support groups when compared to participants receiving assessment only. The evidence is specific to refugees from Bosnia and Herzegovina and its generalisability to other PTSD populations in Australia may be limited. Adult refugees with PTSD who have experienced war and famine may therefore benefit from appropriate psychosocial support groups.

Consensus point

CP3 Adult refugees with PTSD who have experienced war and famine may benefit from appropriate psychosocial support groups. (Note that a broader discussion of the application of these Guidelines for refugee and asylum seeker populations in included in the "Specific populations" chapter later in this document).

Good practice points

GPP62	There should be a focus on vocational, family, and social rehabilitation interventions from the beginning of treatment to prevent or reduce disability associated with the disorder, and to promote recovery, community integration and quality of life.
GPP63	In cases where people with PTSD have not benefited from a number of courses of evidence-based treatment, psychosocial rehabilitation interventions should be considered to prevent or reduce disability, and to promote recovery, community integration and quality of life.
GPP64.	Healthcare and rehabilitation professionals should be aware of the potential benefits of psychosocial rehabilitation and promote practical advice on how to access appropriate information and services.
GPP65	In cases of work-related trauma, management of any return-to-work process needs to occur in the context of a thorough risk assessment of the potential for exposure to further stressors, balanced with the potential benefits of return to work.

Research recommendation

RR9	In adults with PTSD the impact of psychosocial rehabilitation on PTSD and social and occupational functioning should be investigated.

Exercise and physical therapies

Research questions 18 and 19

18. For people with ASD or PTSD, do physical interventions or exercise improve outcomes compared to no intervention?
19. For people with ASD or PTSD, do physical interventions or exercise confer an advantage over psychological or pharmacological interventions?

Selection criteria

Population	People with ASD or PTSD
Intervention	1. Physical therapy (e.g., electroconvulsive therapy, transcranial magnetic stimulation, massage, acupuncture, acupressure, Healing Touch, CranioSacral therapy) 2. Exercise therapy (e.g., yoga, T'ai Chi, movement-to-music, rhythm activities, competitive sports, walking, jogging, swimming)
Comparator	1. No intervention/placebo 2. Any psychological or pharmacological intervention (e.g., TF-CBT, stress management therapy, EMDR, narrative exposure therapy, supportive counselling, interapy, SSRIs, other second-generation antidepressants, tricyclic antidepressants, monoamine oxidase inhibitors, benzodiazepines, mood stabilisers, anticonvulsants, and some non-benzodiazepine hypnotics and anti-anxiety medications)
Outcome	Primary outcome: resolution of symptoms of ASD or PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature

The evidence review identified five studies that examined the effectiveness of exercise and physical therapies for the treatment of PTSD in adults, two of which were included in the 2007 Guidelines review. One moderate risk study examined high and low frequency repeated transcranial magnetic stimulation (rTMS) compared with placebo, with limited evidence suggesting that high frequency rTMS was more effective over 14 days on a range of outcome measures than control.[188] The evidence for low frequency rTMS was inconclusive. One moderate risk study examined body-orientated therapy versus waitlist in a female population with a history of sexual abuse.[189] Although it favoured body-orientated therapy, the small size and poor study quality (e.g., waitlist control) meant the results need to be interpreted with caution for a reduction in severity of PTSD symptoms.

Three studies in this area have been published since 2007. One study with a low risk of bias, examined acupuncture in comparison to placebo, providing limited evidence to suggest that acupuncture is more effective at three-month follow-up.[190] The same study also compared acupuncture to CBT, with no difference found in efficacy. One study with a moderate risk of bias reported on the effectiveness of acupuncture in addition to CBT compared to CBT alone for a reduction in PTSD symptoms.[35] Limited evidence was found in favour of CBT plus acupuncture. One study with a moderate risk of bias, examining relaxation versus CBT, provided limited evidence favouring muscle relaxation.[108]

In summary, there is very limited evidence upon which to base a recommendation for physical therapies, with only one study addressing most of the interventions. The only intervention with more than one study was acupuncture, which did seem to show the potential for modest effects and warrants a cautious recommendation.

	Recommendation	Grade
R11	Acupuncture may be considered as a potential intervention for PTSD for people who have not responded to trauma-focussed psychological therapy or pharmacotherapy.[35,190]	D

Good practice point

GPP66	As part of general mental healthcare, practitioners may wish to advise people with PTSD that regular aerobic exercise can be helpful in managing their symptoms and as part of self-care practices more generally. Exercise may assist in the management of sleep disturbance and somatic symptoms that are common accompaniments of PTSD.

Research recommendation

RR10	Further research is needed into the effect of physical and exercise-based interventions on PTSD.

Single vs multiple interventions

Psychological interventions for adults with PTSD

Research question 20

20. For people with PTSD, is a single intervention more effective than multiple interventions?

Selection criteria

Population	People with PTSD
Intervention	Single psychological or pharmacological intervention or psychosocial rehabilitation strategy
Comparator	Combined psychological interventions, combined pharmacological interventions, combined psychosocial interventions, or combined psychological, pharmacological, physical, exercise therapy, or psychosocial interventions
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Studies addressing research question 20 were as follows:

- three studies compared exposure therapy alone with exposure therapy plus cognitive restructuring[105,111,191]
- one study compared cognitive restructuring alone with cognitive restructuring plus exposure therapy[105]
- one study compared relaxation to exposure therapy plus cognitive restructuring[105]
- one study compared supportive counselling to exposure therapy plus cognitive restructuring[111]
- one study compared imaginal exposure against imaginal exposure plus *in vivo* exposure[124]
- one study compared imaginal exposure against imaginal exposure plus *in vivo* exposure and cognitive restructuring[124]
- one study compared *in vivo* exposure against imaginal exposure plus *in vivo* exposure and cognitive restructuring[124]
- one study compared prolonged exposure against prolonged exposure plus stress inoculation training[55]
- one study compared stress inoculation training against prolonged exposure plus stress inoculation training[55]
- one study compared exposure therapy against exposure therapy plus social emotional rehabilitation[192]



Summary of the literature
The evidence review identified several studies that examined the combination of CBT strategies, primarily including exposure and cognitive restructuring. Three studies have compared the additive effect of combining exposure and cognitive restructuring, but the overall finding is that they do not lead to additive gains. It should also be noted that the presence of exposure or cognitive restructuring is preferable to stress inoculation training alone. In summary, the majority of the evidence suggests that both interventions are effective and that combining them may not increase the treatment gains for PTSD-specific symptoms. It should be noted, however, that this is based upon a limited evidence base.

Recommendations

None.

Pharmacological interventions for adults with PTSD

Research question 20

The research question for this section was the same as that for the section "Psychological interventions for adults with PTSD" – see above for details.

20. For people with PTSD, is a single (pharmacological) intervention more effective than multiple interventions?

Summary of the literature
The evidence review identified a single small trial (n=19) with moderate risk, included in the 2007 evidence review, that found treatment with SSRI (fluoxetine, sertraline or paroxetine) plus olanzapine to be more effective than SSRI plus placebo in US combat veterans with PTSD.[193]

Thus, there is some very tentative evidence that adding olanzapine to an SSRI may have some benefits in combat-related PTSD. Given the interest in adjunctive pharmacotherapy, more research in this area is warranted.

Recommendations

None.

Research recommendations

RR11	Given the extent to which adjunctive pharmacotherapy is used in routine clinical practice, particularly with chronic and treatment-resistant cases, it is recommended that large, well-controlled trials be conducted to clarify the benefits of multiple medications.
RR12	Since preliminary evidence suggests that a range of medications may enhance psychological treatments, future research should further investigate this question.
RR13	Further exploration is required of the potential benefits of combination and sequencing (pharmacological and trauma-focussed psychological) treatments.
RR14	Future research should explore neurobiological and psychological markers that may be used in predicting likely treatment response. This research recommendation applies equally to pharmacological and psychological interventions.

Psychosocial rehabilitation interventions for adults with PTSD

Research question 20

20. For people with PTSD, is a single intervention more effective than multiple interventions?

Selection criteria

Population	People with PTSD
Intervention	Single psychological or pharmacological intervention or psychosocial rehabilitation strategy
Comparator	Combined psychological interventions, combined pharmacological interventions, combined psychosocial interventions, or combined psychological, pharmacological, physical, exercise therapy, or psychosocial interventions
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature

The evidence review identified one study that compared exposure therapy and social emotional rehabilitation with exposure therapy alone on clinical symptoms and quality of life in male combat veterans.[192] The study was small (n=34), and was assessed as having a high risk of bias. The evidence from this trial was inconclusive.

Good practice point

GPP67 Psychosocial rehabilitation interventions should be used as an adjunctive therapy in combination with psychotherapy or pharmacotherapy.

Pharmacological and psychological interventions for adults with PTSD

Research question 20

The research question for this section was the same as that for the section "Psychological interventions for adults with PTSD"– see above for details.

20. For people with PTSD, is a single intervention more effective than multiple interventions?

Summary of the literature

Pharmacotherapy alone versus pharmacotherapy plus psychotherapy

The evidence review identified two studies, both with moderate risk of bias, comparing sertraline alone with sertraline plus CBT.[194,195] Both these studies were included in the 2007 evidence review. The larger study (n=65) found no clinically important differences between treatments. While the small study with Cambodian refugee women found a small advantage for sertraline plus CBT over sertraline alone, this should be interpreted with caution given the small sample size and specific context of the trial population.

Thus, there is little to suggest that adding CBT to sertraline significantly improves outcomes.

Psychotherapy plus pharmacotherapy versus psychotherapy plus placebo

The evidence review identified two studies, both with moderate risk of bias, comparing prolonged exposure plus paroxetine with PE plus placebo. Both these studies have been published since the 2007 evidence review. The study with larger subject numbers (n=37)[196] found limited evidence showing that the combined treatments were more effective than PE with placebo, but results were calculated from completer data only (no intent-to-treat analysis was possible), and so should be interpreted cautiously. The smaller study (n=23) found no conclusive evidence of a difference.[197] One well designed but very small pilot study with a low risk of bias found psychotherapy plus MDMA to be better than psychotherapy plus placebo in reducing PTSD symptoms.[173]

Thus, there is little to suggest that adding paroxetine to prolonged exposure significantly improves outcomes, and there is tentative evidence that MDMA may enhance psychotherapy, although both warrant further research.

Recommendations

None.

Psychological vs pharmacological vs psychosocial interventions

Research question 21

21. For people with PTSD, is any intervention (pharmacotherapy, psychotherapy or psychosocial rehabilitation) more effective than any other intervention (pharmacotherapy, psychotherapy or psychosocial rehabilitation)?

Selection criteria

Population	People with PTSD
Intervention	1. pharmacological intervention 2. psychological intervention 3. psychosocial rehabilitation intervention
Comparator	1. psychological or psychosocial rehabilitation intervention 2. pharmacological or psychosocial intervention 3. psychological or pharmacological intervention
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	1966 to October 2011[a]
Language	English

[a] New research questions

Summary of the literature

The evidence review identified two studies that assessed comparisons relating to this question, one comparing paroxetine with TF-CBT[196] and the other comparing fluoxetine to EMDR.[199] The former was included in the 2007 evidence review, but the latter was not.

The paroxetine trial was of low quality with small subject numbers (n=21), and data analysis was based on completers (not intent-to-treat). In this type of study, individuals are (obviously) not masked to treatment allocation, but neither were the rating assessors. There was limited evidence favouring CBT on self-ratings but not on clinician ratings. Given the flaws, these results are hard to interpret. The EMDR trial was better designed and had a low risk of bias. It found a small benefit of EMDR over the SSRI.

There is insufficient evidence upon which to make a recommendation, although further research on this question, including comparisons with standard care, is clearly warranted.

Recommendations

None.

Research recommendation

RR15 Large, well-controlled randomised trials comparing pharmacological with trauma-focussed psychological treatment across different trauma populations are required. This may be best achieved through coordinated international multi-site trials.

Sequencing comorbidities

Research question 22

22. In the context of PTSD and comorbidity, is sequencing of intervention per diagnosis more effective than simultaneous interventions for both diagnoses?

Selection criteria

Population	People with PTSD and comorbidity (e.g., grief, depression, personality disorder, pain and substance misuse)
Intervention	Sequenced psychological or pharmacological intervention per diagnosis, i.e., treatment for PTSD and then comorbidity or vice versa
Comparator	Simultaneous psychological and/or pharmacological interventions for both diagnoses
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature

There were no studies identified in the systematic review that specifically addressed the question of treatment sequencing. However, a number of studies have reported treatment outcomes for people with PTSD and comorbid conditions. This literature has been included in Chapter 2 of this Guidelines document. The key findings are re-presented here as they underpin the consensus points that follow.

With regard to PTSD and comorbid substance use disorder, the literature suggests that treating the two disorders concurrently may be more effective than treating either disorder alone. Similarly, no studies of PTSD with comorbid depression have explored sequencing of treatment or patterns of symptom change over time. A large body of evidence, however, demonstrates that effective treatment of PTSD symptoms is associated with improvements in comorbid depression. However most studies exclude patients with very severe depression and such comorbidity may indicate the need for depression-specific techniques prior to trauma focus treatment.

Given the above literature and in the absence of any specific studies examining the issue of sequencing specifically, consistent with the previous 2007 Guidelines, the following consensus points are offered to practitioners.

Consensus points

CP4	In the context of comorbid PTSD and mild to moderate depression, health practitioners may consider treating the PTSD first, as the depression will often improve with treatment of the PTSD.
CP5	Where the severity of comorbid depression precludes effective engagement in therapy and/or is associated with high-risk suicidality, health practitioners are advised to manage the suicide risk and treat the depression prior to treating the PTSD.
CP6	In the context of PTSD and substance use disorders, practitioners should consider integrated treatment of both conditions.
CP7	In the context of PTSD and substance use disorders, the trauma-focussed component of PTSD treatment should not commence until the person has demonstrated a capacity to manage distress without recourse to substance misuse and to attend sessions without being drug or alcohol affected.
CP8	In the context of PTSD and substance use disorders, where the decision is made to treat substance use disorders first, clinicians should be aware that PTSD symptoms may worsen due to acute substance withdrawal or loss of substance use as a coping mechanism. Treatment should include information on PTSD and strategies to deal with PTSD symptoms as the person controls their substance abuse.

Early psychological interventions for children and adolescents exposed to a potentially traumatic event

In line with the section "Early psychological interventions for adults exposed to a potentially traumatic event", this section addresses the provision of psychological interventions for all children and adolescents exposed to trauma – not only those who are presenting with adjustment problems. It covers immediate post-incident options for all, before going on to look at those who develop diagnosable conditions.

Early psychological interventions for all
Research questions 3, 4 and 7

3. For people exposed to trauma, do early psychological interventions improve outcomes compared to no intervention?
4. For people exposed to trauma, does any early psychological intervention confer any advantage over other early psychological interventions?

Selection criteria

Population	People exposed to trauma, including the subgroup of patients with ASD
Intervention	Early psychological intervention (e.g., debriefing, trauma-focussed counselling, education, performed within one month of trauma)
Comparator	No intervention (e.g., assessment only)
Outcome	Primary outcomes: symptoms of ASD and PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ posttraumatic growth / physical comorbidity Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies.
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Research question

7. For people exposed to trauma, is a single early intervention more effective than multiple early interventions?

Selection criteria

Population	People exposed to trauma, including the subgroup of patients with ASD
Intervention	Single early psychological or pharmacological intervention
Comparator	Early combined psychological or combined pharmacological interventions (within one month of the traumatic event) or combined psychological and pharmacological interventions (within one month of the traumatic event)
Outcome	Primary outcomes: symptoms of ASD or PTSD
	Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity.
	Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies.
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature

The literature on interventions for children exposed to potentially traumatic events is not well developed. Three studies were identified in the evidence review. Two moderately sized studies using good methodology [200,201] found that psychological debriefing was no better than usual care in school-aged children exposed to road traffic accidents. The third study [202] evaluated an information-based intervention in school-aged children exposed to accidental injury, and found some benefit but no clinical effects. However, this study was of low quality and probably under-powered.

Recommendation		Grade
R12	For children exposed to a potentially traumatic event, psychological debriefing should not be offered.[200,201]	B

Good practice points

GPP68 Children, ranging from infants and pre-schoolers to older children and adolescents can be affected significantly by traumatic events, at higher rates than adults. Practitioners need to be conscious of this risk, must be proactive in assessing the range of psychological impacts of trauma, and should be prepared to provide appropriate assistance, including referral to specialist services if needed.

GPP69 Information is often provided to assist children following traumatic events. The content, when used, should be of high quality and tailored to the traumatic event type and the target audience. Information given following traumatic events may include: a) information about likely outcomes (most frequently positive); b) reinforcement of existing and new positive coping; c) advice on avenues for seeking further assistance if required; and d) possible indicators of a need for further assistance. Information following traumatic events may also include a recognition of the role of, and impact on, caregivers, siblings and teachers.

GPP70 For children exposed to trauma, psychoeducation should be integrated into a stepped care approach that involves parents and the range of health, education and welfare service providers, and includes monitoring, targeted assessment and intervention, if necessary.

GPP71 Psychological first aid may be appropriate with children in the immediate aftermath of trauma, however if it is used there must be access available to infant, child and adolescent mental health specialists if and when required.

GPP72 Parents and caregivers provide a protective/buffering function against child traumatic stress. Clinicians should be aware of the potential for parents' own distress or other factors to compromise their capacity to provide a protective/buffering function. If distress or other relevant factors are identified, the clinician should respond accordingly.

Research recommendation

RR16 Research across a range of trauma-exposed child and adolescent populations is needed to improve understanding of the role and effectiveness of early intervention.

Early psychological interventions for children and adolescents with ASD or acute PTSD

Research questions 3, 4 and 7

The research questions for this section are the same as those used for the preceding section – see above for details.

3. For people exposed to trauma, do early psychological interventions improve outcomes compared to no intervention?
4. For people exposed to trauma, does any early psychological intervention confer any advantage over other early psychological interventions?
7. For people exposed to trauma, is a single early intervention more effective than multiple early interventions?

Summary of the literature

The evidence review identified two studies that evaluated psychotherapies as early interventions for children with symptoms of PTSD. In one small study[203] narrative exposure therapy was associated with a non-significant reduction in the likelihood of PTSD in a sample of school-aged children exposed to a series of past traumas. Another study[204] found support for an intervention targeting the child–caregiver relationship in children exposed to a range of traumas. However, the study was of moderate quality and found no clinically meaningful effects.

Recommendations

None.

Consensus point

CP9 Trauma-focussed cognitive behavioural therapy may be useful as an early psychological intervention for children with a diagnosis of ASD in the initial four weeks after the traumatic event, based on the positive evidence for cognitive behavioural therapy in children with PTSD. However, the effectiveness of this approach with ASD in children is not yet established.

Psychological interventions for children and adolescents with PTSD

Research questions 10 and 11

10. For people with PTSD do psychological interventions improve outcomes compared to no intervention?
11. For people with PTSD, does any psychological intervention confer any advantage over other psychological interventions?

Selection criteria

Population	People with PTSD
Intervention	Psychological intervention (e.g., TF-CBT, stress management therapy, EMDR, narrative exposure therapy, supportive counselling, interapy, thought field therapy)
Comparator	1. No intervention (e.g., assessment only)
	2. Other psychological intervention
Outcome	Primary outcome: resolution of symptoms of PTSD
	Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity.
	Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

The studies considered in relation to question 10 were as follows:

- two studies compared trauma-focussed CBT against a waitlist/control condition in children[205,206]
- three studies compared EMDR against waitlist in children/adolescents[207-209]
- one study compared stress management therapy against a waitlist condition in adolescents[210]

The following comparisons were identified for question 11:

- four studies (six articles) compared trauma-focussed CBT against treatment as usual in children[211-216]
- one study compared EMDR against standard care in children[217]
- one study compared trauma-focussed CBT against a psychoeducation and stress management condition in adolescents[218]
- one study (two articles) compared trauma-focussed CBT against supportive therapy (child centred therapy) in children[219,220]
- one study compared trauma-focussed CBT against psychodynamic therapy in adolescents[221]
- one study compared trauma-focussed CBT administered to different people to treat children with PTSD[213,214]
- one study compared narrative exposure therapy against supportive counselling in adolescents/young adults[83]
- two studies compared CBT with an exposure component against CBT without an exposure component in children[222,223]
- two studies compared trauma-focussed CBT against EMDR in children[224,225]
- one study compared parent and child group CBT with parent-only group CBT for children[226]

Summary of the literature

Investigations of trauma-focussed cognitive behavioural therapy in children and adolescents included studies comparing TF-CBT with waitlist control (two studies),[205,206] treatment as usual (four studies),[211-216] and other active treatments (five studies).[218,221-223] Study sample sizes were generally small to moderate (study participant range: [24-229]). Study participants experienced a range of traumatic events from motor vehicle accidents and other single-event traumas to more repetitive experiences such as exposure to domestic violence or sexual abuse. Design issues were common; frequently there was moderate or high risk of bias and many studies did not include an intent-to-treat analysis. Generalisability to an Australian context was high across studies (rating either A or B). Clinical impact was generally rated as a C; if cited as a trend this was also in the direction of favouring TF-CBT. There have been two studies in this review examining the effects of EMDR compared with TF-CBT for PTSD in children that demonstrate an equivalent effect for both conditions.[224,225] One of these studies is however very small (n=9) with high risk of bias.[224] In view of the limited nature of the current evidence we are unable at this point to make a clear recommendation in relation to EMDR. However we recommend that given the findings of these studies further research examining EMDR for PTSD in children is conducted.

Recommendation		Grade
R13	For children of school age and above with PTSD, developmentally appropriate trauma-focussed cognitive behavioural therapy should be considered.[205,206,211-216,218,221-223]	C

Good practice point

GPP73 When assessing a child or adolescent for PTSD, healthcare professionals should ensure that they separately and directly assess the child or adolescent for the presence of PTSD symptoms. It is preferable not to rely solely on information from the parent or guardian in any assessment.

GPP74 Given that retention in therapy and the effectiveness of trauma-focussed cognitive behavioural therapy with children and adolescents both require strong parent and/or caregiver involvement, an initial phase of trauma-focussed cognitive behavioural therapy with this group is engagement of the parent(s) to improve their understanding and support of this treatment modality.

Research recommendations

RR17 The effectiveness of trauma-focussed cognitive behavioural therapy on depression and other posttraumatic presentations (internalising and externalising behaviours) requires further investigation.

RR18 We recommend that further research examining eye movement desensitisation and reprocessing for PTSD in children is conducted.

Research question 12

12. For people with PTSD, is individual therapy more effective than group therapy?

Selection criteria

Population	People with PTSD
Intervention	Individual therapy (e.g., psychodynamic psychotherapy, individual cognitive behavioural therapies, EMDR, narrative exposure therapy, image rehearsal therapy, supportive counselling, hypnosis)
Comparator	Group therapy (e.g., supportive therapy, psychoeducation, psychodynamic therapy, group CBT such as anxiety management, stress inoculation, assertiveness training, prolonged exposure, cognitive restructuring)
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature

Two further studies compared group versus individual psychological interventions. In one,[227] CBT was the treatment model employed to treat post-disaster PTSD, and the second[228] compared a psychodynamic individual therapy to a psychoeducation-based group for sexually abused children. Outcome measures were used only to assess PTSD severity, but in both studies, despite differences in treatment model, outcomes favoured individual treatments.

Recommendation		Grade
R14	For children with PTSD, individual psychological interventions should be considered in preference to group interventions.[227,228]	C

Research questions 13 and 14

The research questions used for this section were the same as those used in the section "Psychological interventions for adults with PTSD" – see above for details.

13. For people with PTSD, is the combination of individual therapy and group therapy more effective than either alone?
14. Are established interventions for PTSD effective when self-delivered or self-delivered with practitioner support, compared to practitioner-delivered intervention or no intervention?

Summary of the literature

There were no studies identified in the systematic review.

Recommendations

None.

Early pharmacological interventions for children and adolescents exposed to a potentially traumatic event

Early pharmacological interventions for all

This section addresses the provision of pharmacological interventions for all those exposed – not only those who are presenting with adjustment problems.

Research questions 5 and 6

5. For people exposed to trauma, do early pharmacological interventions improve outcomes compared to no intervention?
6. For people exposed to trauma, does any early pharmacological intervention confer any advantage over other early pharmacological interventions?

Selection criteria

Population	People exposed to trauma, including the subgroup of patients with ASD
Intervention	Early pharmacological intervention, (e.g., imipramine, propranolol, benzodiazepines, other sympatholytics, other antidepressants, anticonvulsants, antipsychotics, chloral hydrate, given within one month of trauma)
Comparator	No intervention (e.g., assessment only)
Outcome	Primary outcomes: symptoms of ASD or PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies.
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature

The evidence review identified only one small trial evaluating pharmacological intervention using sertraline.229 Whilst there were some positive outcomes, particularly for depression and parent-rated PTSD symptoms, no differences were found for child-rated PTSD symptoms.

	Recommendation	Grade
R15	For children exposed to a potentially traumatic event, pharmacotherapy should not be used as a preventive intervention for all those exposed.[229]	D

Pharmacological treatment for those with ASD or acute PTSD

Research questions 5 and 6

The research questions for this section were the same as those for the previous section – see above for details.

5. For people exposed to trauma, do early pharmacological interventions improve outcomes compared to no intervention?
6. For people exposed to trauma, does any early pharmacological intervention confer any advantage over other early pharmacological interventions?

Summary of the literature
There were no studies identified in the systematic review.

Recommendations

None.

Pharmacological interventions for children and adolescents with PTSD

Research questions 15 and 16

15. For people with PTSD, do pharmacological interventions improve outcomes compared with placebo?
16. For people with PTSD, does any pharmacological intervention confer any advantage over other pharmacological interventions?

Selection criteria

Population	People with PTSD
Intervention	Pharmacological intervention (e.g., SSRIs, other second-generation antidepressants, tricyclic antidepressants, monoamine oxidase inhibitors, benzodiazepines, mood stabilisers, anticonvulsants, and some non-benzodiazepine hypnotics and anti-anxiety medications)
Comparator	1. Placebo 2. Other pharmacological intervention
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ side effects/ posttraumatic growth/ physical comorbidity. Additional outcomes for children: attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	August 2005 to October 2011 for adults[a]; 1966 to October 2011 if required[b] 1966 to October 2011 for children and adolescents[c]
Language	English

[a] Updated search from 2007 Guidelines
[b] Expanded search period if fewer than two Level II studies are found
[c] New research questions

Summary of the literature
Only two pharmacological intervention studies involving children and adolescents met the Guidelines inclusion criteria. The study by Robb and colleagues[230] reported the comparison of the SSRI antidepressant sertraline versus placebo in 129 children and adolescents who experienced mixed (single event and/or complex) trauma. At post-treatment the active and placebo treatments did not significantly differ on PTSD, depression or quality of life outcomes. The risk of study bias was graded as high.

A second small study (n=24) by Cohen and colleagues[231] compared TF-CBT plus sertraline with TF-CBT plus placebo in 10 to 17 year olds with sexual abuse-related PTSD symptoms. Study risk of bias was rated as moderate, however, the result is considered to be generalisable to the local context. No conclusive between-group differences were noted on participant self-report of PTSD symptoms.

Recommendations		Grade
R16	For children and adolescents with PTSD, pharmacotherapy should not be used as a routine first treatment over trauma-focussed cognitive behavioural therapy.[230,231]	D
R17	For children and adolescents with PTSD, pharmacotherapy should not be used routinely as an adjunct to trauma-focussed cognitive behavioural therapy.[231]	D

Good practice point

GPP75	Prescription of antidepressants in children should be guided by specific practice guidelines on depression, and practitioners should be aware of age-related side effects.

School-based interventions

In those exposed to trauma or with ASD/acute PTSD

Research questions 8 and 9

8. For children exposed to trauma, does any intervention delivered through school improve outcomes for the child over no intervention?
9. For children exposed to trauma, does any intervention delivered through school improve outcomes for the child compared to any other intervention delivered through school?

Selection criteria

Population	Children exposed to trauma
Intervention	Any intervention delivered through school
Comparator	1. No intervention 2. Other intervention delivered through school
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: resolution of symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ posttraumatic growth/ oppositional defiant disorder/ attention deficit hyperactivity disorder/ social anxiety disorder/ physical comorbidity.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies.
Search Period	1966 to October 2011
Language	English

Summary of the literature

The evidence review identified five studies that conducted trials of intervention within schools, two using TF-CBT,[232,233] two using a combination of CBT and play,[234,235] and one using group supportive counselling.[236] Those employing TF-CBT alone were of moderate quality and had effects in favour of CBT with a range of effects, but with some indication of clinically significant effects. The studies employing the combined CBT and play were relatively larger, the results generally favoured the combined CBT and play intervention over control, but the effects were small and not clinically meaningful and the settings were less likely to facilitate generalisability. A study of group supportive counselling was of lesser quality but had a reasonable sample size. Effects favoured group supportive counselling over control, but these effects were not clinically significant.

Recommendation		Grade
R18	For children exposed to trauma with symptoms of PTSD, where they were exposed to the same event, a school-based trauma-focussed cognitive behavioural intervention aimed at reducing symptoms of PTSD should be considered.[232-236]	C

Good practice point

GPP76 An integrated model between education and health providers that facilitates appropriate support and referral is recommended. It is recommended that schools provide a facilitative function in intervening with children following trauma, especially after large-scale traumas.

Research recommendation

RR19 There is a need to understand how the impact of trauma presents for children in schools, and the role of the school community in providing support to affected children and assisting in referral if required.

Interventions that include parents

Research questions 23 and 24

23. For children with PTSD, does the inclusion of parents/ primary caregivers in psychological interventions improve outcomes for the child compared with no parent/ primary caregiver inclusion in the psychological interventions?
24. For children with PTSD, does any psychological intervention that includes parents/ primary caregivers improve outcomes for the child compared to any other psychological intervention that includes parents/primary caregivers?

Selection criteria

Population	Children with PTSD
Intervention	Any psychological intervention that includes parents/ primary caregivers
Comparator	1. Psychological interventions that do not include parents/ primary caregivers 2. Any other psychological interventions that includes parents/ primary caregivers
Outcome	Primary outcome: resolution of symptoms of PTSD Secondary outcomes: resolution of symptoms of depression, anxiety and substance misuse/ social and occupational function/ quality of life/ treatment refusal/ dropout over 12 months/ posttraumatic growth/ oppositional defiant disorder/ attention deficit disorder/ social anxiety disorder/ physical comorbidity/ attention deficit hyperactivity disorder/ conduct disorder/ oppositional defiant disorder/ attachment reactive disorder/ social anxiety disorder.
Study design	Systematic reviews of randomised controlled trials, randomised controlled trials; if fewer than two Level II studies are found, consider: pseudo-randomised controlled trials, non-randomised controlled trials, cohort studies, before-and-after controlled studies, case-control studies
Search Period	1966 to October 2011
Language	English

Summary of the literature

The evidence review identified two papers that reported psychological interventions for children with PTSD, with and without concurrent treatment of parent or caregiver, that met the Guidelines inclusion criteria. Deblinger and colleagues[213,214] compared child-only CBT, mother-only CBT, child and mother CBT, and waitlist control. King and colleagues[237] compared child-only CBT, child and parent CBT, and treatment as usual. Study sample sizes were small (range 36–100) and were rated as moderate to high risk of bias. The participant group, sexually abused children, was considered very generalisable to the Australian context.

Both studies reported no difference on outcomes measures in groups with and without parent or caregiver involvement. The exception was the study by King et al.,[237] which reported some improvement in global functioning with inclusion of parents.

Research recommendation

RR20 The impact of treatment of trauma-related psychopathology in parents and/or caregivers of abused children prior to treatment of the children should be explored.

References

1. NHMRC. (2011). *Procedures and requirements for meeting the 2011 NHMRC standard for clinical practice guidelines.* Melbourne: National Health and Medical Research Council.
2. NHMRC. (1999). *A guide to the development, implementation, and evaluation of clinical practice guidelines.* Canberra: National Health and Medical Research Council.
3. NHMRC. (2000). *How to review the evidence: Systematic identification and review of the scientific literature.* Canberra: National Health and Medical Research Council.
4. Higgins, J. P. T., & Green, S. (2011). *Cochrane handbook for systematic reviews of interventions version 5.1.0.* Retrieved April 2013, from www.cochrane-handbook.org
5. Cooper, H., & Hedges, L. V. (Eds.). (1994). *The handbook of research synthesis.* New York: Russell Sage Foundation.
6. Mulrow, C. D., Cook, D. J., & Davidoff, F. (1997). Systematic reviews: Critical links in the great chain of evidence. *Annals of Internal Medicine, 126*(5), 389-391.
7. NHMRC. (2000). *How to use the evidence: Assessment and application of scientific evidence.* Canberra: National Health and Medical Research Council.
8. NHMRC. (2001). *How to compare costs and benefits: Evaluation of the economic evidence.* Canberra: National Health and Medical Research Council.
9. National Institute for Clinical Excellence. (2005). *Post-traumatic stress disorder (PTSD): The management of PTSD in adults and children in primary and secondary care* (CG26). London: National Institute for Clinical Excellence.
10. Department of Veterans Affairs/Department of Defence. (2004). *VA/DoD clinical practice guideline for the management of posttraumatic stress*, version 1.0. Washington DC: Veterans Health Administration, Department of Defence.
11. NHMRC. (2009). *NHMRC levels of evidence and grades for recommendations for developers of guidelines.* Retrieved April 2013, from http://www.nhmrc.gov.au/guidelines/resources-guideline-developers
12. Stata Corporation. (2011). *Stata/IC 12.0 for Windows* (Revision 8th August 2011).
13. Devilly, G. J. (2007). *ClinTools Software for Windows*: Version 4.1. Retrieved April 2013, from www.clintools.com
14. Sharpley, J. G., Fear, N. T., Greenberg, N., Jones, M., & Wessely, S. C. (2008). Pre-deployment stress briefing: Does it have an effect? *Occupational Medicine, 58*(1), 30-34.
15. Rose, S., Brewin, C. R., Andrews, B., & Kirk, M. (1999). A randomized controlled trial of individual psychological debriefing for victims of violent crime. *Psychological Medicine, 29*(4), 793-799.
16. Bisson, J. I., Jenkins, P. L., Alexander, J., & Bannister, C. (1997). Randomised controlled trial of psychological debriefing for victims of acute burn trauma. *British Journal of Psychiatry, 170*, 78-81.
17. Conlon, L., Fahy, T. J., & Conroy, R. (1999). PTSD in ambulant RTA victims: A randomized controlled trial of debriefing. *Journal of Psychosomatic Research, 46*(1), 37-44.
18. Gamble, J., Creedy, D., Moyle, W., Webster, J., McAllister, M., & Dickson, P. (2005). Effectiveness of a counseling intervention after a traumatic childbirth: A randomized controlled trial. *Birth, 32*(1), 11-19.
19. Hobbs, M., Mayou, R., Harrison, B., & Worlock, P. (1996). A randomised controlled trial of psychological debriefing for victims of road traffic accidents. *British Medical Journal, 313*(7070), 1438-1439.
20. Lee, C., Slade, P., & Lygo, V. (1996). The influence of psychological debriefing on emotional adaptation in women following early miscarriage: A preliminary study. *British Journal of Medical Psychology, 69* (Pt 1), 47-58.
21. Marchand, A., Guay, S., Boyer, R., Iucci, S., Martin, A., & Saint-Hilaire, M.-H. (2006). A randomized controlled trial of an adapted form of individual critical incident stress debriefing for victims of an armed robbery. *Brief Treatment and Crisis Intervention, 6*(2), 122-129.
22. Mayou, R. A., Ehlers, A., & Hobbs, M. (2000). Psychological debriefing for road traffic accident victims: Three-year follow-up of a randomised controlled trial. *British Journal of Psychiatry, 176*, 589-593.
23. Wu, S., Zhu, X., Zhang, Y., Liang, J., Liu, X., Yang, Y., Miao, D. (2011). A new psychological intervention: "512 Psychological Intervention Model" used for military rescuers in Wenchuan Earthquake in China. *Social Psychiatry and Psychiatric Epidemiology.* doi: 10.1007/s00127-011-0416-2
24. Brom, D., Kleber, R. J., & Hofman, M. C. (1993). Victims of traffic accidents: Incidence and prevention of post-traumatic stress disorder. *Journal of Clinical Psychology, 49*(2), 131-140.
25. Jones, C., Backman, C., Capuzzo, M., Egerod, I., Flaatten, H., Granja, C., ... Griffiths, R. D. (2010). Intensive care diaries reduce new onset post traumatic stress disorder following critical illness: A randomised, controlled trial. *Critical Care, 14*(5), R168. doi: 10.1186/cc9260
26. Tsosie, U., Nannauck, S., Bohwald, D., Russo, J. E., Geiss Trusz, S., Foy, H., & Zatzick, D. F. (2011). Staying connected: A feasibility study linking American Indian and Alaskan Native trauma survivors to their tribal communities. *Psychiatry 74*(4), 347-359.
27. Zatzick, D. F., Roy-Byrne, P., Russo, J. E., Rivara, F. P., Koike, A., Jurkovich, G. J., & Katon, W. (2001). Collaborative interventions for physically injured trauma survivors: A pilot randomized effectiveness trial. *General Hospital Psychiatry, 23*(3), 114-123.
28. Campfield, K. M., & Hills, A. M. (2001). Effect of timing of critical incident stress debriefing (CISD) on posttraumatic symptoms. Journal of *Traumatic Stress, 14*(2), 327-340.
29. Sijbrandij, M., Olff, M., Reitsma, J. B., Carlier, I. V., & Gersons, B. P. (2006). Emotional or educational debriefing after psychological trauma: Randomised controlled trial. *British Journal of Psychiatry, 189*, 150-155. doi: 10.1192/bjp.bp.105.021121
30. Bernard, R. S., Williams, S. E., Storfer-Isser, A., Rhine, W., Horwitz, S. M., Koopman, C., & Shaw, R. J. (2011). Brief cognitive–behavioral intervention for maternal depression and trauma in the neonatal intensive care unit: A pilot study. *Journal of Traumatic Stress, 24*(2), 230-234.
31. Kazak, A. E., Simms, S., Alderfer, M. A., Rourke, M. T., Crump, T., McClure, K., Reilly, A. (2005). Feasibility and preliminary outcomes from a pilot study of a brief psychological intervention for families of children newly diagnosed with cancer. *Journal of Pediatric Psychology, 30*(8), 644-655. doi: 10.1093/jpepsy/jsi051
32. Beatty, L. J., Koczwara, B., Rice, J., & Wade, T. D. (2010). A randomised controlled trial to evaluate the effects of a self-help workbook intervention on distress, coping and quality of life after breast cancer diagnosis. *Medical Journal of Australia, 193*(5 Suppl), S68-73.

33. Bryant, R. A., Moulds, M. L., Guthrie, R. M., & Nixon, R. D. (2005). The additive benefit of hypnosis and cognitive-behavioral therapy in treating acute stress disorder. *Journal of Consulting and Clinical Psychology, 73*(2), 334-340.

34. Bryant, R. A., Moulds, M. L., Nixon, R. D., Mastrodomenico, J., Felmingham, K., & Hopwood, S. (2006). Hypnotherapy and cognitive behaviour therapy of acute stress disorder: A 3-year follow-up. *Behaviour Research and Therapy, 44*(9), 1331-1335. doi: 10.1016/j.brat.2005.04.007

35. Zhang, Y., Feng, B., Xie, J.-p., Xu, F.-z., & Chen, J. (2011). Clinical study on treatment of the earthquake-caused post-traumatic stress disorder by cognitive-behavior therapy and acupoint stimulation. *Journal of Traditional Chinese Medicine, 31*(1), 60-63.

36. Bryant, R. A., Harvey, A. G., Dang, S. T., Sackville, T., & Basten, C. (1998). Treatment of acute stress disorder: A comparison of cognitive-behavioral therapy and supportive counseling. *Journal of Consulting and Clinical Psychology, 66*(5), 862-866.

37. Bryant, R. A., Moulds, M. L., & Nixon, R. V. (2003). Cognitive behaviour therapy of acute stress disorder: A four-year follow-up. *Behaviour Research and Therapy, 41*(4), 489-494.

38. Bryant, R. A., Sackville, T., Dang, S. T., Moulds, M., & Guthrie, R. (1999). Treating acute stress disorder: An evaluation of cognitive behavior therapy and supportive counseling techniques. *American Journal of Psychiatry, 156*(11), 1780-1786.

39. Foa, E. B., Zoellner, L. A., & Feeny, N. C. (2006). An evaluation of three brief programs for facilitating recovery after assault. *Journal of Traumatic Stress, 19*(1), 29-43. doi: 10.1002/jts.20096

40. Bryant, R. A., Mastrodomenico, J., Felmingham, K. L., Hopwood, S., Kenny, L., Kandris, E., . . . Creamer, M. (2008). Treatment of acute stress disorder: A randomized controlled trial. *Archives of General Psychiatry, 65*(6), 659-667. doi: 10.1001/archpsyc.65.6.659

41. Shalev, A. Y., Ankri, Y., Israeli-Shalev, Y., Peleg, T., Adessky, R., & Freedman, S. (2012). Prevention of posttraumatic stress disorder by early treatment: Results from the Jerusalem Trauma Outreach and Prevention Study. *Archives of General Psychiatry, 69*(2), 166-176. doi: 10.1001/archgenpsychiatry.2011.127

42. Jarero, I., Artigas, L., & Luber, M. (2011). The EMDR protocol for recent critical incidents: Application in a disaster mental health continuum of care context. *Journal of EMDR Practice and Research, 5*(3), 82-94.

43. Scholes, C., Turpin, G., & Mason, S. (2007). A randomised controlled trial to assess the effectiveness of providing self-help information to people with symptoms of acute stress disorder following a traumatic injury. *Behaviour Research and Therapy, 45*(11), 2527-2536.

44. Basoglu, M., Salcioglu, E., & Livanou, M. (2007). A randomized controlled study of single-session behavioural treatment of earthquake-related post-traumatic stress disorder using an earthquake simulator. *Psychological Medicine, 37*(2), 203-213. doi: 10.1017/S0033291706009123

45. Basoglu, M., Salcioglu, E., Livanou, M., Kalender, D., & Acar, G. (2005). Single-session behavioral treatment of earthquake-related posttraumatic stress disorder: A randomized waiting list controlled trial. *Journal of Traumatic Stress, 18*(1), 1-11.

46. Bisson, J. I., Shepherd, J. P., Joy, D., Probert, R., & Newcombe, R. G. (2004). Early cognitive-behavioural therapy for post-traumatic stress symptoms after physical injury: Randomised controlled trial. *British Journal of Psychiatry, 184*, 63-69.

47. Blanchard, E. B., Hickling, E. J., Devineni, T., Veazey, C. H., Galovski, T. E., Mundy, E. A., Buckley, T. C. (2003). A controlled evaluation of cognitive behavioral therapy for posttraumatic stress in motor vehicle accident survivors. *Behaviour Research and Therapy, 41*(1), 79-96.

48. Brom, D., Kleber, R. J., & Defares, P. B. (1989). Brief psychotherapy for posttraumatic stress disorders. *Journal of Consulting and Clinical Psychology, 57*(5), 607-612.

49. Cloitre, M., Koenen, K. C., Cohen, L. R., & Han, H. (2002). Skills training in affective and interpersonal regulation followed by exposure: A phase-based treatment for PTSD related to childhood abuse. *Journal of Consulting and Clinical Psychology, 70*(5), 1067-1074.

50. Davidson, J. R., Payne, V. M., Connor, K. M., Foa, E. B., Rothbaum, B. O., Hertzberg, M. A., & Weisler, R. H. (2005). Trauma, resilience and saliostasis: Effects of treatment in post-traumatic stress disorder. *International Clinical Psychopharmacology, 20*(1), 43-48.

51. Duffy, M., Gillespie, K., & Clark, D. M. (2007). Post-traumatic stress disorder in the context of terrorism and other civil conflict in Northern Ireland: Randomised controlled trial. *British Medical Journal, 334*(7604), 1147.

52. Ehlers, A., Clark, D. M., Hackmann, A., McManus, F., & Fennell, M. (2005). Cognitive therapy for post-traumatic stress disorder: Development and evaluation. *Behaviour Research and Therapy, 43*(4), 413-431. doi: 10.1016/j.brat.2004.03.006

53. Ehlers, A., Clark, D. M., Hackmann, A., McManus, F., Fennell, M., Herbert, C., & Mayou, R. (2003). A randomized controlled trial of cognitive therapy, a self-help booklet, and repeated assessments as early interventions for posttraumatic stress disorder. *Archives of General Psychiatry, 60*(10), 1024-1032.

54. Fecteau, G., & Nicki, R. (1999). Cognitive behavioural treatment of post traumatic stress disorder after motor vehicle accident. *Behavioural and Cognitive Psychotherapy, 27*(3), 201-214.

55. Foa, E. B., Dancu, C. V., Hembree, E. A., Jaycox, L. H., Meadows, E. A., & Street, G. P. (1999). A comparison of exposure therapy, stress inoculation training, and their combination for reducing posttraumatic stress disorder in female assault victims. *Journal of Consulting and Clinical Psychology, 67*(2), 194-200. doi: 10.1037/0022-006x.67.2.194

56. Foa, E. B., Rothbaum, B. O., Riggs, D. S., & Murdock, T. B. (1991). Treatment of posttraumatic stress disorder in rape victims: A comparison between cognitive-behavioral procedures and counseling. *Journal of Consulting and Clinical Psychology, 59*(5), 715-723.

57. Gersons, B. P., Carlier, I. V., Lamberts, R. D., & van der Kolk, B. A. (2000). Randomized clinical trial of brief eclectic psychotherapy for police officers with posttraumatic stress disorder. *Journal of Traumatic Stress, 13*(2), 333-347.

58. Keane, T. M., Fairbank, J. A., Caddell, J. M., & Zimering, R. T. (1989). Implosive (flooding) therapy reduces symptoms of PTSD in Vietnam combat veterans. *Behavior Therapy, 20*(2), 245-260.

59. Kubany, E. S., Hill, E. E., & Owens, J. A. (2003). Cognitive trauma therapy for battered women with PTSD: Preliminary findings. *Journal of Traumatic Stress, 16*(1), 81-91.

60. Kubany, E. S., Hill, E. E., Owens, J. A., Iannce-Spencer, C., McCaig, M. A., Tremayne, K. J., & Williams, P. L. (2004). Cognitive trauma therapy for battered women with PTSD (CTT-BW). *Journal of Consulting and Clinical Psychology, 72*(1), 3-18.

