AUSTRALIAN PRIMARY HEALTH CARE
RESEARCH INSTITUTE

DEPARTMENT OF GENERAL PRACTICE
THE UNIVERSITY OF MELBOURNE

SCHOOL OF HEALTH AND SOCIAL DEVELOPMENT
DEAKIN UNIVERSITY

SCHOOL OF POPULATION HEALTH
THE UNIVERSITY OF MELBOURNE

SCHOOL OF SOCIAL WORK
THE UNIVERSITY OF MELBOURNE

OPTIMISING THE PRIMARY MENTAL HEALTH CARE WORKFORCE:

HOW CAN EFFECTIVE PSYCHOLOGICAL TREATMENTS FOR COMMON MENTAL DISORDERS BEST BE DELIVERED IN PRIMARY CARE?

Richard Moulding
Grant Blashki
Jane Gunn
Catherine Mihalopolous
Jane Pirkis
Lucio Naccarella
Lynette Joubert

November 2007

ACKNOWLEDGMENTS

The research reported in this paper is a project of the Australian Primary Health Care Research Institute, which is supported by a grant from the Australian Government Department of Health and Ageing under the Primary Health Care Research, Evaluation and Development Strategy. The information and opinions contained in it do not necessarily reflect the views or policies of the Australian Government Department of Health and Ageing.

Thank you to our stakeholders who generously provided their time in giving advice on the focus of the review, and on the Australian context.

We also wish to gratefully acknowledge the role of Anne Magnus and Donna Southern, both of whom provided welcome contributions to this report.

For correspondence regarding this document, please contact Dr Grant Blashki (gblashki@unimelb.edu.au), ph +613 8344 9010, or Dr Richard Moulding (moulding@unimelb.edu.au), ph +613 8344 9010.

Australian Primary Health Care Research Institute (APHCRI)

ANU College of Medicine and Health Sciences

Building 62, Cnr Mills and Eggleston Roads

The Australian National University

Canberra ACT 0200

T: +61 2 6125 0766

F: +61 2 6125 2254

E: aphcri@anu.edu.au

W: www.anu.edu.au/aphcri

List of Tables

List of Figures

List of Key Findings

1. INTRODUCTION

Common mental disorders such as depression and anxiety are a major contributor to Australia's burden of disease (1) and cause enormous distress for patients and their families. The majority of people who seek professional help for mental illness present to General Practitioners (GPs) in the first instance (2), with services primarily accessed through this gateway to the mental health system. Indeed, it is estimated that psychological problems are managed at approximately 12% of GP encounters, with almost 11 million annual consultations across Australia concerning mental health issues (3). Psychological therapies are preferred to pharmacological therapies by most consumers (4) and, when delivered by mental health professionals, have been shown to be highly effective in alleviating distress, reducing relapse and improving quality of life (5).

Over the last 15 years there have been substantial reforms to mental health care in Australia, (6-8), which have impacted on the way in which psychological treatments are accessed by the community. These reforms have been driven by a mix of consumer dissatisfaction (e.g., 9), advocacy from the health professions, and political vision (e.g., 10, 11), and these overall improvements in access are arguably unrivalled in developed countries around the world. To further optimise the Australian workforce in its delivery of psychological treatments requires careful consideration of issues such as quality and equity (12), commensurate with the principles underlying our mental health policy (13), and an appreciation of the trends in the current scientific literature towards the provision of psychological treatment through collaborative models. With these perspectives in mind, we have selected two areas for review that we hope will make a useful contribution to policy discussions in Australia regarding the most effective use of the primary mental health care workforce:

1. What is the evidence for the effectiveness and cost-effectiveness of generalist versus specialist providers of psychological treatments in primary care?
2. How effective and cost-effective are models of collaboration in providing psychological treatments in primary care, and what are the elements of successful models?