61. Lindauer, R. n. J. L., Gersons, B. P. R., Van Meijel, E. P. M., Blom, K., Carlier, I. V. E., Vrijlandt, I., & Olff, M. (2005). Effects of brief eclectic psychotherapy in patients with posttraumatic stress disorder: Randomized clinical trial. *Journal of Traumatic Stress, 18*(3), 205-212.

62. McDonagh, A., Friedman, M., McHugo, G., Ford, J., Sengupta, A., Mueser, K., Descamps, M. (2005). Randomized trial of cognitive-behavioral therapy for chronic posttraumatic stress disorder in adult female survivors of childhood sexual abuse. *Journal of Consulting and Clinical Psychology, 73*(3), 515-524.

63. Monson, C. M., Schnurr, P. P., Resick, P. A., Friedman, M. J., Young-Xu, Y., & Stevens, S. P. (2006). Cognitive processing therapy for veterans with military-related posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 74*(5), 898-907. doi: 10.1037/0022-006X.74.5.898

64. Pacella, M. L., Armelie, A., Boarts, J., Wagner, G., Jones, T., Feeny, N., & Delahanty, D. L. (2011). The impact of prolonged exposure on PTSD symptoms and associated psychopathology in people living with HIV: A randomized test of concept. *AIDS Behavior*. doi: 10.1007/s10461-011-0076-y

65. Power, K., McGoldrick, T., Brown, K., Buchanan, R., Sharp, D., Swanson, V., & Karatzias, A. (2002). A controlled comparison of eye movement desensitization and reprocessing versus exposure plus cognitive restructuring versus waiting list in the treatment of post-traumatic stress disorder. *Clinical Psychology and Psychotherapy, 9*(5), 299-318.

66. Resick, P. A., Nishith, P., Weaver, T. L., Astin, M. C., & Feuer, C. A. (2002). A comparison of cognitive-processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder in female rape victims. *Journal of Consulting and Clinical Psychology, 70*(4), 867-879.

67. Resick, P. A., Williams, L. F., Suvak, M., Monson, C. M., & Gradus, J. L. (2012). Long-term outcomes of cognitive-behavioural treatments for posttraumatic stress disorder among female rape survivors. *Journal of Consulting and Clinical Psychology, 80*(2), 201-210. doi: 10.1037/a0026602

68. Rothbaum, B. O., Astin, M. C., & Marsteller, F. (2005). Prolonged exposure versus eye movement desensitization and reprocessing (EMDR) for PTSD rape victims. *Journal of Traumatic Stress, 18*(6), 607-616. doi: 10.1002/jts.20069

69. Schnyder, U., Muller, J., Maercker, A., & Wittmann, L. (2011). Brief eclectic psychotherapy for PTSD: A randomized controlled trial. *Journal of Clinical Psychiatry, 72*(4), 564-566. doi: 10.4088/JCP.10l06247blu

70. Sijbrandij, M., Olff, M., Reitsma, J. B., Carlier, I. V., de Vries, M. H., & Gersons, B. P. (2007). Treatment of acute posttraumatic stress disorder with brief cognitive behavioral therapy: A randomized controlled trial. *American Journal of Psychiatry, 164*(1), 82-90. doi: 10.1176/appi.ajp.164.1.82

71. Vaughan, K., Armstrong, M. S., Gold, R., O'Connor, N., Jenneke, W., & Tarrier, N. (1994). A trial of eye movement desensitization compared to image habituation training and applied muscle relaxation in post-traumatic stress disorder. *Journal of Behavior Therapy and Experimental Psychiatry, 25*(4), 283-291.

72. Wagner, A. W., Zatzick, D. F., Ghesquiere, A., & Jurkovich, G. J. (2007). Behavioral activation as an early intervention for posttraumatic stress disorder and depression among physically injured trauma survivors. *Cognitive and Behavioral Practice, 14*(4), 341-349.

73. Ford, J. D., Steinberg, K. L., & Zhang, W. (2011). A randomized clinical trial comparing affect regulation and social problem-solving psychotherapies for mothers with victimization-related PTSD. *Behavior Therapy, 42*(4), 560-578. doi: 10.1016/j.beth.2010.12.005

74. Jensen, J. A. (1994). An investigation of eye movement desensitization and reprocessing (EMD/R) as a treatment for posttraumatic stress disorder (PTSD) symptoms of Vietnam combat veterans. *Behavior Therapy, 25*(2), 311-325.

75. Rothbaum, B. O. (1997). A controlled study of eye movement desensitization and reprocessing in the treatment of posttraumatic stress disordered sexual assault victims. *Bulletin of the Menninger Clinic, 61*(3), 317-334.

76. Hogberg, G., Pagani, M., Sundin, O., Soares, J., Aberg-Wistedt, A., Tarnell, B., & Hallstrom, T. (2007). On treatment with eye movement desensitization and reprocessing of chronic post-traumatic stress disorder in public transportation workers: A randomized controlled trial. *Nordic Journal of Psychiatry, 61*(1), 54-61.

77. Krupnick, J. L., Green, B. L., Stockton, P., Miranda, J., Krause, E., & Mete, M. (2008). Group interpersonal psychotherapy for low-income women with posttraumatic stress disorder. *Psychotherapy Research, 18*(5), 497-507. doi: 10.1080/10503300802183678

78. Zlotnick, C., Shea, T. M., Rosen, K., Simpson, E., Mulrenin, K., Begin, A., & Pearlstein, T. (1997). An affect-management group for women with posttraumatic stress disorder and histories of childhood sexual abuse. *Journal of Traumatic Stress, 10*(3), 425-436.

79. Beck, J. G., Coffey, S. F., Foy, D. W., Keane, T. M., & Blanchard, E. B. (2009). Group cognitive behavior therapy for chronic posttraumatic stress disorder: An initial randomized pilot study. *Behavior Therapy, 40*(1), 82-92. doi: 10.1016/j.beth.2008.01.003

80. Chard, K. M. (2005). An evaluation of cognitive processing therapy for the treatment of posttraumatic stress disorder related to childhood sexual abuse. *Journal of Consulting and Clinical Psychology, 73*(5), 965-971. doi: 10.1037/0022-006X.73.5.965

81. Krakow, B., Hollifield, M., Johnston, L., Koss, M., Schrader, R., Warner, T. D., . . . Prince, H. (2001). Imagery rehearsal therapy for chronic nightmares in sexual assault survivors with posttraumatic stress disorder: A randomized controlled trial. *Journal of the American Medical Association, 286*(5), 537-545.

82. Carlson, J. G., Chemtob, C. M., Rusnak, K., Hedlund, N. L., & Muracka, M. Y. (1998). Eye movement desensitization and reprocessing (EDMR) treatment for combat-related posttraumatic stress disorder. *Journal of Traumatic Stress, 11*(1), 3-24.

83. Ertl, V., Pfeiffer, A., Schauer, A., Elbert, T., & Neuner, F. (2011). Community-implemented trauma therapy for former child soldiers in Northern Uganda: A randomized controlled trial. *Journal of the American Medical Association, 306*(5), 503-512. doi: 10.1001/jama.2011.1060

84. Rut, M., Schauer, M., Neuner, F., Catani, C., Schauer, E., & Elbert, T. (2010). Narrative exposure therapy for 7- to 16-year-olds: A randomized controlled trial with traumatized refugee children. *Journal of Traumatic Stress, 23*(4), 437-445. doi: 10.1002/jts.20548

85. Bormann, J. E., Thorp, S., Wetherell, J. L., & Golshan, S. (2008). A spiritually based group intervention for combat veterans with posttraumatic stress disorder: Feasibility study. *Journal of Holistic Nursing, 26*(2), 109-116. doi: 10.1177/0898010107311276

86. Lesmana, C. B., Suryani, L. K., Jensen, G. D., & Tilicpoulos, N. (2009). A spiritual-hypnosis assisted treatment of children with PTSD after the 2002 Bali terrorist attack. *American Journal of Clinical Hypnosis, 52*(1), 23-34.

87. Asukai, N., Saito, A., Tauruta, N., Kishimoto, J., & Nishikawa, T. (2010). Efficacy of exposure therapy for Japanese patients with posttraumatic stress disorder due to mixed traumatic events: A randomized controlled study. *Journal of Traumatic Stress, 23*(6), 744-750. doi: 10.1002/jts.20589

88. Bryant, R. A., Ekasawin, S., Chakrabhand, S., Suwanmitri, S., Duangohun, O., & Chantaluckwong, T. (2011). A randomized controlled effectiveness trial of cognitive behavior therapy for post-traumatic stress disorder in terrorist-affected people in Thailand. *World Psychiatry, 10*(3), 205-209.

89. Cooper, N. A., & Clum, G. A. (1989). Imaginal flooding as a supplementary treatment for PTSD in combat veterans: A controlled study. *Behavior Therapy, 20*(3), 381-391.

90. Feske, U. (2008). Treating low-income and minority women with posttraumatic stress disorder: A pilot study comparing prolonged exposure and treatment as usual conducted by community therapists. *Journal of Interpersonal Violence, 23*(8), 1027-1040. doi: 10.1177/0886260507313967

91. Forbes, D., Lloyd, D., Nixon, R. D. V., Elliott, P., Varker, T., Perry, D., Creamer, M. (2012). A multisite randomized controlled effectiveness trial of cognitive processing therapy for military-related posttraumatic stress disorder. *Journal of Anxiety Disorders, 26*(3), 442-452. doi: 10.1016/j.janxdis.2012.01.006

92. Hinton, D. E., Chhean, D., Pich, V., Safren, S. A., Hofmann, S. G., & Pollack, M. H. (2005). A randomized controlled trial of cognitive-behavior therapy for Cambodian refugees with treatment-resistant PTSD and panic attacks: A cross-over design. *Journal of Traumatic Stress, 18*(6), 617-629. doi: 10.1002/jts.20070

93. Hinton, D. E., Hofmann, S. G., Pollack, M. H., & Otto, M. W. (2009). Mechanisms of efficacy of CBT for Cambodian refugees with PTSD: Improvement in emotion regulation and orthostatic blood pressure response. *CNS Neuroscience & Therapeutics, 15*(3), 255-263. doi: 10.1111/j.1755-5949.2009.00100.x

94. Johnson, D. M., Zlotnick, C., & Perez, S. (2011). Cognitive behavioral treatment of PTSD in residents of battered women's shelters: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 79*(4), 542-551. doi: 10.1037/a0023822

95. Johnson, D. R., & Lubin, H. (2006). The Counting Method: Applying the rule of parsimony to the treatment of posttraumatic stress disorder. *Traumatology, 12*(1), 83-99.

96. McLay, R. N., Wood, D. P., Webb-Murphy, J. A., Spira, J. L., Wiederhold, M. D., Pyne, J. M., & Wiederhold, B. K. (2011). A randomized, controlled trial of virtual reality-graded exposure therapy for post-traumatic stress disorder in active duty service members with combat-related post-traumatic stress disorder. *Cyberpsychology, Behavior, and Social Networking, 14*(4), 223-229. doi: 10.1089/cyber.2011.0003 [doi]

97. Mueser, K. T., Rosenberg, S. D., Xie, H. Y., Jankowski, M. K., Bolton, E. E., Lu, W., . Wolfe, R. S. (2008). A randomized controlled trial of cognitive-behavioral treatment for posttraumatic stress disorder in severe mental illness. *Journal of Consulting and Clinical Psychology, 76*(2), 259-271.

98. Nacasch, N., Foa, E. B., Huppert, J. D., Tzur, D., Fostick, L., Dinstein, Y., Zohar, J. (2011). Prolonged exposure therapy for combat- and terror-related posttraumatic stress disorder: A randomized control comparison with treatment as usual. *Journal of Clinical Psychiatry, 72*(9), 1174-1180. doi: 10.4088/JCP.09m05682blu

99. Neuner, F., Kurreck, S., Ruf, M., Odenwald, M., Elbert, T., & Schauer, M. (2010). Can asylum-seekers with posttraumatic stress disorder be successfully treated? A randomized controlled pilot study. *Cognitive Behavioural Therapy, 39*(2), 81-91. doi: 10.1080/16506070903121042

100. Peniston, E. G., & Kulkosky, P. J. (1991). Alpha-theta brainwave neuro-feedback therapy for Vietnam veterans with combat-related post-traumatic stress disorder. *Medical Psychotherapy: An International Journal, 4*, 47-60.

101. Vera, M., Reyes-Rabanillo, M. L., Juarbe, D., Perez-Pedrogo, C., Olmo, A., Kichic, R., & Chaplin, W. F. (2011). Prolonged exposure for the treatment of Spanish-speaking Puerto Ricans with posttraumatic stress disorder: A feasibility study. *BMC Research Notes, 4*(1), 415. doi: 10.1186/1756-0500-4-415

102. Zlotnick, C., Johnson, J. E., & Najavits, L. M. (2009). Randomized controlled pilot study of cognitive-behavioral therapy in a sample of incarcerated women with substance use disorder and PTSD. *Behavior Therapy, 40*(4), 325-336.

103. Marcus, S. V., Marquis, P., & Sakai, C. (1997). Controlled study of treatment of PTSD using EMDR in an HMO setting. *Psychotherapy, 34*(3), 307-315.

104. Marcus, S. V., Marquis, P., & Sakai, C. (2004). Three- and 6-month follow-up of EMDR treatment of PTSD in an HMO setting. *International Journal of Stress Management, 11*(3), 195-208.

105. Marks, I., Lovell, K., Noshirvani, H., Livanou, M., & Thrasher, S. (1998). Treatment of posttraumatic stress disorder by exposure and/or cognitive restructuring: A controlled study. *Archives of General Psychiatry, 55*(4), 317-325.

106. Taylor, S., Thordarson, D. S., Fedoroff, I. C., Maxfield, L., Lovell, K., & Ogrodniczuk, J. (2003). Comparative efficacy, speed, and adverse effects of three PTSD treatments: Exposure therapy, EMDR, and relaxation training. *Journal of Consulting and Clinical Psychology, 71*(2), 330-338.

107. Echeburua, E., De Corral, P., Zubizarreta, I., & Sarasua, B. (1997). Psychological treatment of chronic posttraumatic stress disorder in victims of sexual aggression. *Behavior Modification, 21*(4), 433-456.

108. Hinton, D. E., Hofmann, S. G., Rivera, E., Otto, M. W., & Pollack, M. H. (2011). Culturally adapted CBT (CA-CBT) for Latino women with treatment-resistant PTSD: A pilot study comparing CA-CBT to applied muscle relaxation. *Behaviour Research and Therapy, 49*(4), 275-280. doi: 10.1016/j.brat.2011.01.005

109. Echeburua, E., De Corral, P., Sarasua, B., & Zubizarreta, I. (1996). Treatment of acute posttraumatic stress disorder in rape victims: An experimental study. *Journal of Anxiety Disorders, 10*(3), 185-199.

110. Schnurr, P. P., Friedman, M. J., Engel, C. C., Foa, E. B., Shea, M. T., Chow, B. K., Bernardy, N. C. (2007). Cognitive behavioral therapy for posttraumatic stress disorder in women: A randomized controlled trial. *Journal of the American Medical Association, 297*(8), 820-830.

111. Bryant, R. A., Moulds, M. L., Guthrie, R. M., Dang, S. T., & Nixon, R. D. (2003). Imaginal exposure alone and imaginal exposure with cognitive restructuring in treatment of posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 71*(4), 706-712.

112. Blanchard, E. B., Hickling, E. J., Malta, L. S., Freidenberg, B. M., Canna, M. A., Kuhn, E., . . . Galovski, T. E. (2004). One- and two-year prospective follow-up of cognitive behavior therapy or supportive psychotherapy. *Behaviour Research and Therapy, 42*(7), 745-759.

113. Cottraux, J., Note, I., Yao, S. N., de Mey-Guillard, C., Bonasse, F., Djamoussian, D., . . . Chen, Y. (2008). Randomized controlled comparison of cognitive behavior therapy with Rogerian supportive therapy in chronic post-traumatic stress disorder: A 2-year follow-up. *Psychotherapy and Psychosomatics, 77*(2), 101-110. doi: 10.1159/000112887

114. Litz, B. T., Engel, C. C., Bryant, R. A., & Papa, A. (2007). A randomized, controlled proof-of-concept trial of an Internet-based, therapist-assisted self-management treatment for posttraumatic stress disorder. *American Journal of Psychiatry, 164*(11), 1676-1683. doi: 10.1176/appi.ajp.2007.06122057

115. Hien, D. A., Wells, E. A., Jiang, H., Suarez-Morales, L., Campbell, A. N. C., Cohen, L. R., . . . Nunes, E. V. (2009). Multisite randomized trial of behavioral interventions for women with co-occurring PTSD and substance use disorders. *Journal of Consulting and Clinical Psychology, 77*(4), 607-619.

116. Neuner, Schauer, M., Klaschik, C., Karunakara, U., & Elbert, T. (2004). A comparison of narrative exposure therapy, supportive counseling, and psychoeducation for treating posttraumatic stress disorder in an African refugee settlement. *Journal of Consulting and Clinical Psychology, 72*(4), 579-587.

117. Bichescu, D., Neuner, F., Schauer, M., & Elbert, T. (2007). Narrative exposure therapy for political imprisonment-related chronic posttraumatic stress disorder and depression. *Behaviour Research and Therapy, 45*(9), 2212-2220. doi: 10.1016/j.brat.2006.12.006

118. Hensel-Dittmann, D., Schauer, M., Ruf, M., Catani, C., Odenwald, M., Elbert, T., & Neuner, F. (2011). Treatment of traumatized victims of war and torture: A randomized controlled comparison of narrative exposure therapy and stress inoculation training. *Psychotherapy and Psychosomatics, 80*(6), 345-352. doi: 10.1159/000327253

119. Resick, P. A., Galovski, T. E., Uhlmansiek, M. O. B., Scher, C. D., Clum, G. A., & Young-Xu, Y. (2008). A randomized clinical trial to dismantle components of cognitive processing therapy for posttraumatic stress disorder in female victims of interpersonal violence. *Journal of Consulting and Clinical Psychology, 76*(2), 243-258.

120. Sloan, D. M., Marx, B. P., & Greenberg, E. M. (2011). A test of written emotional disclosure as an intervention for posttraumatic stress disorder. *Behaviour Research and Therapy, 49*(4), 299-304. doi: 10.1016/j.brat.2011.02.001

121. Tarrier, N., Sommerfield, C., Pilgrim, H., & Humphreys, L. (1999). Cognitive therapy or imaginal exposure in the treatment of post-traumatic stress disorder: Twelve-month follow-up. *British Journal of Psychiatry, 175*, 571-575.

122. Tarrier, N., Pilgrim, H., Sommerfield, C., Faragher, B., Reynolds, M., Graham, E., & Barrowclough, C. (1999). A randomized trial of cognitive therapy and imaginal exposure in the treatment of chronic posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 67*(1), 13-18.

123. Cloitre, M., Stovall-McClough, K. C., Nooner, K., Zorbas, P., Cherry, S., Jackson, C. L., . . . Petkova, E. (2010). Treatment for PTSD related to childhood abuse: A randomized controlled trial. *American Journal of Psychiatry, 167*(8), 915-924. doi: 10.1176/appi.ajp.2010.09081247

124. Bryant, R. A., Moulds, M. L., Guthrie, R. M., Dang, S. T., Mastrodomenico, J., Nixon, R. D., . . . Creamer, M. (2008). A randomized controlled trial of exposure therapy and cognitive restructuring for posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 76*(4), 695-703. doi: 10.1037/a0012616

125. Ironson, G., Freund, B., Strauss, J. L., & Williams, J. (2002). Comparison of two treatments for traumatic stress: A community-based study of EMDR and prolonged exposure. *Journal of Clinical Psychology, 58*(1), 113-128.

126. Scheck, M. M., Ann Schaeffer, J., & Gillette, C. (1998). Brief psychological intervention with traumatized young women: The efficacy of eye movement desensitization and reprocessing. *Journal of Traumatic Stress, 11*(1), 25-44.

127. Karatzias, T., Power, K., Brown, K., McGoldrick, T., Begum, M., Young, J., . . . Adams, S. (2011). A controlled comparison of the effectiveness and efficiency of two psychological therapies for posttraumatic stress disorder: Eye movement desensitization and reprocessing vs. emotional freedom techniques. *Journal of Nervous and Mental Disease, 199*(6), 372-378. doi: 10.1097/NMD.0b013e31821cd262

128. Schnurr, P. P., Friedman, M. J., Foy, D. W., Shea, M. T., Hsieh, F. Y., Lavori, P. W., . . . Bernardy, N. C. (2003). Randomized trial of trauma-focused group therapy for posttraumatic stress disorder: Results from a Department of Veterans Affairs cooperative study. *Archives of General Psychiatry, 60*(5), 481-489.

129. Frueh, B. C., Monnier, J., Yim, E., Grubaugh, A. L., Hamner, M. B., & Knapp, R. G. (2007). A randomized trial of telepsychiatry for post-traumatic stress disorder. *Journal of Telemedicine and Telecare, 13*(3), 142-147. doi: 10.1258/135763307780677604

130. Dunn, N. J., Rehm, L. P., Schillaci, J., Souchek, J., Mehta, P. D., Ashton, C. M., . . . Hamilton, J. D. (2007). A randomized trial of self-management and psychoeducational group therapies for comorbid chronic posttraumatic stress disorder and depressive disorder. *Journal of Traumatic Stress, 20*(3), 221-237.

131. Cook, J. M., Harb, G. C., Gehrman, P. R., Cary, M. S., Gamble, G. M., Forbes, D., & Ross, R. J. (2010). Imagery rehearsal for posttraumatic nightmares: A randomized controlled trial. *Journal of Traumatic Stress, 23*(5), 553-563. doi: 10.1002/jts.20569

132. Lange, A., Rietdijk, D., Hudcovicova, M., van de Ven, J. P., Schrieken, B., & Emmelkamp, P. M. (2003). Interapy: A controlled randomized trial of the standardized treatment of posttraumatic stress through the internet. *Journal of Consulting and Clinical Psychology, 71*(5), 901-909.

133. Knaevelsrud, C., & Maercker, A. (2007). Internet-based treatment for PTSD reduces distress and facilitates the development of a strong therapeutic alliance: A randomized controlled clinical trial. *BMC Psychiatry, 7*, 13. doi: 10.1186/1471-244X-7-13

134. Spence, J., Titov, N., Dear, B. F., Johnston, L., Solley, K., Lorian, C., . . . Schwenke, G. (2011). Randomized controlled trial of Internet-delivered cognitive behavioral therapy for posttraumatic stress disorder. *Depression and Anxiety, 28*(7), 541-550. doi: 10.1002/da.20835

135. Pitman, R. K., Sanders, K. M., Zusman, R. M., Healy, A. R., Cheema, F., Lasko, N. B., . . . Orr, S. P. (2002). Pilot study of secondary prevention of posttraumatic stress disorder with propranolol. *Biological Psychiatry, 51*(2), 189-192.

136. Schelling, G., Briegel, J., Roozendaal, B., Stoll, C., Rothenhausler, H. B., & Kapfhammer, H. P. (2001). The effect of stress doses of hydrocortisone during septic shock on posttraumatic stress disorder in survivors. *Biological Psychiatry, 50*(12), 978-985.

137. Fani, N., Kitayama, N., Ashraf, A., Reed, L., Afzal, N., Jawed, F., & Bremner, J. D. (2009). Neuropsychological functioning in patients with posttraumatic stress disorder following short-term paroxetine treatment. *Psychopharmacology Bulletin, 42*(1), 53-68.

138. Fani, N., Ashraf, A., Afzal, N., Jawed, F., Kitayama, N., Reed, L., & Bremner, J. D. (2011). Increased neural response to trauma scripts in posttraumatic stress disorder following paroxetine treatment: A pilot study. *Neuroscience Letters, 491*(3), 196-201.

139. Marshall, R. D., Beebe, K. L., Oldham, M., & Zaninelli, R. (2001). Efficacy and safety of paroxetine treatment for chronic PTSD: A fixed-dose, placebo-controlled study. *American Journal of Psychiatry, 158*(12), 1982-1988.

140. Tucker, P., Zaninelli, R., Yehuda, R., Ruggiero, L., Dillingham, K., & Pitts, C. D. (2001). Paroxetine in the treatment of chronic posttraumatic stress disorder: Results of a placebo-controlled, flexible-dosage trial. *Journal of Clinical Psychiatry, 62*(11), 860-868.

141. Friedman, M. J., Marmar, C. R., Baker, D. G., Sikes, C. R., & Farfel, G. M. (2007). Randomized, double-blind comparison of sertraline and placebo for posttraumatic stress disorder in a Department of Veterans Affairs setting. *Journal of Clinical Psychiatry, 68*(5), 711-720.

142. Brady, K., Pearlstein, T., Asnis, G. M., Baker, D., Rothbaum, B., Sikes, C. R., & Farfel, G. M. (2000). Efficacy and safety of sertraline treatment of posttraumatic stress disorder: A randomized controlled trial. *Journal of the American Medical Association, 283*(14), 1837-1844.

143. Brady, K. T., Sonne, S., Anton, R. F., Randall, C. L., Back, S. E., & Simpson, K. (2005). Sertraline in the treatment of co-occurring alcohol dependence and posttraumatic stress disorder. *Alcoholism: Clinical and Experimental Research, 29*(3), 395-401.

144. Davidson, J., Pearlstein, T., Londborg, P., Brady, K. T., Rothbaum, B., Bell, J., . . . Farfel, G. (2001). Efficacy of sertraline in preventing relapse of posttraumatic stress disorder: Results of a 28-week double-blind, placebo-controlled study. *American Journal of Psychiatry, 158*(12), 1974-1981.

145. Davidson, J. R. T. (2004). Remission in post-traumatic stress disorder (PTSD): Effects of sertraline as assessed by the Davidson Trauma Scale, Clinical Global Impressions and the Clinician-Administered PTSD scale. *International Clinical Psychopharmacology, 19*(2), 85-87.

146. Davidson, J., Rothbaum, B. O., Tucker, P., Asnis, G., Benattia, I., & Musgnung, J. J. (2006). Venlafaxine extended release in posttraumatic stress disorder: A sertraline- and placebo-controlled study. *Journal of Clinical Psychopharmacology, 26*(3), 259-267.

147. Tucker, P., Ruwe, W. D., Masters, B., Parker, D. E., Hossain, A., Trautman, R. P., & Wyatt, D. B. (2004). Neuroimmune and cortisol changes in selective serotonin reuptake inhibitor and placebo treatment of chronic posttraumatic stress disorder. *Biological Psychiatry, 56*(2), 121-128.

148. Zohar, J., Amital, D., Miodownik, C., Kotler, M., Bleich, A., Lane, R. M., & Austin, C. (2002). Double-blind placebo-controlled pilot study of sertraline in military veterans with posttraumatic stress disorder. *Journal of Clinical Psychopharmacology, 22*(2), 190-195.

149. Davidson, J. R., Connor, K. M., Hertzberg, M. A., Weisler, R. H., Wilson, W. H., & Payne, V. M. (2005). Maintenance therapy with fluoxetine in posttraumatic stress disorder: A placebo-controlled discontinuation study. *Journal of Clinical Psychopharmacology, 25*(2), 166-169.

150. Martenyi, F., Brown, E. B., Zhang, H., Prakash, A., & Koke, S. C. (2002). Fluoxetine versus placebo in posttraumatic stress disorder. *Journal of Clinical Psychiatry, 63*(3), 199-206.

151. Martenyi, F., Brown, E. B., Zhang, H., Koke, S. C., & Prakash, A. (2002). Fluoxetine v. placebo in prevention of relapse in post-traumatic stress disorder. *British Journal of Psychiatry, 181*, 315-320.

152. Martenyi, F., & Soldatenkova, V. (2006). Fluoxetine in the acute treatment and relapse prevention of combat-related post-traumatic stress disorder: Analysis of the veteran group of a placebo-controlled, randomized clinical trial. *European Neuropsychopharmacology, 16*(5), 340-349.

153. Hertzberg, M. A., Feldman, M. E., Beckham, J. C., Kudler, H. S., & Davidson, J. R. T. (2000). Lack of efficacy for fluoxetine in PTSD: A placebo controlled trial in combat veterans. *Annals of Clinical Psychiatry, 12*(2), 101-105.

154. Connor, K. M., Sutherland, S. M., Tupler, L. A., Malik, M. L., & Davidson, J. R. T. (1999). Fluoxetine in post-traumatic stress disorder: Randomised, double-blind study. *British Journal of Psychiatry, 175*(JUL.), 17-22.

155. Davidson, J., Kudler, H., Smith, R., Mahorney, S. L., Lipper, S., Hammett, E., . . . Cavenar Jr, J. O. (1990). Treatment of posttraumatic stress disorder with amitriptyline and placebo. *Archives of General Psychiatry, 47*(3), 259-266.

156. Katz, R. J., Lott, M. H., Arbus, P., Crocq, L., Herlobsen, P., Lingjaerde, O., . . . et al. (1994). Pharmacotherapy of post-traumatic stress disorder with a novel psychotropic. *Anxiety, 1*(4), 169-174.

157. Davidson, J. R., Weisler, R. H., Butterfield, M. I., Casat, C. D., Connor, K. M., Barnett, S., & van Meter, S. (2003). Mirtazapine vs. placebo in posttraumatic stress disorder: A pilot trial. *Biological Psychiatry, 53*(2), 188-191.

158. Davidson, J., Baldwin, D., Stein, D. J., Kuper, E., Benattia, I., Ahmed, S., . . . Musgnung, J. (2006). Treatment of posttraumatic stress disorder with venlafaxine extended release: A 6-month randomized controlled trial. *Archives of General Psychiatry, 63*(10), 1158-1165.

159. Davis, L. L., Jewell, M. E., Ambrose, S., Farley, J., English, B., Bartolucci, A., & Petty, F. (2004). A placebo-controlled study of nefazodone for the treatment of chronic posttraumatic stress disorder: A preliminary study. *Journal of Clinical Psychopharmacology, 24*(3), 291-297.

160. Butterfield, M. I., Becker, M. E., Connor, K. M., Sutherland, S., Churchill, L. E., & Davidson, J. R. T. (2001). Olanzapine in the treatment of post-traumatic stress disorder: A pilot study. *International Clinical Psychopharmacology, 16*(4), 197-203.

161. Krystal, J. H., Rosenheck, R. A., Cramer, J. A., Vessicchio, J. C., Jones, K. M., Vertrees, J. E., . . . Stock, C. (2011). Adjunctive risperidone treatment for antidepressant-resistant symptoms of chronic military service-related PTSD: A randomized trial. *Journal of the American Medical Association, 306*(5), 493-502.

162. Bartzokis, G., Lu, P. H., Turner, J., Mintz, J., & Saunders, C. S. (2005). Adjunctive risperidone in the treatment of chronic combat-related posttraumatic stress disorder. *Biological Psychiatry, 57*(5), 474-479. doi: 10.1016/j.biopsych.2004.11.039

163. Reich, D. B., Winternitz, S., Hennen, J., Watts, T., & Stanculescu, C. (2004). A preliminary study of risperidone in the treatment of posttraumatic stress disorder related to childhood abuse in women. *Journal of Clinical Psychiatry, 65*(12), 1601-1606.

164. Hamner, M. B., Faldowski, R. A., Ulmer, H. G., Frueh, B. C., Huber, M. G., & Arana, G. W. (2003). Adjunctive risperidone treatment in post-traumatic stress disorder: A preliminary controlled trial of effects on comorbid psychotic symptoms. *International Clinical Psychopharmacology, 18*(1), 1-8.

165. Tucker, P., Trautman, R. P., Wyatt, D. B., Thompson, J., Wu, S. C., Capece, J. A., & Rosenthal, N. R. (2007). Efficacy and safety of topiramate monotherapy in civilian posttraumatic stress disorder: A randomized, double-blind, placebo-controlled study. *Journal of Clinical Psychiatry, 68*(2), 201-206.

166. Davidson, J. R., Brady, K., Mellman, T. A., Stein, M. B., & Pollack, M. H. (2007). The efficacy and tolerability of tiagabine in adult patients with post-traumatic stress disorder. *Journal of Clinical Psychopharmacology, 27*(1), 85-88. doi: 10.1097/JCP.0b013e31802e5115

167. Davis, L. L., Davidson, J. R., Ward, L. C., Bartolucci, A., Bowden, C. L., & Petty, F. (2006). Divalproex in the treatment of posttraumatic stress disorder: a randomized, double-blind, placebo-controlled trial in a veteran population. *Journal of Clinical Psychopharmacology, 26*(1), 84-88. doi: 10.1097/JCP.0b013e318160f83b

168. Neylan, T. C., Lenoci, M., Samuelson, K. W., Metzler, T. J., Henn-Haase, C., Hierholzer, R. W., . . . Marmar, C. R. (2006). No improvement of posttraumatic stress disorder symptoms with guanfacine treatment. *American Journal of Psychiatry, 163*(12), 2186-2188.

169. Raskind, M. A., Peskind, E. R., Hoff, D. J., Hart, K. L., Holmes, H. A., Warren, D., . . . McFall, M. E. (2007). A parallel group placebo controlled study of prazosin for trauma nightmares and sleep disturbance in combat veterans with post-traumatic stress disorder. *Biological Psychiatry, 61*(8), 928-934. doi: 10.1016/j.biopsych.2006.06.032

170. Taylor, F. B., Martin, P., Thompson, C., Williams, J., Mellman, T. A., Gross, C., . . . Raskind, M. A. (2008). Prazosin effects on objective sleep measures and clinical symptoms in civilian trauma posttraumatic stress disorder: A placebo-controlled study. *Biological Psychiatry, 63*(6), 629-632.

171. Pollack, M. H., Hoge, E. A., Worthington, J. J., Moshier, S. J., Wechsler, R. S., Brandes, M., & Simon, N. M. (2011). Eszopiclone for the treatment of posttraumatic stress disorder and associated insomnia: A randomized, double-blind, placebo-controlled trial. *Journal of Clinical Psychiatry, 72*(7), 892-897.

172. Mathew, S. J., Vythilingam, M., Murrough, J. W., Zarate, C. A., Feder, A., Luckenbaugh, D. A., . . . Charney, D. S. (2011). A selective neurokinin-1 receptor antagonist in chronic PTSD: A randomized, double-blind, placebo-controlled, proof-of-concept trial. *European Neuropsychopharmacology, 21*(3), 221-229.

173. Mithoefer, M. C., Wagner, M. T., Mithoefer, A. T., Jerome, L., & Doblin, R. (2011). The safety and efficacy of [+/-]3,4-methylenedioxymethamphetamine-assisted psychotherapy in subjects with chronic, treatment-resistant posttraumatic stress disorder: The first randomized controlled pilot study. *Journal of Psychopharmacology, 25*(4), 439-452. doi: 10.1177/0269881110378371

174. Meng, X. Z., Wu, F., Wei, P. K., Xu, L. J., Shi, J., Pang, B., . . . Lao, L. (2012). A Chinese herbal formula to improve general psychological status in posttraumatic stress disorder: a randomized placebo-controlled trial on Sichuan earthquake survivors. *Evidence-Based Complementary and Alternative Medicine, 2012*, 691258. doi: 10.1155/2012/691258 [doi]

175. Suns, A., North, C., Adinoff, B., Powell, C. M., & Greene, R. (2010). Effects of exogenous glucocorticoid on combat-related PTSD symptoms. *Annals of Clinical Psychiatry, 22*(4), 274-279.

176. Kosten, T. R., Frank, J. B., Dan, E., McDougle, C. J., & Giller, E. L., Jr. (1991). Pharmacotherapy for posttraumatic stress disorder using phenelzine or imipramine. *Journal of Nervous and Mental Disease, 179*(6), 366-370.

177. Martenyi, F., Brown, E. B., & Caldwell, C. D. (2007). Failed efficacy of fluoxetine in the treatment of posttraumatic stress disorder: Results of a fixed-dose, placebo-controlled study. *Journal of Clinical Psychopharmacology, 27*(2), 166-170.

178. Onder, E., Tural, U., & Aker, T. (2006). A comparative study of fluoxetine, moclobemide, and tianeptine in the treatment of posttraumatic stress disorder following an earthquake. *European Psychiatry, 21*(3), 174-179.

179. Spivak, B., Strous, R. D., Shaked, G., Shabash, E., Kotler, M., & Weizman, A. (2006). Reboxetine versus fluvoxamine in the treatment of motor vehicle accident-related posttraumatic stress disorder: A double-blind, fixed-dosage, controlled trial. *Journal of Clinical Psychopharmacology, 26*(2), 152-156.

180. Celik, C., Ozdemir, B., Ozmenler, K. N., Yelboga, Z., Balikci, A., Oznur, T., . . . Bozkurt, A. (2011). Efficacy of paroxetine and amitriptyline in posttraumatic stress disorder: An open-label comparative study. *Klinik Psikofarmakoloji Bulteni, 21*(3), 179-185.

181. Chung, M. Y., Min, K. H., Jun, Y. J., Kim, S. S., Kim, W. C., & Jun, E. M. (2004). Efficacy and tolerability of mirtazapine and sertraline in Korean veterans with posttraumatic stress disorder: A randomized open label trial. *Human Psychopharmacology, 19*(7), 489-494.

182. Seo, H. J., Jung, Y. E., Bahk, W. M., Jun, T. Y., & Chae, J. H. (2010). A comparison of mirtazapine and paroxetine for the treatment of patients with posttraumatic stress disorder: A randomized open-label trial. *Clinical Psychopharmacology and Neuroscience, 8*(2), 84-89.

183. McRae, A. L., Brady, K. T., Mellman, T. A., Sonne, S. C., Killeen, T. K., Timmerman, M. A., & Baytes-Dazet, W. (2004). Comparison of nefazodone and sertraline for the treatment of posttraumatic stress disorder. *Depression and Anxiety, 19*(3), 190-196.

184. Australian Bureau of Statistics. (2008). *National Survey of Mental Health and Wellbeing: Summary of results*. Cat. no. 4326.0. Canberra: ABS.

185. Stein, D. J., Ipser, J. C., & Seedat, S. (2006). *Pharmacotherapy for post traumatic stress disorder (PTSD)*. Cochrane Database of Systematic Reviews(1).

186. Dybdahl, R. (2001). Children and mothers in war: An outcome study of a psychosocial intervention program. *Child Development, 72*(4), 1214-1230.

187. Weine, S., Kulauzovic, Y., Klebic, A., Besic, S., Mujagic, A., Muzurovic, J., . . . Rolland, J. (2008). Evaluating a multiple-family group access intervention for refugees with PTSD. *Journal of Marital and Family Therapy, 34*(2), 149-164. doi: 10.1111/j.1752-0606.2008.00061.x

188. Cohen, H., Kaplan, Z., Kotler, M., Kouperman, I., Moisa, R., & Grisaru, N. (2004). Repetitive transcranial magnetic stimulation of the right dorsolateral prefrontal cortex in posttraumatic stress disorder: A double-blind, placebo-controlled study. *American Journal of Psychiatry, 161*(3), 515-524.

189. Price, C. (2006). Body-oriented therapy in sexual abuse recovery: A pilot-test comparison. *Journal of Bodywork & Movement Therapies, 10*(1), 58-64.

190. Hollifield, M., Sinclair-Lian, N., Warner, T. D., & Hammerschlag, R. (2007). Acupuncture for posttraumatic stress disorder: A randomized controlled pilot trial. *Journal of Nervous and Mental Disease, 195*(6), 504-513.

191. Foa, E. B., Hembree, E. A., Cahill, S. P., Rauch, S. A. M., Riggs, D. S., Feeny, N. C., & Yadin, E. (2005). Randomized trial of prolonged exposure for posttraumatic stress disorder with and without cognitive restructuring: Outcome at academic and community clinics. *Journal of Consulting and Clinical Psychology, 73*(5), 953-964.

192. Beidel, D. C., Frueh, B. C., Uhde, T. W., Wong, N. N., & Mentrikoski, J. M. (2011). Multicomponent behavioral treatment for chronic combat-related posttraumatic stress disorder: A randomized controlled trial. *Journal of Anxiety Disorders, 25*(2), 224-231. doi: 10.1016/j.janxdis.2010.09.006

193. Stein, M. B., Kline, N. A., & Matloff, J. L. (2002). Adjunctive olanzapine for SSRI-resistant combat-related PTSD: A double-blind, placebo-controlled study. *American Journal of Psychiatry, 159*(10), 1777-1779.

194. Rothbaum, B. O., Cahill, S. P., Foa, E. B., Davidson, J. R., Compton, J., Connor, K. M., . . . Hahn, C. G. (2006). Augmentation of sertraline with prolonged exposure in the treatment of posttraumatic stress disorder. *Journal of Traumatic Stress, 19*(5), 625-638. doi: 10.1002/jts.20170

195. Otto, M. W., Hinton, D., Korbly, N. B., Chea, A., Ba, P., Gershuny, B. S., & Pollack, M. H. (2003). Treatment of pharmacotherapy-refractory posttraumatic stress disorder among Cambodian refugees: A pilot study of combination treatment with cognitive-behavior therapy vs sertraline alone. *Behaviour Research and Therapy, 41*(11), 1271-1276.

196. Schneier, F. R., Neria, Y., Pavlicova, M., Hembree, E. A., Suh, E. J., Amsel, L. V., & Marshall, R. D. (2012). Combined prolonged exposure therapy and paroxetine for PTSD related to the World Trade Center attack: A randomized controlled trial. *American Journal of Psychiatry, 169*(1), 80-88. doi: 10.1176/appi.ajp.2011.11020321

197. Simon, N. M., Connor, K. M., Lang, A. J., Rauch, S., Krulewicz, S., LeBeau, R. T., . . . Pollack, M. H. (2008). Paroxetine CR augmentation for posttraumatic stress disorder refractory to prolonged exposure therapy. *Journal of Clinical Psychiatry, 69*(3), 400-405.

198. Frommberger, U. H., Stieglitz, R.-D., Nyberg, E., Richter, H., Novelli-Fischer, U., Angenendt, J. r., . . . Berger, M. (2004). Comparison between paroxetine and behaviour therapy in patients with posttraumatic stress disorder (PTSD): A pilot study. *International Journal of Psychiatry in Clinical Practice, 8*(1), 19-24.

199. van der Kolk, B. A., Spinazzola, J., Blaustein, M. E., Hopper, J. W., Hopper, E. K., Korn, D. L., & Simpson, W. B. (2007). A randomized clinical trial of eye movement desensitization and reprocessing (EMDR), fluoxetine, and pill placebo in the treatment of posttraumatic stress disorder: Treatment effects and long-term maintenance. *Journal of Clinical Psychiatry, 68*(1), 37-46.

200. Stallard, P., Velleman, R., Salter, E., Howse, I., Yule, W., & Taylor, G. (2006). A randomised controlled trial to determine the effectiveness of an early psychological intervention with children involved in road traffic accidents. *Journal of Child Psychology and Psychiatry, 47*(2), 127-134.

201. Zehnder, D., Meuli, M., & Landolt, M. A. (2010). Effectiveness of a single-session early psychological intervention for children after road traffic accidents: A randomised controlled trial. *Child and Adolescent Psychiatry and Mental Health, 4*, 7.

202. Cox, C. M., Kenardy, J. A., & Hendrikz, J. K. (2010). A randomized controlled trial of a web-based early intervention for children and their parents following unintentional injury. *Journal of Pediatric Psychology, 35*(6), 581-592. doi: 10.1093/jpepsy/jsp095

203. Catani, C., Kohiladevy, M., Ruf, M., Schauer, E., Elbert, T., & Neuner, F. (2009). Treating children traumatized by war and Tsunami: A comparison between exposure therapy and meditation-relaxation in North-East Sri Lanka. *BMC Psychiatry, 9*. doi: 10.1186/1471-244x-9-22

204. Berkowitz, S. J., Stover, C. S., & Marans, S. R. (2011). The Child and Family Traumatic Stress Intervention: Secondary prevention for youth at risk of developing PTSD. *Journal of Child Psychology and Psychiatry, 52*(6), 676-685. doi: 10.1111/j.1469-7610.2010.02321.x

205. Smith, P. A., Yule, W., Perrin, S. G., Tranah, T., Dalgleish, T., & Clark, D. M. (2007). Cognitive-behavioral therapy for PTSD in children and adolescents: A preliminary randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*(8), 1051-1061.

206. Ahrens, J., & Rexford, L. (2002). Cognitive processing therapy for incarcerated adolescents with PTSD. *Journal of Aggression, Maltreatment and Trauma, 6*(1), 201-216.

207. Ahmad, A., Larsson, B., & Sundelin-Wahlsten, V. (2007). EMDR treatment for children with PTSD: Results of a randomized controlled trial. *Nordic Journal of Psychiatry, 61*(5), 349-354. doi: 10.1080/08039480701643464

208. Chemtob, C. M., Nakashima, J., & Carlson, J. G. (2002). Brief treatment for elementary school children with disaster-related posttraumatic stress disorder: A field study. *Journal of Clinical Psychology, 58*(1), 99-112. doi: 10.1002/jclp.1131

209. Kemp, M., Drummond, P., & McDermott, B. (2010). A wait-list controlled pilot study of eye movement desensitization and reprocessing (EMDR) for children with post-traumatic stress disorder (PTSD) symptoms from motor vehicle accidents. *Clinical Child Psychology and Psychiatry, 15*(1), 5-25.

210. Gordon, J. S., Staples, J. K., Blyta, A., Bytyqi, M., & Wilson, A. T. (2006). Treatment of posttraumatic stress disorder in postwar Kosovar adolescents using mind-body skills groups: A randomized controlled trial. *Journal of Clinical Psychiatry, 69*(9), 1469-1476.

211. Celano, M., Hazzard, A., Webb, C., & McCall, C. (1996). Treatment of traumagenic beliefs among sexually abused girls and their mothers: An evaluation study. *Journal of Abnormal Child Psychology, 24*(1), 1-17.

212. Cohen, J. A., Mannarino, A. P., & Iyengar, S. (2011). Community treatment of posttraumatic stress disorder for children exposed to intimate partner violence: a randomized controlled trial. *Archives of Pediatrics and Adolescent Medicine, 165*(1), 16-21. doi: 10.1001/archpediatrics.2010.247

213. Deblinger, E., Lippman, J., & Steer, R. (1996). Sexually abused children suffering posttraumatic stress symptoms: Initial treatment outcome findings. *Child Maltreatment, 1*(4), 310-321. doi: 10.1177/1077559596001004003

214. Deblinger, E., Steer, R. A., & Lippmann, J. (1999). Two-year follow-up study of cognitive behavioral therapy for sexually abused children suffering post-traumatic stress symptoms. *Child Abuse & Neglect, 23*(12), 1371-1378.

215. Lieberman, A. F., Van Horn, P., & Ippen, C. G. (2005). Toward evidence-based treatment: Child-parent psychotherapy with preschoolers exposed to marital violence. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*(12), 1241-1248.

216. Lieberman, A. F., Ghosh Ippen, C., & Van Horn, P. (2006). Child-parent psychotherapy: 6-month follow-up of a randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 45*(8), 913-918. doi: 10.1097/01.chi.0000222784.03735.92

217. Farkas, L., Cyr, M., Lebeau, T. M., & Lemay, J. (2010). Effectiveness of MASTR/EMDR therapy for traumatized adolescents. *Journal of Child and Adolescent Trauma, 3*(2), 125-142.

218. Layne, C. M., Saltzman, W. R., Poppleton, L., Burlingame, G. M., Pasalic, A., Durakovic, E., . . . Pynoos, R. S. (2008). Effectiveness of a school-based group psychotherapy program for war-exposed adolescents: A randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 47*(9), 1048-1062. doi: 10.1097/CHI.0b013e31817eecae

219. Cohen, J. A., Deblinger, E., Mannarino, A. P., & Steer, R. A. (2004). A multisite, randomized controlled trial for children with sexual abuse-related PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*(4), 393-402. doi: 10.1097/00004583-200404000-00005

220. Deblinger, E., Mannarino, A. P., Cohen, J. A., & Steer, R. A. (2006). A follow-up study of a multisite, randomized, controlled trial for children with sexual abuse-related PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry, 45*(12), 1474-1484. doi: 10.1097/01.chi.0000240839.56114.bb

221. Gilboa-Schechtman, E., Foa, N., Shafran, I., Aderka, M., Powers, L., Rachamim, L., . . . Apter. (2010). Prolonged exposure versus dynamic therapy for adolescent PTSD: A pilot randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 49*(10), 1034-1042.

222. Deblinger, E., Mannarino, A. P., Cohen, J. A., Runyon, M. K., & Steer, R. A. (2011). Trauma-focused cognitive behavioral therapy for children: Impact of the trauma narrative and treatment length. *Depression and Anxiety, 28*(1), 67-75. doi: 10.1002/da.20744

223. Nixon, R. D., Sterk, J., & Pearce, A. (2011). A randomized trial of cognitive behaviour therapy and cognitive therapy for children with posttraumatic stress disorder following single-incident trauma. *Journal of Abnormal Child Psychology*. doi: 10.1007/s10802-011-9566-7

224. Jaberghaderi, N., Greenwald, R., Rubin, A., Zand, S. O., & Dolatabadi, S. (2004). A comparison of CBT and EMDR for sexually-abused Iranian girls. *Clinical Psychology and Psychotherapy, 11*(5), 358-368.

225. De Roos, C., Greenwald, R., Den Hollander-Gijsman, M. E., Noorthoorn, E., Van Buuren, S., & De Jongh, A. (2011). A randomised comparison of cognitive behavioural therapy (CBT) and eye movement desensitisation and reprocessing (EMDR) in disaster-exposed children. *European Journal of Psychotraumatology, 2*, Article 5694.

226. Runyon, M. K., Deblinger, E., & Steer, R. A. (2010). Group cognitive behavioral treatment for parents and children at-risk for physical abuse: An initial study. *Child & Family Behavior Therapy, 32*(3), 196-218. doi: 10.1080/07317107.2010.500515

227. Salloum, A., & Overstreet, S. (2008). Evaluation of individual and group grief and trauma interventions for children post disaster. *Journal of Clinical Child and Adolescent Psychology, 37*(3), 495-507.

228. Trowell, J., Kolvin, I., Weeramanthri, T., Sadowski, H., Berelowitz, M., Glasser, D., & Leitch, I. (2002). Psychotherapy for sexually abused girls: Psychopathological outcome findings and patterns of change. *British Journal of Psychiatry, 180*, 234-247.

229. Stoddard, F. J., Luthra, R., Sorrentino, E. A., Saxe, G. N., Drake, J., Chang, Y. C., . . . Sheridan, R. L. (2011). A randomized controlled trial of sertraline to prevent posttraumatic stress disorder in burned children. *Journal of Child and Adolescent Psychopharmacology, 21*(5), 469-477. doi: 10.1089/cap.2010.0133

230. Robb, A. S., Cueva, J. E., Sporn, J., Yang, R. Y., & Vanderburg, D. G. (2010). Sertraline treatment of children and adolescents with posttraumatic stress disorder: A double-blind, placebo-controlled trial. *Journal of Child and Adolescent Psychopharmacology, 20*(6), 463-471. doi: 10.1089/cap.2009.0115

231. Cohen, J. A., Mannarino, A. P., Perel, J. M., & Staron, V. (2007). A pilot randomized controlled trial of combined trauma-focused CBT and sertraline for childhood PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*(7), 811-819.

232. Jaycox, L. H., Langley, A. K., Stein, B. D., Wong, M., Sharma, P., Scott, M., & Schonlau, M. (2009). Support for students exposed to trauma: A pilot study. *School Mental Health, 1*(2), 49-60. doi: 10.1007/s12310-009-9007-8

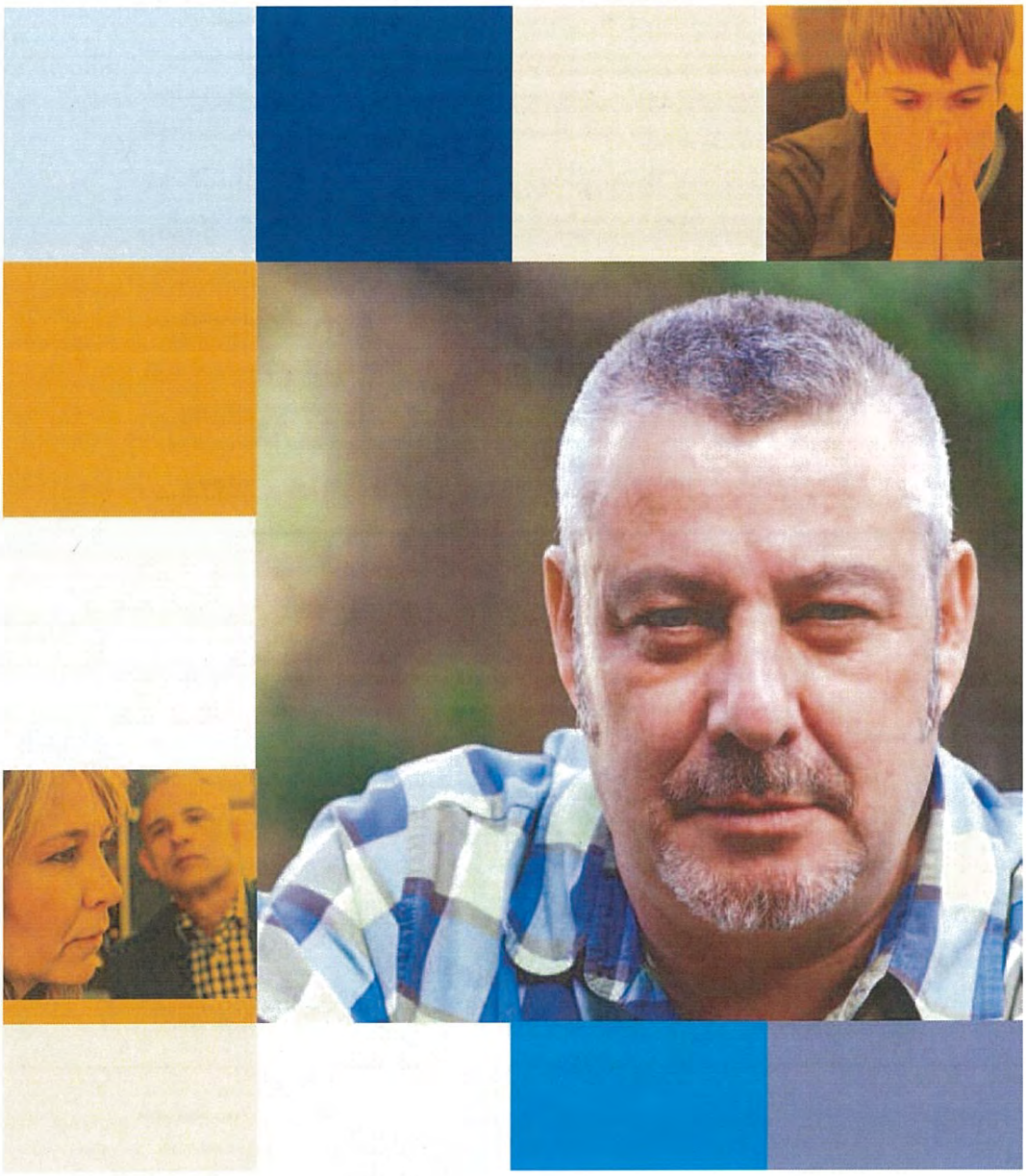
233. Stein, B. D., Jaycox, L. H., Kataoka, S. H., Wong, M., Tu, W., Elliott, M. N., & Fink, A. (2003). A mental health intervention for schoolchildren exposed to violence: A randomized controlled trial. *Journal of the American Medical Association, 290*(5), 603-611. doi: 10.1001/jama.290.5.603

234. Jordans, M. J. D., Komproe, I. H., Tol, W. A., Kohrt, B. A., Luitel, N. P., Macy, R. D., & De Jong, J. T. V. M. (2010). Evaluation of a classroom-based psychosocial intervention in conflict-affected Nepal: A cluster randomized controlled trial. *Journal of Child Psychology and Psychiatry, 51*(7), 818-826.

235. Tol, W. A., Komproe, I. H., Susanty, D., Jordans, M. J., Macy, R. D., & De Jong, J. T. (2008). School-based mental health intervention for children affected by political violence in Indonesia: A cluster randomized trial. *Journal of the American Medical Association, 300*(6), 655-662. doi: 10.1001/jama.300.6.655

236. Shechtman, Z., & Mor, M. (2010). Groups for children and adolescents with trauma-related symptoms: Outcomes and processes. *International Journal of Group Psychotherapy, 60*(2), 221-244. doi: 10.1521/ijgp.2010.60.2.221

237. King, N. J., Tonge, B. J., Mullen, P., Myerson, N., Heyne, D., Rollings, S., . . . Ollendick, T. H. (2000). Treating sexually abused children with posttraumatic stress symptoms: A randomized clinical trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(11), 1347-1355. doi: 10.1097/00004583-200011000-00008



Economic Considerations 6

Note: A detailed economic evaluation of these Guidelines and the key recommendations therein appears in a separate companion document which is available for download from the Phoenix Australia website (www.phoenixaustralia.org). The purpose of this chapter is to provide a broad overview of the economic considerations presented by the diagnosis and treatment of PTSD and ASD, with particular reference to the Australian community.

Building on the economic analysis completed for the previous version of these Guidelines, a brief search of the literature was conducted to identify any key studies published since 2007. Key search terms, combined with PTSD, included: economic, cost, resource, economic evaluation, cost-benefit, cost-utility, and cost-effectiveness.

Summary of literature collected

In the previous (2007) Guidelines, twelve records were identified in the search, of which five were considered potentially useful. The current research revealed a further seven, of which six were considered potentially useful. The following provides a brief summary of the studies identified in both searches.

The cost burden of PTSD

Chan et al.[1] explored the economic impact of psychiatric disorders resulting from motor vehicle accident in South Australia. Approximately nine months after their accident, 31 per cent of respondents were identified as depressed and 62 per cent as anxious, while 29 per cent met criteria for PTSD. Chan concluded that PTSD cases incurred significantly higher healthcare costs compared with non-PTSD cases ($p<.001$), with untreated PTSD cases incurring significantly higher economic losses than treated PTSD and non-PTSD cases ($p<.05$).

A US study by Walker et al.[2] examined the healthcare costs of a large group of women. After adjusting for depression, chronic medical disease, and demographic factors, women with high PTSD symptoms had significantly greater odds of having non-zero healthcare costs than women with low PTSD scores. Compared with women who had low PTSD symptoms, those with moderate symptoms had, on average, a 38 per cent increase in adjusted total annual healthcare costs, and those in the high PTSD group had a 104 per cent increase. The authors suggest that instituting health services interventions to improve recognition and treatment of PTSD in primary and specialty care clinics may be a cost-effective approach for lowering the prevalence of this disorder.

Going beyond PTSD, Zatzick et al.[3] investigated the association between psychiatric disorders, length of stay (LOS) and cost in a large cohort of trauma inpatients in the US. The authors estimated that 29 per cent of participants had one or more psychiatric diagnoses, with those patients demonstrating between 46 per cent and 103 per cent increases in LOS and cost ($p<0.01$). The authors highlighted the potential cost benefits of early recognition and intervention.

More recently, data from 26 countries involved in the World Mental Health project were analysed to explore partial disability associated with a range of physical (e.g., cardiovascular disease, diabetes, cancer, back pain) and mental health conditions.[4] Mental and physical disorders have a considerable impact on partial disability, in addition to their toll on full disability, at both the individual and at the societal level. At an individual level, PTSD was consistently found to result in the highest levels of partial disability, followed by depression and bipolar disorder. At a population level, physical disorders resulted in higher disability levels than mental disorders due to their greater prevalence.

With regard to the healthcare burden associated with PTSD compared to other psychiatric disorders, annual per-patient healthcare costs in a civilian US population were between 4 per cent and 9 per cent higher for patients with PTSD than for those with major depressive disorder.[5] The difference in costs was driven by higher mental health service use among patients with PTSD.

Similarly, US veterans of the Iraq and Afghanistan conflicts with PTSD and depression had greater utilisation of specialty mental health treatments, greater use of antidepressant medications, and higher overall mental healthcare costs in the previous 12 months than depressed patients without PTSD.[6]

In an economic analysis of healthcare costs following the current Middle East conflicts, the US National Bureau of Economic Research found that soldiers deployed to combat zones where they engaged in frequent enemy contacts, or witnessed allied or civilian deaths, were at substantially increased risk for suicidal ideation and PTSD.[7] The authors estimate healthcare costs to be a minimum of US$1.5 to $2.7 billion for combat-induced PTSD.

The effect of treatment

A US study by Fontana et al.[8] compared the outcomes and costs of three models of Department of Veterans Affairs (VA) inpatient treatment for PTSD: 1) long-stay specialised inpatient PTSD units; 2) short-stay specialised evaluation and brief treatment PTSD units; and 3) nonspecialised general psychiatric units. Veterans in the short-stay PTSD units and in the general psychiatric units showed significantly more improvement during follow-up than veterans in the long-stay PTSD units. The long-stay units proved to be 82.4 per cent and 53.5 per cent more expensive over one year than the short-stay PTSD units and general psychiatric units, respectively. The authors recommended systematic restructuring of VA inpatient PTSD treatment to improve the effectiveness of services to larger numbers of veterans. (These changes, of course, took place some time ago in the US VA system; the primary emphasis is now on evidence-based care – prolonged exposure or cognitive processing therapy – delivered in outpatient settings.)

Issakidis et al.[9] conducted a cost-effectiveness study that aimed to identify the averted burden and economic efficiency of current and optimal (i.e., evidence-based) treatment for the major mental disorders. The authors estimated that receipt of interventions consistent with evidence-based care ranged from 32 per cent of those in contact with services for social phobia to 64 per cent for posttraumatic stress disorder. In terms of direct treatment costs, they found that PTSD treatment had higher per case per year costs than any of the other anxiety disorders. According to this study, individuals with PTSD constituted one-third of people treated for an anxiety disorder, but their treatment accounts for 40 per cent of the total cost of treatment for all anxiety disorders. The authors estimated that the costs to the community of 'years living with disability' from PTSD would be reduced by 34 per cent if evidence-based care were used for all. The authors conclude that evidence-based care for anxiety disorders would produce greater population health gains at a similar cost to current care, resulting in a substantial increase in the cost-effectiveness of treatment.

In a large analysis of the benefits of evidence-based treatment, Kilmer and colleagues used microsimulation modelling to estimate the social costs of depression and PTSD for the 261,827 US troops deployed on June 30, 2008, for Operations Enduring Freedom and Iraqi Freedom.[10] They estimated that, given current standards of care, roughly half of these individuals will be treated for these conditions in the two years after they return, and 30 per cent of those treated will receive evidence-based treatment. The authors estimated that the two-year social costs of depression and PTSD for this cohort will be US$923 million. Policy simulations evaluating the savings associated with universal access to evidence-based treatment suggest that such access would generate cost savings of $138 million (15 per cent).

Contrary to much other research, a study in the former Yugoslavia found that the recovery rate among patients treated in specialised centres for war-related PTSD several years after the war, was poor (14 per cent), and symptom improvements were small.[11] The recovery rate was not linked to service costs. The exact nature of treatment provided, however, was hard to determine, and the authors suggest that recovery rates might be improved with different treatment methods or different service models.

Finally, on a slightly different topic, Jones and colleagues explored the benefits of remote screening for mental health conditions.[12] They found that using telehealth-only mental health screening for large numbers of soldiers within a compressed time frame was more expensive than in-person screening. Soldiers showed a strong preference for in-person screening, and telehealth resulted in higher referral rates (potentially a result of higher false positives). The authors conclude that there is no evidence of cost savings or improved acceptability for telehealth mental health post-deployment screening.

Summary

Although the amount of high quality research literature is sparse, particularly around the economic burden of PTSD and the cost-benefits of evidence-based treatment, it is clear that PTSD is a disorder that carries a high level of disability – possibly higher, in fact, than any other physical or mental disorder. It is also clear that people with PTSD tend to be high users of healthcare services and incur high healthcare costs – again, higher than those of other psychiatric disorders. There is preliminary evidence that routine use of evidence-based treatments may go some way, not only to improving outcomes for people with PTSD, but also to reducing the associated disability and healthcare costs.

This area is increasingly a topic of interest to governments and service provider agencies. Deployments to the Middle East in the last decade, with large numbers of personnel returning with combat-related PTSD, have brought the topic towards the top of the healthcare agenda for agencies such as the US VA system. They have responded with a commitment to evidence-based care for PTSD, and no doubt analyses of the success or otherwise of this approach will appear in the literature shortly.

Commentary on economic burden

Thus, notwithstanding the paucity of literature, it is clear that PTSD is associated with high service use, high healthcare costs, and long-term disability. PTSD is a high burden disorder that impairs functioning in many, if not all, areas of life, with consequences extending beyond the individual to impact on family members and society as a whole. To date there has been no comprehensive economic assessment of PTSD from a social perspective. Studies included in this review focus mainly on health service utilisation, and there is a paucity of evidence that uses surrogate outcomes of burden including rates of hospitalisation, work impairment and a greater risk of motor vehicle accidents. Further, the relative lack of evidence pertaining to treatment costs – particularly in Australia – makes it difficult to identify whether increased healthcare costs are a direct result of PTSD or are indirectly accounted for by the poor physical health commonly associated with PTSD.

The importance of addressing these issues though the use of health economic techniques was comprehensively addressed by McCrone et al.[13] Health economics provides tools (including cost-effectiveness, cost-benefit, and cost-utility analyses) to ascertain the relative efficiency of different treatment options. McCrone concludes that the quality of life and resource consequences of PTSD require a better understanding of the economics of the disorder and the alternative ways to treat it. These sentiments are echoed by the authors of the costing articles identified in the preceding section. The economic burden associated with PTSD is significant, but treatments are available to alleviate this burden. These treatments, however, require the use of scarce resources and there is a shortage of adequately trained clinicians. In this environment of increased fiscal restraint, there is a need to identify those healthcare interventions, whether they are psychosocial or pharmacological, that provide the greatest benefit for the limited health dollar.

Current funding of ASD and PTSD treatment

In the Australian healthcare system, a diverse range of practitioners provide treatment services for people with PTSD, variously funded by Commonwealth and state governments as well as by third-party insurers and the affected individuals themselves. As a result of these diverse funding arrangements there are differences in availability of treatment between states. To date, there is no overall assessment of financing arrangements for the treatment of ASD and PTSD in Australia and the extent of unmet need for treatment is not known. In this context, it is difficult to make an assessment of the feasibility or cost and benefit of recommendations made in these Guidelines.

Of interest in this context, is the fact that the previous (2007) Guidelines recommended 90-minute sessions for trauma-focussed therapy. Some jurisdictions have created a new item number allowing clinicians to claim a limited number of these extended sessions for trauma-focussed PTSD treatment (at the time of writing, the Department of Veterans' Affairs and several victims of crime agencies, for example), and other jurisdictions allow extended sessions more broadly if they can be justified (e.g., Comcare). To date, no data have been published on the cost benefit of these changes, but at least they give providers the opportunity to be remunerated for evidence-based treatment. It should also be emphasised, of course, that many other fee structures for mental health providers do not support consultation times of this length. Those briefer consultation times may favour short interactions – presumably with an emphasis on symptom management – rather than the recommended trauma-focussed interventions. Having said that, the recommendation for 90-minute sessions is not based on a strong empirical database and should not necessarily preclude the use of trauma-focussed interventions in shorter (e.g., one hour) sessions.

Potential implications

The accompanying economic evaluation document provides more detail on the implications of the above discussion and makes a number of recommendations. In the context of this brief chapter, however, several implications are apparent.

First, there is an urgent need for a comprehensive assessment of the economic burden associated with PTSD. Such research would provide the platform for identifying, measuring and valuing the private and social costs associated with PTSD.

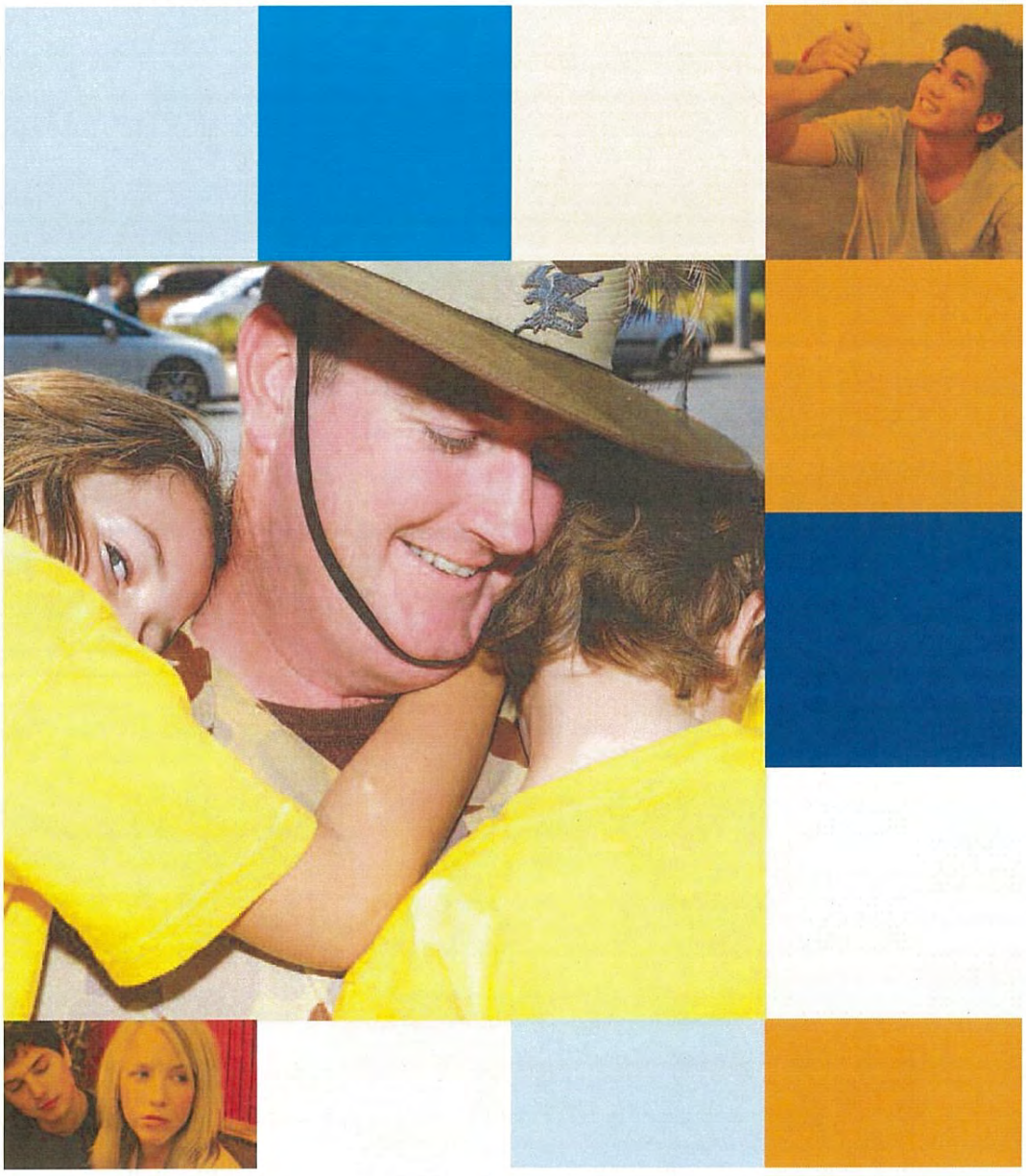
Second, rigorous research is required to ascertain the cost-effectiveness of different interventions identified by the systematic review and recommended as treatment options. Of particular interest would be a study that looks at each recommendation if delivered as first, second or third line treatment, and is then able to identify the optimal package of cost-effective interventions. Given the impact of PTSD on morbidity and quality of life, it is particularly important that the economic evaluation uses a measure of disease burden as the outcome (i.e., disability-adjusted life year (DALY), quality-adjusted life year (QALY), years of life lost due to disability (YLD)).

Third, an assessment of current financing arrangements for treating ASD and PSTD should be conducted to ensure that adequate resources are provided. This strategy should complement the economic evaluation approach to ensure that the full spectrum of treatment options is evaluated and costed.

References

1. Chan, A. O. M., Air, T. M., & McFarlane, A. C. (2003). Posttraumatic stress disorder and its impact on the economic and health costs of motor vehicle accidents in South Australia. *Journal of Clinical Psychiatry, 64*(2), 175-181.
2. Walker, E. A., Katon, W., Russo, J., Ciechanowski, P., Newman, E., & Wagner, A. W. (2003). Health care costs associated with posttraumatic stress disorder symptoms in women. *Archives of General Psychiatry, 60*(4), 369-374.
3. Zatzick, D. F., Kang, S. M., Kim, S. Y., Leigh, P., Kravitz, R., Drake, C., Wisner, D. (2000). Patients with recognized psychiatric disorders in trauma surgery: Incidence, inpatient length of stay, and cost. *Journal of Trauma - Injury Infection and Critical Care, 49*(3), 487-495.
4. Bruffaerts, R., Vilagut, G., Demyttenaere, K., Alonso, J., AlHamzawi, A., Andrade, L. H., Kessler, R. C. (2012). Role of common mental and physical disorders in partial disability around the world. *British Journal of Psychiatry, 200*(6), 454-461. doi: 10.1192/bjp.bp.111.097519
5. Ivanova, J. I., Birnbaum, H. G., Chen, L., Duhig, A. M., Dayoub, E. J., Kantor, E. S., Phillips, G. A. (2011). Cost of post-traumatic stress disorder vs major depressive disorder among patients covered by Medicaid or private insurance. *American Journal of Managed Care, 17*(8), E314-E323. doi: 10.1016/S1098-3015(10)72534-1
6. Chan, D., Cheadle, A. D., Reiber, G., Unutzer, J., & Chaney, E. F. (2009). Health care utilization and its costs for depressed veterans with and without comorbid PTSD symptoms. *Psychiatric Services, 60*(12), 1612-1617.
7. Cesur, R., Sabia, J. J., & Tekin, E. (2011). *The psychological costs of war: Military combat and mental health.* (Working paper 16927). Cambridge, MA: National Bureau of Economic Research.
8. Fontana, A., & Rosenheck, R. (1997). Effectiveness and cost of the inpatient treatment of PTSD: Comparison of three models of treatment. *American Journal of Psychiatry, 154*, 758-765.
9. Issakidis, C., Sanderson, K., Corry, J., Andrews, G., & Lapsley, H. (2004). Modelling the population cost-effectiveness of current and evidence-based optimal treatment for anxiety disorders. *Psychological Medicine, 34*(1), 19-35.
10. Kilmer, B., Eibner, C., Ringel, J. S., & Pacula, R. L. (2011). Invisible wounds, visible savings? Using microsimulation to estimate the costs and savings associated with providing evidence-based treatment for PTSD and depression to veterans of Operation Enduring Freedom and Operation Iraqi Freedom. *Psychological Trauma-Theory Research Practice and Policy, 3*(2), 201-211. doi: 10.1037/a0020592
11. Priebe, S., Gavrilovic, J. J., Matanov, A., Franciskovic, T., Knezevic, G., Ljubotina, D., . . . Schutzwohl, M. (2010). Treatment outcomes and costs at specialized centers for the treatment of PTSD after the war in former Yugoslavia. *Psychiatric Services, 61*(6), 598-604.
12. Jones, M. D., Etherage, J. R., Harmon, S. C., & Okiishi, J. C. (2012). Acceptability and cost-effectiveness of military telehealth mental health screening. *Psychological Services, 9*(2), 132-143. doi: 10.1037/a0026709
13. McCrone, P., Knapp, M., & Cawkill, P. (2003). Posttraumatic stress disorder (PTSD) in the Armed Forces: Health economic considerations. *Journal of Traumatic Stress, 16*(5), 519-522.

This page has been left blank intentionally.



Specific Populations and Trauma Types: Issues for Consideration in the Application of the Guidelines

7

This section contains broad comment on issues to be considered when applying the Guidelines recommendations to particular populations who develop PTSD following trauma, and to particular types of trauma. It is beyond the scope of the section to include an exhaustive list of all traumatised populations and so it is limited to populations for whom specific contextual information may assist practitioners in the appropriate application of recommended treatments.

While there are significant differences between the trauma populations identified in this section, an experience common to many is exposure to sustained and/or repeated traumatic experiences, sometimes referred to as Type II trauma.[1] In many cases, these sustained and/or repeated traumatic events are of human design, intended to leave the victim in a state of fear and feeling helpless to prevent further trauma. Examples of Type II trauma include childhood sexual or physical abuse, domestic violence, incarceration as a prisoner of war, torture and, arguably, prolonged combat. Repeated exposure to trauma on a family, community, and cultural level, such as may be the case in the Aboriginal and Torres Strait Islander community, may also be consistent with this definition. It is also worth noting that, because of the sustained nature of some these traumatic experiences, people presenting for treatment may still be facing ongoing threat and be at risk of further exposure to trauma. Emergency and defence personnel, victims of domestic violence, and victims of sexual assault perpetrated in the context of their current employment or intimate relationships are some of the groups whose treatment may be affected by having to return to unsafe environments. In the context of such ongoing risk, the focus of interventions – at least initially – should be on ensuring safety, stabilisation and symptom management, rather than commencing the trauma-focussed components of treatment.

As outlined in the introductory chapter, there is a body of literature suggesting that the symptom constellation that follows Type II trauma is broader than PTSD, although not necessarily reflected merely in more extensive comorbidity with other psychological disorders.[2] This presentation, often referred to as Complex PTSD or Disorders of Extreme Stress Not Otherwise Specified, includes features such as impulsivity, problems with emotional regulation, identity disturbance, dissociative symptoms, self-destructive behaviour, abnormalities in sexual expression, and somatic symptoms.[3] Issues of deliberate self-harm and suicidality are more likely to be present in this group. All of these features need to be considered in both treatment planning (see Chapter 2) and in delivering psychological interventions (see Chapter 5).

This chapter differs from the clinical practice recommendations sections in that it is not based on a systematic review of the empirical evidence. Rather, it is based on information provided by specialists in these areas and a broad understanding of the relevant literature. Within the section, emphasis has been placed on populations under-represented in the studies included in the systematic review. This material should be used in conjunction with the information about particular types of traumatic events that follows.

The special populations covered in this chapter are:

- Aboriginal and Torres Strait Islander peoples
- refugees and asylum seekers
- military and ex-military personnel
- emergency service personnel
- older people.

The categories of traumatic event covered in the chapter are:

- motor vehicle accidents
- crime
- sexual assault
- natural disasters
- terrorism.

Aboriginal and Torres Strait Islander peoples

As stated in the introduction to this chapter, the information provided in this section is derived primarily from expert opinion regarding the application of the Guidelines for this population, rather than from the empirical literature. Although no studies were identified in the systematic review that included Aboriginal or Torres Strait Islander peoples, there is no evidence to suggest that radically different treatment approaches are required. Rather, it is a question of adapting the guideline recommendations to the specific needs of this population.

Specialised training in cultural competency and safety has been developed for practitioners working with Aboriginal and Torres Strait Islander peoples and, wherever possible, practitioners intending to work with this population should receive such training. However, in circumstances where this is not possible, culturally informed care for Aboriginal and Torres Strait Islander peoples should be available within non-specialised primary and mental healthcare settings. The information presented here is intended to assist practitioners in these settings in their work with Aboriginal and Torres Strait Islander peoples.

The document *Working Together: Aboriginal and Torres Strait Islander Mental Health and Wellbeing Principles and Practice*[4] is an excellent guide to working with this population. As well as comprehensive information on history and other contextual issues, the document provides practical advice for clinicians in mental health practice, as well as suggestions around broader service design issues. We strongly recommend that clinicians working with this population familiarise themselves with this text.

Background issues

Since white settlement in Australia, Aboriginal and Torres Strait Islander peoples have suffered separation from land, family, and cultural identity. This has resulted in multiple experiences of trauma, grief, and loss, which have affected people at the level of the individual, family, and community. In this process, some aspects of traditional kinship and community systems have been destroyed and, in some cases, formerly protective influences within those systems that functioned to buffer individuals and families from further trauma have been lost. Thus, the legacy of historical trauma is still apparent in the increased risk and incidence of traumatic exposure amongst Aboriginal and Torres Strait Islander peoples today. For example, Indigenous Australians are twice as likely to be the victims of violence or threatened violence than other Australians.[5] In effect, family and community functioning can continue to be compromised in each subsequent generation by social and psychological problems (such as substance use), leading to a vicious cycle of deteriorating conditions, pervasive social disadvantage and, for individuals, increased risk of further victimisation and traumatic exposure, antisocial behaviour, and reduced psychological resilience. Among Aboriginal and Torres Strait Islander men, for example, there appears to be a link between exposure to traumatic or violent events during childhood and the subsequent perpetration of violent crime.[6] Notwithstanding these comments, it needs to be acknowledged that Aboriginal and Torres Strait Islander peoples have shown remarkable resilience in surviving such historical and ongoing adversity and continue to display cultural strengths today.

Given this context, the notion of trauma and PTSD in Aboriginal and Torres Strait Islander peoples is inevitably complex. It is multigenerational and across all communities. Many Aboriginal and Torres Strait Islander persons presenting with mental health problems in both urban and rural/remote locations have multiple severe traumatic exposure within their family, community and personally that may include domestic violence, sexual abuse, murder, and suicide. In seeking to understand the impact of traumatic experiences on the individual, the practitioner should consider not just the nature or number of specific experiences, but the contextual factors that predispose and/or amplify the experience of, and response to, trauma. Traumatic experiences that are recurrent and difficult to talk about are likely to have the most profound impact. Therefore, even when the focus is on a specific recent event (for instance, a violent death), it is critical for the practitioner to explore the person's prior experience of traumatic events – particularly those that occurred in early life, such as physical and sexual abuse. This, of course, is true for any traumatised individual but it is of particular importance in disadvantaged sections of the community who may be at much higher risk for those experiences.

Due to the importance of extended kinship systems to Aboriginal and Torres Strait Islander peoples, a traumatic loss is likely to be felt broadly throughout the kinship group, rather than confined to the immediate nuclear family. For example, a person may have several 'mothers', or be considered a mother to several nieces/nephews/grandchildren. If this is not recognised, the intensity of the loss may be underestimated. In responding to this cultural context, it may be important to conceptualise interventions as being broader than simply the treatment of a single affected individual.

Presentation

Aboriginal and Torres Strait Islander peoples' understanding of mental health can differ markedly from that of the non-Indigenous population and often mental illness is not viewed as a condition requiring treatment. Furthermore, in the event that mental illness is recognised as a problem, its management generally falls to the person's immediate family in the first instance, followed by the extended family and, if necessary, community elders.[7] Hence, by the time many Aboriginal and Torres Strait Islander people present to services, their condition is likely to be very serious. It is not uncommon for the individual to be in crisis at first contact with presentations of acute distress, including interpersonal chaos, self-harm and depression. Indeed, Indigenous Australians are hospitalised for mental health problems at nearly twice the rate of other Australians and suicide is also more prevalent in this population (particularly among males, and females under the age of 25).[5]

Substance abuse/dependence is very often the presenting problem, with abused substances including alcohol, illicit drugs, and prescribed medications, such as analgesics. It is common to see high levels of dissociative symptoms and prominent auditory and visual phenomena that could be mistaken for psychosis. In many cases, PTSD co-exists with prolonged grief/depression. While some people experience textbook PTSD symptoms, many more present with the range of additional symptoms associated with chronic and complex trauma (i.e., enduring patterns of social, psychological and behavioural difficulties, usually compounded by substance use). Further, culture-bound expressions of distress are often interpreted by non-Indigenous people as anger. The complexity of these presentations can lead to a diagnosis of personality disorder, with PTSD being overlooked. Clinicians should be aware that many Aboriginal and Torres Strait Islander women and men in refuges and in prison have PTSD. In fact, one study found PTSD to be second only to substance use disorders in terms of prevalence among incarcerated Aboriginal and Torres Strait Islanders, affecting almost one-third of women and 12 per cent of men.[8]

Assessment

Access, engagement, and trust in the therapeutic setting are complicated for Aboriginal and Torres Strait Islander peoples by a number of factors. These include the complexity of the trauma (particularly community level trauma), cultural factors, and the historical legacy of mistrust of authorities. The potential for stigma and discrimination associated with mental health treatment to pose a barrier to engagement should be considered. Experiences of chronic loss mean that issues of abandonment and (the potential for) shaming may be heightened. As such, the recommendation noted in Chapter 2 regarding the need to allow more time and attention to the therapeutic relationship for people who have experienced prolonged and repeated trauma would generally apply to this group.

Due to the complexity of the presenting problems for this population, PTSD is often overlooked. A culturally appropriate assessment is required for any diagnosis to be reliable. If no suitably trained practitioner is available, consultation with an Aboriginal and Torres Strait Islander mental health worker is highly recommended.

Issues of eldership, traditional law, and taboo need to be understood, at least to some extent, for reliable assessment. The *Working Together* document[4] provides excellent advice on this issue. The following general practical advice, developed by Medicine Australia, may be useful also:[9]

- Allow plenty of time.
- Gain permission from the person (and others in attendance) for the interview.
- With empathy, explain purpose of questions, the timeframe of the assessment, and potential outcomes.
- Identify relationships between the person and others present and be aware of their significance.
- Check with the person whether they prefer to be interviewed with/without significant others present.
- Observe cultural norms (e.g., eye contact, seating arrangements).
- Do not refer to a dead person by name.
- Do not refer to certain close relatives by name (e.g., a Torres Strait Islander male may not refer to his brother-in-law by name).
- Do not criticise an elder or other members of the extended family.
- Be cautious of confiding certain personal information to a member of the opposite sex (to the client), as men's and women's business are usually kept separate.
- Anxiety can be generated by interviewing someone in a confined space.
- Spiritual experiences are not necessarily hallucinations or delusions.
- Be aware of possible somatisation symptoms.
- Allow for reflection, periods of silence and any questions.
- Minimise the use of direct questions.
- Advise the person of confidentiality.



As noted in Chapter 2 and re-iterated above, the assessment of PTSD should not be limited to a recent traumatic event, but should take into account previous traumatic experiences. Even if the person's PTSD or presentation for treatment has been triggered by a recent event, it is often the case that a recent loss or trauma brings up unresolved past events. The potential impact of the traumatic experiences of previous generations on members of the current generation, either directly (e.g., family environments characterised by psychosocial problems, violence, impaired parenting), or indirectly (e.g., vicarious traumatisation), should be considered.

Further, given the high physical health morbidity among disadvantaged groups, even in young people, careful screening or review of general health status may be important, especially if pharmacological treatment is likely to be prescribed, or if there is a lack of progress in treatment. Diseases such as diabetes, renal failure, chronic infection, anaemia, etc., can complicate recovery from traumatic events and vice versa.

Treatment

In the review of evidence-based treatment for PTSD, no trials have investigated treatments specifically for Aboriginal and Torres Strait Islander peoples. In the application of these treatment Guidelines to Aboriginal and Torres Strait Islander peoples the practitioner is advised to consider the recommendations in combination with common sense and knowledge of traditional practices. Where available, appropriate partnerships with Indigenous mental health workers should be developed. In cases where this is not possible, consultation with Indigenous mental health workers or other practitioners with appropriate cultural training is recommended.

Within Aboriginal and Torres Strait Islander cultures, traditional therapies include the use of healers, rituals, and ceremonies. In working with an Aboriginal person or Torres Strait Islander with PTSD, practitioners should apply the Guidelines in a culturally sensitive way, with consideration given to what combination of traditional, pharmacological, and psychological approaches to treatment will be most effective for the individual.

In establishing treatment goals, practitioners should give consideration to a number of factors in addition to those outlined in Chapter 2. First, the magnitude of trauma in Aboriginal and Torres Strait Islander families may be overwhelming to practitioners and lead them to feel powerless and be inclined to give up. Good supervision is essential and collaboration with an Aboriginal or Torres Strait Islander mental health professional is preferred. Second, as noted in Chapter 2, with people who have experienced prolonged or repeated traumatic experiences, more preparatory work is required before trauma-focussed work begins. As such, unless the practitioner has the capacity to make a commitment to being available in the longer term, it is often more appropriate to address current life and behavioural problems, focussing on issues of structure and problem solving, rather than delving into a potentially long history of trauma. Third, specific cultural factors should also be considered. Issues of age, seniority, and gender impact on who should provide treatment and how the treatment should be given. If the practitioner is ignorant of, or disregards these traditions, the Aboriginal or Torres Strait Islander person may be less likely to engage effectively in treatment.

With regard to early interventions following traumatic events affecting whole communities, local and traditional Aboriginal peoples and Torres Strait Islander approaches should be identified and supported. Contemporary approaches such as psychological first aid (PFA) may also be appropriate, provided they can be delivered in a culturally sensitive manner.

There are significant challenges in the application of these Guidelines to Aboriginal and Torres Strait Islander peoples. In addition to the historical and current sociopolitical factors referred to above, the pervasive and enduring social disadvantage and the prevalence and complexity of traumatic experience, geographical isolation and limited availability of appropriately trained mental health practitioners all combine to create considerable barriers to effective care for posttraumatic mental health conditions.

Working with children

As discussed above, transgenerational issues are significant in the Aboriginal and Torres Strait Islander population and thus require careful consideration by practitioners working with Indigenous children. As with adults, compared to the general population, Aboriginal and Torres Strait Islander children are more likely to experience mental health problems and commit suicide, but less likely to present to formal mental health services.[10] Exposure to trauma is also more common; for example, Indigenous children are five times more likely to be hospitalised for injuries occurring due to assault, and twice as likely to be hospitalised for burn or scald injuries.[11] Including family members in the assessment and treatment process may be particularly beneficial for this population, given the importance of family in the Indigenous community.[10] Issues of safety are, of course, paramount, and family involvement may not be appropriate in some cases.

Recommended reading

Dudgeon, P., Garvey, D., & Pickett, H. (2000). *Working with Indigenous Australians: A handbook for psychologists*. Perth: Gunada Press.

Human Rights and Equal Opportunity Commission. (2007). *Bringing them home: A guide to the findings and recommendations of the National Inquiry into the separation of Aboriginal and Torres Strait Islander Children from their Families*. See http://www.hreoc.gov.au/education/bth/community_guide/index.html

Milroy, H. (2005). Preface. In S. R. Zubrick, S. R. Silburn, D. M. Lawrence, F. Mitrou, R. B. Dalby, E. M. Blair, J. M. Griffin, J. A. De Maio, A. Cox & J. Li (Eds.), *The Western Australian Aboriginal Child Health Survey: The social and emotional wellbeing of Aboriginal children and young people*. Perth: Curtin University of Technology and Telethon Institute for Child Health Research. See http://aboriginal.childhealthresearch.org.au/kulunga-research-network/waachs.aspx

Purdie, N., Dudgeon, P., & Walker, R. (Eds.). (2010). *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice*. Canberra: Australian Government Department of Health and Ageing.

Swan, P., & Raphael, B. (1995). *Ways forward: National Aboriginal and Torres Strait Islander mental health policy*. National consultancy report. See http://www.health.gov.au/internet/main/publishing.nsf/content/mental-pubs-w-wayforw

Refugees and asylum seekers

As stated in the introduction to this chapter, the information provided in this section is derived primarily from expert opinion regarding the application of the Guidelines for this population, rather than from the empirical literature. Although a few studies identified in the systematic review included participants that were refugees or asylum seekers, there is no evidence to suggest that radically different treatment approaches are required. Rather, it is a question of adapting the guideline recommendations to the specific needs of this population.

Practitioners working with refugees and asylum seekers need to be aware of their own ethnocentricity, need to be culturally skilled and informed, and need to be open to different cultural perspectives on psychological problems. This includes awareness of differing values, avoidance of stereotyping, the capacity to respond to potential conflicts between traditional values and values of the dominant culture, and the ability to understand and choose an appropriate treatment approach. A range of cultural factors influence the individual's decision to seek treatment and subsequent engagement in therapy, including beliefs about the importance of family in healthcare, the cause of illness, and stigma attached to mental illness and treatment. Clinicians should also recognise that cultural factors interact with what are commonly termed social factors – region of origin, socioeconomic status, education, social status, rural or urban background – and these factors are equally found to predict PTSD symptoms.[12]

The following section outlines a range of general issues with which practitioners working with refugees and asylum seekers in Australia should be familiar. Detailed information about the specific background and experience of the individual is, of course, still required.

Background issues

There is an inevitable political context in which the traumatic experiences and subsequent treatment of refugees and asylum seekers occurs. Within Australia, as well as internationally, government policy, community attitudes, and media coverage of refugee and asylum seeker issues impact the mental health and wellbeing of this group. The impact can be direct, creating a welcoming or hostile environment, or indirect, potentially influencing public attitudes. For asylum seekers, government policies relating to detention, visa options, and fundamental rights and entitlements such as access to medical care have the potential to significantly influence mental health and wellbeing.

The traumatic experiences of refugees need to be understood also in the context of sociopolitical factors in their country of origin. It is helpful for the practitioner to have an understanding of these factors at both the macro level – the nature and history of the conflict and its impact on the individual, their family, and community over time – as well as at the level of the individual's experience.

There are three defining characteristics of the refugee and asylum seeker experience common to most, and based on deliberate and targeted prosecution against their ethnic, cultural, religious or political beliefs or values:

1. Trauma (experienced or witnessed situations where their lives have been threatened or people close to them have been threatened, injured, raped, tortured or killed).
2. Loss (of family members, friends and relatives, abduction of children, possessions, livelihood, country, status, etc.).
3. Deprivation (of basic human rights and needs such as food, water, shelter, education, and medical attention).

The frequency and nature of traumatic exposure inevitably varies, but the following experiences, designed to maximise psychic injury, are common:

- Extreme forms of violence that have been repeated and/or prolonged.
- Destruction of identity and the breakdown of families and communities, which may occur deliberately through the systematic disruption of core attachments to families, friends, and religious and cultural systems.
- Conditions of inescapability and unpredictability, maximising the experience of helplessness.
- Loss under violent circumstances with consequences such as prolonged grief.
- Witnessing atrocities such as mass killings, rape, torture, children targeted for violence and death, the violation of sacred values, betrayal, and the weakness of restorative justice.
- Deliberate erosion of personal integrity – physical boundaries invaded, the right to privacy violated, basic functions of eating and sleeping closely controlled, confronted with impossible choices, such as choosing who should die or who should be left behind.

The practitioner should also be aware that, once in Australia, there are several stressors that can continue to impact upon the mental health of refugees and, in some cases, may be more salient to the development of psychopathology than pre-migration trauma exposure.[13] Post-migration stressors underlie the extent to which refugees and asylum seekers continue to maintain their culture or heritage and the degree to which they decide to adapt and interact with the new host society.[14,15] These factors may include:

- Concern about the safety of relatives and friends remaining in the country of origin when conflict is ongoing.
- Loss of, or separation from, family and friends.
- Difficulties in tasks of settlement such as learning a new language, gaining employment and accommodation.
- Isolation and lack of social support.
- Acculturation (e.g., ethnic and religious identity; inter-generational tensions associated with changes relating to the cultural, linguistic and social domains).
- Discrimination, racism and social exclusion in the host community relating to economic, social, cultural or religious beliefs.
- Minority status and potential marginalisation in dominant Australian culture, loss of social status and poverty. In the case of asylum seekers, environmental and policy factors such as mandatory or indefinite detention and temporary protection (see additional issues specific to this group below).

Use of interpreters

In working with refugees and asylum seekers, interpreters are often involved. Practitioners should be mindful of the following issues when working with interpreters. First, with regard to perceptions of confidentiality, interpreters should not be known to clients. In small migrant communities, interpreters are frequently educated members of the community, often community leaders. People may feel that their confidentiality is compromised when they have to disclose their experiences through known members of their own community. Secondly, when interpreters are used for specific interventions such as imaginal exposure, it is important that the interpreter understands the procedure as well as the underlying rationale and potential client responses, so that the intervention is not unintentionally compromised. Clear roles should be established for therapist and interpreter,[16] ensuring that all parties, including the client, understand these roles. Finally, practitioners should be aware of the potential negative emotional impact on interpreters of retelling the client's traumatic experiences. In addition to the general point made in Chapter 2 regarding the potential for all practitioners in the field of posttraumatic mental health to be adversely affected by the work, the possibility that the interpreter has had similar traumatic experiences of their own needs to be considered. Appropriate preparation, debriefing and clinical supervision may help mitigate any distress experienced by interpreters.[16]

Presentation

As noted above, refugees and asylum seekers have typically been exposed to prolonged and repeated traumatic experiences. While there are likely to be some differences in presentation (e.g., somatisation, spiritual interpretations such as loss of soul), the construct of PTSD is broadly applicable across cultures.[17-20] Around 10 per cent of adult refugees are estimated to have PTSD,[21] however, this percentage increases to almost 25 per cent in those who have experienced torture,[22] with many of those experiencing comorbid problems such as:

- anxiety, depression, substance abuse, compulsive gambling and brief reactive psychoses
- interpersonal difficulties associated with mistrust, fear, anger, and withdrawal
- high-risk and maladaptive behaviours
- grief responses such as numbing, anger, hopelessness, and meaninglessness
- family conflict, family breakdown, and domestic violence
- physical illness and somatic complaints.

In addition, language difficulties, availability of interpreters, culturally sensitive information about treatment, stigma and other service barriers often prevent refugees and asylum seekers from accessing the right services. Hence, the utilisation of mental health services is often below the population average in the first years of resettlement and due to these barriers refugees and asylum seekers may not present until much later, when severely distressed or disordered.[23]

In seeking to understand refugees and asylum seekers with PTSD, the potential existential impact of this particular type of traumatic experience needs to be recognised. Interventions should go beyond assessment and treatment of PTSD to address other forms of distress that may have resulted from either daily stressors, or exposure to war-related violence and loss.[24] For example:

- Violence and uncertainty experienced during trauma may lead to anxiety, fear, and helplessness.
- Forced impossible choices, and experiences of humiliation experienced, may lead to feelings of guilt and shame.
- Disruption of relationships, separation, and isolation may lead to grief, depression, and altered interpersonal relatedness (e.g., fear of relationships, dependency or extreme self-sufficiency).
- Shattered values of human existence resulting from trauma may lead to a loss of faith in humanity, distrust, sensitivity to injustice, and idealisation and devaluing of others.
- Anger and potentially aggressive behaviour can result from low frustration tolerance, protest about loss, reaction to injustice and betrayal, and as a defence against shame and guilt.

It is also important to recognise that individual strengths can emerge in the face of trauma with resilience and posttraumatic growth as an outcome which also presents itself in those patients who have PTSD symptoms. Human beings are often remarkably resilient and it is important that clinicians are able to identify and build upon those strengths in treatment.

Assessment

As a general rule, standardised assessment measures are appropriate for use with refugee and asylum seeker clients, bearing in mind the need for culturally sensitive administration and interpretation of results. Adequate psychological and social support during the initial phase is of utmost importance. In addition, it is recommended to undertake a rapid and contextually grounded assessment of the daily stressors, that is, post-migration stressors mentioned in the above section, which may be pertinent and particularly salient to an individual's daily functioning, and the resolution of which may have a direct influence on mental health symptoms.

A framework for assessment that covers the multiple potential contributing factors to a refugee or asylum seeker's PTSD and related problems is critical. The following table summarises the information that should be collected for a comprehensive assessment.

Assessment domain	Implications
Country of origin and date of arrival	This information alone alerts the assessor to: • region-specific physical health problems • nature and duration of violence and hardship • access to healthcare.
Visa status	Visa status is critical to understanding rights and entitlements and thereby the stresses of the client's everyday environment.
Language	Check preferred language and country of origin of interpreter as some prefer that the interpreter does not come from their country.
Cultural background	Cultural notions of causal attributions, stigma, help-seeking behaviour, and concepts of healing are important to assess, as well as familiarity with systems in Australia. A cultural, ethnic or religious group is very diverse; generalisations need to be cautious. Some may wish to involve other family members in healthcare decision-making.
Extent of exposure to violence and other traumatic events (e.g., child abuse, intimate partner violence, etc.)	A 'thumbnail' sketch is sufficient for the assessment process and provides an indication of likely physical and psychological health sequelae.
Family functioning and social support	Children and adolescents have usually been directly affected through the experience and/or witnessing of violence, disrupted schooling and ongoing loss or separation from important caregivers. Ascertaining whether children and other family members require support involves proactive and sensitive exploration, particularly in the context of domestic violence.
Post-migration circumstances including housing, employment, language barriers, social isolation, etc.	Potential sources of stress or strength.
Legal-immigration situation regarding refugee determination or family sponsorship	Sponsorship issues and refugee determination processes are major sources of stress and mental health problems.
Physical health screening	Considerations include: • physical injuries or pain which are the result of torture/physical trauma • somatisation of a psychological problem • dental care • in women, reproductive health-related problems • in children, health consequences of neglect, abandonment, domestic violence.

As noted in Chapter 2, a comprehensive assessment should go beyond the Diagnostic and Statistical Manual of Mental Disorders (fourth edition; DSM-IV) diagnosis of PTSD to include comorbidity and broader psychosocial factors. In refugees and asylum seekers, particular attention should be paid to: indicators of family breakdown, behavioural problems, quality of daily functioning, socially disruptive, aggressive or withdrawn behaviour, and physical symptoms. In undertaking the assessment and planning treatment, the suggestions outlined in Chapter 2, for people with PTSD arising from prolonged and repeated trauma, apply. The following additional considerations are recommended for refugees and asylum seekers with PTSD.



- Trust and rapport are very important. First appointments often need to be longer and/or several appointments may be needed for a comprehensive assessment.
- Refugees need to be seen in a safe place which does not trigger traumatic memories of overly officious, authoritarian behaviour.
- Awareness that medical settings may act as reminders of torture, and that some refugees may have a fear of intrusive investigative procedures.
- Gender of the therapist can be especially important for survivors of sexual assault.
- Understanding that a person's hostility may be a reaction to fear and uncertainty.
- Information provision (e.g., on the purpose of the assessment and use of information once disclosed) and encouraging the person to ask questions promotes a sense of control. However, practitioners need to be aware that in some cultures such practices are unfamiliar and may require extra encouragement and multiple checks on behalf of practitioners.
- Explanations of the meaning of confidentiality, privacy and consent are helpful.
- Factors affecting 'non-compliance' are important to anticipate, such as cultural beliefs about damaging effects of investigations such as taking blood, attitudes to medication and misunderstanding of side effects, suddenly stopping medication.

Treatment

In treating refugees and asylum seekers with PTSD, the practitioner is faced with a number of complex factors over and above the individual's traumatic experiences, including language, ethnocultural, sociopolitical, and community issues, as well as the person's current clinical and psychosocial situation. It is not uncommon for practitioners to feel overwhelmed by these cultural and clinical complexities. In some cases this can lead the practitioner to being immobilised for fear of making mistakes, and in other cases it can lead to practitioners ignoring the complexities completely and proceeding as though they did not exist. Either response is unlikely to result in effective treatment. The middle ground in which the practitioner is mindful of ethnocultural issues, but does not attempt to deal with them as the end in itself, is ideal. The practitioner's genuine interest and respect are the most effective tools for building trust and the positive therapeutic relationship needed to help the individual recover from their traumatic experience.

Note that refugees may have differing interpretations of the cause of their current difficulties, with treatment expectations varying accordingly. Many will take a Western view of mental health problems, seeing them as disorders that will improve with appropriate treatment. Others may feel that their problems are a natural consequence of chronic exposure to inhuman conditions and will not respond to treatment, or that their difficulties will subside naturally over time, and thus treatment is unnecessary.[25] Yet others will attribute their traumatic experiences to supernatural or religious reasons, presenting a potential difficulty for treating practitioners as to how to present and explain trauma-focussed treatments of PTSD. Regardless of their views on the importance of treatment and the likelihood of success, refugees will often have a poor understanding of what the treatment process will involve.[25] Clearly, the provision of a clear explanation of assessment findings, as well as a description and rationale for the proposed treatment, is crucial.

A small number of studies suggest that culturally-adapted cognitive behavioural therapy (CBT) (including exposure) may be effective for refugees with trauma-related disorders.[26] There is a need, however, to define more clearly who needs specific psychological (specifically CBT) interventions and/or pharmacological interventions over and above the general psychosocial assistance and counselling that is given in contemporary programs provided by torture and trauma services. Little research has investigated the use of interpreters in the delivery of trauma-focussed therapy, although there is some indication that interpreter-mediated and standard therapy result in equivalent treatment gains in refugees with PTSD.[27] If an interpreter is required, it is recommended that therapist and client use shorter 'chunks' of speech during exposure therapy in order to ensure appropriate monitoring of the client's narrative and levels of distress.[16]

Consistent with the good practice points in Chapter 2, it is essential that a therapeutic relationship and conditions of trust and safety are established in working with refugees and asylum seekers. In addition, the clinician should consider the following issues:

- the need for a holistic framework for treatment, which parallels the holistic framework for assessment
- recognising the value of different levels of intervention – individual, family, community, and important settings such as schools, cultural and religious associations
- being aware of coping strategies that may have developed in response to situations of chronic violence and extensive losses – such as denial, withdrawal, and anger – and their protective value for the person
- the critical role of guilt and shame in maintaining health problems.

In working with a refugee or asylum seeker, treatment goals need to extend beyond PTSD. Of uppermost importance for refugees and their families is usually the rebuilding of their lives through a successful settlement process. The practitioner should facilitate opportunities for retraining, employment, recovery of status, and establishing connections. Where this is beyond the scope of the individual provider, the person should be linked in with appropriate services to address those issues. Attention also needs to be paid to physical health, as the alleviation of physical health problems can be a pathway to mental health wellbeing.

Finally, it needs to be recognised that mental health problems in refugees are the result of systematic violation of their human rights. Restoration of faith in human beings, the right to health, the right to protection from human rights violations, and restoration of justice are part of the process of healing for refugee survivors of torture and trauma. Services which address the mental health needs of survivors must respect and reinforce the concept of human rights as expressed in various international charters and agreements.[28]

Additional issues specific to asylum seekers subject to mandatory detention and temporary protection

Australia's policies of mandatory detention and temporary refugee protection have been implicated as predictors of PTSD in refugees in Australia. Steel and colleagues[29,30] report extremely high incidence of PTSD in temporary visa holders and asylum seekers in detention, as well as in the years after release. This group is also more likely to experience ongoing language difficulties, social isolation, and increasing anxiety and depression over time, compared to refugees granted permanent protection.[31] In addition, asylum seekers in detention are at significant risk of suicidal behaviour, with rates of approximately 41 and 26 times the national average for men and women, respectively.[32]

The particular difficulties of working with this group of asylum seekers should be noted. Asylum seekers subject to mandatory detention or temporary protection often have difficulty engaging in therapy to address their trauma, as their traumatic experiences are, in many cases, ongoing. Most have a history of pre-migration trauma, followed by a dangerous and traumatic flight to safety and finally prolonged and indefinite detention in penal-like institutions, where they are faced with loss of control, long-term separation and uncertainty about their family members left behind in the country of origin. These factors exacerbate the impact of war-related traumas, and coupled with long periods in detention are associated with worse mental health outcomes.[30,33] Such experiences are then followed by limitations of the temporary visas (employment restrictions, reduced access to settlement services and welfare benefits) that cause severe distress to many.

In addition, during the processing time, asylum seekers face further distressing events – interviews to apply for permanent protection, the frequent rejections of their application, the appeals to the Refugee Review Tribunal and other courts of appeal. Many report that their intense intrusive and disturbing thoughts and nightmares are about being arrested by detention guards and returned to detention or being deported – they experience 'flash-forwards'. McInerney and Kaye[34] argue that standard diagnostic categories and individual therapy in these conditions may be inadequate to address these complexities that have such a devastating impact on asylum seekers' lives.

Treatment of PTSD therefore needs to consider providing care in the context of the traumas experienced, current living circumstances and asylum seekers' cultural beliefs and values. There is some evidence to suggest that refugees on temporary protection visas experience improved mental health on receipt of permanent residency,[35] however, harmful effects can remain despite initial improvements due to release from detention, and further research is required to assess the long-term impact of detention and subsequent acculturation stressors.

There are significant challenges in the application of these Guidelines to refugees and asylum seekers. In addition to the complexity and severity of their traumatic experience, ongoing trauma of detention and ongoing stressors of resettlement, asylum seekers are generally detained in geographically remote areas with limited or no access to appropriately trained mental health practitioners, thus presenting considerable additional barriers to the delivery of effective care for their posttraumatic mental health needs.

Working with children

Children make up almost half the refugee population worldwide, and represent approximately one-third of asylum seekers.[36] Around 11 per cent are likely to develop PTSD.[21] As with adults, a range of pre-, peri- and post-migration stressors put refugee children and adolescents at increased risk of developing mental health problems. Estimates of the prevalence of PTSD in this group vary widely but are generally well above the rates seen in non-refugee children.[37] The available literature indicates a strong association between prolonged immigration and detention and mental health problems in children and adolescents, with reported difficulties including:

- attachment issues, developmental, emotional and behavioural delays[38]
- depression, anxiety, and behavioural problems, which may be early indicators of the subsequent development of PTSD[39]
- self-harm and suicidal ideation[40]
- separation anxiety, sleep disturbance, disruptive conduct and somatic symptoms.[40,41]

In addition to the experience of trauma, flight and displacement, children also experience disruptive schooling and many are separated or lose their parents or caregivers. Evidence suggests that unaccompanied refugee children and adolescents are at greater risk of psychological distress than those who are accompanied by a parent or guardian.[37,42] On the other hand, children's experiences and wellbeing are mediated by their parents' mental health, and thus accompanied children whose parents experience mental health problems may be more likely to develop significant levels of distress themselves.[33]

In general, however, refugee children and adolescents tend to be more resilient than adults, and find it easier to adapt to life in a new country. Younger children in particular are less likely to feel guilt at leaving friends and family behind, and may feel more excited than afraid of starting a new life.[43] Nonetheless, children's adaptability can create additional stressors, such as a change in family dynamics as they become more fluent in their new language and are required to act as 'interpreters' for parents. With the loss of identity and social roles, families are exposed to further tensions which can cause widening of the cultural gap between family members and can lead to conflict and anger. While the literature suggests that anger experienced as a part of a PTSD diagnosis is often directed towards a spouse, recent research suggests that anger towards children is also very common, and a linguistic gap experienced between parents and children may contribute to generating this conflict and anger.[44] However, there is a lack of systematic studies investigating the effect of anger on children and the impact on the family unit as a whole.

Limited research has investigated the assessment and treatment of trauma-related mental health problems in refugee children.[45,46] In the absence of conflicting evidence, judicious application of the suggestions for working with refugee adults (above), and with non-refugee children (see Chapter 3) is recommended.

Recommended reading

Andary, L., Stolk, Y., & Klimidis, S. (2003). *Assessing mental health across cultures.* Bowen Hills: Australian Academic Press.

Aristotle, P. (1990). A wholistic approach. In P. Hosking (Ed.), *Hope after horror: Helping survivors of torture and trauma* (pp. 157-176). Sydney: Uniya.

McInerney, D., & Kaye, J. (2006). Asylum seekers, therapy and ethics. *Critical Psychology, 16*, 166-179.

Nickerson, A., Bryant, R. A., Silove, D., & Steel, Z. (2011). A critical review of psychological treatments of posttraumatic stress disorder in refugees. *Clinical Psychology Review, 31*(3), 399-417.

Steel, Z., Momartin, S., Bateman, C., Hafshejani, A., & Silove, D. M. (2004). Psychiatric status of asylum seeker families held for a protracted period in a remote detention centre in Australia. *Australian and New Zealand Journal of Public Health, 28*(6), 527-536.

Steel, Z., Silove, D., Brooks, R., Momartin, S., Alzuhairi, B., & Susljik, I. (2006). Impact of immigration detention and temporary protection on the mental health of refugees. *British Journal of Psychiatry, 188*, 58-64.

Victorian Foundation for Survivors of Torture. (1998). *Rebuilding shattered lives.* See www.foundationhouse.org.au/LiteratureRetrieve.aspx?ID=25045.

Victorian Foundation for Survivors of Torture. (2012). *Promoting refugee health: A guide for doctors, nurses and other health care providers caring for people from refugee backgrounds* (3rd ed.). See www.foundationhouse.org.au/LiteratureRetrieve.aspx?ID=104997.

Military and ex-military personnel

There were sufficient studies identified in the systematic review that included participants that were past or present members of the armed forces to allow a subgroup analysis within the systematic review. This analysis confirmed that the general treatment recommendations are applicable to this group, although outcomes may not be as strong. Particular issues to consider in the treatment of military/veteran populations are presented here. As stated in the introduction to this chapter, the information provided in this section is derived primarily from expert opinion regarding the application of the Guidelines for this population, rather than from the empirical literature. (Note that the term 'veteran' is used to describe both a past member of the armed services and a current member who has seen one or more deployments).

Background issues

Military personnel are confronted with a range of experiences that may contribute to PTSD, including both military-specific events and traumas that also affect the general population. Research with the Australian Defence Force (ADF) suggests that the most common traumatic event experienced by serving members is seeing someone badly injured or killed, or unexpectedly seeing a dead body. In terms of developing PTSD, experiences such as witnessing atrocities and accidentally injuring or killing another person, in addition to other interpersonal traumas such as rape, domestic violence, being stalked, and being kidnapped or held captive, pose the most significant risk.[47]

During deployment, it is not uncommon for military personnel to experience multiple traumatic events. Military deployment frequently involves exposure to real or threatened death and serious physical injury that can lead to PTSD. Furthermore, the nature of traumatic events experienced on deployment can challenge fundamental beliefs about the self, the world, and humanity. For example, traumatic events may involve the death of civilians and destruction of communities on a scale that is often unimaginable and for which the veteran has had little preparation. Military personnel themselves may have committed acts of violence that, with the benefit of hindsight or emotional distance from the event, may be deemed to be atrocities – such experiences may shatter previously held beliefs about the self.

Increasingly, as the armed services are involved in humanitarian and peacekeeping duties, military personnel can be exposed to situations of considerable human suffering without any immediate threat to themselves. It was initially thought that peacekeepers had low rates of exposure to traumatic stressors. Several recent studies, however, have indicated that peacekeeping missions may present a range of unique stressors that can have a significant psychological impact on deployed personnel.[48] For example, in one study, peacekeepers reported negative deployment experiences including knowing that many of the war criminals were not arrested, seeing children who were the victims of war, seeing civilians in despair, seeing the physical devastation of the country's infrastructure and environment, and knowing that there was a lack of supplies for civilians.[49] In addition, peacekeepers often experience frustrations associated with peacekeeping duties, such as restrictive rules of engagement.[50]

An understanding of the psychological underpinnings of the serving member or veteran's initial presentation and a preparedness to give sufficient time to establish a trusting relationship will be immeasurably helpful. Given the war-related nature of traumatic events experienced by many veterans, they may anticipate negative evaluation on the part of the clinician. To work effectively with military personnel, the clinician must demonstrate a willingness to listen and the capacity to tolerate the details of traumatic experiences whilst maintaining a positive regard for the individual throughout.

Finally, there is some evidence to suggest that military recruits have increased rates of childhood physical abuse, sexual abuse and neglect, as well as high rates of family dysfunction compared with community averages, and that these factors are particularly salient in the development of PTSD in this population.[51,52] The practitioner needs to be aware of any such pre-military history, as it is likely to influence the establishment of a therapeutic relationship as well as treatment planning.

Presentation

Research in the US, conducted across a range of conflicts, indicates that PTSD affects between two and 17 per cent of veterans at any given time.[53] Australian data is limited, however the available evidence suggests that the figures published by Richardson and her colleagues are relevant in the Australian context. For example, the point prevalence of PTSD is estimated to be around 12 per cent in Vietnam veterans, 5 per cent in Gulf war veterans, and 8 per cent in current serving members of the ADF.[47,54,55] The presentation of symptoms for this group tends to be somewhat different to other traumatic stress victims. The association between the trauma exposures and the workplace means PTSD often has an indirect presentation in these cases. For example, the individual's difficulties may manifest as increasing conflict with senior personnel over a variety of operational and disciplinary issues. Furthermore, the individual may have had a prolonged period of symptomatic distress that they have attempted to minimise and deny. The general sense of camaraderie and collegial support in the military often assists the individual in maintaining a facade of functioning. A failed promotion or a disciplinary charge may be a consequence of the individual's increasingly disorganised behaviour, and often becomes the focal point around which an individual's distress is manifest. The indirect manifestation of the individual's distress can delay appropriate assessment and diagnosis.

The clinical manifestation of an individual's distress in these situations can occur in a variety of ways. For example:

- The individual may initially present with a prolonged period of numbing and increasing interpersonal insensitivity. This can manifest as inappropriate management of junior personnel or conflict with superiors.
- Interpersonal conflict with family and, in particular, violent outbursts, is another indirect manifestation that may first be brought to the attention of welfare services from a secondary victim, such as the spouse.
- Comorbid alcohol abuse is not an uncommon presentation where the individual attempts to self-medicate. The associated interpersonal and work-related difficulties may lead to others in the person's social or work networks being aware of the difficulties prior to the individual themselves.
- Physical complaints may be the primary presenting problem. Veterans with PTSD tend to have more physical symptoms and higher symptom severity than veterans without PTSD.[56] It may be that given the stigma surrounding mental health problems, expressing distress in the form of somatic symptoms is perceived to be more acceptable than showing signs of PTSD.
- An intense pattern of distress may emerge in response to a recent traumatic event, even one of apparently minor severity. The recent event, however, may have some particular similarity to a prior exposure – perhaps a more severe event that played an important role in the initial disruption of the individual's reactivity to stress. Hence, the longitudinal pattern of symptoms needs to be assessed, as well as the acute disorganisation in response to recent exposures.
- Individuals who leave the military may first present some time after their discharge. The loss of identity and support through the structure of the organisation that has provided the *raison d'etre* for the individual's functioning can lead to the progressive emergence of PTSD symptoms, including increasing and distressing recollections and nightmares.

Assessment

Systematic screening has an important role in identifying PTSD in military personnel who are either engaged in repeated high-risk exposures or who have had a recent deployment or major event which carries a significant risk of PTSD.[57] Recent research suggests that it may also play a valuable role at pre-deployment.[58] However, it should be recognised that the emergence of symptoms might be delayed, pointing to the value of an annual health assessment above and beyond an initial screening process. The administration of screening questionnaires should only be seen as a guide to a more systematic diagnostic assessment by a trained clinician for anyone who screens as being at risk.

A range of psychometric instruments have been trialled in military services for monitoring the emergence of symptoms. Given the issues about under reporting, there may be some value in using lower thresholds to determine referral for a clinical assessment. Any screening process should also regularly interview a fixed proportion of people who are symptomatic to remove the stigma of referral for follow-up. Measures of trauma exposure and mental health symptoms need to be flexibly applied in regards to the nature of the exposure. The Posttraumatic Checklist (PCL; described in Table 2.3) has a military version which addresses this challenge because it does not simply focus on exposure to a sole traumatic event but, rather, talks more generally about 'military experiences'. There has been considerable work published in the literature in relation to cut-offs on the PCL that are indicative of a PTSD diagnosis for treatment-seeking veterans.[59] However, it needs to be recognised that optimal cut-off scores are very population-specific. Therefore, in view of the need to minimise false negatives (that is, to minimise the chances of missing someone who has PTSD), a cut-off of 30 may be more appropriate when the PCL is used for screening and case detection purposes. A brief version of the PCL for use as a screening measure in military populations has also been developed.[60]

Individuals with a work-related disability are often placed in a difficult conflict about seeking assistance because this can lead to significant discrimination and disadvantage in the workplace. This is a recognised difficulty when presenting to occupational health services and has particular relevance for military populations, where an adverse health assessment may make the person unsuitable for deployment. The potential stigma of mental health problems as a sign of weakness in the 'warrior culture' of the military can also be an important barrier to care. This situation requires a high level of skill from the assessing clinician. It is important that supervisors who are familiar with the individual's normal disposition and capability have some awareness of the indirect manifestation of the effects of PTSD in the workplace so that appropriate referrals can occur. The health professional needs to have access to personnel records (which may, for example, highlight absences or disciplinary measures for aggression or substance abuse) to assist in a clinical assessment.

The clinical presentation of military personnel and veterans infrequently occurs following the initial exposure to a single traumatic incident. The more typical scenario is where the individual breaks down after repeated experiences of a variety of traumatic incidents which entail varying degrees of a sense of personal threat, often combined with the witnessing of harm or death to others. The extent to which a specific incident is personalised through some identification with the event or the victim plays an important role in modifying the resilience and vulnerability of the individual. Military deployments that involve close personal contact with civilians (or even enemy personnel) carry a particular risk.

The available evidence suggests that prolonged exposure or repeated intense exposures over a period of time lead to an accumulated risk (see, for example, Smid et al.[61]). While there appears to be some relationship between multiple deployments and level of symptomatology, the intensity of trauma or combat exposure appears to be more important than the actual number of deployments in predicting mental health outcomes.[47] As a consequence, the recommendation regarding comprehensive assessment of the individual's trauma history (see Chapter 2) applies; the history obtained from military personnel should focus on the lifetime exposure, as well as the immediate antecedent event that may have prompted the presentation for treatment.

Treatment

The particular challenge with veteran and military populations is to implement treatment as early as possible. Using the principles of secondary prevention, this minimises the development of a series of secondary patterns of adaptation that in themselves can present a significant disadvantage. The systems of care that ensure early identification, such as screening and addressing stigmatisation in the workplace are of particular importance. Recognition of the value to a defence force of maintaining the skill base of highly trained personnel is an important priority in encouraging a general attitudinal change within these organisations. Significant experience in dealing with veteran and military populations is also an important matter for clinicians, because understanding the specific culture of military organisations can be central to the development of a positive therapeutic relationship with the person with PTSD.

A number of clinical treatment trials with veteran populations, both pharmacological and psychological, have found treatment to be less effective than for non-veterans with PTSD. However, this is not a consistent finding, with the only randomised controlled trial (RCT) of psychological treatment for Australian veterans with PTSD indicating cognitive processing therapy (CPT) to be highly effective in this population.[62] More modest outcomes in a number of these studies may be due to characteristics of the veterans themselves (male gender, nature and duration of traumatic experiences, chronicity of PTSD, high rate of comorbidity), the less rigorous treatment interventions generally used with this population, or potentially complicating factors relating to veterans' compensation, pensions, and other entitlements. All these factors are often associated with more modest responses to treatment. Specific consideration of the following points may be helpful:

- Treatment planning needs to take into consideration the multiplicity of traumatic exposures that military personnel have had to deal with and the consequent multiple 'triggers' or trauma reminders.
- Many symptoms of PTSD, including hypervigilance, exaggerated startle response, anger, and emotional numbing, can be adaptive and even life-saving in combat situations. Addressing these issues can be of particular relevance to those individuals who have had a prolonged period of service where these responses may have become ingrained.
- The existence of comorbid substance abuse is a frequent therapeutic challenge. This should be dealt with alongside the initial control of an individual's symptomatic distress (see consensus points 6–8 in Chapter 5). This approach takes account of the fact that frequent alcohol usage has often been a form of self-medication that the individual has used to address their difficulties.
- Due to the nature of veterans' compensation systems, some people may perceive a vested interest in maintaining symptomatology until all proceedings associated with their claim have been completed. Therapists are advised to address this issue with the person before initiating treatment. An open discussion of the pros and cons of maintaining symptomatology can often be useful.

A particular challenge when working with currently serving military personnel is the management of exposure to further stressors in the workplace during the immediate aftermath of treatment. In general, it is important to remove the external threat and triggers to the individual's distress. A model of sensitisation and kindling (whereby repeated experiences of traumatic incidents result in increased responsivity and progressively more severe reactions over time) is a valuable theoretical construct to inform any cognitive behavioural management.

Although no empirical evidence exists, it is reasonable to assume that the challenge of determining recommendations for future duties – and particularly fitness to deploy following treatment for PTSD – should be based on an individual's residual pattern of arousability, degree of recovery, and general adaptation. If a significant degree of triggered distress remains, it is probable that further exposures will exacerbate the individual's symptoms. In these instances, it is best to minimise the probability of such exposures and recommend alternative duties. Other factors to consider might include current circumstances (especially support networks within and outside the military), duration and severity of the most recent episode, and prior risk factors (such as adverse childhood, other traumatic exposures, prior psychiatric history). A key additional issue will be the person's wishes – do they want to redeploy? It is reasonable to assume that relapse will be more likely if the person does not want to be redeployed.

Recommended reading

Kearney, G. E., Creamer, M., Marshall, R., & Goyne, A. (2003). *Military stress and performance: The Australian Defence Force experience.* Melbourne: Melbourne University Press.

Moore, B. A., Penk, W. E., & Friedman, M. (2011). *Treating PTSD in military personnel: A clinical handbook.* New York: Guildford Press.

Emergency services personnel

As stated in the introduction to this chapter, the information provided in this section is derived primarily from expert opinion regarding the application of the Guidelines for this population, rather than from the empirical literature. Although several studies identified in the systematic review included participants who were emergency services workers, there was no evidence to suggest that different treatment approaches are required. Rather, it is a question of adapting the Guidelines recommendations to the specific needs of this population.

Background issues

Members of the emergency services are invariably exposed to multiple traumatic events, or 'critical incidents', over the course of their careers. Such events may include witnessing gruesome scenes, being unable to prevent another person's death or serious injury, and being at personal risk of injury or death. The clinical presentation of emergency services personnel infrequently occurs following the initial exposure to a single traumatic incident. More common is the process of sensitisation, where repeated experiences of traumatic incidents result in progressively more severe reactions over time.[63] A related construct is that of kindling, whereby repeated exposure to traumatic events results in an increased responsivity, such that events that would not previously have affected the individual begin to trigger mental health symptoms.[63] Given that cumulative trauma exposure is associated with increased risk of disorder, long-term emergency services employees may be more likely than new recruits to develop mental health problems such as PTSD.

Emergency services personnel are likely to be more affected by some incidents than others; the extent to which a specific incident is personalised through some identification with the event or the victim plays an important role in modifying the resilience and vulnerability of the individual.[64] Unlike members of other emergency services, police officers may also be required to injure or kill another person in the course of duty. As a precipitating event for mental health problems, that experience is more likely to lead to PTSD than other problems such as depression or alcohol use.[65]

In addition, emergency services personnel are exposed to significant routine workplace stressors such as long hours, physical exertion, interpersonal conflict, budgetary constraints, and so on. There is some evidence to suggest that daily, low-level stressors may be related more closely to the development of PTSD than the experience of isolated single critical incidents.[66,67]

Approximately 10 per cent of first responders are estimated to have PTSD, although the prevalence may vary across services. Results of one meta-analysis suggest the disorder is most common among ambulance personnel (15%), with lower rates in firefighters (7%), police (5%), and other rescue workers (13%).[68] However, police were only included in Berger et al.'s meta-analysis if they were exposed to a natural disaster; the prevalence of PTSD in studies with more representative police samples ranges from 7 to 19 per cent.[69]

Presentation

Emergency services personnel often respond to traumatic experiences differently to other trauma-exposed populations, reporting occupationally appropriate responses such as anger or guilt rather than emotions such as fear or horror commonly seen in civilian trauma survivors. Indeed, anger is a significant issue in this population. Pre-existing anger may influence the development of PTSD following a critical incident, while PTSD in turn is associated with an increase in anger.[70] Its visible nature and effect on work and interpersonal relationships mean anger may be more likely to bring attention to the individual than internal expressions of distress. Substance use is another common presenting problem, for similar reasons. In terms of PTSD symptoms, personnel who have experienced particularly frequent exposure to critical incidents may be more likely to present with prominent hyperarousal.[64]

Many individuals will experience significant subsyndromal distress, which can impair their resilience following future traumatic events and increase the risk of subsequently developing PTSD.[61] Subsyndromal PTSD symptoms can result in similar levels of disability to full-blown disorder, and are associated with other problematic behaviours such as binge drinking.[63]

Assessment

Systematic screening potentially has an important role in identifying PTSD in emergency services personnel. Pre-exposure screening has not been found to have much benefit in this population. Post-exposure screening may be more helpful, and should generally focus on personnel who display one or more risk factors, such as past psychiatric history, repeated exposure to fatal or grotesque incidents, performance deterioration, interpersonal conflict, or increased alcohol use.[71] However, screening in the immediate aftermath of trauma exposure may not identify individuals who experience a delayed onset of clinically significant symptoms, and routine annual screening is therefore recommended.[72]

A number of screening and assessment measures have been designed specifically for use with emergency services personnel,[e.g.,67,73] Until these have been more thoroughly researched, however, the use of standard measures such as the PCL (see Table 2.3) is recommended. Underreporting of symptoms is common, due to concerns about disadvantage and discrimination, and as such there may be some value in using lower thresholds to determine referral for a clinical assessment.[71]

In assessing for the risk or presence of PTSD in emergency services personnel, practitioners should consider both the frequency and severity of trauma exposure. Research with police officers suggests that the less frequently a given event occurs (i.e., the less it is considered a normal part of the job), the more it is perceived as traumatic.[73,74]

The available evidence suggests that prolonged exposure to trauma, or repeated intense exposures over time leads to an accumulated risk (see, for example, Smid et al.[61]). As a consequence, a comprehensive assessment of trauma history is required (see Chapter 2); the history obtained from emergency services personnel should focus on the lifetime exposure, as well as the immediate antecedent event that may have prompted the presentation for treatment.[71]

Individuals with a work-related disability are often placed in a difficult conflict about seeking assistance because this can lead to significant discrimination and disadvantage in the workplace. This is a recognised difficulty when presenting to occupational health services and has particular relevance for emergency services populations where an adverse health assessment may make the person unsuitable for front-line duties. This situation requires a high level of skill from the assessing clinician. It is important that supervisors who are familiar with the individual's normal disposition and capability have some awareness of the indirect manifestation of the effects of PTSD in the workplace so that appropriate referrals can occur. The health professional needs to have access to personnel records (which may, for example, highlight absences or disciplinary measures for aggression or substance abuse) to assist in a clinical assessment.

Treatment

Limited treatment research has been conducted with this population, although the available evidence supports the relevance of standard treatment guidelines for PTSD.[69]

In the aftermath of a critical incident, the provision of peer support as a secondary prevention strategy is recommended. Several guidelines for the implementation of successful peer support programs have been identified, with the overarching principle being the need for such programs to be well planned, integrated, and tailored to the particular organisation, and available to both current and recently serving personnel.[75]

As for other populations who encounter potentially traumatic events on a regular basis, it is important to encourage treatment seeking as early as possible in emergency services personnel. Effective early intervention minimises the development of secondary problems, or the escalation of subthreshold symptoms into disorder, and increases the chances of a rapid return to full functioning. Thus, a supportive and enlightened workplace culture, along with strategies to facilitate early identification, such as screening and addressing stigmatisation in the workplace, are of particular importance.

Once PTSD has been identified, the general recommendations outlined earlier regarding treatment will apply. Specific consideration of the following points may be helpful.

- Treatment planning needs to take into consideration the multiplicity of traumatic exposures that emergency services personnel have had to deal with and the consequent multiple 'triggers' or trauma reminders.
- Many symptoms of PTSD, including hypervigilance, exaggerated startle response, anger, and emotional numbing, can be adaptive and even life-saving in some situations encountered by emergency services personnel. Addressing these issues can be of particular relevance to those individuals who have had a prolonged period of service where these responses may have become ingrained.

A particular challenge when working with emergency services personnel is the potential for further trauma exposure during treatment. In most circumstances, establishing a safe environment is an important precursor to commencement of trauma-focussed therapy, or indeed, any therapeutic intervention. However, it is rarely helpful to remove the person from the work situation altogether. Such an approach creates problems in terms of daily activity scheduling and makes rehabilitation and return to work harder. Rather, an opportunity to perform a different (non-front-line) role at work provides access to organisational and collegiate support, daily structure, and a sense of self-esteem that can greatly facilitate recovery. In circumstances where ongoing exposure cannot be avoided, some benefit may still be derived from trauma-focussed therapy. This should follow careful assessment of the person's coping resources and available support. A model of sensitisation and kindling is a valuable theoretical construct to inform any cognitive behavioural management.

Although empirical evidence is lacking, it is reasonable to assume that decisions regarding fitness for return to normal duties following treatment should be based on an individual's residual pattern of arousability, degree of recovery, and general adaptation. If a significant degree of triggered distress remains, it is probable that further exposures will exacerbate the individual's symptoms. In these instances, it is best to minimise the probability of such exposures and recommend alternative duties. Other factors to consider might include current circumstances (especially support networks within and outside the service), duration and severity of the most recent episode, and prior risk factors (such as adverse childhood, other traumatic exposures, prior psychiatric history). A key additional issue will be the person's wishes – do they want to go back to the same front-line role? It is reasonable to assume that relapse will be more likely if the person does not want to return to their former duties. In summary, for emergency services personnel on sick leave as a result of PTSD, return to work is an important goal of treatment. While avoidance behaviours may pose a barrier for many, research suggests that following a work-related traumatic experience, individuals who return to work are more likely to recover than those who do not. Workplace-based interventions may assist in improving both work and mental health outcomes.[76]

PTSD in older people

As stated in the introduction to this chapter, the information provided in this section is derived primarily from expert opinion regarding the application of the Guidelines for this population, rather than from the empirical literature. Although few studies identified in the systematic review focussed on older participants, there is little evidence to suggest that different treatment approaches are required. Rather, it is a question of adapting the Guidelines recommendations to the specific needs of this population.

Background issues

In 2011, 14 per cent of Australians were aged 65 or over, compared to just 4 per cent a century earlier.[77] As the Baby Boomer generation ages and life expectancies continue to increase, this figure is likely to rise significantly, reaching up to 25 per cent by midway through this century.[78] Thus, older Australians represent a rapidly growing and often overlooked population of trauma survivors.

Older people with PTSD may be categorised into two broad classes. The first is those who experienced a traumatic event years or decades earlier, including subpopulations such as war veterans from conflicts such as Vietnam, Korea, and WWII, Holocaust survivors, and former refugee children.[e.g.,79,80] Older people who experienced trauma earlier in life may have chronic PTSD, or find that the ageing process exacerbates pre-existing PTSD symptoms. For example, medical illness or reduced physical ability may mean the individual is unable to manage PTSD symptoms using his or her previous coping strategies. At the same time, retirement from work and fewer family responsibilities mean less distractions from PTSD symptoms.[81]

The second group of older people with PTSD are those who have experienced trauma relatively recently, as an older adult. A number of factors may put older people at greater risk of trauma exposure. For example, they may be less likely to be able to escape quickly from dangerous situations, and decreased reaction times may make it difficult to avoid motor vehicle or other accidents. In the event of a natural disaster, older people may be less likely to receive early warnings through automated text message systems. This group may also be more likely to sustain physical injury in an accident or disaster, and to experience serious medical complications.

In understanding traumatic memories in this population, it is important to consider the influence of the ageing process on cognitive functioning. The majority of people are unlikely to develop cognitive deficits (in areas such as cognitive flexibility, concept formation, goal setting, planning, and organisation) until at least their eighties.[82] Dementia most commonly affects people who are aged 65 years and older, and is generally caused by Alzheimer's disease. It is estimated that around nine per cent of Australians aged over 65, and 30 per cent of those aged 85 years and over, suffer from dementia.[83] There is some evidence from veteran samples that dementia is more common in older people with PTSD, although the nature of this relationship is not clear; it is possible that PTSD increases the risk of dementia, or that a shared risk factor drives the development of both disorders.[84,85] Research with other trauma-exposed populations, such as ageing Holocaust survivors, has shown similar rates of dementia to non-trauma-exposed groups.[86] Regardless, the presence of cognitive impairment has implications for the assessment and treatment of PTSD, as discussed below.

Presentation

While it may be expected that cumulative exposure to trauma over the lifespan would result in high rates of PTSD in older people, in fact PTSD tends to be less common in older adults than their younger counterparts.[87,88] In an Australian community study, 4 per cent of men and 6 per cent of women aged 18–24 were diagnosed with PTSD, compared to just 0.4 per cent of men and even fewer women aged 65 and over.[89]

As in younger populations, research with older adults supports the existence of separate avoidance and numbing PTSD symptom clusters.[90,91] There is some evidence that PTSD tends to be less severe in older adults, with a decline in re-experiencing symptoms but an increase in avoidance symptoms. Nonetheless, for many older people, traumatic memories remain highly disruptive, and have been found to be a significant barrier to good sleep among nursing home residents.[93] It may be speculated that age-related deterioration in cognitive functioning makes it harder to control or suppress painful memories of past trauma. Older people with PTSD are also at significantly higher risk of developing other mental health problems, particularly depression and anxiety,[94] and misdiagnosis often occurs.[92]

Among older veterans in particular, denial or avoidance of psychiatric symptoms is common, as is alcohol abuse.[81] Anecdotal reports suggest that, particularly in older males, an increase in agitated and aggressive behaviour may be associated with the emergence of PTSD; if so, this has implications for management of the behaviour.

While as a general rule, older people are less likely to develop significant mental health problems after trauma, natural disasters may pose a particular risk to their mental and physical wellbeing.[95,96] Older survivors of natural disaster are more likely to experience grief reactions and survivor guilt than younger survivors, particularly if younger family members perished. Older people may be less likely to relocate following a disaster, preferring to remain in their own community, and there is some evidence that those who do relocate are at greater risk of developing PTSD.[97] Other risk factors for more severe symptoms include female gender, higher levels of disaster exposure, and the use of behavioural or avoidant coping styles.[95,98] Despite many experiencing significant distress in the aftermath of disaster, older people may be less likely than younger survivors to present to health or general support services.[95,99]

Assessment

As a general rule, standard screening and assessment measures (see Chapter 2) are appropriate for use with this population, although lower cut-off scores have been recommended than are used with younger adults.[91] Given the potential for a long history of trauma exposure, it may be useful to enquire about lifetime exposure, as well as the immediate antecedent event that prompted the presentation for treatment. Interestingly, despite the predicted 'accumulation' of traumatic events over the course of a long life, the elderly actually tend to report fewer events than younger people.[80] The reasons for this are unclear, but probably comprise several explanations including simple forgetting, reappraisal (in the context of their whole life, the event is no longer considered distressing), and shame (especially, for example, older woman reluctant to acknowledge earlier sexual abuse). In the context of shame, older people can be concerned about the stigma of mental health and therapy and may be reluctant to disclose their trauma history. Providing a clear rationale for the assessment and treatment can facilitate disclosure.[92] Importantly, a range of other physical and social issues may be present that could impact upon the individual's presentation, quality of life, and ability to engage in trauma-focussed therapy. Comprehensive assessment of not only PTSD symptoms but also the person's broader biopsychosocial wellbeing is therefore important.

Assessment should include a comprehensive history, including developmental (e.g., pregnancy, birth and milestones), medical, psychiatric, substance use, and educational/ occupational history. If possible, the use of a cognitive screening tool is recommended with a view to establishing both past and current cognitive functioning. Cognitive screening tools are not, and do not, replace the need for a comprehensive diagnostic assessment. They will however, give a broad indication as to whether a person's cognition is intact or whether it requires closer examination. Widely used screening tools include the Mini Mental State Examination (MMSE),[100] the Rowland Universal Dementia Assessment Scale (RUDAS)[101] developed in Australia for multicultural populations, and the General Practitioner Assessment of Cognition (GPCOG)[102], also developed in Australia for cognitive screening in general practice. Patients who show signs of experiencing difficulties or a decline in cognitive functioning should be referred for further assessment to a specialist such as a clinical neuropsychologist, geriatrician, neurologist or psychiatrist with special expertise in the elderly to provide a diagnosis and identify underlying causes of the cognitive impairment.

Treatment

Evidence supports the use of standard PTSD treatment approaches with older patients, although some modifications may be necessary. Fatigue can pose a barrier in older people with PTSD's engagement in treatment.[103] Therapy sessions may need to be shortened, or held earlier in the day, to improve alertness.

Consultation with the patient's GP can help establish any physical condition that may impact upon the patient's ability to engage in therapy.[92] Although some authors advise caution in using exposure therapy with older patients who have cardiovascular disease (due to the potential danger posed by high physiological arousal), others suggest that when graded appropriately and done at the client's own pace, exposure can be highly beneficial (and safe) even for patients with significant cardiovascular illness.[103] Exposure has also been shown to be effective in treating older veterans with chronic PTSD.[104]

For older patients with some level of cognitive decline, the following suggestions may be helpful:

- As with many PTSD clients, behavioural interventions such as relaxation and other arousal reduction techniques, or activity scheduling, are often easier to understand than the cognitive elements of CBT. Introducing these early in treatment can help build the person's confidence and engagement with the CBT approach.
- Practical solutions to the presence of trauma reminders may be more effective than attempting cognitive restructuring in relation to the significance of the trigger. For example, cognitively impaired Holocaust survivors for whom showers serve as a reminder of concentration camps may be reassured by the use of a hand-held shower head.[105] Naturally, the education and involvement of care providers is critical in developing and implementing such interventions.
- Use the strengths and weaknesses identified by neuropsychological assessment to adapt therapy delivery. For example, use diagrammatic representations to explain concepts with clients who have good visual memory.
- Slow down the therapy process by focussing on only a couple of concepts each session, and make the most of review and repetition.
- Utilise memory aids where possible. For example, provide the client with recordings of relaxation exercises, provide diagrammatic representations or written summaries, use calendars/diaries, or cue cards that can be carried in the person's wallet, and make the most of technology, e.g., phone reminder alerts.
- It may be helpful to enlist the support of a 'therapy partner' (i.e., a family member or close friend) who can help to reinforce the therapy techniques in between appointments. It is important to encourage repeated practise of skills in naturalistic settings, and a therapy partner can be helpful in implementing strategies.

Directions for future research

Although a few studies have appeared recently, there remains a dearth of good quality research on PTSD in the elderly. Any well designed studies that further our understanding of the nature and treatment of PTSD in the elderly will be useful, especially as our population continues to age. Some specific research areas to consider include:

- What is the relationship between cognitive decline (particularly dementia) and the onset or exacerbation of PTSD? What are the mechanisms involved and to what extent are traumatic memories likely to surface for the first time (or the first time in many years)?
- Is PTSD a risk factor for dementia? If so, how does it affect the manifestation of dementia and what are the implications for early intervention?
- What is the relationship between PTSD and the emergence of behavioural management problems such as agitation and aggression? If there is a relationship, what does that suggest about intervention approaches?
- In what ways should evidence-based psychological approaches be adapted for the elderly and is there evidence to suggest that one type of trauma-focussed approach is more appropriate than another for this group?
- Which pharmacological approaches are most effective in the treatment of PTSD in elderly populations?

Motor vehicle accident and other traumatic injury survivors

There were sufficient studies identified in the systematic review that included motor vehicle accident (MVA) and injury survivors to allow a subgroup analysis within the systematic review. This analysis confirmed that the general treatment recommendations are applicable to this group. Particular issues to consider in the treatment of MVA and injury survivors are presented here. As stated in the introduction to this chapter, the information provided in this section is derived primarily from expert opinion regarding the application of the Guidelines for this population, rather than from the empirical literature.

Background issues

With study participants recruited from hospital admissions, most of what we know about MVA and other injury survivors is based on people who have been severely injured and hospitalised, or at least admitted to a hospital emergency department. MVA survivors with less severe injuries, for example soft tissue injury, may of course also develop PTSD, and many of the issues discussed in this section are relevant to that group. The section addresses issues of PTSD in the context of physical injury and so does not necessarily relate to MVA survivors with PTSD who have sustained no physical injuries. The Guidelines recommendations can be applied to that group without need for special consideration.

Approximately 2 per cent of all Australians every year are injured severely enough to require a hospital admission. The frequency with which severe injury occurs makes it one of the greatest causes of PTSD in Australia. MVAs are a major cause of severe injury and therefore contribute significantly to the PTSD rate in Australia. Consistent with common responses to traumatic experiences noted in Chapter 2, many injury survivors will display PTSD symptoms (nightmares, intrusive memories) in the initial weeks after being injured, but for most, these symptoms will resolve within three months. Approximately 10 to 15 per cent of injury survivors will go on to develop chronic PTSD.[106]

The severity of the injury in terms of its relationship to mortality does not predict the development of PTSD. That is, those with a life threatening injury are no more likely to develop PTSD than those who sustain a serious injury that is not life threatening. While rates of PTSD in those with soft tissue injury have not been established, rates for particular types of soft tissue injury such as whiplash appear to be similar to severe injury.[107] The relationship between injury severity and PTSD is, however, different with traumatic brain injury (TBI). Those with severe TBI are less likely to develop PTSD while those who have a mild TBI are just as likely to develop PTSD as those with no brain injury. This is probably associated with the high level of amnesia experienced by those with a severe TBI – those with no memory of the event are less likely to develop PTSD. For discussions of risk factors in this population, see, for example, Bryant et al.[106] or O'Donnell et al.[108]

Presentation

Common presenting problems in injury survivors include distressing memories and nightmares about the accident, insomnia, irritability, elevated startle response, and concentration problems. Individuals often avoid situations that are consistent with the event in which they were injured. For example, those injured in an MVA often experience fear of driving and avoidance of traffic. In some cases, individuals become avoidant of hospitals and fail to attend appointments, or do not have follow-up surgery. This may significantly impact their physical recovery. Practitioners should be aware that many injury survivors sustain a mild TBI, and have no memory of some parts of the event in which they were injured. Interestingly, although these people may not be able to remember critical aspects of the event, they can still be fearful and avoidant of situations which trigger memories of the event. Depression is very commonly comorbid with PTSD in injury survivors.[109] This is especially the case with those who experience orthopaedic injuries that require long-term rehabilitation. The loss of important roles, financial difficulties and uncertainty about the future often contribute to depression. Many injury survivors also have chronic pain. Pain and PTSD may act to drive each other over time, with pain triggering memories of the event, and hyperarousal increasing perceptions of pain.[110] This can result in individuals avoiding situations that may cause pain to escalate such as exercise or physiotherapy.

Assessment

There are three main issues pertaining to injury survivors with PTSD that need to be considered during assessment.

First, be aware of the timing of the assessment. Many PTSD-type reactions that occur in the initial two months will subside in the following period. Intense reactions in this period are less likely to subside without intervention and may need immediate attention. Less severe reactions, however, which are common in this period, are more likely to be transient and resolve without treatment.

Second, injury survivors are characterised by comorbid presentations that have implications for treatment planning. As discussed, depression, mild TBI, and chronic pain are the major problems that co-exist with PTSD after severe injury. It is important to ask specifically about each of these problems to determine the primary presenting problem. Often patients will focus on pain because of its highly intrusive and aversive nature, and the clinician needs to focus interview questions specifically on PTSD or depression in order to avoid missing important information. In the case of mild TBI, it should be noted that people can meet the re-experiencing criteria for PTSD if they are distressed by reminders of the injury-causing event (e.g., returning to driving), even if they cannot recall some critical aspects of the accident. Motivational issues are often a problem for patients who have experienced moderate to severe TBI and should be assessed as these issues may have an impact on engagement in therapy.

Third, many injury survivors are involved in litigation for criminal or civil purposes. This issue can complicate treatment planning because it can confound the motivational stance of the patient, especially if legal advice is suggesting a particular view about PTSD and its treatment. Assessment should explicitly enquire about litigation status.

Treatment

Injury survivors may be entitled to treatment for mental health conditions arising from their accident through third party insurers or other individual state-based authorities. This is especially the case for MVAs and workplace accidents. Practitioners should be familiar with entitlements and procedures in the state in which they work.

Practitioners treating injury survivors should follow standard guidelines, with particular attention to several possible modifications that are dependent on comorbid presentations.

Chronic pain is a major obstacle to treating PTSD because it can actively interfere with attention to therapy tasks. Also, pain can act as a reminder of the trauma which complicates treatment for both the pain and PTSD. Depending on the severity of the pain, it may be preferable to achieve adequate pain management prior to the commencement of PTSD treatment. Equally, there is also evidence to suggest PTSD symptoms play a causal role in the development and persistence of pain,[110] implying that pain may improve following successful PTSD treatment.

Depression that is comorbid with PTSD typically leads to a more severe clinical presentation. As outlined in the Guidelines recommendations, suicidal ideation requires careful assessment and management prior to commencement of exposure therapy.

Patients with brain injury who are amnesic of the accident (or part of it) may benefit more from *in vivo* exposure to situations that elicit anxiety than imaginal exposure. This approach can be beneficial because imaginal exposure can be limited when there are few memories of the trauma and when attentional deficits interfere with focus on trauma memories for prolonged periods. Those with brain injuries which impact on their ability to engage with therapy may benefit from motivational interviewing strategies.[111]

Although exposure therapy is the treatment of choice for people who develop PTSD following injury, clinicians should be aware that any therapy that actively addresses trauma memories has the potential to alter memory and, therefore, may be subjected to scrutiny in court. Some courts are particularly concerned about the use of hypnosis and eye movement desensitisation and reprocessing (EMDR) as techniques that have the potential to modify trauma-related memories. Thus the use of these treatments may lead to a client's evidence being inadmissible in court. It is advisable to avoid these treatments in cases that are subject to litigation. If such approaches are adopted, the practitioner would be well advised to videotape all sessions.

Working with children

PTSD is common in children following a traumatic injury, with a prevalence of approximately 20 per cent.[112] Emergency department staff should inform parents or guardians of the risk of their child developing PTSD following emergency attendance for a traumatic injury, and advise them on what action to take if symptoms develop. Injured children and young people with PTSD should be offered a course of trauma-focussed cognitive behavioural therapy adapted appropriately to suit their age, circumstances and level of development.

Victims of crime

As stated in the introduction to this chapter, the information provided in this section is derived primarily from expert opinion regarding the application of the Guidelines for this population, rather than from the empirical literature. Although several studies identified in the systematic review included participants who were victims of crime, there is no evidence to suggest that different treatment approaches are required. Rather, it is a question of adapting the Guidelines recommendations to the specific needs of this population. Note that this section refers to victims of crime generally; the following section addresses sexual assault specifically.

Background issues

There is debate in the literature about what constitutes a victim of crime, but the following United Nations[113] definition is widely accepted:

"... persons who, individually or collectively, have suffered harm, including physical or mental injury, emotional suffering, economic loss or substantial impairment of their fundamental rights, through acts or omissions that are in violation of criminal laws operative within Member States, including those laws proscribing criminal abuse of power."

Around 30 per cent of the Australian population report being a victim of crime (including robbery, burglary, attempted burglary, car theft, car vandalism, bicycle theft, sexual assault, theft from car, theft of personal property, assault and threats) in a given year. However, PTSD is not a potential outcome for all victims of crime. The diagnosis is applicable only in cases where the crime constituted a potentially traumatic event as defined by DSM-IV. In general terms these are crimes of an interpersonal and violent nature. A much lower, though still significant, proportion of the Australian population report being a victim of personal crimes, such as robbery, sexual assault and assault with force, which are more likely to be associated with subsequent PTSD. Males are more likely than females to be victims of all personal crimes, except sexual assault. For example, in 2009–2010, 3.4 per cent of males reported that they were a victim of physical assault (compared to 2.4% of females), while 0.4 per cent of females reported being a victim of sexual assault (compared to 0.1% of males).[114] However, because low incidence of reporting is suspected, the true figure of victimisation, particularly for sexual crimes, is unknown.

Presentation

The prevalence of PTSD in victims of crime is dependent upon the type of crime, the method of measurement and the definitions used. The lifetime PTSD prevalence rate for victims of crime is estimated to be about 25–28 per cent, with higher rates following interpersonal crimes such as rape (e.g., 45–60% following rape in both men and women).[115] It has been suggested that the fact that women report higher rates of PTSD than men may be largely explained by the fact that they are more likely to develop PTSD following assaultive violence; PTSD rates following other trauma types differ little.[116] In addition to being more common, PTSD is often more severe in victims of interpersonal or violent crime than survivors of other traumas.[117,118] It is thought that this may be partially explained by the intention by another human to cause harm, and the challenge this poses to the individual's long-held beliefs (e.g., that the world is generally a safe place and people are generally good).

In addition to more globally severe PTSD, victims of crime may present with more prominent disturbance in particular symptoms, such as exaggerated startle response, hypervigilance, emotional numbing, and re-experiencing symptoms such as nightmares and psychological distress when reminded of the event.[117,119,120] Individuals surviving assault are often avoidant of social situations, especially where there may be crowds or intoxicated people. Many may fear that the perpetrator will come back to hurt them again, even if the perpetrator has been incarcerated.

Note that the PTSD presentation commonly seen in this population is predominantly fear-based, in contrast to other presentations more reminiscent of depression (e.g., loss of interest in activities or concentration difficulties).[119] This has implications for treatment, as discussed below.

For some victims of crime, interactions with the criminal justice system serve as constant reminders of the trauma and can exacerbate distress. On the other hand, some may find comfort in the potential for the perpetrator to be held responsible for the crime, a resolution not often possible for survivors of other traumatic events.

Anecdotal reports suggest that PTSD in victims of crime is frequently erroneously diagnosed. It is likely that the diagnosis is sometimes given based upon the type of incident, rather than the actual presentation, with the symptoms cited to support the diagnosis frequently not PTSD criteria.

Assessment

In addition to the recommendations regarding assessment in Chapter 2, the likelihood of legal proceedings raises issues of particular relevance to victims of crime during assessment, including:

- The practitioner should clarify with the person whether the interview is a forensic assessment or a therapeutic assessment; it is inadvisable for a single practitioner to attempt to fill both roles.
- A full assessment of the person's functioning and impairment *before* the crime in question and an assessment of *current* functioning need to be conducted.
- The full breadth of areas affected by the crime needs to be assessed – including reactions to both personal victimisation and property damage, subsequent family, vocational and social relationships, as well as the affective and psychological reaction of the victim.
- General interview-based questions need to initiate the assessment procedure rather than the use of specific questions or structured questionnaires, which may prime the person to answer in certain ways.
- Unless conducting a forensic assessment (or, if possible, even when conducting a forensic assessment), conclusions should be fed back to the person and explained appropriately so as to minimise later confusion should these results be called into court.
- It is essential that complete and full notes be taken during the assessment interviews and subsequent treatment sessions. Failure to do so may later prejudice the victim's rights should any court case ensue.

Treatment

An awareness of the legal system is important when treating victims of crime with PTSD. In Australia the rights and laws pertaining to victims of crime are predominantly state-based rather than national, and hence vary between states. However, all the states have some mechanism whereby victims of crime can claim either compensation and/or access to mental health treatment for conditions related to their victimisation. Mental health practitioners need to have knowledge of these laws and services specific to where they practice.

In addition to the recommendations regarding treatment outlined in Chapter 5, issues of particular relevance to victims of crime include:

- Due to the nature of criminal compensation some people may perceive a vested interest in maintaining symptomatology until all proceedings have been completed. Therapists are advised to address this issue with the person before initiating treatment. An open discussion of the pros and cons of maintaining symptomatology can often be useful.
- Additional time on arousal management strategies and cognitive techniques addressing erroneous beliefs about the likelihood of another assault may be required for some patients. (Obviously, realistic concerns about future assault need to be taken seriously – safety is a primary concern – but very often fears of another assault are grossly excessive).
- Prolonged imaginal exposure to the event, when managed by a well-trained therapist, has demonstrated efficacy with victims of crime and should be administered, sensitively, as a matter of course.
- It can be difficult for new therapists to avoid being compromised in their role as an agent of change and becoming, instead, an advocate. Therapeutic outcomes are best served through objective analysis of the presenting problems and the impartial application of evidence-based practice.
- In certain cases, it may be worth considering the recording of treatment sessions so that any accusations of tainted evidence arising during later litigation can be evaluated. Of course, the rationale for recording sessions should be carefully explained to the person and their consent obtained before recording begins.

Beyond these general considerations, an individual's needs will vary depending on the nature of the crime. For example, there is domain-specific knowledge related to rape victims that may be less relevant to victims of non-sexual assault and practitioners should acquaint themselves with these areas before providing treatment. Secondary consultation with a counsellor from a specialist sexual assault centre in your state would be recommended. The practitioner may also consider referring the person to a specialist sexual assault centre for advocacy or assistance with court proceedings if the practitioner is not going to offer this service themselves.

Working with children

Children and young people with PTSD resulting from being a victim of crime should be offered a course of trauma-focussed cognitive behavioural therapy adapted appropriately to suit their age, circumstances and level of development.

Sexual assault

There were sufficient studies identified in the systematic review that included sexual assault survivors to allow a subgroup analysis within the systematic review. This analysis confirmed that the general treatment recommendations are applicable to this group. However, particular issues to consider in the treatment of sexual assault survivors are considered here. As stated in the introduction to this chapter, the information provided in this section is derived primarily from expert opinion regarding the application of the Guidelines for this population, rather than from the empirical literature. This section addresses issues that apply to adults with PTSD arising from sexual assault whether that assault occurred during childhood or adulthood. As such, the nature of the traumatic event is highly variable (from repeated childhood sexual abuse (CSA) to a discrete adult rape) and the posttraumatic mental health sequelae are consequently also highly variable. The Guidelines are applicable to survivors of sexual assault with PTSD, with or without comorbid disorders.

Background issues

The mental health practitioner treating survivors of sexual assault should be aware of several important background issues. Sexual assault is a unique crime in that it is most often carried out in private, is shrouded in secrecy and involves a victim who often blames herself or himself. In children, the majority of sexual abuse is perpetrated by a family member or person known to the child. As a consequence, many children who have experienced abuse, and adult survivors of child sexual abuse, may still have contact with their abuser.

Sexual assault was rarely discussed in Australia until the 1970s and childhood sexual assault was almost never disclosed. Unfortunately, when childhood sexual abuse *was* disclosed, the victim risked being accused of fantasising, lying, seeking attention or seeking revenge. In the past 30 years survivors of sexual assault have increasingly reported the assault, but there is still considerable societal, familial and individual pressure to remain silent. People alleging sexual assault are the least likely of all crime victims to report the offence to the police. Further, of those reported, only a small proportion are prosecuted – one in six rapes and less than one in seven reports of incest/sexual penetration of a child. These conviction rates are substantially lower than rates for other offences and there is no trend towards successful convictions over time.

Negative stereotypes that portray sexual assault survivors as unworthy or undeserving continue to prevail in both the legal system and broader society. These stereotypes inevitably impact on the individual, creating additional distress beyond the traumatic experience itself.

Given the 'hidden' nature of sexual assault and low reporting and conviction rates, it is perhaps not surprising that there is little reliable information on the prevalence of sexual assault or childhood sexual assault in the Australian population. Existing data is based on police statistics, and victimisation surveys such as the Australian Institute of Criminology's studies on sexual assault and the Australian Bureau of Statistics Women's Safety Survey. To date there has been no large-scale national population survey that includes childhood violence against boys. As a result, current knowledge about childhood sexual assault on boys is dependent on reports made to statutory child protection agencies. It is estimated that the prevalence of sexual assault before the age of 18 years in the Australian community ranges between 7–36 per cent for females, and between 4–16 per cent for males.[121] As adults, those at greater risk of sexual assault are female, young and single, have a prior history of sexual assault, and have existing relationships with offenders. In an Australian representative sample, it was found that 8.1 per cent of women and 2.2 per cent of men reported experiencing a rape; 14.7 per cent of women and 4.5 per cent of men endorsed the broader category of sexual assault.[122] Of women who reported that the most traumatic event they had experienced was rape, 9.2 per cent met criteria for PTSD in the past 12 months.[123] Males who are raped or molested appear to report a higher prevalence rate of PTSD.

It is important to acknowledge the intergenerational transmission of abuse. Women abused as children may repeatedly form relationships with abusive, violent partners who may, in turn, sexually and/or physically abuse her children. Additionally, if female caregivers are experiencing the psychological impact of abuse (e.g., depressed, anxious, withdrawn), children may receive little protection and/or no positive parenting guidance or strategies. Alternatively, children may be overprotected and taught that the world is a dangerous place, impeding the development of resilience.

Presentation

For adults with PTSD following sexual assault, the trauma may range from a discrete adult trauma of rape to repeated sexual abuse during childhood, or a combination of both. The nature of childhood sexual abuse itself is highly variable. Sexual abuse involving penetration (digital or otherwise) as opposed to touching or fondling has been found to be the most harmful of the abuse experience/s. This is also true of sexual abuse involving degradation and violence. Not surprisingly, typical presenting problems differ according to the type and number of sexual assaults experienced. The clinician should be aware of these typical presentations (outlined below) and ensure a comprehensive assessment, especially if a prior history of assault or sexual abuse is suspected. In some cases, the individual who has been sexually abused as a child will present for treatment of PTSD for the first time as an adult.

Common presenting problems in survivors of adult sexual assault:

- recurrent daytime intrusive memories/flashbacks and distressing dreams
- physical symptoms of hyperarousal such as palpitations, sweating, breathing difficulties
- hypervigilance (e.g., fear of going out)
- sleep problems
- eating difficulties
- mistrust of males/females, affecting the formation of relationships
- loss of interest in usual activities
- shame/guilt associated with memories of assault
- depression and PTSD are commonly diagnosed following adult sexual assault.

Common presenting problems in adult survivors of childhood sexual assault:

1. PTSD symptoms are often part of the client's presentation with prominent avoidance/numbing symptoms. Depressive and anxiety symptoms are also common.
2. Childhood sexual abuse can also lead to persistent self-regulation issues including:
   - affect regulation and impulse control (self-harming, acting out sexually)
   - attention (regular dissociative episodes)
   - self-perception (identity disturbance)
   - relationships (attachment, sexual difficulties, parenting problems).

These self-regulation issues can lead to a range of diagnoses including personality disorders (e.g., borderline personality disorder) and attachment disorders. Substance use problems and eating disorders are also common. Comorbid presentations are the norm for this group.

Behavioural difficulties and disorders (e.g., oppositional defiant disorder) can also be associated with abuse, particularly when dealing with boys. Anxiety, depression and PTSD can also be seen amongst children who have been sexually abused with comorbidity not being uncommon.

Note that interactions with the medical or legal systems may parallel abuse scenarios for many survivors of sexual assault. Some medical procedures, for example, or requests for the removal of clothing by authority figures, may trigger re-experiencing symptoms.[124]

Assessment

As noted above, many survivors of sexual assault have experienced prior assault in adulthood or as children. It can be difficult in some cases to assess whether the most recent assault is the cause of PTSD or whether it is the result of previous or repeat assault/s. Consistent with the assessment recommendation in Chapter 2, a comprehensive assessment should include a detailed lifetime history of sexual assault and other trauma, as well as the psychological sequelae of any previous trauma. Practitioners should bear in mind the potential for the assessment process to be highly distressing for some clients. A 'thumbnail' sketch may be sufficient in the first instance to provide an indication of the client's trauma history and likely physical and psychological health sequelae, with a more comprehensive assessment conducted once trust and safety has been established. In addition, with survivors of childhood sexual assault it is important to gain an understanding of their family background and developmental milestones. Sexual assault can have a significant impact on a child's development and attachment, particularly if it occurs during early childhood. In addition, children's responses to traumatic experiences are influenced by their parent's attachment style and parenting capacity.

While many survivors feel comfortable disclosing their assault history, some will be reluctant to do so and will require extra time and sensitivity from the practitioner conducting the assessment. Some survivors prefer direct questioning, while others find this too intrusive and favour indirect methods. Some will feel more comfortable if the practitioner maintains a professional distance, while others interpret this as the practitioner ignoring their emotional wellbeing.[125] Sensitivity to the individual's needs is therefore essential in promoting a sense of safety and allowing a more effective assessment. While a comprehensive assessment is important, the process should not be so difficult for the client that he or she drops out of therapy.

Given the societal context of sexual assault, it is essential that the practitioner accept the person's account of their traumatic experience for the purposes of treatment without seeking to investigate the authenticity of their claims. Victims/survivors have often had negative responses to their disclosures from friends, family or the criminal justice system and may anticipate disbelief and denial from the clinician.

The gender of the practitioner needs to be given due consideration in working with survivors of sexual assault. It cannot be assumed that a female or male will prefer to work with a practitioner of either the same or the opposite gender. This matter needs to be discussed and if possible, the person given the choice of therapist gender.

Treatment

Recommended treatments for PTSD outlined in Chapter 5 apply to survivors of sexual assault – indeed, many of the treatments were developed, refined and evaluated with rape victims. Of course, as noted in Chapter 1, these Guidelines are not a substitute for clinical judgement; the suitability and acceptability of recommended treatments need to be determined in each case. The recommendation to allow more time for establishing a therapeutic relationship and teaching emotional regulation skills in those with prolonged and/or repeated traumatic experiences is generally relevant to survivors of childhood sexual assault. In addition, the following specific considerations apply to sexual assault survivors with PTSD.

Given the broader legal context, practitioners working with survivors of sexual assault should have knowledge of relevant reporting, compensation and restorative justice approaches in order to provide the person with appropriate support and advice.

If the person has ongoing involvement with the criminal justice system there is a high risk of additional distress from a variety of sources, including contact with the alleged offender, cross examination, and the general experience of the court system, which may be perceived as unfair and irrational. This will inevitably impact on treatment and should be taken into consideration in treatment planning. In general terms, it would not be reasonable to postpone treatment until the end of (often lengthy) legal proceedings, but the clinician and person with PTSD should give careful consideration to the appropriate timing of trauma-focussed work in this context. In circumstances when the decision is made to defer treatment, the practitioner should consider referring the person to a specialist sexual assault service for support during legal proceedings. Services such as these are able to assist a sexual assault survivor with the wide range of issues related to the court case much more easily than a single practitioner. Workers at these specialist services have an understanding of the criminal justice system and can provide support and advocacy to clients during legal proceedings.

In cases of complex PTSD, expert opinion suggests a sequential treatment approach, with the use of multiple interventions targeting the most prominent symptoms.[126] Following an initial period of stabilisation and ensuring patient safety, providing education about trauma, narration of the trauma memory, cognitive restructuring, and emotion regulation interventions are viewed as effective first-line interventions for complex PTSD.[126]

Working with children

A child's response to sexual assault will be influenced by age and level of development. It is important to note that ongoing sexual abuse, particularly during early childhood, can alter the child's developmental trajectory. Common symptoms include:

- nightmares
- sleeping difficulties
- withdrawn behaviour
- aggressive behaviour
- in younger children, sexual knowledge or behaviours that are inappropriate for the child's age (for example, explicit drawings or simulations with toys or other children)
- affect dysregulation
- in adolescents, sexual promiscuity
- in adolescents, substance use
- in adolescents, self-destructive/impulsive behaviours.

Children and young people with PTSD, including those who have been sexually abused, should be offered a course of trauma-focussed cognitive behavioural therapy adapted appropriately to suit their age, circumstances and level of development.

Research suggests that health professionals often use overly complex language when discussing sexual abuse with children. It is important to keep questions simple and concrete, avoiding abstract questions such as asking about 'bad things' that happened. Allowing time for neutral discussion before focussing on the abuse can help the child to feel more at ease and provides the practitioner with an idea of the child's language ability/level.[127]

Particular issues arise when sexual abuse has occurred within a family. There are often significant losses in terms of familial relationships after a disclosure, which can compound the difficulties children are experiencing. In addition, it may be helpful to teach some protective behaviours to try and give children some control over their environment, particularly if the offender is still present or other relatives are not being supportive. This is particularly important when sexual abuse occurs in the context of neglect, poor attachment or disorganised family functioning.

Directions for future research

A victim rights model that involves therapy, advocacy, groups and support is widely used in specialist sexual assault services. Future research should evaluate the effectiveness of this model.

Recommended reading

Cohen, J. A., Deblinger, E., Mannarino, A. P., & Steer, R. A. (2004). A multisite, randomized controlled trial for children with sexual abuse-related PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*(4), 393-402.

Foa, E. B., & Rothbaum, B. O. (1998). *Treating the trauma of rape: Cognitive-behavioral therapy for PTSD.* New York: Guilford Press.

Natural disasters

As stated in the introduction to this chapter, the information provided in this section is derived primarily from expert opinion regarding the application of the Guidelines for this population, rather than from the empirical literature. Although a few studies identified in the systematic review included participants who were victims of natural disaster, there was no evidence to suggest that different treatment approaches are required. Rather, it is a question of adapting the Guidelines recommendations to the specific needs of this population. Note that this section does not provide detailed guidelines for disaster response more broadly, and interventions for the whole population, such as psychological first aid, are discussed only briefly. Rather, the primary focus is issues affecting the minority who go on to develop long-term mental health problems. Under the auspice of the Australian Government Department of Health and Ageing, the National Mental Health Disaster Response Committee has been established to inform planning, preparation, rescue and response as well as the recovery period in terms of mental health.

Background issues

Disasters, by their nature, are large-scale events that impact upon significant groups within the community. There are a variety of natural and other types of disasters. Some, such as earthquakes and bushfires, affect a local community and impact on a relatively well-defined geographical region. Others may have a wider area of impact. The question of whether long-term natural disasters, such as severe drought or other climate change, can be considered a Criterion A event for PTSD is a matter of some debate. Most would agree that, while such events may have devastating psychological impacts on those directly affected, they do not involve the acute threat to life that characterises Criterion A events and which is a prerequisite in fear conditioning models. Individuals whose home community is affected are likely to experience multiple secondary stressors, particularly in the case of destruction of home, livelihood, infrastructure, and so on. For others, the traumatic experience will be limited to the disaster itself, for example, the thousands of tourists repatriated after the 2004 tsunami in South-East Asia. The nature of exposure to trauma in disasters varies considerably according to the type of disaster and the proximity of the individual to the causal agent. In addition, disasters are likely to have different effects upon the primary victims, compared with the impact on secondary victims (e.g., emergency services personnel who are required to become engaged in the search and rescue).

Issues for service planners

Given the number of individuals affected, over a potentially vast geographic area, natural disasters pose a unique challenge to service planners. For natural disasters, there is some support for the utility of generic, community-based low level services as preferred sources of support that underpin the identification of needs and uptake of more specialist mental health interventions. The size of the population affected by a natural disaster is critical in determining the structure of the treatment services required to deal with the aftermath. Optimally, any treatment services should be linked to the existing health services in which disaster victims have confidence prior to the event. A frequent mistake is that planners presume there will be an early need for services when in fact there tends to be low rates of uptake of services in the immediate aftermath of the disaster, with a progressive increase in need over a period of approximately two years after the event. In the aftermath of the disaster, particularly in light of the evidence about debriefing, those responsible for disaster management should attempt to limit (or, at least, coordinate and control) the many volunteers who have emerged to provide 'post-disaster counselling' in the aftermath of such an event. These individuals and their desire to assist can at times become a major issue in terms of the logistics and management of the large number of people converging on the disaster zone. It is important that the evidence about debriefing and acute treatments is provided to those involved in policymaking to ensure that the structure and nature of the services provide evidence-based interventions.

In the acute aftermath, psychological first aid is optimally provided in conjunction with the acute welfare needs of the population. Also, a decision should be made in the early recovery phase as to whether a systematic outreach, with an emphasis on screening, is to be instigated. If such a program is to be implemented, the high-risk groups should be identified and targeted rather than assuming that all those in the geographic area should be screened. High-risk groups will be those who have lost family or suffered major property destruction or sustained injury.

Disasters are an opportunity to address many longstanding deficiencies in the provision of mental healthcare in the affected populations. Therefore, these events are of considerable importance in ensuring that high quality evidence-based care programs are put in place. They provide an opportunity for upgrading and improving the quality of clinical care for the broader population. Individuals who have been previously traumatised may first present for treatment in the aftermath of a disaster. Therefore, the skill base of the clinicians intervening with a disaster-affected population should be capable of dealing with the broad range of traumatic events.

In disasters involving the loss of a large number of lives, specific consideration needs to be given to the issue of traumatic bereavement. In such instances, treating PTSD alone will not address the full extent of the person's predicament. The interaction between an individual's traumatic memories and the grief process needs to be addressed. Also, in large mass casualty situations, providing basic skills and training to the surgeons, doctors and nurses involved in care can be a method of disseminating information and basic principles to a large number of people.

Media coverage of disasters provides an opportunity to provide information to a large number of people. Thus, it is important to have information resources that can be made available to various organisations that have ongoing contact with those affected by the disaster. Such information sheets can assist in facilitating the linking of those in need with appropriate treatment services.

Personnel involved in rescue and recovery efforts, many of whom are likely to be members of the affected community, may also be distressed by their experiences during and after the disaster. See section on "Emergency services personnel" above for more information on the issues specific to this population. Volunteers may be called upon to help in the disaster recovery, most of whom will lack the experience and training of professional emergency services personnel. This group tends to have mental health outcomes more similar to direct disaster survivors than professional response personnel,[128] and may not have access to organisational support in the event that they develop PTSD or related symptoms as a result of their experiences. In planning for mental health services in the aftermath of a disaster, the needs of the volunteer responders should therefore be taken into account.

Issues for service providers

Presentation

The immediate aftermath of a disaster involves a dramatic period where there is an attempt to mitigate the immediate physical threats and take steps to ensure the physical safety and wellbeing of the affected population. This involves the provision of emergency food and shelter and securing people's possessions if their homes have been destroyed. There is also the need to document and take stock of the losses incurred. In the immediate aftermath of these events there is a small group of people who become acutely distressed (and may even develop an acute distress disorder). However, the majority of people rise to the practical demands of the situation and their psychological distress is not an immediate issue.

There is often a long window of presentation to health services following such events. There is an expectation within communities that people who have sustained significant losses will experience a degree of enduring distress. However, once there is a relative degree of normality returning within a community, the experience of distress for some individuals will remain and may even intensify. It is at such times that presentations for care often increase in frequency. In other words, once the external demands begin to decrease and the obvious causes of distress lessen, individuals begin to acknowledge the possibility that their distress is out of keeping with the reality of their circumstances and may seek care.

Psychological distress in the aftermath of disasters can emerge in the form of family dysfunction, substance abuse, and conflict within the affected community. Due to higher levels of trauma exposure, individuals who are displaced by disaster may experience more significant distress.[129] Disasters not only trigger PTSD but a range of other possible presentations, such as adjustment disorders, major depressive disorder, and substance abuse. Some survivors will be affected by physical injury, and a range of non-specific somatic symptoms is common. The perception of life threat has been found to increase risk for physical symptoms over a year after a disaster.[130] Physical complaints may occur with or without comorbid psychological symptoms.

One of the more characteristic presentations of PTSD in this setting is the considerable anxiety that the individuals will demonstrate if the threat of a similar event begins to emerge. Their triggered pattern of distress is a matter that is readily observed. Prominent hyperarousal symptoms after a disaster may be associated with greater functional impairment, more sick leave, and reporting of related issues such as social withdrawal, feelings of guilt, and lower life satisfaction.[131]

Assessment

Unless the entire infrastructure of a community is destroyed, most disaster victims prefer to utilise the care networks that they are familiar with, focussing primarily on the local general practitioners. Given the delay in help-seeking, an opportunity exists for training local general practitioners, community health staff, and other primary care providers in the diagnosis and assessment of PTSD and other psychiatric conditions which are likely to emerge. It should also be recognised that some people would rather not seek care locally, fearing issues such as confidentiality and stigma in a small community. Thus, providers some distance from the area of destruction should also be aware of the potential for an increase in help-seeking.



Given the predictability of disorder, if the affected population can be well circumscribed, an outreach program involving screening should be considered for high-risk individuals. Such an approach should only be contemplated if the appropriate clinical services are in place to provide care to those who are identified. Simple brief screening measures, followed up with standard diagnostic tools such as the PCL, PTSD Symptom Scale Interview (PSS-I), and the Clinician Administered PTSD Scale (CAPS) for those who screen positive (see Table 2.3), are appropriate for use in this setting.

The assessments conducted in these populations should consider the fact that there will be a background pool of psychiatric morbidity within the affected community. The challenge is to define those individuals who have had an exacerbation or modification of existing symptom patterns, as opposed to the emergence of a new condition. This is relevant to the provision of treatment.

Treatment

As noted above, various forms of psychological distress are seen in survivors of natural disasters and there is likely to be a wide range of clinical needs. For those who develop PTSD, the recommended treatments generally apply. There are however, a number of specific challenges, which include:

- Large numbers of people potentially requiring access to treatment over a prolonged period of time. It is important that evidence-based treatments for PTSD are available to these affected communities. This is a particular challenge in rural and remote communities where there is often a paucity of appropriately trained practitioners. However, distance need not necessarily be a barrier to care, with growing evidence suggesting that telehealth services can provide effective treatment for PTSD and other common mental health problems.[132-134] While still in their infancy, some internet-based treatments show promise, particularly if supported by low-level clinical care.
- Multiple members of the same family may be affected simultaneously, possibly impacting upon the pattern of symptomatic distress, for example, if both a husband and wife are suffering. Indeed, the reactions of other adults in the household may be more influential in the maintenance of PTSD symptoms than the impact of the disaster itself.[135] Treatment may need to address these relationship dimensions because they can serve to influence the patterns of withdrawal and avoidance.
- In cases where the individual with PTSD has suffered economic and social disadvantage as a result of the disaster, the circumstances in which they find themselves can serve as a constant reminder of their traumatic experience and thus complicate the treatment.
- Chronic PTSD has been associated with an increase in the perception of life threat at the time of the disaster. Cognitive therapy addressing realistic threat evaluation may be helpful for individuals whose perception of threat intensity is amplified over time.[136]

Working with children

A range of factors influences the development of posttraumatic stress symptoms in children following a disaster, including gender, extent of destruction, perceived threat, and the loss of a friend or loved one. On the other hand, age has not been found to be associated with disaster-related posttraumatic stress.[137] However, age may influence children's understanding of disasters; for example, younger children may hold magical beliefs about disasters, such as storms having intentions.[138] Age may also influence children's understanding of their symptoms, with older children more able to identify disaster-related thoughts as unwanted and intrusive.[139]

School-based interventions are effective in facilitating children's recovery following a disaster. Usual school activities should be resumed as soon as possible; in addition to the benefits of the re-establishment of routine, the school community encourages engagement in appropriate memorial rituals and pro-social activities.[140] School-based interventions are also well placed to promote social connectedness, low levels of which are associated with more severe PTSD symptoms in children following a disaster.[141]

Natural disasters are somewhat unusual in that they are experienced by all members of the family. In addition to their experiences during the disaster itself, children are also affected by their parents' response to disasters.[142] Thus, it is important to consider the family unit as well as the individual when assessing and treating mental health problems. There is some evidence to suggest that mothers' and fathers' psychopathology may play differential roles in influencing their children's mental health; children's depression and posttraumatic stress symptoms may be more closely related to their mother's depression and father's posttraumatic stress symptoms respectively.[143]

Children and young people with PTSD resulting from a natural disaster should be offered a course of trauma-focussed cognitive behavioural therapy adapted appropriately to suit their age, circumstances and level of development.

Recommended reading

Drabek, T. E. (1986). *Human system responses to disaster: An inventory of sociological findings.* New York: Springer-Verlag.

Journal of Clinical Psychiatry, 67(Supplement 2). (2006). *After the Tsunami: Mental health challenges to the community for today and tomorrow.*

Kaniasty, K., & F., N. (1999). The experience of disaster: Individuals and communities sharing trauma. In R. Gist & B. Lubin (Eds.), *Response to disaster: Psychosocial, community, and ecological approaches.* Ann Arbor: Brunner/ Mazel.

Norris, F. H., Friedman, M. J., & Watson, P. J. (2002). 60,000 disaster victims speak: Part II. Summary and implications of the disaster mental health research. *Psychiatry, 65*(3), 240-260.

Ursano, R., Fullerton, C., Weisaeth, L., & Raphael, B. (2011). *Textbook of disaster psychiatry.* New York: Cambridge University Press.

Although not a focus of these Guidelines, in the context of disaster recovery readers may be interested in the following resources that are oriented towards psychological first aid:

- Australian Psychological Society/Red Cross: *PFA – An Australian Guide* (available from www.psychology.org.au) National Center for PTSD: *PFA Field Operations Guide* (available from www.ptsd.va.gov)
    - Note that both the above sites have links to an online training program in PFA developed by the US National Center for PTSD.
- Australian Psychological Society: Psychosocial Support in Disasters (www.psid.org.au)
- World Health Organisation: *PFA Guide for Field Workers* (available from www.who.int/publications)

Terrorism

As stated in the introduction to this chapter, the information provided in this section is derived primarily from expert opinion regarding the application of the Guidelines for this population, rather than from the empirical literature. Although very few studies identified in the systematic review included participants that were victims of terrorism, there was no evidence to suggest that different treatment approaches are required. Rather, it is a question of adapting the Guidelines recommendations to the specific needs of this population.

Note that this section does not provide detailed guidelines for disaster response more broadly in the context of a major terrorist event (e.g., a bombing affecting large numbers of people), and interventions for the whole population, such as psychological first aid, are discussed only briefly. Rather, the primary focus is issues affecting the minority who go on to develop long-term mental health problems. Under the auspice of the Australian Government Department of Health and Ageing, the National Mental Health Disaster Response Committee has been established to inform planning, preparation, rescue and response as well as the recovery period in terms of mental health.

Background

There have been several attempts to develop precise working definitions of terrorism.[144] A proposal to the United Nations provided the following brief legal definition: *"[an act of terrorism is] the peacetime equivalent of a war crime"*.* More precise definitions of terrorism tend to be relative, because judgments about acts of political violence are often subjective. For example, the United States Department of Defence[145] defines terrorism as: *"The unlawful use of violence or threat of violence to instil fear and coerce governments or societies. Terrorism is often motivated by religious, political, or other ideological beliefs and committed in the pursuit of goals that are usually political"*. Although more comprehensive, this definition is problematic because it relies on vague terms which are left open to interpretation (such as "unlawful violence" or "the pursuit of goals..."). Put simply, one person's terrorist is another's freedom fighter. In some cases, this ambiguity can make it more difficult for survivors to understand and find meaning in the experience.

Terrorist acts usually involve the threat of (and sometimes actual) high levels of destruction to property and, more importantly, to people. There is likely to be widespread threat to life and actual loss of life. There may well be exposure to gruesome sights for those involved, including the death and suffering of others; this may include close family members and friends. Difficulty (or inability) in helping others in the aftermath of the attack may precipitate feelings of helplessness and guilt.

The fear generated by terrorist attacks is unsurprising; they are characterised by many features typical of high severity traumatic events. Terrorist acts are generally unpredictable in terms of place, timing, and potential victims; as such, they are completely uncontrollable (at least for the general population), increasing the risk of perpetual hypervigilance. Bioterrorism carries added threat since it is so poorly understood and is, effectively, 'invisible'. It is hard to be definite about whether an individual or group has been 'contaminated' and, even if individuals have clearly been exposed to pathogens, the likely health effects are rarely clear.

It is important to remember that the main goal of terrorism is exactly that – to generate feelings of terror in the community. Acts of terrorism are extremely rare (particularly in Australia) and the effects of fear and hypervigilance are often well in excess of the actual damage posed by, or caused by, the terrorist act.

In short, terrorist acts are generally high magnitude traumatic events, of very rare occurrence, capable of generating widespread fear and hypervigilance. For mental health professionals, this raises questions as to the best way to prepare for such attacks and the best way to manage the mental health consequences.

Issues for service planners

Preparing for the threat of terrorism

Reactions to terrorism can be made worse by sensational media reports and by poor communication by public officials. Thus, a key role for mental health professionals is often that of working with the media and public officials to ensure that appropriate messages are disseminated. Communications to the general population should be informed by the following recommendations adapted from Foa et al.[146]

- Provide realistic information on the likelihood of a terrorist attack and possible impact.
- Communicate that the individual risk is quite low.
- Explain that negative health behaviours which may increase during times of stress (e.g., smoking, unhealthy eating, substance use) constitute a greater health hazard than the hazards likely to stem from terrorism.
- Emphasise that the only action required on the individual level is increased vigilance of suspicious actions, which should be reported to authorities.
- Clearly communicate the meaning of different levels of warning systems.
- When issuing a warning, specify the type of threat, the type of place threatened, and indicate specific actions to be taken.
- Make the public aware of steps being taken to prevent terrorism without inundating people with unnecessary information.
- Provide the public with follow-up information after periods of heightened alert.

Communications by the media and public officials should also include simple information about resilience and expectations of recovery. Many simple fact sheets on resilience in the face of terrorism are available on the internet. (See, for example, www.phoenixaustralia.org; www.ncptsd.org; www.centerforthestudyoftraumaticstress.org/)

Responding to an attack

It is important to remember that most people will recover without any mental health assistance; thus, interventions in the early aftermath of a terrorist attack should be based around providing information and activating community support:

- Support the work of the emergency services.
- Activate and facilitate community support networks.
- Provide accurate information about the event and its consequences.
- Facilitate accurate and balanced communication by the media, schools, workplaces, etc.
- Establish information and drop-in centres to provide information, support, contacts, etc.
- Promote opportunities for mutual support through education and information, as well as by facilitating appropriate social activities through workplaces, schools, sports clubs, churches, and other community agencies.

Although debate exists in this area, it seems reasonable to implement some kind of low-key screening to facilitate identification of those individuals who are not showing the normal recovery trajectory and who are developing identifiable mental health problems. This might be done as part of a public health approach *("...if you are experiencing several of these symptoms, we suggest you visit your local GP")* or in a more restricted manner (such as through advertising telephone numbers for trained personnel to conduct screening). (See Brewin et al.[147] for an example following the 2005 London bombings.) The key point is that secondary prevention – early intervention for individuals with mental health problems following trauma – is demonstrably effective, *if* they can be identified. This approach requires that educational material is made available to general practitioners to ensure that appropriate assessment, education and advice is forthcoming.

*Proposed by A. P. Schmid to the United Nations Crime Branch (1992); see Siegel, L. J. (2009). *Criminology* (10th ed.). Belmont, CA: Thomson Wadsworth.

Issues for service providers

Presentation

An attack of small to moderate impact is likely to generate moderate to major psychological and behavioural reactions in the short term, and the greater the harmful impact of the attack, the greater the likely reaction. Proximity to the attack and number of attacks will influence the severity of individual reactions. There is no reason to assume that the nature of clinical reactions, when they occur, would be significantly different to those seen following other types of traumatic events.

Immediate reactions are likely to include heightened anxiety, panic attacks, sleep and substance use problems, absenteeism from work, and retaliatory reactions against minorities identified with the terrorists. Reactions are likely to subside over the medium term (days to weeks), although repeated attacks and/or widespread loss of life and/or significant damage to infrastructure may result in increased psychological and behavioural reactions.

Significant longer term mental health reactions are likely to be limited to a relatively small proportion of the population. These reactions may include traumatic stress symptoms, other anxiety disorders, depression, and substance use, all of which may be associated with impaired functioning and increased distress. The ongoing fear of another attack is likely to pervade all reactions to a greater or lesser extent.

Assessment

Standard approaches to assessment as outlined in other parts of these Guidelines, including the victims of crime and sexual assault sections above, should be applied when assessing people presenting for treatment following a terrorist attack.

Treatment

Several 'real world' effectiveness trials of PTSD treatment following terrorist acts have appeared in the literature, including programs in Northern Ireland, the United States, and the United Kingdom.[e.g.,147,148,149] Each of those programs utilised cognitive behavioural approaches, training local clinicians in the delivery of evidence-based PTSD treatment. In each case, the outcomes were impressive. Thus, there is no reason to assume that interventions for those developing PTSD and related conditions following terrorism should be any different to those recommended for other trauma survivors. The recommendations provided in these Guidelines should be considered as the starting point.

Working with children

As with adults, the range of children's responses to terrorism is highly variable and psychological reactions will be strongly influenced by the behaviour and reactions of primary caregivers.[149] Also consistent with adults, there is no reason to assume that treatment should be any different to those applied for PTSD of other origins. It is, of course, vital that clinicians are competent and experienced in working with the particular age group, and close attention should be paid to advice regarding treatment of children provided in the earlier chapters of these Guidelines.

With that caveat, children and young people with PTSD following terrorism should be offered a course of trauma-focussed cognitive behavioural therapy adapted appropriately to suit their age, circumstances and level of development.

Recommended reading

Ursano, R. (Ed.). (2003). *Terrorism and disaster: Individual and community mental health interventions.* New York: Cambridge University Press.

Ursano, R., Fullerton, C., Weisaeth, L., & Raphael, B. (2011). *Textbook of disaster psychiatry.* New York: Cambridge University Press.

References

1. Terr, L. C. (1991). Acute responses to external events and posttraumatic stress disorders. In M. Lewis (Ed.), *Child and adolescent psychiatry: A comprehensive textbook* (pp. 755-763). Baltimore, MD: Williams and Wilkins.
2. van der Kolk, B. A., Pelcovitz, D., Roth, S., Mandel, F. S., & et al. (1996). Dissociation, somatization, and affect dysregulation: The complexity of adaption to trauma. *American Journal of Psychiatry, 153*(Suppl), 83-93.
3. American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition, Text Revision. Washington DC: American Psychiatric Association.
4. Purdie, N., Dudgeon, P., & Walker, R. (Eds.). (2010). *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice*. Canberra: Australian Government Department of Health and Ageing.
5. Pink, B., & Albon, P. (2008). *The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples*. Cat. no. 4704.0. Canberra: Australian Bureau of Statistics.
6. Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G. (2001). *The Alcohol Use Disorders Identification Test: Guidelines for use in primary care* (2nd ed.). Geneva: World Health Organization, Department of Mental Health and Substance Dependence.
7. Isaacs, A. N., Pyett, P., Oakley-Browne, M. A., Gruis, H., & Waples-Crowe, P. (2010). Barriers and facilitators to the utilization of adult mental health services by Australia's Indigenous people: Seeking a way forward. *International Journal of Mental Health Nursing, 19*(2), 75-82. doi: 10.1111/j.1447-0349.2009.00647.x
8. Heffernan, E. B., Andersen, K. C., Dev, A., & Kinner, S. (2012). Prevalence of mental illness among Aboriginal and Torres Strait Islander people in Queensland prisons. *Medical Journal of Australia, 197*(1), 37-41. doi: 10.5694/mja11.11352
9. Armstrong, T. (2012). *Counselling interventions and indigenous mental health*. Retrieved April 2013, from http://216.55.99.51/clinical/abhealth/abhealt1345.html
10. Williamson, A. B., Raphael, B., Redman, S., Daniels, J., Eades, S. J., & Mayers, N. (2010). Emerging themes in Aboriginal child and adolescent mental health: Findings from a qualitative study in Sydney, New South Wales. *Medical Journal of Australia, 192*(10), 603-605.
11. Australian Institute of Health and Welfare. (2011). *The health and welfare of Australia's Aboriginal and Torres Strait Islander people, an overview 2011*. Cat. no. IHW 42. Canberra: AIHW.
12. Porter, M., & Haslam, N. (2005). Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: A meta-analysis. *Journal of the American Medical Association, 294*(5), 602-612.
13. Schweitzer, R. D., Brough, M., Vromans, L., & Asic-Kobe, M. (2011). Mental health of newly arrived Burmese refugees in Australia: Contributions of pre-migration and post-migration experience. *Australian and New Zealand Journal of Psychiatry, 45*(4), 299-307.
14. Berry, J. W., Phinney, J. S., Sam, D. L., & Vedder, P. (2006). Immigrant youth: Acculturation, identity, and adaptation. *Applied Psychology an International Review-Psychologie Appliquee-Revue Internationale, 55*(3), 303-332. doi: 10.1111/j.1464-0597.2006.00256.x
15. Beiser, M. N. M. N., & Hou, F. (2006). Ethnic identity, resettlement stress and depressive affect among Southeast Asian refugees in Canada. *Social Science & Medicine, 63*(1), 137-150. doi: 10.1016/j.socscimed.2005.12.002
16. d'Ardenne, P., Farmer, E., Ruaro, L., & Priebe, S. (2007). Not lost in translation: Protocols for interpreting trauma-focused CBT. *Behavioural and Cognitive Psychotherapy, 35*(3), 303-316.
17. Palmieri, P. A., Marshall, G. N., & Schell, T. L. (2007). Confirmatory factor analysis of posttraumatic stress symptoms in Cambodian refugees. *Journal of Traumatic Stress, 20*(2), 207-216.
18. Rasmussen, A., Smith, H., & Keller, A. S. (2007). Factor structure of PTSD symptoms among west and central African refugees. *Journal of Traumatic Stress, 20*(3), 271-280.
19. Rasmussen, A., Katoni, B., Keller, A. S., & Wilkinson, J. (2011). Posttraumatic idioms of distress among Darfur refugees: Hozun and Majnun. *Transcultural Psychiatry, 48*(4), 392-415. doi: 10.1177/1363461511409283
20. Hinton, D. E., & Lewis-Fernández, R. (2011). The cross-cultural validity of posttraumatic stress disorder: Implications for DSM-5. *Depression and Anxiety, 28*(9), 783-801. doi: 10.1002/da.20753
21. Fazel, M., Wheeler, J., & Danesh, J. (2005). Prevalence of serious mental disorder in 7000 refugees resettled in western countries: A systematic review. *Lancet, 365*(9467), 1309-1314.
22. Steel, Z., Chey, T., Silove, D., Marnane, C., Bryant, R. A., & van Ommeren, M. (2009). Association of torture and other potentially traumatic events with mental health outcomes among populations exposed to mass conflict and displacement: A systematic review and meta-analysis. *Journal of the American Medical Association, 302*(5), 537-549.
23. Kirmayer, L. J., Narasiah, L., Munoz, M., Rashid, M., Ryder, A. G., Guzder, J., . . . Pottie, K. (2011). Common mental health problems in immigrants and refugees: General approach in primary care. *Canadian Medical Association Journal, 183*(12), E959-E967. doi: 10.1503/cmaj.090292
24. Miller, K. E., & Rasmussen, A. (2010). War exposure, daily stressors, and mental health in conflict and post-conflict settings: Bridging the divide between trauma-focused and psychosocial frameworks. *Social Science & Medicine, 70*, 7-16. doi: 10.1016/j.socscimed.2009.09.029
25. Maier, T., & Straub, M. (2011). "My head is like a bag full of rubbish": Concepts of illness and treatment expectations in traumatized migrants. *Qualitative Health Research, 21*(2), 233-248. doi: 10.1177/1049732310383867
26. Nickerson, A., Bryant, R. A., Silove, D., & Steel, Z. (2011). A critical review of psychological treatments of posttraumatic stress disorder in refugees. *Clinical Psychology Review, 31*(3), 399-417. doi: 10.1016/j.cpr.2010.10.004
27. d'Ardenne, P., Ruaro, L., Cestari, L., Fakhoury, W., & Priebe, S. (2007). Does interpreter-mediated CBT with traumatized refugee people work? A comparison of patient outcomes in East London. *Behavioural and Cognitive Psychotherapy, 35*(3), 293-301.
28. Aristotle, P. (1990). A wholistic approach. In P. Hosking (Ed.), *Hope after horror: Helping survivors of torture and trauma* (pp. 157-176). Sydney: Uniya.
29. Steel, Z., Momartin, S., Bateman, C., Hafshejani, A., & Silove, D. M. (2004). Psychiatric status of asylum seeker families held for a protracted period in a remote detention centre in Australia. *Australian and New Zealand Journal of Public Health, 28*(6), 527-536.

30. Steel, Z., Silove, D., Brooks, R., Momartin, S., Alzuhairi, B., & Susljik, I. (2006). Impact of immigration detention and temporary protection on the mental health of refugees. *British Journal of Psychiatry, 188*, 58-64.

31. Steel, Z., Momartin, S., Silove, D., Coello, M., Aroche, J., & Tay, K. W. (2011). Two year psychosocial and mental health outcomes for refugees subjected to restrictive or supportive immigration policies. *Social Science & Medicine, 72*(7), 1149-1156. doi: 10.1016/j.socscimed.2011.02.007

32. Dudley, M. (2003). Contradictory Australian national policies on self-harm and suicide: The case of asylum seekers in mandatory detention. *Australasian Psychiatry, 11*(Supplement), S102-S108. doi: 10.1046/j.1038-5282.2003.02023.x

33. Sultan, A., & O'Sullivan, K. (2001). Psychological disturbances in asylum seekers held in long term detention: A participant-observer account. *Medical Journal of Australia, 175*, 593-596.

34. McNerney, D., & Kaye, J. (2006). Asylum seekers, therapy and ethics. *Critical Psychology, 16*, 166-179.

35. Nickerson, A., Steel, Z., Bryant, R., Brooks, R., & Silove, D. (2011). *Change in visa status amongst Mandaean refugees: Relationship to psychological symptoms and living difficulties.* Psychiatry Research. doi: 10.1016/j.psychres.2010.12.015

36. UN High Commissioner for Refugees. (2012). *UNHCR global trends 2011: A year of crises.* Retrieved April 2013, from http://www.unhcr.org/refworld/docid/4fdeocbe2.html

37. Bronstein, I., & Montgomery, P. (2011). Psychological distress in refugee children: A systematic review. *Clinical Child and Family Psychology Review, 14*(1), 44-56. doi: 10.1007/s10567-010-0081-0

38. Newman, L. K., & Steel, Z. (2008). The child asylum seeker: Psychological and developmental impact of immigration detention. *Child and Adolescent Psychiatric Clinics of North America, 17*, 665-683. doi: 10.1016/j.chc.2008.02.009

39. Smid, G. E., Lensvelt-Mulders, G., Knipscheer, J. W., Gersons, B. P. R., & Kleber, R. J. (2011). Late-onset PTSD in unaccompanied refugee minors: Exploring the predictive utility of depression and anxiety symptoms. *Journal of Clinical Child and Adolescent Psychology, 40*(5), 742-755. doi: 10.1080/15374416.2011.597083

40. Robjant, K., Hassan, R., & Katona, C. (2009). Mental health implications of detaining asylum seekers: Systematic review. *British Journal of Psychiatry, 194*(4), 306-312.

41. Dudley, M., Steel, Z., Mares, S., & Newman, L. (2012). Children and young people in immigration detention. *Current Opinion in Psychiatry, 25*(4), 285-292.

42. Fazel, M., Reed, R. V., Panter-Brick, C., & Stein, A. (2012). Mental health of displaced and refugee children resettled in high-income countries: Risk and protective factors. *Lancet, 379*(9812), 266-282. doi: 10.1016/s0140-6736(11)60051-2

43. Morantz, G., Rousseau, C., & Heymann, J. (2012). The divergent experiences of children and adults in the relocation process: Perspectives of child and parent refugee claimants in Montreal. *Journal of Refugee Studies, 25*(1), 71-92. doi: 10.1093/jrs/fer025

44. Hinton, D. E., Rasmussen, A., Nou, L., Pollack, M. H., & Good, M.-J. (2009). Anger, PTSD, and the nuclear family: A study of Cambodian refugees. *Social Science & Medicine, 69*(9), 1387-1394. doi: 10.1016/j.socscimed.2009.08.018

45. Davidson, G. R., Murray, K. E., & Schweitzer, R. D. (2010). Review of refugee mental health assessment: Best practices and recommendations. *Journal of Pacific Rim Psychology, 4*(1), 72-85.

46. Brymer, M. J., Steinberg, A. M., Sornborger, J., Layne, C. M., & Pynoos, R. S. (2008). Acute interventions for refugee children and families. *Child and Adolescent Psychiatric Clinics of North America, 17*(3), 625-640.

47. McFarlane, A. C., Hodson, S. E., Van Hooff, M., & Davies, C. (2011). *Mental health in the Australian Defence Force: 2010 ADF Mental Health and Wellbeing Study: Full report.* Canberra: Department of Defence.

48. Waller, M., Treloar, S. A., Sim, M. R., McFarlane, A. C., McGuire, A. C., Bleier, J., & Dobson, A. J. (2012). Traumatic events, other operational stressors and physical and mental health reported by Australian Defence Force personnel following peacekeeping and war-like deployments. *BMC Psychiatry, 12*(1), 88. doi: 10.1186/1471-244X-12-88

49. Litz, B. T., Maguen, S., Wang, J. L., & Cook, M. (2004). The stressors and demands of peacekeeping in Kosovo: Predictors of mental health response. *Military Medicine, 169*(3), 198-206.

50. Litz, B. T., Orsillo, S. M., Friedman, M., Ehlich, P., & Batres, A. (1997). Posttraumatic stress disorder associated with peacekeeping duty in Somalia for US military personnel. *American Journal of Psychiatry, 154*, 178-184.

51. Iversen, A. C., Fear, N. T., Ehlers, A., Hughes, J. H., Hull, L., Earnshaw, M., Hotopf, M. (2008). Risk factors for post-traumatic stress disorder among UK Armed Forces personnel. *Psychological Medicine, 38*(4), 511-522.

52. Seifert, A. E., Polusny, M. A., & Murdoch, M. (2011). The association between childhood physical and sexual abuse and functioning and psychiatric symptoms in a sample of U.S. army soldiers. *Military Medicine, 176*(2), 176-181.

53. Richardson, L. K., Frueh, B. C., & Acierno, R. (2010). Prevalence estimates of combat-related post-traumatic stress disorder: Critical review. *Australian and New Zealand Journal of Psychiatry, 44*(1), 4-19.

54. O'Toole, B. I., Marshall, R. P., Grayson, D. A., Schureck, R. J., Dobson, M., Ffrench, M., Vennard, J. (1996). The Australian Vietnam veterans health study: III. Psychological health of Australian Vietnam veterans and its relationship to combat. *International Journal of Epidemiology, 25*(2), 331-339.

55. Ikin, J. F., Sim, M. R., Creamer, M. C., Forbes, A. B., McKenzie, D. P., Kelsall, H. L., Schwarz, H. (2004). War-related psychological stressors and risk of psychological disorders in Australian veterans of the 1991 Gulf War. *British Journal of Psychiatry, 185*, 116-126.

56. Hoge, C. W., Terhakopian, A., Castro, C. A., Messer, S. C., & Engel, C. C. (2007). Association of posttraumatic stress disorder with somatic symptoms, health care visits, and absenteeism among Iraq war veterans. *American Journal of Psychiatry, 164*(1), 150-153.

57. Hicks, M. H.-R. (2011). Mental health screening and coordination of care for soldiers deployed to Iraq and Afghanistan. *American Journal of Psychiatry, 168*(4), 341-343. doi: 10.1176/appi.ajp.2011.11010074

58. Warner, C. H., Appenzeller, G. N., Parker, J. R., Warner, C. M., & Hoge, C. W. (2011). Effectiveness of mental health screening and coordination of in-theater care prior to deployment to Iraq: A cohort study. *American Journal of Psychiatry, 168*(4), 378-385. doi: 10.1176/appi.ajp.2010.10091303

59. Forbes, D., Creamer, M., & Biddle, D. (2001). The validity of the PTSD checklist as a measure of symptomatic change in combat-related PTSD. *Behaviour Research and Therapy, 39*(8), 977-986. doi: 10.1016/S0005-7967(00)00084-X

60. Bliese, P. D., Wright, K. M., Adler, A. B., Cabrera, O., Castro, C. A., & Hoge, C. W. (2008). Validating the primary care posttraumatic stress disorder screen and the posttraumatic stress disorder checklist with soldiers returning from combat. *Journal of Consulting and Clinical Psychology, 76*(2), 272-281.

61. Smid, G. E., Mooren, T. T. M., van der Mast, R. C., Gersons, B. P. R., & Kleber, R. J. (2009). Delayed posttraumatic stress disorder: Systematic review, meta-analysis, and meta-regression analysis of prospective studies. *Journal of Clinical Psychiatry, 70*(11), 1572-1582. doi: 10.4088/JCP.08r04484

62. Forbes, D., Lloyd, D., Nixon, R. D. V., Elliott, P., Varker, T., Perry, D., Creamer, M. (2012). A multisite randomized controlled effectiveness trial of cognitive processing therapy for military-related posttraumatic stress disorder. *Journal of Anxiety Disorders, 26*(3), 442-452. doi: 10.1016/j.janxdis.2012.01.006

63. McFarlane, A. C. (2010). The delayed and cumulative consequences of traumatic stress: Challenges and issues in compensation settings. *Psychological Injury and Law, 3*(2), 100-110. doi: 10.1007/s12207-010-9074-z

64. Declercq, F., Meganck, R., Deheegher, J., & Van Hoorde, H. (2011). Frequency of and subjective response to critical incidents in the prediction of PTSD in emergency personnel. *Journal of Traumatic Stress, 24*(1), 133-136. doi: 10.1002/jts.20609

65. Komarovskaya, I., Maguen, S., McCaslin, S. E., Metzler, T. J., Madan, A., Brown, A. D., Marmar, C. R. (2011). The impact of killing and injuring others on mental health symptoms among police officers. *Journal of Psychiatric Research, 45*(10), 1332-1336. doi: 10.1016/j.jpsychires.2011.05.004

66. Maguen, S., Metzler, T. J., McCaslin, S. E., Inslicht, S. S., Henn-Haase, C., Neylan, T. C., & Marmar, C. R. (2009). Routine work environment stress and PTSD symptoms in police officers. *Journal of Nervous and Mental Disease, 197*(10), 754-760.

67. Winwood, P. C., Peters, R., Peters, M., & Dollard, M. (2012). Further validation of the Psychological Injury Risk Indicator scale. *Journal of Occupational and Environmental Medicine, 54*(4), 478-484. doi: 10.1097/JOM.0b013e3182479f77

68. Berger, W., Coutinho, E. S., Figueira, I., Marques-Portella, C., Luz, M. P., Neylan, T. C., Mendlowicz, M. V. (2012). Rescuers at risk: A systematic review and meta-regression analysis of the worldwide current prevalence and correlates of PTSD in rescue workers. *Social Psychiatry and Psychiatric Epidemiology, 47*(6), 1001-1011. doi: 10.1007/s00127-011-0408-2

69. Haugen, P. T., Evces, M., & Weiss, D. S. (2012). Treating posttraumatic stress disorder in first responders: A systematic review. *Clinical Psychology Review, 32*(5), 370-380. doi: 10.1016/j.cpr.2012.04.001

70. Meffert, S. M., Metzler, T. J., Henn-Haase, C., McCaslin, S., Inslicht, S., Chemtob, C., . . . Marmar, C. R. (2008). A prospective study of trait anger and PTSD symptoms in police. *Journal of Traumatic Stress, 21*(4), 410-416.

71. McFarlane, A. C., & Bryant, R. A. (2007). Post-traumatic stress disorder in occupational settings: Anticipating and managing the risk. *Occupational Medicine, 57*(6), 404-410.

72. McFarlane, A. C., Williamson, P., & Barton, C. A. (2009). The impact of traumatic stressors in civilian occupational settings. *Journal of Public Health Policy, 30*(3), 311-327. doi: 10.1057/jphp.2009.21

73. Weiss, D. S., Brunet, A., Best, S. R., Metzler, T. J., Liberman, A., Pole, N., Marmar, C. R. (2010). Frequency and severity approaches to indexing exposure to trauma: The Critical Incident History Questionnaire for police officers. *Journal of Traumatic Stress, 23*(6), 734-743. doi: 10.1002/Jts.20576

74. Colwell, L. H. (2009). Police officers' experience with trauma. *International Journal of Emergency Mental Health, 11*(1), 3-16.

75. Creamer, M., Varker, T., Bisson, J., Darte, K., Greenberg, N., Lau, W., Forbes, D. (2012). An international consensus study for peer support program guidelines using the Delphi method. *Journal of Traumatic Stress, 25*, 134-141.

76. Stergiopoulos, E., Cimo, A., Cheng, C. C., Bonato, S., & Dewa, C. S. (2011). *Interventions to improve work outcomes in work-related PTSD: A systematic review.* BMC Public Health, 11. doi: 10.1186/1471-2458-11-838

77. Australian Bureau of Statistics. (2012). *Reflecting a nation: Stories from the 2011 Census, 2012-2013.* Cat. no. 2071.0. Canberra: ABS.

78. Australian Bureau of Statistics. (2008). *Population projections, Australia, 2006 to 2101.* Cat. no. 3222.0. Canberra: ABS.

79. Joffe, C., Brodaty, H., Luscombe, G., & Ehrlich, F. (2003). The Sydney Holocaust study: Posttraumatic stress disorder and other psychosocial morbidity in an aged community sample. *Journal of Traumatic Stress, 16*(1), 39-47.

80. Muhtz, C., Godemann, K., von Alm, C., Wittekind, C., Goemann, C., Wiedemann, K., Kellner, M. (2011). Effects of chronic posttraumatic stress disorder on metabolic risk, quality of life, and stress hormones in aging former refugee children. *Journal of Nervous and Mental Disease, 199*(9), 646-652. doi: 10.1097/NMD.0b013e318229cfba

81. Bonwick, R. J., & Morris, P. L. P. (1996). Post-traumatic stress disorder in elderly war veterans. *International Journal of Geriatric Psychiatry, 11*(12), 1071-1076.

82. Wardill, T., & Anderson, V. (2010). Assessment of executive functioning in older adults. In V. Anderson, R. Jacobs & P. Anderson (Eds.), *Executive functions and the frontal lobes: A lifespan perspective* (pp. 155-178). New York: Taylor & Francis.

83. Australian Institute of Health and Welfare. (2012). *Dementia in Australia.* Cat. no. AGE 70. Canberra: AIHW.

84. Yaffe, K., Vittinghoff, E., Lindquist, K., Barnes, D., Covinsky, K. E., Neylan, T., Marmar, C. (2010). Posttraumatic stress disorder and risk of dementia among US veterans. *Archives of General Psychiatry, 67*(6), 608-613.

85. Qureshi, S. U., Kimbrell, T., Pyne, J. M., Magruder, K. M., Hudson, T. J., Petersen, N. J., Kunik, M. E. (2010). Greater prevalence and incidence of dementia in older veterans with posttraumatic stress disorder. *Journal of the American Geriatrics Society, 58*(9), 1627-1633. doi: 10.1111/j.1532-5415.2010.02977.x

86. Ravona-Springer, R., Beeri, M. S., & Goldbourt, U. (2011). Exposure to the Holocaust and World War II concentration camps during late adolescence and adulthood is not associated with increased risk for dementia at old age. *Journal of Alzheimers Disease, 23*(4), 709-716. doi: 10.3233/jad-2010-101327

87. Norris, F. H., Foster, J. D., & Weisshaar, D. L. (2002). The epidemiology of gender differences in PTSD across developmental, societal, and research contexts. In R. Kimerling, P. Ouimette & J. Wolfe (Eds.), *Gender and PTSD* (pp. 3-42). New York: Guilford Press.

88. Acierno, R., Gray, M., Best, C., Resnick, H., Kilpatrick, D., Saunders, B., & Brady, K. (2001). Rape and physical violence: Comparison of assault characteristics in older and younger adults in the national women's study. *Journal of Traumatic Stress, 14*(4), 685-695.

89. Creamer, M., & Parslow, R. (2008). Trauma exposure and posttraumatic stress disorder in the elderly: A community prevalence study. *American Journal of Geriatric Psychiatry, 16*(10), 853-856.

90. Schinka, J. A., Brown, L. M., Borenstein, A. R., & Mortimer, J. A. (2007). Confirmatory factor analysis of the PTSD checklist in the elderly. *Journal of Traumatic Stress, 20*(3), 281-289.

91. Pietrzak, R. H., Van Ness, P. H., Fried, T. R., Galea, S., & Norris, F. (2012). Diagnostic utility and factor structure of the PTSD Checklist in older adults. *International Psychogeriatrics, 24*(10), 1684-1696. doi: 10.1017/S1041610212000853

92. Bottche, M., Kuwert, P., & Knaevelsrud, C. (2012). Posttraumatic stress disorder in older adults: An overview of characteristics and treatment approaches. *International Journal of Geriatric Psychiatry, 27*(3), 230-239. doi: 10.1002/gps.2725

93. Herrmann, W. J., & Flick, U. (2012). Nursing home residents' psychological barriers to sleeping well: A qualitative study. *Family Practice, 29*(4), 482-487. doi: 10.1093/fampra/cmr125

94. Spitzer, C., Barnow, S., Volzke, H., John, U., Freyberger, H. J., & Grabe, H. J. (2008). Trauma and posttraumatic stress disorder in the elderly: Findings from a German community study. *Journal of Clinical Psychiatry, 69*(5), 693-700.

95. Ticehurst, S., Webster, R. A., Carr, V. J., & Lewin, T. J. (1996). The psychosocial impact of an earthquake on the elderly. *International Journal of Geriatric Psychiatry, 11*(11), 943-951.

96. Jia, Z. B., Tian, W. H., Liu, W. Z., Cao, Y., Yan, J., & Shun, Z. S. (2010). Are the elderly more vulnerable to psychological impact of natural disaster? A population-based survey of adult survivors of the 2008 Sichuan earthquake. *BMC Public Health, 10*. doi: 10.1186/1471-2458-10-172

97. Viswanath, B., Maroky, A. S., Math, S. B., John, J. P., Benegal, V., Hamza, A., & Chaturvedi, S. K. (2012). Psychological impact of the tsunami on elderly survivors. *American Journal of Geriatric Psychiatry, 20*(5), 402-407. doi: 10.1097/JGP.0b013e318246b7e9

98. Zhang, Z., Shi, Z. B., Wang, L., & Liu, M. X. (2012). Post-traumatic stress disorder, anxiety and depression among the elderly: A survey of the hard-hit areas a year after the Wenchuan earthquake. *Stress and Health, 28*(1), 61-68. doi: 10.1002/smi.1403

99. Wang, P. S., Gruber, M. J., Powers, R. E., Schoenbaum, M., Speier, A. H., Wells, K. B., & Kessler, R. C. (2007). Mental health service use among Hurricane Katrina survivors in the eight months after the disaster. *Psychiatric Services, 58*(11), 1403-1411.

100. Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). "Mini-mental state": A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research, 12*(3), 189-198.

101. Storey, J. E., Rowland, J. T. J., Conforti, D. A., & Dickson, H. G. (2004). The Rowland Universal Dementia Assessment Scale (RUDAS): A multicultural cognitive assessment scale. *International Psychogeriatrics, 16*(1), 13-31. doi: 10.1017/S1041610204000043

102. Brodaty, H., Pond, D., Kemp, N. M., Luscombe, G., Harding, L., Berman, K., & Huppert, F. A. (2002). The GPCOG: A new screening test for dementia designed for general practice. *Journal of the American Geriatrics Society, 50*(3), 530-534.

103. Clapp, J. D., & Beck, J. G. (2012). Treatment of PTSD in older adults: Do cognitive-behavioral interventions remain viable? *Cognitive and Behavioral Practice, 19*(1), 126-135. doi: 10.1016/j.cbpra.2010.10.002

104. Thorp, S. R., Stein, M. B., Jeste, D. V., Patterson, T. L., & Wetherell, J. L. (2012). Prolonged exposure therapy for older veterans with posttraumatic stress disorder: A pilot study. *American Journal of Geriatric Psychiatry, 20*(3), 276-280. doi: 10.1097/JGP.0b013e3182435ee9

105. Cook, J. M., & O'Donnell, C. (2005). Assessment and psychological treatment of posttraumatic stress disorder in older adults. *Journal of Geriatric Psychiatry and Neurology, 18*(2), 61-71.

106. Bryant, R. A., O'Donnell, M. L., Creamer, M., McFarlane, A. C., Clark, C. R., & Silove, D. (2010). The psychiatric sequelae of traumatic injury. *American Journal of Psychiatry, 167*(3), 312-320. doi: 10.1176/appi.ajp.2009.09050617

107. Sterling, M., Hendrikz, J., & Kenardy, J. (2011). Similar factors predict disability and posttraumatic stress disorder trajectories after whiplash injury. *Pain, 152*(6), 1272-1278. doi: 10.1016/j.pain.2011.01.056

108. O'Donnell, M. L., Creamer, M., Elliott, P., Atkin, C., & Kossmann, T. (2005). Determinants of quality of life and role-related disability after injury: Impact of acute psychological responses. *Journal of Trauma - Injury Infection and Critical Care, 59*(6), 1328-1334.

109. O'Donnell, M. L., Creamer, M., & Pattison, P. (2004). Posttraumatic stress disorder and depression following trauma: Understanding comorbidity. *American Journal of Psychiatry, 161*(8), 1390-1396.

110. Liedl, A., O'Donnell, M., Creamer, M., Silove, D., McFarlane, A., Knaevelsrud, C., & Bryant, R. A. (2009). Support for the mutual maintenance of pain and post-traumatic stress disorder symptoms. *Psychological Medicine, 40*(7), 1215-1223. doi: 10.1017/S0033291709991310

111. Hsieh, M. Y., Ponsford, J., Wong, D., Schonberger, M., Taffe, J., & McKay, A. (2012). Motivational interviewing and cognitive behaviour therapy for anxiety following traumatic brain injury: A pilot randomised controlled trial. *Neuropsychological Rehabilitation, 22*(4), 585-608. doi: 10.1080/09602011.2012.678860

112. Kahana, S. Y., Feeny, N. C., Youngstrom, E. A., & Drotar, D. (2006). Posttraumatic stress in youth experiencing illnesses and injuries: An exploratory meta-analysis. *Traumatology, 12*(2), 148-161. doi: 10.1177/1534765606294562

113. United Nations. (1985). *Declaration of basic principles of justice for victims of crime and abuse of power.* Retrieved April 2013, from http://www.un.org/documents/ga/res/40/a40r034.htm

114. Australian Bureau of Statistics. (2012). *Year Book Australia, 2012.* Cat. no. 1310.0. Canberra: ABS.

115. Kessler, R. C., Sonnega, A., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry, 52*(12), 1048-1060.

116. Breslau, N. (2002). Gender differences in trauma and posttraumatic stress disorder. *Journal of Gender Specific Medicine, 5*(1), 34-40.

117. Norris, F. H. (1992). Epidemiology of trauma: Frequency and impact of different potentially traumatic events on different demographic groups. *Journal of Consulting and Clinical Psychology, 60*(3), 409-418.

118. Tarrier, N., Sommerfield, C., Pilgrim, H., & Humphreys, L. (1999). Cognitive therapy or imaginal exposure in the treatment of post-traumatic stress disorder: Twelve-month follow-up. *British Journal of Psychiatry, 175*, 571-575.

119. Forbes, D., Fletcher, S., Parslow, R., Phelps, A., O'Donnell, M., Bryant, R. A., Creamer, M. (2012). Trauma at the hands of another: Longitudinal study of differences in the posttraumatic stress disorder symptom profile following interpersonal compared with noninterpersonal trauma. *Journal of Clinical Psychiatry, 73*(3), 372-376. doi: 10.4088/JCP.10m06640

120. Chung, H., & Breslau, N. (2008). The latent structure of post-traumatic stress disorder: Tests of invariance by gender and trauma type. *Psychological Medicine, 38*(4), 563-573.

121. Price-Robertson, R., Bromfield, L., & Vassallo, S. (2010). *The prevalence of child abuse and neglect*. Melbourne: Australian Institute of Family Studies.

122. Mills, K. L., McFarlane, A. C., Slade, T., Creamer, M., Silove, D., Teesson, M., & Bryant, R. (2011). Assessing the prevalence of trauma exposure in epidemiological surveys. *Australian and New Zealand Journal of Psychiatry, 45*(5), 407-415. doi: 10.3109/00048674.2010.543654

123. Creamer, M., Burgess, P., & McFarlane, A. C. (2001). Post-traumatic stress disorder: Findings from the Australian National Survey of Mental Health and Well-being. *Psychological Medicine, 31*(7), 1237-1247.

124. McGregor, K., Julich, S., Glover, M., & Gautam, J. (2010). Health professionals' responses to disclosure of child sexual abuse history: Female child sexual abuse survivors' experiences. *Journal of Child Sexual Abuse, 19*(3), 239-254. doi: 10.1080/10538711003789015

125. McGregor, K., Glover, M., Gautam, J., & Julich, S. (2010). Working sensitively with child sexual abuse survivors: What female child sexual abuse survivors want from health professionals. *Women & Health, 50*(8), 737-755. doi: 10.1080/03630242.2010.530931

126. Cloitre, M., Courtois, C. A., Charuvastra, A., Carapezza, R., Stolbach, B. C., & Green, B. L. (2011). Treatment of complex PTSD: Results of the ISTSS expert clinician survey on best practices. *Journal of Traumatic Stress, 24*(6), 615-627. doi: 10.1002/jts.20697

127. Korkman, J., Santtila, P., Drzewiecki, T., & Sandnabba, N. K. (2008). Failing to keep it simple: Language use in child sexual abuse interviews with 3-8-year-old children. *Psychology Crime & Law, 14*(1), 41-60. doi: 10.1080/10683160701368438

128. Thormar, S. B., Gersons, B. P. R., Juen, B., Marschang, A., Djakababa, M. N., & Olff, M. (2010). The mental health impact of volunteering in a disaster setting: A review. *Journal of Nervous and Mental Disease, 198*(8), 529-538. doi: 10.1097/Nmd.0b013e3181ea1fa9

129. Davis, T. E., Grills-Taquechel, A. E., & Ollendick, T. H. (2010). The psychological impact from Hurricane Katrina: Effects of displacement and trauma exposure on university students. *Behavior Therapy, 41*(3), 340-349.

130. Keskinen-Rosenqvist, R., Michelsen, H., Schulman, A., & Wahlstrom, L. (2011). Physical symptoms 14 months after a natural disaster in individuals with or without injury are associated with different types of exposure. *Journal of Psychosomatic Research, 71*(3), 180-187. doi: 10.1016/j.jpsychores.2011.01.015

131. Heir, T., Piatigorsky, A., & Weisaeth, L. (2010). Posttraumatic stress symptom clusters associations with psychopathology and functional impairment. *Journal of Anxiety Disorders, 24*(8), 936-940.

132. Mohr, D. C., Vella, L., Hart, S. L., Heckman, T., & Simon, G. (2008). The effect of telephone-administered psychotherapy on symptoms of depression and attrition: A meta-analysis. *Clinical Psychology: Science and Practice, 15*, 243-253.

133. Tuerk, P. W., Yoder, M., Ruggiero, K. J., Gros, D. F., & Acierno, R. (2010). A pilot study of prolonged exposure therapy for posttraumatic stress disorder delivered via telehealth technology. *Journal of Traumatic Stress, 23*(1), 116-123.

134. Bouchard, S., Paquin, B., Payeur, R., Allard, M., Rivard, V., Fournier, T., Lapierre, J. (2004). Delivering cognitive-behavior therapy for panic disorder with agoraphobia in videoconference. *Telemedicine Journal and e-Health, 10*(1), 13-25. doi: 10.1089/153056204773644535

135. Nygaard, E., Wentzel-Larsen, T., Hussain, A., & Heir, T. (2011). Family structure and posttraumatic stress reactions: A longitudinal study using multilevel analyses. *BMC Psychiatry, 11*, 195. doi: 10.1186/1471-244X-11-195

136. Heir, T., Piatigorsky, A., & Weisaeth, L. (2009). Longitudinal changes in recalled perceived life threat after a natural disaster. *British Journal of Psychiatry, 194*(6), 510-514.

137. Furr, J. M., Comer, J. S., Edmunds, J. M., & Kendall, P. C. (2010). Disasters and youth: A meta-analytic examination of posttraumatic stress. *Journal of Consulting and Clinical Psychology, 78*(6), 765-780.

138. Franks, B. A. (2011). Moving targets: A developmental framework for understanding children's changes following disasters. *Journal of Applied Developmental Psychology, 32*(2), 58-69. doi: 10.1016/j.appdev.2010.12.004

139. Sprung, M., & Harris, P. L. (2010). Intrusive thoughts and young children's knowledge about thinking following a natural disaster. *Journal of Child Psychology and Psychiatry, 51*(10), 1115-1124.

140. Hobfoll, S. E., Watson, P. E., Bell, C. C., Bryant, R. A., Brymer, M. J., & Friedman, M. J. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry: Interpersonal and Biological Processes, 70*(4), 283-315. doi: 10.1521/psyc.2007.70.4.283

141. McDermott, B., Berry, H., & Cobham, V. (2012). Social connectedness: A potential aetiological factor in the development of child post-traumatic stress disorder. *Australian and New Zealand Journal of Psychiatry, 46*(2), 109-117. doi: 10.1177/0004867411433950

142. Polusny, M. A., Ries, B. J., Meis, L. A., DeGarmo, D., McCormick-Deaton, C. M., Thuras, P., & Erbes, C. R. (2011). Effects of parents' experiential avoidance and PTSD on adolescent disaster-related posttraumatic stress symptomatology. *Journal of Family Psychology, 25*(2), 220-229. doi: 10.1037/a0022945

143. Kilic, C., Kilic, E. Z., & Aydm, I. O. (2011). Effect of relocation and parental psychopathology on earthquake survivor-children's mental health. *Journal of Nervous and Mental Disease, 199*(5), 335-341. doi: 10.1097/NMD.0b013e3182174ffa

144. Schmid, A. (2004). Terrorism - The definitional problem. *Case Western Reserve Journal of International Law, 36*(2/3), 375-419.

145. Department of Defense. (2010). *Dod Dictionary of Military And Associated Terms*. Washington, D.C.: Department of Defense.

146. Foa, E. B., Cahill, S. P., Boscarino, J. A., Hobfoll, S. E., Lahad, M., McNally, R. J., & Solomon, Z. (2005). Social, psychological, and psychiatric interventions following terrorist attacks: Recommendations for practice and research. *Neuropsychopharmacology, 30*(10), 1806-1817.

147. Brewin, C. R., Fuchkan, N., Huntley, Z., Robertson, M., Thompson, M., Scragg, P., Ehlers, A. (2010). Outreach and screening following the 2005 London bombings: Usage and outcomes. *Psychological Medicine, 40*(12), 2049-2057.

148. Gillespie, K., Duffy, M., Hackmann, A., & Clark, D. M. (2002). Community based cognitive therapy in the treatment of posttraumatic stress disorder following the Omagh bomb. *Behaviour Research and Therapy, 40*(4), 345-357.

149. Levitt, J. T., Malta, L. S., Martin, A., Davis, L., & Cloitre, M. (2007). The flexible application of a manualized treatment for PTSD symptoms and functional impairment related to the 9/11 World Trade Center attack. *Behaviour Research and Therapy, 45*(7), 1419-1433.

Glossary of Terms

Carer – A person not employed as a health practitioner who provides care for another individual with a long-term medical condition

Comorbidity – The occurrence of more than one mental health disorder at the same time

Consumer – A person who has experienced mental health problems following a traumatic event and has used or required health services

Case-controlled study – A study conducted in a naturalistic setting, which compares people who show improvement on the outcome/s of interest with those who do not

Clinician/health professional or provider – A professional such a doctor, nurse, psychologist or psychiatrist employed in clinical practice

Cohort study – A study in which subjects who have a certain condition and/or receive a particular treatment are followed over time and have measures taken at two or more points in time

Collaborative care – The practice of health professionals working together to provide care to patients and families. Also known as multidisciplinary or interdisciplinary care

Comparator – The comparison treatment or condition (e.g., waitlist) used to measure the effectiveness of the treatment under investigation

Completer data – Outcome data that is based only on those who completed treatment, rather than also including those who dropped out of treatment

Confidence interval – The probability that a population parameter will lie within an estimated range of values

Cost-effectiveness – The relative costs and benefits of a range of intervention options

Differential diagnosis – An alternative diagnosis that could be made on the basis of observed signs and reported symptoms

Early intervention – Interventions within the first month of the traumatic event including those that target all adults exposed to the event, and those that target only those with symptoms of ASD or early PTSD

Efficacy – The degree to which a particular intervention produces beneficial outcomes under ideal research conditions

Effectiveness – The degree to which a particular intervention produces beneficial outcomes in everyday settings

Epidemiological study – A study that investigates the incidence and prevalence of a particular disorder across the population

Expert consensus – The agreed position of experts in the field – relied upon only in the absence of research evidence on the issue

Fixed-effects model – A fixed-effects model of meta-analysis is based on a mathematical assumption that every study is evaluating a common treatment effect. That means the effect of treatment, allowing for chance, was the same in all studies. Another way of explaining this is to imagine that if all the studies were infinitely large they would give identical results

Functional improvement – Outcomes that indicate a higher degree of social, occupational and/or psychological functioning

Grading scheme – A set of criteria used to rate the strength of research evidence.

Heterogeneity in studies – Different outcomes for the same interventions across studies

Historically controlled study – A study in which a group receiving an intervention is compared to another group who has received the same intervention in the past

Intent-to-treat – Outcome data includes all subjects randomised to receive a treatment in a randomised controlled trial, regardless of whether they complete treatment

Internal validity – The extent to which the outcomes of the study are due to the effects of the variable under investigation and not other, extraneous variables

Interpersonal trauma – Traumatic experience that involves intentional threat or injury caused by another person such as physical or sexual assault

Interrupted time series – A study in which participants are assessed before and after an intervention on multiple occasions. The trends found in multiple pre-tests are then compared to trends in multiple post-tests. The study may or may not contain a control group

Meta-analysis – A statistical analysis that combines the results of a number of studies that have investigated the same research question

Monitoring – Systematic, repeated assessment of symptoms or functioning in order to ascertain an individual's improvement or deterioration over time

Observational study – Studies in which investigators observe patients in natural settings

Outcomes of interest – The specific aspects of functioning, including psychological, social and occupational, changes within which are used to evaluate the effects of an intervention

Peer review – A process by which research is reviewed by experts in the same field to determine whether it meets specific criteria for approval.

Posttraumatic growth – Positive psychological change experienced as a result of the struggle with traumatic experiences

Pseudo-randomised controlled trial – A study that includes both an intervention and control condition to which participants are allocated on the basis of pre-existing characteristics

Publication bias – The greater likelihood for studies with positive findings to be submitted and/or published compared to those with negative or null findings

Qualitative synthesis – A summary of research evidence that is based on a subjective analysis of the data rather than statistical analysis

Quality of life (health-related quality of life) – A multidimensional concept that encompasses the social, occupational, psychological and physical aspects of a person's functioning and enjoyment of life

Random effects model – A random effects model of meta-analysis assumes that the true treatment effects in the individual studies may be different from each other. That means there is no single number to estimate in the meta-analysis, but a distribution of numbers. The most common random effects model also assumes that these different true effects are normally distributed. The meta-analysis therefore estimates the mean and standard deviation of the different effects

Randomised control trial – A clinical trial in which participants have the same likelihood of being allocated to a treatment or control condition. Both control and intervention groups are reassessed post-treatment to investigate differences in outcomes

Recovery – includes reduction in PTSD symptoms and achieving optimal psychosocial functioning across social, occupational and/or personal settings. Recovery can be an outcome of treatment or occur as a result of a person's existing internal and external resources

Relative risk – The probability of an event occurring (or disorder developing) in one group (exposed) compared to another (non-exposed) group

Research question – Specific and clearly defined questions concerning key areas of interest which are addressed in the systematic review of the literature

Secondary prevention – Early intervention for individuals who have developed mental health problems following trauma, designed to prevent more severe or protracted mental health problems

Screening – Assessment process that aims to identify individuals who are experiencing mental health problems and/or are not showing the normal recovery trajectory following the experience of a traumatic event

Single arm study – A study designed to investigate participants receiving one type of treatment at a particular time, often in order to compare outcomes with those of another treatment at a later date

Stakeholders – Parties with a specific interest in the area under investigation

Standardised mean difference – A statistical method used to combine the outcomes of studies, including those utilising different measures, in order to examine the effect of an intervention

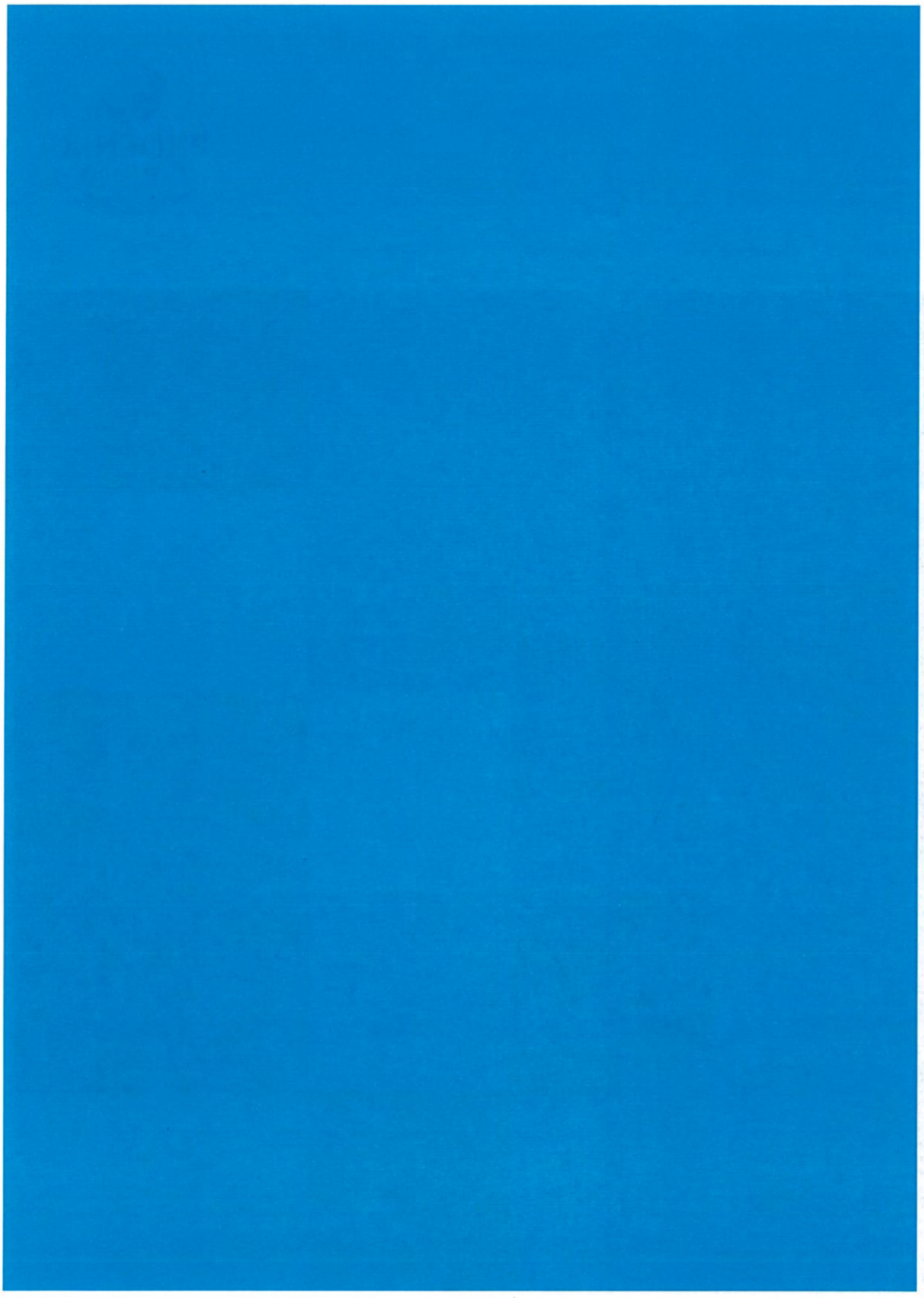
Stepped care – The practice of offering the least expensive and least intrusive intervention first, and then increasing the intensity (and therefore cost) of intervention as is necessary to achieve a desired therapeutic outcome

Systematic review – A process by which specific, well-defined research questions are investigated according to a predetermined protocol that outlines explicit methods for searching literature, evaluating studies and collating findings

Therapeutic alliance – working relationship between health practitioner and person receiving treatment







PHOENIX
AUSTRALIA
Centre for Posttraumatic Mental Health

Promoting recovery after trauma

For more information, trauma resources and getting help
www.phoenixaustralia.org






THE UNIVERSITY OF MELBOURNE

Royal Commission into
Victoria's Mental Health System

ATTACHMENT DF-2

This is the attachment marked '**DF-2**' referred to in the witness statement of Professor David Forbes dated 27 June 2019.

Last Updated 21 June 2019

CURRICULUM VITAE

DAVID FORBES

Contact Details

Phoenix Australia | Centre for Posttraumatic Mental Health
Level 3, 161 Barry Street
Carlton VIC 3053

Telephone +61 3 9305 5599
Fax +61 3 9035 5455
Email dforbes@unimelb.edu.au

Current Position

Director, Phoenix Australia - Centre for Posttraumatic Mental Health (formerly ACPMH)
Professor of Psychology, Department of Psychiatry, University of Melbourne

Citizenship Australian

Academic Qualifications

B.A. (Hons) Psychology	University of Melbourne, Australia, 1987
M.A. Clinical Psychology	University of Melbourne, Australia, 1994
Ph.D.	University of Melbourne, Australia, 2005

Awards

Certificate of Appreciation for contributions to veterans' mental health – Returned Serviceman's League (RSL) National Office (2015)
International Health and Media award for the PTSD Guideline DVD: Recovery from Trauma: What works, 2009.
Australian Commonwealth Postgraduate Course Award: 1993

Memberships

Fellow, Australian Psychological Society, College of Clinical Psychologists
Registration with the Victorian Psychological Registration Board
Member, International Society for Traumatic Stress Studies
Member, Australasian Society for Traumatic Stress Studies



EMPLOYMENT

Employment History

1987 - 1991	Employee Assistance Consultant; Education and Training Manager, Australian Treasury, ANZ Bank, Melbourne
1994 - 1995	Clinical Psychologist, Crisis assessment and treatment team, Heatherton Hospital & Mobile support team, Monash Medical Centre, Melbourne
1995 - 1999	Senior Clinical Psychologist, Veterans PTSD Unit, Austin & Repatriation Medical Centre, Melbourne
1999 - 2000	Deputy Director, National Centre for War-Related PTSD & Senior Lecturer, Department of Psychiatry, University of Melbourne
2000 - 2003	Clinical Specialist- PTSD, Australian Centre for Posttraumatic Mental Health & Senior Lecturer, Department of Psychiatry, University of Melbourne
2003 - 2007	Clinical Director, Australian Centre for Posttraumatic Mental Health & Associate Professor, Department of Psychiatry, University of Melbourne
2007 – May 2011	Deputy Director, Australian Centre for Posttraumatic Mental Health & Associate Professor, Department of Psychiatry, University of Melbourne
May 2011 - Dec 2011	Interim Director, Australian Centre for Posttraumatic Mental Health & Associate Professor, Department of Psychiatry, University of Melbourne
Dec 2011 - present	Director, Phoenix Australia - Centre for Posttraumatic Mental Health (formerly Australian Centre for Posttraumatic Mental Health) & Professor, Department of Psychiatry, University of Melbourne

Concurrent Appointments

Advisory appointments

2015 – present	Vice Chair, International Society for Traumatic Stress Studies, Posttraumatic Stress Guidelines (PTSD) committee
2014 – 2015	Independent Health Advisor – Panel Member, Department of Immigration and Border Protection
2014 - present	Enterprise for Veterans CoDesign (formerly Lead your Own Business Program), The Prince's Trust Australia
2014 - present	Centre for Mental Health Advisory Board, Centre of Mental Health, Melbourne School of Population and Global Health
2013 - present	Scientific Advisory and Review Panel, Australian Defence Force

2013 - present	Veteran Mental Health Clinical Reference Group, DVA
2012 - present	Disaster Preparedness and Response Reference Group, Australian Psychological Society
2011 – 2013	Co-Chair of the Steering Group for revision to the NHMRC Australian Clinical Practice Guidelines on the Treatment of People with ASD and PTSD
2011 - present	National Advisory Committee to the Prime Minister on Open Arms, DVA
2011 - present	Rehabilitation Advisory Committee, Department of Veterans Affairs
2011 - present	Technical Advisory Committee, Department of Veterans Affairs
2011 - present	Scientific Advisory Committee, Department of Defence
2011- present	Mental Health Advisory Group, Department of Defence
2009 - present	Victorian Bushfire Cross-professional education and training working group
2014 - 2015	Independent Health Advisor – Panel Member, Department of Immigration and Border Protection
2013 - 2015	Gallipoli Medical Research Foundation – PTSD Strategic Oversight Committee
2008	Program Deputy Chair, ISTSS Annual Conference, Baltimore, USA
2007 - 2008	National Mental Health Disaster Taskforce, Expert Advisory Group
2005 - 2007	Chair of Working Party for NHMRC Australian Clinical Practice Guidelines on the Treatment of Adults with ASD and PTSD

Editorial Board appointments

2014 - present	Editorial Board, Psychological Injury and Law
2012 - present	Editorial Board, Disaster Health
2013 - present	Editorial Board, Psychological Trauma – Theory, Research, Practice, and Policy
2011 - present	Editorial Board, Journal of Anxiety Disorders
2013 - present	Editorial Board, Case Reports in Psychiatry
2008 - 2012	Editorial Board, Journal of Traumatic Stress



Publications (reverse chronological order)
Journal Articles
156 published and in press papers

In Press

1. Bisson, J, I., Berliner, L., Cloitre, M., **Forbes, D.**, Jensen, T.K., Lewis, C., Monson, C.M., Olff, M., Pilling, S., Riggs, D., Roberts, N.P. & Shapiro, F. (In Press - accepted March 2019). The International Society for Traumatic Stress Studies New Guidelines for the Prevention and Treatment of PTSD: Methodology and Development Process. *Journal of Traumatic Stress*

2. Karen, K., Robyn, M., Gibbs,L., Alkemade, N., Baker, E., MacDougall, C., Ireton, G. & **Forbes, D.** (In Press - accepted March 2019). The role of the natural environment in disaster recovery: "We live here because we love the bush" Health and Place.

3. Schnabel, A., Youssef, G. J., Hallford, D. J., Hartley, E. J., McGillivray, J. A., Stewart, M., **Forbes, D.,** Austin, D. W. (accepted March 2019 - in press). Psychopathology in Parents of Children with Autism Spectrum Disorder: A Systematic Review and Meta-Analysis of Prevalence. *Autism.*

4. **Forbes, D.**, Pedlar, D., Adler, A.B., Bennett, C., Bryant, R.A., Busuttil, W., Cooper, J., Creamer, M.C., Fear, N.T., Greenberg, N., Heber, A., Hinton, M., Hopwood, M., Jetly, R., Lawrence-Wood, E., McFarlane, A.C., Metcalf, O., O'Donnell, M.L., Phelps, A., Richardson, J.D., Sadler, N., Schnurr, P.P., Sharp, M--L., Thompson, J.M., Ursano, R.J., Van Hooff,M., Wade, D. & Wessely, S. (In Press - accepted March 2019). Treatment of military-related posttraumatic stress disorder: Challenges, innovations, and the way forward. International Review of Psychiatry.

5. Harb, G. C., Cook, J.M., Phelps, A.J., Gehrman, P.R., **Forbes, D.,** Localio, R., Harpaz-Rotem, I., Gur, R. & Ross, R.R. (accepted January 2019) Randomized controlled trial of imagery rehearsal for posttraumatic nightmares in OEF/OIF/OND Veterans. *Journal of Sleep Medicine*

6. Gibbs, L., **Nursey, J.,** Cook, J., Ireton, G., Alkemade, N., Roberts, M., Gallagher, C., Bryant, R.A., Block, K., Molyneaux, R**. & Forbes, D.** (In Press). Delayed disaster impacts on academic performance of primary school children. *Child Development*

1. Bryant, R., Edwards, B., Creamer, MC., O'Donnell, ML., **Forbes, D**., Felmingham, K., Silove, D., Steel, Z., Nickerson, A., McFarlane, AC., Van Hooff, M., Hadzi-Pavlovic, D. (in press March 2018). The Impact of Posttraumatic Stress Disorder on Refugees' Parenting and Their Children's Mental Health. Lancet Public Health.

2. Cash, R., Varker, T., McHugh, T., Metcalf, O., Howard, A., Lloyd, D., Costello, J., Said, D., & **Forbes, D.** (in press, September 2017) Effectiveness of an anger intervention for military members with PTSD: A clinical case series, Military Medicine

3. Varker, T., Metcalf, O., **Forbes, D.,** Chisolm, K., Harvey, S., Van Hooff, M., McFarlane, A.C., Bryant, R., & Phelps, A. (in press September 2017) Research into Australian emergency service personnel mental health and wellbeing: An evidence map. Australian and New Zealand Journal of Psychiatry

4. O'Donnell, ML, Schaefer, I., Varker, T., Kartel, D., **Forbes, D.,** Bryant, RA., Silove, D., Creamer, MC., McFarlane, A., Mahli, M., Felmingham, K., Van Hoof, M., Nickerson, A.,



Steel, Z. (in press August 2017) A systematic review of person-centered approaches to investigating trauma exposure. Clinical Psychology Review.

5. Bryant, R.A., Gibbs, L., Gallagher, H.G., Lusher, D., Pattison, P., L., MacDougall, C., Harms, L., Block, K., Sinnott, B.A., Ireton, G., Richardson, J., and **Forbes, D.** (in press – accepted June 2017). Longitudinal study of changing psychological outcomes following the Victorian Black Saturday bushfires. Australian and New Zealand Journal of Psychiatry.

6. Phelps, A., Steel, Z., Metcalf, O., Alkemade, N., Kerr, K., O'Donnell, ML., Nursey, J., Cooper, J., Howard, A., Armstrong, R., **Forbes, D.** (in press, accepted May 2017). Key patterns and predictors of response to treatment for military veterans with posttraumatic stress disorder: A growth mixture modelling approach. Psychological Medicine.

Published

1. **Forbes D,** Nickerson A, Bryant RA, Creamer M, Silove D, McFarlane AC, Van Hooff M, Phelps A, Felmingham KL, Malhi GS, Steel Z, Fredrickson J, Alkemade N and O'Donnell M (2019) The impact of post-traumatic stress disorder symptomatology on quality of life: The sentinel experience of anger, hypervigilance and restricted affect.. *Australian & New Zealand Journal of Psychiatry* Vol. 53(4) 336– 349 DOI: 10.1177/0004867418772917

2. Shang, F., Kaniasty, K., Cowlishaw, S., Wade, D., Ma, H. & **Forbes, D.** (2019) Social support following a natural disaster: *A longitudinal study of survivors of the 2013 Lushan earthquake in China.* Psychiatry Research 273, 641–646

3. Gallagher C.H., Block K., Gibbs L., **Forbes D.,** Lusher D., Molyneaux R., Richardson J., Pattison P., MacDougall C., Bryant, R.B., (2018) *The effect of group involvement on post-disaster mental health: a Longitudinal multilevel analysis.* Accepted 4 November 2018, https://doi.org/10.1016/j.socscimed.2018.11.006

4. Phelps, A.J., Steel, Z., Colishaw, S., Metcalf, O., Alkemade, N., Elliott, P., O'Donnell, M., Redston, S., Kerr, K., Howard, A., Nursey, J., Cooper, J., Fitzgerald, L., & **Forbes, D**. (In press - accepted 2018) *Treatment Outcomes for Military Veterans With Posttraumatic Stress Disorder: Response Trajectories by Symptom Cluster*, Journal of Traumatic Stress, https://doi.org/10.1002/jts.22299

5. Lau, W., Silove, D., Edwards, B., **Forbes, D.,** Bryant, R.A., McFarlane, A.C., Hadzi-Pavlovic, D., Steel, Z., Nickerson, A., Van Hooff, M., Felmingham, K., Cowlishaw, S., Alkemade, N., Kartal, D. & O'Donnell, M. (2018) Adjustment of refugee children and adolescents in Australia: outcomes from wave three of the Building a New Life in Australia study *BMC Medicine 16*:157 https://doi.org/10.1186/s12916-018-1124-5

6. Gibbs, L., Block, K., MacDougall, C., Harms, L., Baker, E., Richardson, J., Ireton, G., Gallagher, H.C., Bryant, R., Lusher, D., Pattison, P., Watson, J., Gillett, J., Pirrone, A., Molyneaux, R,, Sexton-Bruce, S., **Forbes, D.** Ethical use and impact of participatory approaches to research in post-disaster environments: An Australian bushfire case study. *Biomed Research International. Biomed Research International Vol 2018, Article ID* 5621609, 11 pages https://doi.org/10.1155/2018/5621609

7. Petrie, K., Milligan-Saville., J., Gayed, A., Deady, M., Phelps, A., Dell, L., **Forbes, D.,** Bryant, R.A., Calvo, R.A., Glozier, N. & Harvey, S.B. (2018). Prevalence of PTSD and common

mental disorders amongst ambulance personnel: a systematic review and meta-analysis. *Social Psychiatry and Psychiatric Epidemiology*, https://doi.org/10.1007/s00127-018-1539-5

8. Bryant, R.A., Gibbs, L., Gallagher, H.C., Pattinson, P., Lusher, D., MacDougall, C., Harms, L., Block, K., Sinnott, V., Ireton, G., Richardson, J., & **Forbes, D**. (2017). Longitudinal study of changing psychological outcomes following the Victorian Black Saturday bushfires. *Australian and New Zealand Journal of Psychiatry*, 1-10. doi: 10.1177/0004867417714337

9. Brand, R.M., Chisholm, K., Terhaag, S., Lau, W., **Forbes, D**., Holmes, A., & O'Donnell, M.L. (2017). Understanding the early support needs of survivors of traumatic events: The example from severe injury survivors. *Psychological Trauma: Theory, Research, Practice and Policy, Advance Online Publication.* doi: 10.1037/tra0000274

10. Gallagher, H. C., Lusher, D., Gibbs, L., Pattison, P., **Forbes, D**., Block, K., Harms, L., MacDougall, C., Kellett, C., Ireton, G., & Bryant, R. A. (2017). Dyadic effects of attachment on mental health: Couples in a postdisaster context. *Journal of Family Psychology, 31,* 192-202. doi: 10.1037/fam0000256

11. Wade, D., Mewton, L., Varker, T., Phelps, A.J., & **Forbes, D**. (2017). The impact of potentially traumatic events on the mental health of males who have served in the military: Findings from the Australian National Survey of Mental Health and Wellbeing. *Australian and New Zealand Journal of Psychiatry, 51,* 639-702. doi:10.1177//0004867416671413

12. Sunderland, M., Carragher, N., Chapman, C., Mills, K., Teesson, M., Lockwood, E., **Forbes, D**., & Slade, T. (2016). The shared and specific relationships between exposure to potentially traumatic events and transdiagnostic dimensions of psychopathology. *Journal of Anxiety Disorders, 38,* 102-109. doi:10.1016/j.janxdis.2016.02.001

13. Germain, C.L., Kangas, M., Taylor, A., & **Forbes, D**. (2016). The role of trauma-related cognitive processes in the relationship between combat-PTSD symptom severity and anger expression and control. *Australian Journal of Psychology, 68,* 73-81. doi:10.1111/ajpy.12097

14. Contractor, A. A., Armour, C., **Forbes, D**., & Elhai, J. D. (2016). Posttraumatic Stress Disorder's underlying dimensions and their relation with impulsivity facets. *Journal of Nervous and Mental Disease, 204,* 20-25. doi:10.1097/NMD.0000000000000417

15. Bryant, R.A., McFarlane, A.C., Silove, D., O'Donnell, M.L., **Forbes, D**., & Creamer, M. (2016). The lingering impact of resolved PTSD on subsequent functioning. *Clinical Psychological Science, 4,493-498.* doi: 10.1177/2167702615598756

16. McGuire, A., Dobson, A., Mewton, L., Varker, T., **Forbes, D**., Wade, D. (2015). Mental health and service use: Comparing people who served in the military or received Veteran's Affairs benefits and the general population. *Australian and New Zealand Journal of Public Health, 39,* 524-529.

17. **Forbes, D**., & Metcalfe, O. (2014). Mental health of military veterans in Australia. *International Psychiatry,11*, 83-85.

18. O'Donnell, M.L., Grant, G., Alkemade, N., Spittal, M., Creamer, M., Silove, D., McFarlane, A., Bryant, R.A., **Forbes, D**., & Studdert, D.M. (2015). Compensation seeking and disability after injury: The role of compensation-related stress and mental health. *Journal of Clinical Psychiatry, 76,* 1000-1005. doi:10.4088/JCP.14m09211

19. Silove, D., Mohsin, M., Teesson, M., Creamer, M., O'Donnell, M., **Forbes, D.**, Carragher, N., Slade, T., Mills, K., Bryant, R., McFarlane, A.C., Steel, Z., Felmingham, K. & Rees, S. (2017). The Contribution of Gender-based Violence and Network Trauma to Gender Differences in Post-Traumatic Stress Disorder, Plos 1 doi.org/10.1371/journal.pone.0171879

20. Bryant, R.A., Gallagher, H.G., Waters, E., Gibbs, Pattison, P., L., MacDougall, C., Harms, L., Block, K., Baker, E., Sinnott, B.A., Ireton, G., Richardson, J., **Forbes, D.**, & Lusher, D. (2016). Mental Health and Social Networks Following Disaster. *American Journal of Psychiatry.* doi: 10.1176/appi.ajp.2016.15111403

21. Bryant, R.A., Creamer, M., O'Donnell, M.L., Forbes, D., Felmingham, K.L., Silove, D., Malhi, G., van Hoof, M., McFarlane, A.C., Nickerson, A. (2017) Separation from parents during childhood trauma predicts adult attachment security and post-traumatic stress disorder. Psychological Medicine. 47, 2028-2035.

22. Bryant, R.A., Creamer, M., O'Donnell, M., **Forbes, D.**, McFarlane, A.C., Silove, D., & Hadzi-Pavlovic, D. (2017). The emergence of posttraumatic stress disorder: a network analysis of acute and chronic posttraumatic stress symptoms. JAMA: Psychiatry. 74, 2. 135-142.

23. Nickerson, A., Creamer, M., **Forbes, D.**, McFarlane, A. C., O'Donnell, M. L., Silove, D., Steel, Z., Felmingham, K., Hadzi-Pavlovic, D. & Bryant, R. A. (2017). The longitudinal relationship between posttraumatic stress disorder and perceived social support in survivors of traumatic injury. Psychological Medicine. 47, 1. 115-126.

24. O'Donnell ML, A., Alkemade, N., Creamer, M., McFarlane, A., Silove, D, Bryant, R., Felmingham, K., Steel, Z., **Forbes, D.** (in press, accepted July 2016). A longitudinal study of Adjustment Disorder after trauma. American Journal of Psychiatry. 173 (12) 1231-1238 (doi: 10.1176/appi.ajp.2016.16010071)

25. Wade, D., Kartal, D., Varker, T., Hetrick, S., O'Donnell, ML., **Forbes, D.** (2016) Gender difference in outcomes following trauma-focused interventions for posttraumatic stress disorder: Systematic review and meta-analysis. Psychological Trauma: Theory, Research, Practice, and Policy. 8, 3. 356-364.

26. Metcalf, O., Varker, T., **Forbes, D.**, Phelps, A., Dell, L., DiBattista, A., Ralph, N., O'Donnell, M.L. (2016). Efficacy of fifteen emerging interventions for the treatment of post-traumatic stress disorder: a systematic review. Journal of Traumatic Stress. 29,1. 88-93.

27. Byllesby, B. M., Durham, T. A., **Forbes, D.**, Armour, C., & Elhai, J. D. (2016). An investigation of PTSD's core dimensions and relations with anxiety and depression. *Psychological Trauma: Theory, Research, Practice, and Policy.* 8 (2), 214–217, dx.doi.org/10.1037

28. Bryant, R.A., O'Donnell, M.O., **Forbes, D.**, McFarlane, A.C., Silove, D., & Creamer, M. (2016). The course of suicide risk following traumatic injury. *Journal of Clinical Psychiatry.* 77(5):648–653

29. **Forbes, D.**, Alkemade, N., Nickerson, A., Bryant, R.A., Creamer, M., Silove, D., McFarlane, A.C., Van Hoof, M., Phelps, A.J., Rees, S., Steele, Z., & O'Donnell, M.L. (2016). Prediction of late onset psychiatric disorder in survivors of severe injury: Findings of a latent transition analysis. *Journal of Clinical Psychiatry*, dx.doi.org/10.4088/JCP.15m09854

30. O'Donnell, ML., Alkemade, N., Creamer, MC., McFarlane, AC., Silove, D., Bryant, RA., and **Forbes, D.** (2016). The Long-Term Psychiatric Sequelae of Severe Injury: A 6-Year Follow-Up Study. *Journal of Clinical Psychiatry.* 77(4):e473–e479

31. Stewart, M., McGillivray, J.A., **Forbes, D.** & Austin, D.W. (2016). Parenting a child with an autism spectrum disorder: a review of parent mental health and its relationship to a trauma-based conceptualisation, *Advances in Mental Health,* doi: 10.1080/18387357.2015.1133075

32. **Forbes, D.,** O'Donnell, M.L., Brand, R, M., Korn, S., Creamer, M., McFarlane, A.C., Sim, M.R., Forbes, A.B. & Hawthorne, G. (2016). The Long Term Mental Health Impact of Peacekeeping: Prevalence and Predictors of Psychiatric Disorder. *British Journal of Psychiatry Open,2,* 32-37 doi: 10.1192/bjpo.bp.115.001321.

33. Gallagher, H. C., Richardson, J., **Forbes, D.,** Harms, L., Gibbs, L., Alkemade, N., MacDougall, C., Waters, E., Block, K., Lusher, D., Baker, E. and Bryant, R. A. (2016), Mental Health Following Separation in a Disaster: The Role of Attachment. J. *Traum. Stress.* doi: 10.1002/jts.22071

34. Metcalf, O., Varker, T., **Forbes D.,** Phelps, A., Dell, L., Di Battista A., Ralph, N., & O'Donnell, M. (2016). Efficacy of fifteen emerging interventions for the treatment of post-traumatic stress disorder: A systematic review. *Journal of Traumatic Stress.* 29, 88-92

35. O'Donnell, ML., & **Forbes, D.** (2016). Natural disaster, older adults, and mental health – a dangerous combination. *International Psychogeriatrics.* 28 (1) 9-10.

36. Lloyd, D., Couineau, A.L., Hawkins, K., Kartal, D., Nixon, R., Perry, D. & **Forbes, D.** (2015) Preliminary Outcomes of Implementing Cognitive Processing Therapy for Posttraumatic Stress Disorder Across a National Veterans' Treatment Service. *Journal of Clinical Psychiatry* [IF=5.13]

37. Louise Harms; Karen Block; H. Colin Gallagher; Lisa Gibbs; Richard A. Bryant; Dean Lusher; John Richardson; Colin MacDougall; Elyse Baker; Vikki Sinnott; Greg Ireton; **David Forbes**; Connie Kellett; Elizabeth Waters. (2015) Conceptualising Post-Disaster Recovery: Incorporating Grief Experiences, *British Journal of Social Work,* 45 (suppl 1): i170-i187 doi: 10.1093/bjsw/bcv122

38. Gibbs L, Block K, Harms L, MacDougall C, Snowdon E, Ireton G, **Forbes D**, Richardson J, Waters E. Children and young people's wellbeing post-disaster: Safety and stability are critical. International Journal of Disaster Risk Reduction. 2015; pp. 195-201; doi: 10.1016/j.ijdrr.2015.06.006

39. Fletcher S, O'Donnell M, **Forbes D.** (2016). Personality and trajectories of posttraumatic psychopathology: A latent change modelling approach. Journal of Anxiety Disorders.. 42, 1-9.

40. **Forbes, D.**, Nickerson, A., Alkemade, N., Bryant, R.A., Creamer, M., Silove, D., McFarlane, A.C., Van Hoof, M., Fletcher, S.L. and O'Donnell, M. (2015). Longitudinal analysis of latent classes of psychopathology and patterns of class migration in survivors of traumatic injury, *Journal of Clinical Psychiatry,* 76(9):1193–1199

41. Armour, C., Contractor, A., Elhai, J.D., Stringer, M., Lyle, G., **Forbes, D.**, & Richardson, J.D. (2015). Identifying later profiles of Posttraumatic Stress and Major Depression symptoms in Canadian veterans: Exploring differences across profiles in health related functioning, *Psychiatry Research* doi.org/10.1016/j.psychres.2015.03.011 [IF=2.68]

42. Varker, T., **Forbes, D.,** Dell, L., Weston, A., Merlin, T., Hodson, S., O'Donnell, M.L (2015). Rapid evidence assessment: Increasing the transparency of an emerging methodology. *Journal of Evaluation in Clinical Practice. 21, 6. 1199-1204.*

43. O'Donnell, ML., Alkemade, N., & **Forbes, D**. (2015).Is Australia in the Posttraumatic Stress Disorder Petri Dish? *Australian and New Zealand Journal of Psychiatry,* 49(4), 315-316. [IF=3.76]

44. Mihalopoulos, C., Magnus, A., Lal, A., Dell, L., **Forbes, D**. & Phelps, A. (2015) Is implementation of the 2013 Australian treatment guidelines for posttraumatic stress disorder cost-effective compared to current practice? A cost-utility analysis using QALYs and DALYs. *Australian and New Zealand Journal of Psychiatry, 49(4), 360-376.* [IF=3.76]

45. **Forbes, D.,** Lockwood, E., Creamer, M., Bryant, R.A., McFarlane, A.C., Silove, D., Nickerson, A. & O'Donnell, M. (2015). Latent structure of the proposed ICD-11 posttraumatic stress disorder symptoms: implications for the diagnostic algorithm. *British Journal of Psychiatry*, 206, 245–251. doi: 10.1192/bjp.bp.114.150078 [IF=7.34]

46. **Forbes, D.,** Alkemade, N., Waters, E., Gibbs, L., Gallagher, H., Pattison, P., Lusher, D., MacDougall, C.,Harms, L., Block, k., Snowdon, E., Kellett, C., Sinnott, Ireton, G., Richardson, J., Bryant, R. (2015) Anger and major life stressors as predictors of psychological outcomes following the Victorian Black Saturday bushfires. *Australian and New Zealand Journal of Psychiatry,* 1–8. doi: 10.1177/0004867414565478 [IF=3.76]

47. **Forbes, D.,** & Creamer, M. (2015) Posttraumatic Stress Disorder. *The Encyclopaedia of Clinical Psychology.* doi: 10.1002/9781118625392.wbecp439

48. McFarlane, A. C., & **Forbes, D.** (2015) What has been learned about the psychological injuries of war in a century? The journey from moral inferiority to PTSD *Medical Journal of Australia* 202(7) doi: 10.5694/mja15.00201 [IF=3.79]

49. **Forbes, D.,** Lockwood, E., Elhai, J., Creamer, M., Bryant, R., McFarlane, A., Silove, D., Miller, M., Nickerson, A., & O'Donnell, M. (2015) An evaluation of the DSM-5 factor structure for posttraumatic stress disorder in survivors of traumatic injury. *Journal of Anxiety Disorders, 29, 43-51* [IF=3.04]

50. Contractor, A. A., Armour, C., Wang, X., **Forbes, D.**, & Elhai, J. D. (2015). The mediating role of anger in the relationship between PTSD symptoms and impulsivity. *Psychological Trauma: Theory, Research, Practice, and Policy 7(2), 138-145.* doi.org/10.1037/a0037112

51. Zoteyeva, V., **Forbes, D.**, & Rickard, N.S. (2014). Military veterans' use of music-based emotion regulation for managing mental health issues. *Psychology of Music.* , 17. doi: 10.1177/0305735614566841

52. O'Donnell, ML., Alkemade, N., Nickerson, A., Creamer, M., McFarlane, A., Silove, D., Bryant, RA., & **Forbes, D**. (2014). The impact of the diagnostic changes to posttraumatic

stress disorder for DSM-5 and the proposed changes to ICD-11. *British Journal of Psychiatry.* 205, 230-235. doi:10.1192/bjp.bp.113.135285 [IF=7.34]

53. Phelps, A.J., Creamer, M., Hopwood, M. & **Forbes, D.** (2014) Features of posttraumatic dreams related to PTSD severity *Journal of Traumatic Stress Disorders & Treatment.* 3:3 doi:10.4172/2324-8947.1000127
54. Schweininger, S., **Forbes, D.**, Creamer, M., McFarlane, A., Silove, D., Bryant, RA., &. O'Donnell, ML., (2014). The temporal relationship between mental health and disability after injury. *Depression and Anxiety*, 32(1), 64-71. doi: 10.1002/da.22288

55. Nickerson, A., Barnes, J.B., Creamer, M., **Forbes, D.,** McFarlane, A.C., O'Donnell, M., Silove, D., Steel, Z & Bryant, R.A. (In Press-accepted July 2014) The Temporal Relationship Between Posttraumatic Stress Disorder and Alcohol Use Following Traumatic Injury, *Journal of Abnormal Psychology.* 123(4), 821-34.

56. Bryant, R., Nickerson, A., Creamer, MC., O'Donnell, ML., **Forbes, D.,** Galatzer-Levy, I., McFarlane, A., Silove, D., (2014). The trajectory of posttraumatic stress disorder following traumatic injury: A longitudinal six year follow-up. *British Journal of Psychiatry.* (Epub ahead of print, doi: 10.1192/bjp.bp.114.145516) [IF=7.34]

57. Rees, S., Steel, Z., Creamer, M., Teesson, M., Bryant, R.A., McFarlane, A.C., Mills, K.L., Slade, T., Carragher, N., O'Donnell, M., **Forbes, D &** Silove, D. (2014) Onset of common mental disorders and suicidal behavior following women's first exposure to gender based violence: a retrospective, population-based study. *BMC Psychiatry,* 14(1), 312.

58. Bryant, R.A., Creamer, M., O'Donnell, M., Silove, D., McFarlane, A.C. & **Forbes, D.** (2014). A comparison of the capacity of DSM-IV and DSM-5 acute stress disorder definitions to predict posttraumatic stress disorder and related disorders. *Journal of Clinical Psychiatry.* (Epub ahead of print, doi:10.4088/JCP.13m08731, 391-397)

59. Lloyd, D., Nixon, R., Varker, T., Elliott, P., Perry, D., Bryant, R.A., Creamer, M. & **Forbes, D.** (2014). Comorbidity in the prediction of Cognitive Processing Therapy treatment outcomes for combat-related posttraumatic stress disorder. *Journal of Anxiety Disorders,* 28, 237-240.

60. **Forbes, D.,** Alkemade, N., Hopcraft, D., Hawthorne, G., O'Halloran, P., Elhai, J.D., McHugh, A.F., Novaco, R.W., Bryant, R.A. & Lewis, V. (2014) Evaluation of the Dimensions of Anger Reactions - 5 (DAR-5) Scale in combat veterans with posttraumatic stress disorder. *Journal of Anxiety Disorders,* 28, 830-835.

61. Bryant, R, Waters, E, Gibbs, L, Gallagher, H, Pattison, P, Lusher, D, MacDougall, C, Harms, L, Block, K, Snowdon, E, Sinnott, V, Ireton, G, Richardson, J, & **Forbes, D** (2014) Psychological outcomes following the Victorian Black Saturday bushfires, Australian & New Zealand Journal Of Psychiatry, 48(7) 634-643. [IF=3.76]

62. Lewis, V. Varker, T., Phelps, A. & **Forbes, D.** (2014). Organizational implementation of Psychological First Aid (PFA): Training for Managers and Peers. *Psychological Trauma: Theory, Research and Practice,* Vol 6(6), 619-623. [IF=2.09]

63. Gibbs L., Snowdon E., Block K., Gallagher C., MacDougall C., Ireton G., Pirrone A., **Forbes, D.,** Richardson J., Harms L., Waters E. (2014) Where do we start? A proposed post



disaster intervention framework for children and young people. *Pastoral Care and Education, 32*(1), 19. doi: 10.1080/02643944.2014.881908

64. Gibbs L, Waters E, Bryant R, Pattison P, Lusher D, Harms L, Richardson J, MacDougall C, Block K, Snowdon E, Gallagher H C, Sinnott V, Ireton G, **Forbes D.** Beyond Bushfires: Community, Resilience and Recovery – A longitudinal mixed method study of the medium to long term impacts of bushfires on mental health and social connectedness. BMC Public Health. 2014; 14:7; 634-643 doi: 10.1177/0004867414534476

65. O'Donnell, ML., Alkemade, **N.**, Nickerson, A., Creamer, M., McFarlane, A., Silove, D., Bryant, RA., & **Forbes, D.** (2014). The impact of the diagnostic changes to posttraumatic stress disorder for DSM-5 and the proposed changes to ICD-11. *British Journal of Psychiatry.* Doi: 10.1192/bjp.bp.113.135285 [IF 6.62]

66. Lockwood, E., & **Forbes, D.** (2014). Posttraumatic Stress Disorder and comorbidity: Untangling the Gordian knot. *Psychological Injury and Law.* Advance online publication. doi 10.1007/s12207-014-9189-8

67. **Forbes, D.,** Alkemade, **N.,** Mitchell, D., Elhai, J.D., McHugh, T., Bates, G., Novaco, R.W., Bryant, R.B. & Lewis, V. (2014). Utility of the Dimensions of Anger Reactions - 5 (DAR-5) Scale as a brief anger measure. *Depression and Anxiety,31,* 166-173 [IF 4.61]

68. **Forbes, D.,** Lockwood, E., Phelps, A., Wade, D., Creamer, M., Bryant, R.A., McFarlane, A.C., Silove, D., Rees, S., Chapman, C., Slade, T., Mills, K., Teesson, M. & O'Donnell, M. (2014). Trauma at the hands of another part 2: Distinguishing PTSD patterns following intimate and non-intimate interpersonal and non-interpersonal trauma in a nationally representative sample. *Journal of Clinical Psychiatry, 75(*2):147-153. doi:10.4088/JCP.13m08374 [IF 5.8]

69. Wade, D., Varker, T., **Forbes, D.**, & O'Donnell, M.L. (2013). The Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) in the assessment of alcohol use disorders among acute injury patients. *Alcoholism: Clinical and Experimental Research, 38*(1):294-299. doi:10.1111/acer.12247

70. Lloyd, D., Lewis, V., Fergusson, B., & **Forbes, D.** (2013). Evaluating outdoor therapeutic programs: development of a practical rigorous method to build the evidence. *Evaluation Journal of Australasia, 13*(1), 21-27.

71. Reifels, L., Bassilios, B., **Forbes, D.,** Creamer, M., Wade, D., Coates, S., Hopwood, M. & Pirkis, J. (2013). 'A Systematic Approach to Building the Mental Health Response Capacity of Practitioners in a Postdisaster Context. *Advances in Mental Health.* 11(3):246-256. DOI:10.5172/jamh.2013.11.3.246

72. Biehn, T. L., Elhai, J. D., Seligman, L. D., Tamburrino, M., Armour, C., & **Forbes, D.** (2013). Underlying dimensions of DSM-5 posttraumatic stress disorder and major depressive disorder symptoms. *Psychological Injury and Law, 6*, 290-298.

73. Gibbs L, Waters E, Bryant R, Pattison P, Lusher D, Harms L, Richardson J, MacDougall C, Block K, Snowdon E, Gallagher H C, Sinnott V, Ireton G, **Forbes D.** Beyond Bushfires: Community, Resilience and Recovery - A longitudinal mixed method study of the medium to long term impacts of bushfires on mental health and social connectedness. *BMC Public Health.* 2013; 13:1036.

74. Harb, G., Phelps, A., **Forbes, D.**, Ross, R., Gehrman, P. & Cook, J. (2013) A Critical Review of the Evidence Base of Imagery Rehearsal for Posttraumatic Nightmares: Pointing the Way for Future Research. *Journal of Traumatic Stress*. DOI: 10.1002/jts.21854 [IF=2.72]

75. Contractor, A.A., Elhai, J., Ractliffe, K.C. & **Forbes, D.** (In Press). PTSD's underlying symptom dimensions and relations with behavioral inhibition and activation. *Journal of Anxiety Disorders. 27,* 645-651.

76. Wade, D., Howard, A., Fletcher, S., Cooper, J, **Forbes, D**. (2013). Early response to psychological trauma: what GPs can do. *Australian Family Physician, 42*(9), 5. [IF=0.73]

77. Shultz, J.M. & **Forbes, D.** (2013). Psychological First Aid: Rapid Proliferation and the Search for Evidence, *Disaster Health*, 1 (2), 1-10.

78. Shultz, J.M., **Forbes, D.,** Wald, D., Kelly, F., Solo-Gabriele, H.M., Rosen, A., Espinel, Z., McLean, A., Bernal., O. & Neria, Y. (2013). Trauma Signature Analysis of the Great East Japan Disaster: Guidance for Psychosocial Consequences. *Disaster Medicine and Public Health Preparedness.*7 (2), 201- 214. [IF = 1.53]

79. **Forbes, D**. & Bryant, R.A. (2013). When the violence of war comes home. *The Lancet*, 381: 883-884. [IF = 38.28]

80. O'Donnell, ML., Varker, T., Holmes, A.C., Ellen, S., Wade, D., Creamer, M., Silove, D., McFarlane, A., Bryant, RA., & **Forbes, D**. (2013). Disability after injury: The cumulative burden of physical and mental health. *Journal of Clinical Psychiatry,* 72, 2, 137 – 143. [IF=5.8]

81. Semage, S., Sivayogan, S., **Forbes, D.**, O'Donnell, ML., Monaragala, R, Lockwood, E., Dunt, D. (2013). Cross cultural and factorial validity of PTSD Check List - Military version (PCL-M) in Sinhalese language. *European Journal of Psychotraumatology.* 4, 1-8. [IF=1.531]

82. O'Donnell, ML., Varker, T., Creamer, M., Fletcher, S., McFarlane, A., Silove, D., Bryant, RA., & **Forbes, D.** (2013). An exploration of delayed onset posttraumatic stress disorder following severe injury. *Psychosomatic Medicine.* 75 (1), 68-75. [IF = 2.123]

83. **Forbes, D.,** Fletcher, S., Phelps, A., Wade, D. J., Creamer, M., & O'Donnell, M. L. (2013). Impact of combat and non-military trauma exposure on symptom reduction following treatment for veterans with posttraumatic stress disorder. *Psychiatry Research*, 206, 33-36. [IF=2.524]

84. Phelps, A., **& Forbes, D.** (2013). Treating posttraumatic stress disorder-related dreams: What are the options? *Expert Review of Neurotherapeutics, 12*(11), 1267-1269.

85. Crane, M., Lewis, V., Cohn, A., Hodson, S., Parslow, R., Bryant, R & Forbes. D. (2012). A Protocol for the longitudinal study of psychological resilience. Journal of Military and Veterans Health. 20 (4), 36-48.

86. Wade, D., **Forbes, D.,** Nursey, J., & Creamer, M. (2012). A multi-level framework to guide mental health response following a natural disaster. *Bereavement Care, 31*(3), 109-113.

87. Wade, D.J., Varker, T., O'Donnell, M.L., & **Forbes, D,** (2012), Examination of the latent factor structure of the Alcohol Use Disorders Identification Test in two independent trauma patient groups using confirmatory factor analysis, *Journal of Substance Abuse Treatment, 43,* 123-128. [IF = 2.81]

88. Creamer, M., **Forbes, D**., & Wade, D. (2012), Psychosocial Recovery Following Disaster: A Multi-Level Approach. *International Perspectives in Victimology, 6 (2),* 121-127.

89. O'Donnell, ML., Lau,W., Tipping,S., Holmes, A., Ellen,S., Judson,R., Varker,T., Elliott, P., Bryant,R., Creamer, M., and **Forbes, D.** (2012). Stepped early psychological intervention for posttraumatic stress disorder, other anxiety disorders and depression following serious injury. *Journal of Traumatic Stress*, 25, 125-133. [IF = 2.32]

90. Creamer, M. Varker, T. Bisson, J, Darte, K,. Greenberg, N. Lau, W., Moreton, G., O'Donnell, M., Richardson, D., Ruzek, J., Watson, P., & **Forbes, D.** (2012) Guidelines for Peer Support in High-risk Organizations: An International Consensus Study Using the Delphi Method. *Journal of Traumatic Stress, 25,* 134-141 [IF=2.37]

91. **Forbes, D.,** Fletcher, S., Parslow, P., Phelps, A.J., O'Donnell, M., Creamer, M., Bryant, R.A., McFarlane, A. and Silove, D. (2012). Trauma at the hands of another: Differences in the PTSD symptom profile following interpersonal compared with non-interpersonal trauma *Journal of Clinical Psychiatry, 73 (3), 372-376.* [IF = 5.53]

92. **Forbes, D.,** Lloyd, D., Nixon, R., Elliott, P., Varker, T., Perry, D., Bryant, R.A. & Creamer, M. (2012). Multisite randomized controlled trial of cognitive processing therapy for posttraumatic stress disorder in a naturalistic setting. *Journal of Anxiety Disorders, 26,* 442-452. [IF=2.965]

93. **Forbes, D.,** Creamer, M. & Wade, D. (2012) Psychological support and recovery in the aftermath of natural disaster. *International Psychiatry, 9(1), 15-17.*

94. McHugh,T., **Forbes,D.,** Bates,G., Hopwood, M., & **Creamer, M.** Anger in PTSD: Is there a Need for a Concept of PTSD-Related Posttraumatic Anger? (2012) *Clinical Psychology Review,* 32, 93–104 [IF = 5.88]

95. **Forbes, D.,** Elhai, J.D., Lockwood, E., Creamer, M., Frueh, B.C. & Magruder, K.M. PTSD, fear and anxious misery: The structure of posttraumatic psychopathology in veterans attending primary care (2012). *Journal of Anxiety Disorders, 26,* 95– 101 [IF = 2.47]

96. Rees, S., Silove, D., Chey, T., Ivancic, L., Steel, Z., Creamer, M., Teesson, M., Bryant, R.A., McFarlane, A.C., Mills, K.L., Slade, T., Carragher, N., O'Donnell, M. & **Forbes, D.** (2011). Lifetime Prevalence of Gender-Based Violence in Women and the Relationship With Mental Disorders and Psychosocial Funcion. *Journal of the American Medical Association, 306, 513-21.* [IF = 28.9]

97. Couineau, A-L. & Forbes, D. From evidence to practice: Using predictive models of behaviour a change to increase uptake of eveidence-based treatment for PTSD. (2011). Psychological Trauma" Theory, Research, Practice and Policy 3, 366-275. doi 10.1037/a0024980 [IF=0.894]

98. Phelps, A., Forbes, D., Hopwood, M., & Creamer, M. (2011). The Phenomenology of Dreams in Australian Veterans with PTSD Australian and New Zealand Journal of Psychiatry *45*, 853-860.

doi: 10.3109/00048674.2011.599314 [IF = 3.29]

99. **Forbes, D**, Lockwood, E.L., Elhai, J.D., Creamer, M., O'Donnell, M., Bryant, R.A., McFarlane, A and Silove, D. (2011) An examination of the structure of posttraumatic stress disorder in relation to the anxiety and depressive disorders *Journal of Affective Disorders, 132,* 165–172 [IF = 3.76]

100. **Forbes, D.,** Lewis, V., Varker, T., Phelps, A., Wade, D., O'Donnell, M., Ruzek, J., Watson, P., Bryant, R.A. & Creamer. M. (2011). Psychological First Aid following trauma: Implementation and evaluation framework for high-risk organizations *Psychiatry, 74(3), 224-239.* [IF = 3.78]

101. Creamer, M., Wade, D., Fletcher, S., & **Forbes, D.** (2011), PTSD Among Military Personnel, *International Review of Psychiatry, April; 23:* 160–165 [IF = 2.23]

102. Elhai, J.D., Contractor, A.A., Palmieri, P.A., **Forbes, D.** & Richardson, J.D. (2011). Exploring the relationship between Latent Dimensions of Posttraumatic Stress Disorder and Depression in a national trauma exposed military sample *Journal of Affective Disorders 133, 477-480. doi:10.1016/j.jad.2011.04.035*[IF = 3.76]

103. Elhai, J. D., Naifeh, J. A., **Forbes, D.,** Ractliffe, K., C., & Tamburrino, M. (2011). Heterogeneity in posttraumatic stress disorder's clinical presentations among medical patients: Testing factor structure variation using factor mixture modeling. *Journal of Traumatic Stress, 24*, 435-443. doi:10.1002/jts.20653 [IF = 2.32]

104. **Forbes, D.,** Fletcher, S., Lockwood, E., O'Donnell, M., Creamer, C., Bryant, R.A., McFarlane, A. & Silove, D. (2011). Requiring both avoidance and emotional numbing in DSM-V PTSD: Will it help? *Journal of Affective Disorders. 130,* 483–486 [IF = 3.76]

105. Shultz, J.M., Kelly, F., **Forbes, D.,** Verdeli, H., Rosen., A & Neria, Y. Triple Threat Trauma: Evidence-Based Mental Health Response for the 2011 Japan Disaster. (2011). *Prehospital and Disaster Medicine. 26*, 141-145. doi:10.1017/S1049023X11006364

106. **Forbes, D.,** Fletcher, S., Wolfgang, B., Varker, T, Creamer, M., Brymer, M., Ruzek, J., Watson, P. & Bryant, R.A. (2010). Practitioner perceptions of Skills for Psychological Recovery: A training program for health practitioners in the aftermath of the Victorian bushfires, *Australian and New Zealand Journal of Psychiatry, 44, 1105-1111.* [IF = 3.29]

107. Fletcher, S., Creamer, M., **Forbes, D.** (2010). Preventing posttraumatic stress disorder: Are drugs the answer? *Australian and New Zealand Journal of Psychiatry, 44, 1004-1071.* [IF = 2.57]

108. **Forbes, D.,** Creamer, M., Bisson, J., Cohen, J., Crowe, B., Foa, E., Friedman, M., Keane, T., Kudler, H. & Ursano, R. (2010). A guide to guidelines for the treatment of PTSD and related conditions. *Journal of Traumatic Stress, 23(5), 537-552.* [IF = 2.32]

109. **Forbes, D.,** Parslow, R., Creamer, M., O'Donnell, M., Bryant, R.A., McFarlane, A.M., Silove, D., & Shalev, A. (2010). A longitudinal analysis of posttraumatic stress disorder symptoms and their relationship with fear and anxious-misery disorders: Implications for DSM-V. *Journal of Affective Disorders, 127, 147-152.* [IF = 3.76]

110. O'Donnell, M.L., Creamer, M., Holmes, A., Ellen, S., Judson, S., **Forbes, D.** & Bryant, R.A. (2010). Early psychological intervention following injury: A model of health service delivery. *Injury*, 41 (1), 43-44.

111. **Forbes, D.,** Parslow, R., Fletcher, S., McHugh, T., Creamer, M. (2010). Attachment style in the prediction of recovery following group treatment of combat veterans with posttraumatic stress disorder. *Journal of Nervous and Mental Disease, 198(12), 881-884*[IF = 1.77]

112. Evans, L., Cowlishaw, S., **Forbes, D.,** Parslow, R. & Lewis, V. (2010). Family functioning and the implications for treatment outcomes for veterans with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 78 (5), 611-622.* [IF = 4.21]

113. Cook, J.M., Harb, G.C., Gehrman, P.R., Cary, M.S., Gamble, G.M., **Forbes, D.** & Ross, R.J. Imagery Rehearsal for Posttraumatic Nightmares: A Randomized Controlled Trial. *Journal of Traumatic Stress Accepted July 2010* [IF = 2.32]

114. **Forbes, D.,** Elhai, J. D., Miller, M. W., Creamer, M. (2010). Internalizing and externalizing classes in posttraumatic stress disorder: A latent class analysis. *Journal of Traumatic Stress, 23,* 340-349. [IF = 2.32]

115. **Forbes, D.,** Wolfgang, B., Cooper, J., Creamer, M., & Barton, D. (2009). Post-traumatic stress disorder: Best practice GP guidelines. *Australian Family Physician, 38,* 106-111.

116. Phelps, A., Lloyd, D., Creamer, M., **Forbes, D**. (2009). Caring for carers in the aftermath of trauma. *Journal of Aggression, Maltreatment & Trauma, 18*, 313-330.

117. **Forbes, D.,** Lewis, V., Parslow, R., Hawthorne, G., & Creamer, M. (2008). A naturalistic comparison of models of programmatic interventions for combat-related posttraumatic stress disorder. *Australian and New Zealand Journal of Psychiatry, 42,* 1051-1059. [IF = 2.57]

118. **Forbes, D.,** Parslow, R., Creamer, M., Allen, N., McHugh, T., & Hopwood, M. (2008) Mechanisms of anger and treatment outcome in combat veterans with posttraumatic stress disorder. *Journal of Traumatic Stress, 21,* 142-149. [IF = 2.32]

119. Phelps, A., **Forbes, D.,** & Creamer, M. (2008). Understanding posttraumatic nightmares: An empirical and conceptual review. *Clinical Psychology Review, 28,* 338-355. [IF = 5.88]

120. **Forbes, D.,** Creamer, M., Phelps, A., Bryant, R., McFarlane, A., Devilly, G., Mathews, L., Raphael, B., Doran, C., Merlin, T., & Newton, S. (2007). The Australian guidelines for the treatment of adults with acute stress disorder (ASD) and posttraumatic stress disorder (PTSD). *Australian and New Zealand Journal of Psychiatry, 41,* 637-648. [IF = 2.57]

121. **Forbes, D.,** Creamer, M., Phelps, A., Couineau, A., Cooper, J., Bryant, R., McFarlane, A.C., Devilly, G., Mathews, L. & Raphael, B. (2007). Treating adults with acute stress disorder and posttraumatic stress disorder in general practice: A clinical update. *Medical Journal of Australia, 187,* 120-123. [IF = 2.54]

122. Cooper, J., Creamer, M., & **Forbes, D**. (2006). Mental health initiatives for veterans and serving personnel. *The Medical Journal of Australia, 185,* 453. [IF = 2.58]

123. Creamer, M., Elliott, P., **Forbes, D.,** Biddle, D., & Hawthorne, G. (2006). Treatment for combat-related posttraumatic stress disorder: Two year follow-up. *Journal of Traumatic Stress, 19,* 675-685. [IF = 2.32]

124. **Forbes, D.,** Carty, J., Elliott, P., Creamer, M., McHugh, T., Hopwood, M., & Chemtob, C. M. (2006). Is mixed handedness a marker of treatment response in posttraumatic stress disorder? A pilot study. *Journal of Traumatic Stress, 19,* 961-966. [IF = 2.32]

125. Elliott, P., Creamer, M., Hawthorne, G., Biddle, D., & **Forbes, D**. (2005). Patterns of treatment response in chronic posttraumatic stress disorder: An application of latent variable growth mixture modeling. *Journal of Traumatic Stress, 18,* 303-311. [IF = 2.32]

126. Biddle, D., Hawthorne, G., **Forbes, D.,** & Coman, G. (2005). The relationship between problem gambling, posttraumatic stress and its comorbidities in Australian treatment seeking veterans *Journal of Traumatic Stress, 18*(6), 759-767. [IF = 2.32]

127. **Forbes, D.,** Bennett, N., Biddle, D., Crompton, D. McHugh, A., Elliott, P., & Creamer, M. (2005). Clinical presentation and treatment outcome for peacekeeper veterans with PTSD: Preliminary findings. *American Journal of Psychiatry, 162,* 2188-2190. [IF = 12.75]

128. **Forbes, D.,** Haslam, N., Williams, B. J., & Creamer, M. (2005). Testing the latent structure of posttraumatic stress disorder: A taxometric study of combat veterans. *Journal of traumatic stress, 18,* 647-656. [IF = 2.32]

129. Hawthorne, G., Mouthaan, J., **Forbes, D.,** & Novaco, R.W. (2005). Response categories and anger measurement: do fewer categories result in poorer measurement? Development of the DAR5. Social Psychiatry and Psychiatric Epidemiology 12, 1-9.

130. Creamer, M. & **Forbes, D.** (2004). Treatment of posttraumatic stress disorder in military and veteran populations. Psychotherapy, 41, 388-398. [IF = 0.57]

131. **Forbes, D.,** Hawthorne, G., Elliott, P., McHugh, T., Biddle, D., Creamer, M., & Novaco, R. W. (2004). A concise measure of anger in combat-related posttraumatic stress disorder. Journal of Traumatic Stress, 17, 249-256. [IF = 2.32]

132. Elhai, J. D., **Forbes, D.,** Creamer, M., McHugh, T. F., & Frueh, B. C. (2003). Clinical symptomatology of PTSD-diagnosed Australian and United States Vietnam combat veterans: An MMPI-2 comparison. Journal of Nervous and Mental Disease, 191, 458-464. [IF = 1.86]

133. **Forbes, D.,** Creamer, M., Allen, N., Elliott, P., McHugh, T., Debenham, P., & Hopwood, M. (2003). MMPI-2 based subgroups of veterans with combat-related PTSD: Differential patterns of symptom change following treatment. Journal of Nervous and Mental Disease, 191, 531-537. [IF = 1.86]

134. **Forbes, D.,** Creamer, M., Allen, N., McHugh, A., Debenham, P., & Hopwood, M. (2003). MMPI-2 as a predictor of change in PTSD symptom clusters following treatment: A re-analysis of the Forbes et al., 2002 data. Journal of Personality Assessment, 81, 183-186. [IF = 1.32]

135. **Forbes, D.,** Creamer, M., Hawthorne, G., Allen, N., & McHugh, T. (2003). Comorbidity as a predictor of symptom change following treatment in combat-related posttraumatic stress disorder. Journal of Nervous and Mental Disease, 191, 93-99. [IF = 1.86]

136. **Forbes, D.,** Phelps, A., McHugh, A., Debenham, P., Hopwood, M., & Creamer, M. (2003). Imagery rehearsal in the treatment of posttraumatic nightmares in Australian veterans with chronic combat-related PTSD: Twelve month follow up data. Journal of Traumatic Stress, 16, 509-513. [IF = 2.32]



137. Biddle, D., Creamer, M., **Forbes, D.,** Elliott, P., & Devilly, G. J. (2002). Self-reported problems: A comparison between PTSD-diagnosed veterans, their spouses, and clinicians. Behaviour Research and Therapy, 40, 853-865. [IF = 3.60]

138. Creamer, M., **Forbes, D.,** Biddle, D., & Elliott, P. (2002). Inpatient versus day hospital treatment for chronic, combat-related posttraumatic stress disorder: A naturalistic comparison. Journal of Nervous and Mental Disease, 190, 183-189. [IF = 1.86]

139. Coman, G.J., Creamer, M., **Forbes, D.,** Biddle, D. & Hawthorne. (2002). PTSD treatment outcome in peacekeepers, Australian Journal of Psychology, 54, 19.

140. **Forbes, D.,** Creamer, M., Allen, N., Elliott, P., McHugh, A., Debenham, P., & Hopwood, M. (2002). The MMPI-2 as a predictor of symptom change following treatment for posttraumatic stress disorder. Journal of Personality Assessment, 79, 321-336. [IF = 1.32]

141. **Forbes, D.,** Creamer, M., & Biddle, D. (2001). The validity of the PTSD Checklist as a measure of symptomatic change in combat-related PTSD. Behaviour Research and Therapy, 39, 977-986. [IF = 3.60]
142. **Forbes, D.,** Phelps, A.J., & McHugh, A.F. (2001). Treatment of combat-related nightmares using Imagery Rehearsal: Journal of Traumatic Stress, 14(2), 433-442 . [IF = 2.32]

143. **Forbes, D.,** Creamer, M., & McHugh, A. (1999). MMPI-2 data for Australian Vietnam veterans with combat-related PTSD. Journal of Traumatic Stress, 12, 371-378. [IF = 2.32]

144. **Forbes, D.,** Creamer, M., & Rycroft, P. (1994). Eye movement desensitization and reprocessing: A pilot study in the treatment of posttraumatic stress disorder. Journal of Behavior Therapy and Experimental Psychiatry, 25, 113-120. [IF = 2.33]

Submitted

1. Gibbs L, Nursey J, Cook J, Ireton G, Alkemade N, Roberts M, Gallagher C, Bryant R, Block K, Molyneaux R, **Forbes D.** (submitted 11 Dec 2017) Delayed disaster impacts on academic performance of primary school children. Child Development

Book Chapters

1. Phelps, A., Kartal, D., Lau, W. & **Forbes, D** (2015). The utility of moral injury. In T. Frame (Ed.), *Moral Injury: Unseen Wounds in an age of Barbarism* (pp. 150-166). Sydney: UNSW Press

2. Gibbs L, Gallagher HC, Block K, Snowdon E, Bryant R, Harms L, Ireton G, Kellett C, Sinnott V, Richardson J, Lusher D, **Forbes D**, MacDougall C, Waters E. (in press – accepted 21 Oct 15) Post-bushfire relocation decision-making and personal wellbeing: A case study from Victoria, Australia. In Adenrele Awotona *(Ed)*. Planning for Community-based Disaster Resilience Worldwide: *Learning from Case Studies in Six Continents.* Ashgate Publishing Limited.

3. **Forbes, D.**, McHugh, T & Chemtob, C. (In Press). Regulating Anger in Combat-Related Post-Traumatic Stress Disorder. In E.Fernandez (Ed), *Treatments for Anger in Specific Populations,* Oxford University Press, USA

4. **Forbes, D** & Creamer, M. (In Press). Posttraumatic Stress Disorder. In R.L.Cautin & S. Lilienfeld (Eds.), *The Encyclopedia of Clinical Psychology,* John Wiley & Sons Inc, Hoboken, New Jersey.

5. **Forbes, D.** (2012). Posttraumatic Stress Disorder: Risk and Recovery. In Castle, D, Hood, S. and Starcevic, V (Eds.), *Anxiety Disorders: Current Understandings of Novel Treatments* (pp 83-92). Australian Postgraduate Medicine. Victoria

6. **Forbes, D.** (2008). The Minnesota Multiphasic Personality Inventory-2. In G. Reyes, J. Elhai & J. Ford (Eds) *The Encylopedia of Psychological Trauma,* John Wiley Press, New Jersey.

7. Creamer, M. & **Forbes, D.** (2004). Military populations. In Taylor, S. (Ed.), *Advances in the Treatment of Posttraumatic Stress Disorder: Cognitive-Behavioral Perspectives* (pp 153-174). New York: Springer Publishing Co.

8. Creamer, M., & **Forbes, D.** (2003). The long term effects of traumatic stress. In G. Kearney, M. Creamer, & R. Marshall (Eds.), *Military Stress and Performance - The Australian Defence Force Experience* (pp 175-186). Melbourne: Melbourne University Press.

9. **Forbes, D.**, & Creamer, M. (2003). The treatment of chronic posttraumatic stress disorder. In G. Kearney, M. Creamer, & R. Marshall (Eds.), *Military Stress and Performance - The Australian Defence Force Experience* (pp 206-220). Melbourne: Melbourne University Press.

10. **Forbes, D.**, Bennett, N., & Phelps, A. (2004). Anger: Breathing through the fire. In "...and the pine trees seemed greener after that". Vietnam Veterans Counselling Service, Australian Government Press pp. 111-116

Non-refereed publications

1. Phelps, A.J., Dell, L. & **Forbes, D.** (2013). New guidelines for the treatment of acute stress disorder and posttraumatic stress disorder. *In Psych, 35* (6), 32-33.

2. Varker, T. Phelps, A. & **Forbes, D.** (Summer 2012/2013) Principles for Peer Support Programs in High-Risk Organisations. National Emergency Response, 26(1), 26-28

3. **Forbes, D.** (2013). Reliving the pain of war: military deployment and PTSD. *The Conversation, January 2013.*

4. **Forbes, D.** (2013). Mental Trauma – a workplace Casualty. *Fire Australia, Summer 2012-2013.*

5. **Forbes, D.** (2012). The mental health effects of trauma: information for the rural GP. *Rural Roundup, October 2012, 8.*

6. **Forbes, D.,** Cooper, J., & Creamer, M. (2003). Posttraumatic Stress: Presentation and management in general practice, *GP Review, 7* (1), 22-23.

7. **Forbes, D**. and Phelps, A.J. (2007). Australian Guidelines for the treatment of adults with acute stress disorder and posttraumatic stress disorder: Information for psychologists. *In Psych, 29* (4), 24.

8. **Forbes, D.** and Creamer, M. (2009). Psychological support and treatment for victims of Victoria's bushfires. *In Psych, April, 10-11*

9. **Forbes, D.** and Creamer, M. (2011). Psychological support and treatment for victims of the floods. *In Psych, 33(1) pp24-25*

Technical Reports

1. O'Donnell, ML., Dell, L., Fletcher, S., Couineau, AL., **Forbes, D.** (2014). The Australian Defence Force Mental Health Screening Continuum Framework: Full Report. Department of Defence: Canberra.

2. Wade, D., Howard, A., Stevens, N., **Forbes, D**. (2013). Skills for Psychological Recovery (SPR) Training and Support Program: Final Report for Queensland Health.

3. Wade, D., Howard, A., Stevens, N., **Forbes, D**. (2013). Trauma-focussed Psychological Therapy (Level 3) Training and Support Program for Practitioners working with Adults: Final Report for Queensland Health.

4. Wade, D., Howard, A., Stevens, N., **Forbes, D.** (2013). Trauma-focussed Psychological Therapy (Level 3) Training and Support Program for Practitioners working with Children: Final Report for Queensland Health.

5. Wade, D., Howard, A., **Forbes, D**. (2013). GP online training program 'Managing disaster and trauma-related mental health problems': Final Report for department of Health and Ageing.

6. Wade, D., Fletcher, S., Howard, A., **Forbes, D**. (2013). Gender differences in mental health among serving and ex-serving military personnel: A review of the literature. Department of Veterans' Affairs.

7. Wade, D., Varker, T., Kartal, D., Hetrick, S., **Forbes, D.** (2013) Systematic review and meta-analysis of gender differences in outcomes following trauma-focussed Interventions for posttraumatic stress disorder. Department of Veterans' Affairs.

8. Nursey, J., Creamer, M., Howard, A., Fletcher, S, Gardner, L., Lewis, V, **Forbes, D**., 2012. Analysis of the Lifecycle Package. Research report commissioned by the Australian Department of Veteran Affairs.

9. Crane, M., Lewis, V., **Forbes, D**., Elliott, P., 2012. Longitudinal ADF Study Examining Resilience (LASER). Research report commissioned by Joint Health Command.

10. Zotoyeva, V., Rickare, N., & **Forbes, D.**, 2013. The Role of Everyday Music Use in the Self-Management of Mental Health Outcomes in a Veteran Population. Research report commissioned by the Department of Veteran Affairs.

Training Manuals / Videos

1. **Forbes, D.,** Howard, A., Cash, R. & McHugh, T. (2014). *Managing Anger in PTSD, therapist resource manual.* Australian Centre for Posttraumatic Mental Health, University of Melbourne: www.acpmh.unimelb.edu.au

2. Creamer, M., **Forbes, D.,** Phelps, A. & Humphreys, L. (2004). *Treating traumatic stress: Conducting imaginal exposure in PTSD – Clinician manual and training video/CD-ROM.* Australian Centre for Posttraumatic Mental Health, University of Melbourne: www.acpmh.unimelb.edu.au
3. **Forbes, D.,** Phelps, A., Couineau, A-L., Cooper, J., O'Connor, M. & Creamer, M. (2009). *Recovery from trauma: The Australian Guidelines for the treatment of Adults with ASD and PTSD. DVD.* Australian Centre for Posttraumatic Mental Health, University of Melbourne: Rural Health Education Foundation – winner of International Health Media award (category of Psychiatry)

Competitive Research funding grants totalling $9,360,252

1. Felmingham, K., **Forbes, D.,** Rosenbaum, S., Casey, B.J., Rothbaum, B.O. Improving outcomes from exposure therapy for PTSD with acute exercise: Augmenting Brain-Derived Neurotrophic Factor as a mechanism of change? $822, 284, APP1165096, (2019-2023). NHMRC project grant

2. **Forbes, D.,** O'Donnell, ML., Bryant, R., Hodson, S., Morton, D., Battersby, M., Forbes, A., (2016). Optimising mental health and quality of life for Australia's military personnel and veterans with PTSD. $1,400,000. NHMRC Partnership Project Grant.

3. Phelps, A., Kanaan, R., Worsnop, C., Redston, S., **Forbes, D.** An investigation of the sleep factors that underpin posttraumatic nightmares of PTSD. $50,000 Defence Health Foundation (2014)

4. Pirkis J,, English D, Currier D, Schlichthorst M, Koelmeyer R, Cummins J, Grant T, Patton G, Olsson C, Redmond G, **Forbes D**, Phelps A Movember. A documentary promoting resilience in men and boys at key transition points in their lives. $2,994,212. November, 2014

5. Waters E, Bryant R, Pattison P, Gibbs L, **Forbes D,** Harms L, Lusher D, MacDougall C. (2009) 5 years Bushfires, Social Connectedness and Mental Health (Renamed Beyond Bushfires: Community Resilience and Recovery) 2009 Australian Research Council, Linkage Grant LP100200164 - $1,285,047

6. **Forbes, D.,** Lloyd, D. & Phelps, A. A pilot study of the effectiveness of an on-line self-help mental health and wellbeing program (The Wellbeing Toolbox) for veterans and other ex-service personnel and their families aged 25-45 years. $164,000 Applied Research Program, Department of Veterans Affairs (2013)

7. Wade, D., **Forbes, D.** & Varker, T. Gender differences in mental health among military personnel and veterans: A Review of the Literature $54,912 Applied Research Program, Department of Veterans Affairs

8. Wade, D., **Forbes, D.,** Hetrick, S. & Varker, T. Meta-analysis of gender differences in posttraumatic stress disorder treatment outcomes $97, 200 Applied Research Program, Department of Veterans Affairs

9. **Forbes, D.,** Lloyd, D., Creamer, M., Couineau, A-L., Nixon, R. & O'Donnell, M. Examining the effectiveness of the implementation of cognitive processing therapy across the VVCS service system: The next steps in implementation research. $262,550 Applied Research Program, Department of Veterans Affairs

10. Waters E, Bryant R, Pattison P, Gibbs L, **Forbes D,** Harms L, Lusher D, MacDougall C. (2009) 5 years Bushfires, Social Connectedness and Mental Health (Renamed Beyond Bushfires: Community Resilience and Recovery) 2009 Australian Research Council, Linkage Grant LP100200164 $1,285,047

11. O'Donnell, M.L., **Forbes, D.,** Creamer, M., Holmes, A., Ellen, S., Bryant, R. Telephone-administered early psychological intervention for depression and anxiety following serious injury. *beyondblue* (2009): $300,000

12. **Forbes, D.,** Creamer, M., Perry, D. & Bryant. The effectiveness of Cognitive Processing Therapy (CPT) for VVCS clients with posttraumatic stress disorder (PTSD). Applied Research Program, Department of Veterans Affairs (2007): $352,000

13. **Forbes, D.,** Barton, D., Wolfgang, B. & Creamer (2007) Development, testing and dissemination of a clinical algorithm for PTSD. Applied Research Program, Department of Veterans Affairs (2007): $186,000

14. **Forbes, D.** A longitudinal analysis of posttraumatic stress disorder symptoms and their relationship with fear and anxious-misery disorders: Implications for DSM-V. Sir Edward Dunlop Foundation (2009). $7,500

15. Creamer, M., **Forbes, D.,** McFarlane, A. C., Bryant, R., Devilly, G., & Mathews, L. *The development of clinical practice guidelines for Acute Stress Disorder (ASD) and Posttraumatic Stress Disorder (PTSD):* Emergency Management Australia Research Award (2005): $99,500.

Research translation funding grants totalling $16,442,215

1. **Forbes, D.,** O'Donnell, ML., Phelps, A., Wade, D. & Cooper, J. (2017). The Centenary of ANZAC Centre. Australian Government, Department of Veterans Affairs. $6,000,000

2. **Forbes, D.,** O'Donnell, ML., Phelps, A., Litz, B., Bryant, R., Morton, D., Hodson. (2017). The development of an international measure of moral injury. Australian Government Department of Veterans' Affairs. $545,000 (#3352211)

3. **Forbes D.,** O'Donnell, ML., Phelps, A., Lau, W. (2016) Psychological Recovery Following Community Disaster. Australian Commonwealth Department of Health. $538,138

4. **Forbes, D.,** O'Donnell, ML., Phelps, A., Lau, W. A Roundtable for the development of a brief recovery program after disaster. Consortium of donors including Australian Department of Defence, Commonwealth Department of Health, Department of Veterans Affairs, University of Melbourne RSL-Queensland, RSL- Victoria. $155,000

5. **Forbes, D.,** Couineau, A-L., Lloyd, D., Wade, D., Nixon, R., 2015-2016 Sustainability of Cognitive Processing Therapy (CPT) treatment for PTSD in VVCS. Department of Veterans' Affairs Strategic Research Fund, $353,200

6. **Forbes, D.,** Fitzgerald, P., McFarlane, A.C., Hopwood, M., Nursey, J. & Cooper, J. (2015) Evaluating the Effectiveness of Theta Burst Stimulation as a Treatment for PTSD in an Australian Veteran Population – a pilot study. $50,000 Defence Health Foundation

7. **Forbes, D.,** O'Donnell, ML., Lewis, V., Crane, M., Dell, L., Department of Defence - LASER Resilience Reporting.(2014). $809,500 Australian Department of Defence

8. **Forbes, D.,** Varker, T. & O'Donnell, M. (2014) Development, Delivery & Evaluation of Anger, Aggression and PTSD Clinical Intervention and Training to Selected Defence Mental Health Professionals. Department of Defence, $373,395

9. O'Donnell, ML., Dell, L., & **Forbes, D.** (2014). Mental Health Screening Continuum Project (MHSC). $250,000. Department of Defence



10. O'Donnell, ML., Dell, L., Varker, T. & **Forbes, D.** (2013). Social Sciences Health and Wellbeing Evidence Schema (SCHEMA). $660,000. Department of Veteran's Affairs

11. Phelps, A., Lloyd, D., **Forbes, D.** (2013) Redevelopment of content for mental health website At Ease: Department of Veterans Affairs, $127, 936

12. Phelps, A., Nursey, J., O'Donnell, M. & **Forbes, D.** (2013) Review of PTSD program accreditation standards and treatment outcome protocols: Department of Veterans Affairs, $155,372

13. Couineau, A-L., **Forbes, D**. & Wade, D. (2013). ADF Assessment, Case Formulation and CPT training implementation and evaluation initiative- Department of Defence $329,000

14. Nursey, J., **Forbes, D**. & Phelps, A. (2013) Quality assurance and program monitoring of DVA funded PTSD group treatment programs: Department of Veterans affairs $330,000

15. Nursey, J., **Forbes, D** (2012) Development of an on-line training package for teachers (*Skills for Psychological Recovery for Teachers*) as part of the Victorian Department of Education and Early Childhood Development emergency management plan. $119,445

16. Phelps, A. & **Forbes, D.** (2012) Quality assurance, program monitoring and evaluation of DVA funded PTSD group treatment programs: Department of Veterans affairs $165,000

17. Wade, D., Howard, A., **Forbes, D.** (2012). Development, deliver and evaluation of a general practitioner online training program 'Managing disaster and trauma-related mental health problems'. Department of Health and Ageing, $337,897.

18. Phelps, A., Cooper, J. **Forbes, D.** (2012) Review of Veterans Transition Program: Griffith University, $23,000

19. Phelps, A., **Forbes, D.** (2011) Quality assurance and program monitoring of DVA funded PTSD group treatment programs: Department of Veterans affairs $165,000

20. Phelps, A., Del, L. **Forbes, D.,** Nursey, J. & Lewis, V. (2011) Review of the Lifecycle intervention package: Department of Veterans Affairs $250,000

21. **Forbes, D.,** Creamer, M., Dell, L. & Phelps, A. (2011) Development and evaluation of the Australian Guidelines for the treatment of Acute stress disorder and posttraumatic stress disorder $780,000 (Department of Veterans Affairs $300,000; Department of Defence $150,000; beyondblue $330,000)

22. Wade, D., **Forbes, D.** (2011). Development, delivery and evaluation of a training and support program for practitioners as part of the *Queensland Mental Health Natural Disaster Recovery Plan 2011*-2013. Queensland Government, $266,766

23. **Forbes, D.,** Lewis, V. & Crane, M. (2011). Australian Defence force Longitudinal Resilience study $463,566, Department of Defence.

24. Phelps, A., **Forbes, D.** (2011) Quality assurance and program monitoring of DVA funded PTSD group treatment programs: Department of Veterans affairs $165,000

25. Phelps, A., Del, L. **Forbes, D.,** Nursey, J. & Lewis, V. (2011) Review of the Lifecycle intervention package: Department of Veterans Affairs $250,000

26. **Forbes, D.,** Couineau, A-L. & Creamer, M. (2008) Training for Mental health workers – development, delivery and evaluation of a national training program for community practitioners providing services to veterans, Department of Veterans Affairs $1,500,000

27. Phelps, A., **Forbes, D.** (2010) Quality assurance and program monitoring of DVA funded PTSD group treatment programs: Department of Veterans affairs $165,000

28. Couineau, A-L., **Forbes, D** & Wade, D. (2010) Case Management Training – development, delivery and evaluation of a case management training to ADF health services. Australian Defence Force $520,000

29. **Forbes, D.,** Lewis, V., Phelps, A. & Varker, T. (2009). Development, implementation and evaluation of a psychological first aid training program for Queensland Police Service. $170,000

30. **Forbes, D.,** Phelps, A., Couineau, A-L., & Creamer, M. (2008) Development, dissemination and evaluation of PTSD guideline DVDs for practitioners and the community. Department of Health & Ageing $275,000

31. **Forbes, D.,** Phelps, A., Couineau, A-L., & Creamer, M. (2007) Dissemination and evaluation of PTSD guidelines. Department of Health & Ageing $150,000

Research higher degree (RHD) Supervision

PhDs

Completed
Phelps, A. (November 2012). Posttraumatic nightmares. University of Melbourne Department of Psychiatry

Fletcher, S. (May 2015). Longitudinal study of Internalising and Externalising subgroups of injury survivors. University of Melbourne Department of Psychiatry

McHugh, T. (Dec 2015). Anger and imagery in PTSD. University of Melbourne Department of Psychiatry

In progress
Lockwood, E. (Submission 2014) Latent structure of posttraumatic mental health disorders. University of Melbourne, Department of Psychology

Cosgrove, M (July 2014) Mapping trajectories of psychological adjustment across ADF Life Cycle. ANU College of Medicine, Biology & Environment

McDonald, A (2015) Moral injury in military veterans, University of Melbourne

Hsu, Ken (2016) Gender differences in emotional processing of PTSD

Fanhong Shang (2017) Social support and well-being among survivors of natural disaster

Masters

Zotoyeva, V. (Completed 2011) Music use and mental health and wellbeing in veterans. Monash University, Department of Psychological Medicine

Hopcraft, D. (completed 2010) Anger measurement and quality of life in veterans with PTSD. Co-supervision, LaTrobe University

Mentor and supervisor for NHMRC TRIP fellowship (National Institute for Clinical Studies) candidate Anne-Laure Couineau. Identification of barriers to the use of best practice exposure oriented treatments for posttraumatic stress in sexual assault and veteran mental health service settings (2008-2010)

Review Work

- Editorial Board Member, *Journal of Traumatic Stress* (2008 - present). This journal, published quarterly by Wiley Press is the leading international journal in the field of posttraumatic stress. Also Editorial Board member of the international journal, the *Journal of Anxiety Disorders (June 2011 – present) and Disaster Health* (March 2012 – present). Consulting Editor, *Psychological Trauma – Theory, Research, Practice, and Policy* (since May 2013).
- Frequent "ad hoc" reviews for journals such as *Lancet, Journal of the American Medical Association, Archives of General Psychiatry (JAMA Psychiatry), Journal of Abnormal Psychology, Journal of Clinical Psychiatry, Journal of Consulting and Clinical Psychology, Psychological Assessment, Psychiatric Services, Australian New Zealand Journal of Psychiatry, Psychological Assessment, Depression and Anxiety*



Last Updated 21 June 2019

Keynotes and invited presentations in the last 12 months | February 2018 - 2019

Keynote

Forbes, D. (March 2018) invited keynote presenter - *2018 Western Australian Alcohol And Other Drug Conference Leading The Way: Embracing New Opportunities In The Alcohol And Other Drug Sector*, WA Mental Health Commission, ***Substance use and mental health consequences of trauma and implications for assessment and treatment,*** Novotel Langley Hotel, Perth

Invited presentations

1. **Forbes, D.,** (December 2018) *Phoenix Australia | Future directions in veteran and military mental health* Prime Ministerial Advisory Committee on veterans mental health, Canberra4 December 2018

2. **Forbes, D.,** (November 2018) NATO Summit Big Data and Machine Learning, Leveraging Technology in Military Mental Health | NATO Human Factors in Medicine, Canadian Embassy, Washington DC 29-30 November 2018 *Large Australian data studies, outcomes of the 5 Eyes Centres of Excellence meeting in Sydney and the potential for future research.'*

3. **Forbes, D.,** Dell, L., (October 2018) *The Longitudinal ADF Study Resilience Project (LASER).* 2018 AMMA Annual Conference - Armistice to Afghanistan- Evolution of Military Healthcare, Canberra, Friday 12 October 2018

4. **Forbes, D.,** Sadler, N., (October 2018) *Pathways to Care in Transitioned ADF Members & Regular ADF Members in 2015:Results from Pathways to Care Report.* 2018 AMMA Annual Conference - Armistice to Afghanistan- Evolution of Military Healthcare, Canberra, Friday 12 October 2018

5. **Forbes, D.,** (October 2018) *Pathways to care- serving and e-serving populations* Warrior Care Symposium, Sydney, Wednesday 17 October 2018

6. **Forbes, D.,** (October 2018) *Challenges to Transition -Pathways to Care.* Veterans' Transition Forum-The Invictus 18 Symposium, Sydney, Friday 19 October 2018

Formal Presentations (Since 1993, reverse chronological order)

a) **Invited conference presentations**
b) **Conference Presentations**
c) **Workshops for mental health professionals**
d) **Community based invited presentations**

a) Invited conference and symposia presentations:

1. **Forbes, D.** (2016, August). Closing presentation to the Department of Psychiatry Annual Research Symposium, the University of Melbourne.
2. **Forbes, D.** (2012). Cognitive Processing Therapy for PTSD in Australian veterans: from RCT to national service development initiative. Melbourne Clinical Education Forum, Melbourne, Australia.
3. **Forbes, D.** (2012). Innovative treatments and service delivery for mental health. Centre for Military and Veterans' Health Think Tank.
4. **Forbes, D.** (2012). Mental health consequences of natural disaster: Impact and recovery. Paper presented at the Fire Australia Conference, Melbourne, Australia, November, 2012.
5. Lloyd, D., **Forbes, D.** & Couineau A (2012) Cognitive Processing Therapy for PTSD in Australian Veterans: from RCT to National Service Development Initiative. Presented at the Department of Psychiatry Colloquium, University of Melbourne, 10th September 2012
6. **Forbes, D.** & Varker, T. (2011) Guidelines for Peer Support Programs: An International Consensus Project. Presented at the 6th Biennial Crisis Intervention and Management Australasia (CIMA) Conference. November 14-15, 2011
7. **Forbes, D.** (2011) Posttraumatic stress disorder: Risk and recovery. The 4th St. Vincent's Mental Health & University of Melbourne. Conference in conjunction with Swinburne University, 11-12th November, 2011
8. **Forbes, D.** (2011). Invited presentation: The psychological impacts of trauma and disasters and the most effective interventions. AGPN 4th National Mental Health Conference, Brisbane, April
9. **Forbes, D.** (2011). The outlook for treatment of veterans with posttraumatic stress disorder. RSL National Congress, Melbourne, September
10. **Forbes, D.** (2010). Recent initiatives to support veterans' mental health and wellbeing. Veterans Affairs Canada, Veterans Mental Health symposium, Montreal, November
11. **Forbes, D.** (2010). The treatment of posttraumatic stress disorder, Annual Conference of Magistrates, Department of Justice, Melbourne
12. **Forbes, D.** (2010) *Three level framework for health professionals to Support Survivors of Disaster and Trauma.* Invited keynote speaker at Health in Disasters conference, Canberra 2010



13. **Forbes, D.** (2010) Invited member of expert panel *Proposed changes to PTSD diagnostic criteria in DSM-V.* Australasian Conference of Traumatic Stress, Brisbane, 2010

14. **Forbes, D.** (2009). The treatment of posttraumatic stress disorder, Annual Conference of Magistrates, Department of Justice, Melbourne



b) Conference presentations

15. Forbes, D. (2016, October). Optimising mental health and quality of life for Australia's military personnel and veterans with PTSD: Establishing a randomised controlled trial. Paper presented at the Australasian Military Medicine Association Conference, Melbourne.

16. Zoteyeva, V., Rickard, N., & **Forbes, D.** The relationships between strategies of music use and psychological and general health outcomes in veterans and their partners. Paper presented at 28th International congress on Applied Psychology, 2014, Paris, France

17. Zoteyeva, V., Rickard, N., & **Forbes, D.** The relationships between strategies of music use and positive and negative social interactions in veterans and their partners. Paper presented at 28th Psychology, 2014, Paris, France

18. **Forbes, D.** (2012, September). The VVCS Multisite randomised controlled effectiveness trial of cognitive processing therapy for combat-related PTSD. In W. Penniall (Chair) *Treatment of PTSD in veterans.* Symposium conducted at the 17th Australasian Conference on Traumatic Stress (ACOTS), Perth, Australia.

19. **Forbes, D. &** Lloyd, D. (2011). Cognitive Processing Therapy for combat-related posttraumatic stress disorder: A community based randomized controlled trial. Paper presented at the Annual Conference of the International Society for Traumatic Stress Studies, Baltimore, USA.

20. **Forbes, D.,** Lloyd, D., & van Buuren, V. (2011). Cognitive Processing Therapy for combat-related posttraumatic stress disorder: A community based randomized controlled trial. Paper presented at the Australian Military Medicine Association Conference, Melbourne.

21. **Forbes, D.** (2010) Multiple Deployments Research Reviews and issues. Sir Edward "Weary" Dunlop Medical Research Foundation symposium, November, Melbourne

22. **Forbes, D.** (2010) Proposed changes to the diagnoses of posttraumatic stress disorder in DSM-V. Sir Edward "Weary" Dunlop Medical Research Foundation symposium, November, Melbourne

23. Lloyd, D., Cash, R. & **Forbes, D.** (2010) A multisite randomized controlled effectiveness trial of cognitive processing therapy for combat related Posttraumatic Stress Disorder. Sir Edward "Weary" Dunlop Medical Research Foundation symposium, November, Melbourne

24. **Forbes D.** (2010) Symposium Chair *Investigations into the Structural Relationship Between PTSD and Axis I and II Comorbidity: Helping PTSD Find Its Family*, Annual Conference of the International Society for Traumatic Stress Studies, Montreal, Canada

25. **Forbes, D.** (2010). *A longitudinal analysis of PTSD symptoms and their relationship with Fear and Anxious-Misery disorders: Implications for DSM-V.* Annual Conference of the International Society for Traumatic Stress Studies, Montreal, Canada.

26. **Forbes, D.** and Creamer (2010). *PTSD Practice Guidelines From Three Continents: An Uneasy Consensus* Annual Conference of the International Society for Traumatic Stress Studies, Montreal, Canada.

27. Phelps, A., **Forbes, D. &** Creamer, M. (2010). The *posttraumatic dreams of veterans: Content, affect and phenomenology.* Annual Conference of the International Society for Traumatic Stress Studies, Montreal, Canada. November.

28. **Forbes, D.,** Creamer, C., Bryant, R.A., McDermott, B. & Cobham, V. (2010). Levels 2 and 3: *Enhancing Skills in Health Care Providers to Support Survivors of Disaster and Trauma.* Paper presented at the 27th International Congress of Applied Psychology, Melbourne, Australia

29. Creamer, M., **Forbes, D.** & Wade, D. (2010). *Psychological first aid: Building community capacity following disaster and trauma.* Paper presented at the 27th International Congress of Applied Psychology, Melbourne, Australia.

30. **Forbes, D.,** Elhai, J., Miller, M., & Creamer, M. (2009) *Internalizing and Externalizing in PTSD: A Latent Class Analysis.* Paper presented to the Annual Conference of the International Society for Traumatic Stress Studies, Atlanta, USA

31. Creamer, M., and **Forbes, D.,** (2007). *The Australian Guidelines for the Treatment of Adults with Acute Stress Disorder and Posttraumatic Stress Disorder.* Symposium and Panel discussion at the Australian Psychological Society Annual Conference, Brisbane, Australia.

32. **Forbes, D.,** Creamer, M., Bryant, R., and Raphael, B. (2007) *The Australian Guidelines for the Treatment of Adults with Acute Stress Disorder and Posttraumatic Stress Disorder.* Symposium presented at the World Psychiatric Association Conference, Melbourne, Australia.

33. **Forbes, D.** & Creamer, M. (2005). *Internalization/externalization in prediction of outcome in C-R PTSD.* Paper presented to the Annual Conference of the International Society for Traumatic Stress Studies, Toronto.

34. **Forbes, D.,** Bennett, N., Biddle, D., Crompton, D. McHugh, A., Elliott, P., & Creamer, M. (2004). *Clinical presentation and treatment outcome for peacekeeper veterans with PTSD: Preliminary findings.* Paper presented to the Annual Conference of the International Society for Traumatic Stress Studies, New Orleans, USA

35. **Forbes, D.,** Hawthorne, G., Creamer, M., & Biddle, D. (2003). *Evaluation of the effectiveness of differential program types in the treatment of combat related PTSD.* Paper presented at the Annual Conference of the International Society for Traumatic Stress Studies, Chicago, USA.

36. **Forbes, D.,** Creamer, M., & McHugh, A. (2001). *The impact of personality factors on treatment outcome in combat-related PTSD.* Paper presented to the World Conference of Behavioural and Cognitive Therapies (Association for the Advancement of Behavior Therapy), Vancouver, Canada.

37. Creamer, M., **Forbes, D.,** Biddle, D., & Elliott, P. (2001). *Treatment outcome in chronic, combat-related PTSD: Two-year follow-up.* Paper presented to the World Conference of Behavioural and Cognitive Therapies (Association for the Advancement of Behavior Therapy), Vancouver, Canada.



38. Creamer, M. & **Forbes, D.** (2000). *Inpatient-outpatient treatment models for combat-related PTSD.* Paper presented at the Annual Conference of the International Society for Traumatic Stress Studies, San Antonio, USA.

39. Creamer, M**., Forbes, D.,** Biddle, D., & Elliott, P. (2000). *Treatment outcome in chronic, combat-related PTSD: Two-year follow-up.* Paper presented at the Annual Conference of the International Society for Traumatic Stress Studies, San Antonio, USA.

40. Creamer, M., **Forbes, D.,** Biddle, D., & Elliott, P. (2000). *Treatment outcome in chronic, combat-related PTSD: Two-year follow-up.* Paper presented at the World Conference of the International Society for Traumatic Stress Studies, Melbourne.

41. **Forbes, D.,** Phelps, A.J., & McHugh, A.F. (2000). Psychological treatment of posttraumatic nightmares in combat-related PTSD. Paper presented at the World Conference of the International Society for Traumatic Stress Studies, Melbourne.

42. **Forbes, D.,** Phelps, A.J., & McHugh, A.F. (2000). Psychological treatment of posttraumatic nightmares in combat-related PTSD. Paper presented at the National Conference of Anxiety Disorders, Sydney.

43. **Forbes, D.,** Phelps, A.J., & McHugh, A.F. (1999). Imagery rehearsal in the treatment of nightmares in combat-related PTSD: A pilot study. Paper presented at the Australian Society for Traumatic Stress Studies / National Centre for PTSD joint annual conference, Brisbane.

44. Creamer, M., **Forbes, D.,** & Biddle, D. (1999). *Treatment outcome in Australian veterans with chronic posttraumatic stress disorder: Two year follow up data.* Poster at the International Conference on Traumatic Stress Studies, Miami, USA.rbes

45. **Forbes, D.,** Phelps, A.J., & McHugh, A.F. (1998). Imagery rehearsal in the treatment of nightmares in combat-related PTSD: A pilot study. Paper presented at the Australian Psychological Society Annual Conference, Melbourne.

46. **Forbes, D.** & Creamer, M. (1993). *Eye movement desensitisation and reprocessing in the treatment of post-traumatic stress disorder.* Paper presented to the National Conference of the Australian Behaviour Modification Association, Adelaide.



c) Workshops For Mental Health Professionals

I have run many training workshops for mental health professionals in the area of posttraumatic stress across Australia. In recent years, these have included programs funded by

- Department of Health and Ageing & Australian Psychological Society: Treatment of mental health problems following trauma and disaster
- Department of Health and Ageing, Commonwealth Rehabilitation Service and the Australian Psychological Society: Skills in Psychological Recovery –train the trainer
- Commonwealth Government, Department of Veterans Affairs. Workshops on diagnosis, assessment and treatment of PTSD; Case formulation and treatment planning
- Overall direction and participation in a two-week intensive clinical training program in traumatic stress conducted for mental health professionals within the Australian Defence Force.
- Northern Territory Government: Trauma focused treatment for PTSD
- Public workshops for mental health providers provided on a fee for attendance basis

d) Community-based Invited Presentations

I accept frequent invitations to address a variety of community agencies and professional groups. A sample of such talks given over the last two years would include:

- Treatment facilities (psychiatric hospitals, community health teams, etc.)
- Lifesaving Victoria
- Metrotrains worksafe conference
- Many interviews for TV and radio: examples include within the last month interview for ABC TV 7.30 report; the Australian newspaper, New Scientist magazine; ABC radio) on aspects of disaster recovery and traumatic stress