We have limited the scope of the review to emphasise the literature that we, and our stakeholders, judge to be most relevant to Australia's current primary mental health system. In doing so, we recognise that we cannot be comprehensive and must therefore make assumptions about the types of patients, providers and treatment options to include in the review. We have focused exclusively on the depressive and anxiety disorders, for three reasons. First, these are high prevalence disorders in the Australian population, with the Australian National Survey of Mental Health and Wellbeing (2) indicating that the 12-month prevalence of depressive disorders was 7.2% (ICD-10 criteria) and 9.5% of respondents experienced an anxiety disorder. Second, these disorders have a high impact on the burden of disease in Australia (1). Third, these are the two most commonly managed mental health problems in Australian General Practice (3). Therefore, we have not included substance abuse or the low prevalence disorders such as psychosis or bipolar disorder in this review. To maximise generalisability, we did not include articles where the study population was limited to specific medical groups (e.g., post-operative, cardiovascular disease, diabetes), although some patients in the primary care populations in the studies may have had depression secondary to medical illness.

This review focuses on care provided by a GP, or by psychologists or other allied health providers when the patient is referred by a GP. We have not included nurse-delivered or psychiatrist-delivered psychological treatment, as the complex role of these professionals in the mental health system is a question beyond the scope of this review. We have emphasised psychological treatments provided in the community rather than in hospital-based settings. Finally, we have limited the scope to evidence-based psychological treatment approaches, and given preference to research regarding those approaches that are recognised in the current funding streams for psychological treatments in Australia (14).

Therefore, we have limited our review to studies where the intervention consists of psychoeducation, cognitive behavioural therapy (CBT), problem solving therapy (PST) or interpersonal therapy (IPT), although we acknowledge that significant contributions to mental health may be made through other therapeutic approaches (e.g., psychodynamic, gestalt, humanistic, narrative, non-directive counseling, .)

1.1. GENERAL METHOD OF REVIEW

1.1.1. DESIGN

This document is based on a systematic review of the research evidence (see Figure 1). We have followed typical approaches to conducting the review, with particular attention to quality ratings (15-17). The key outcome measures of this review are clinical improvement (depression, anxiety) and cost-effectiveness, although other outcome variables are discussed as relevant.

1.1.2. PROCEDURE

Relevant search terms were input into major databases of articles (Medline, Web of Science, PsycINFO, PubMed, Scopus, Cochrane Database). These terms were based on a combination of terms and subject headings relevant to "primary care", "psychotherapy" and "depression OR anxiety" (see Table 1; also see Table 13, Appendix 3). Initially, one reviewer (RM) screened all the articles based on the inclusion/exclusion criteria, according to abstracts and titles. As the search terms were sensitive but not specific, this allowed removal of the less relevant articles. Where there was any doubt, the articles remained in the search database. Following this, full articles were examined to determine the final papers to be retained (see for flow-chart). At this time, additional papers not identified in the original review were sourced from reference lists of sourced papers, and examined for relevance. Following retention in the review, articles were classified into four main areas (GP-provided care, allied health-provided care, collaborative models, health economics/cost-effectiveness), although articles were allowed to be in more than one category. Data was separately extracted for each category according to relevant criteria (see Results). Quality of articles was also graded (see Method below). This process was followed for all primary articles discussed in this review. While not primary articles, five recent reviews of collaborative approaches were also identified during the review process, and are described in Chapter 3.

A "grey" literature search was also undertaken during the review (May 2007), which included sources such as the search engines AustHealth and GoogleNews, hand-searches of relevant Australian publications such as Australian Doctor, The Age, The Sydney Morning Herald, The Herald Sun, The Australian; examination of relevant websites such as the Australian Government Department of Health and Aging, Medicare Australia and websites relevant to the professional organizations; and personal communications from our stakeholder interviews. This approach primarily led to the sourcing of opinion pieces and commentary regarding the recent Medicare initiative, which provided us with further contextual information for the Australian system. It is in this modality that such information appears through the document. We did not formally extract information from these articles, as we had previously decided to limit our review to intervention studies.

1.1.3. INCLUSION/EXCLUSION CRITERIA

The inclusion/exclusion criteria developed for this review are listed in Table 2.

Table 1: List of Search Terms for MEDLINE (Conducted 2/3/07)

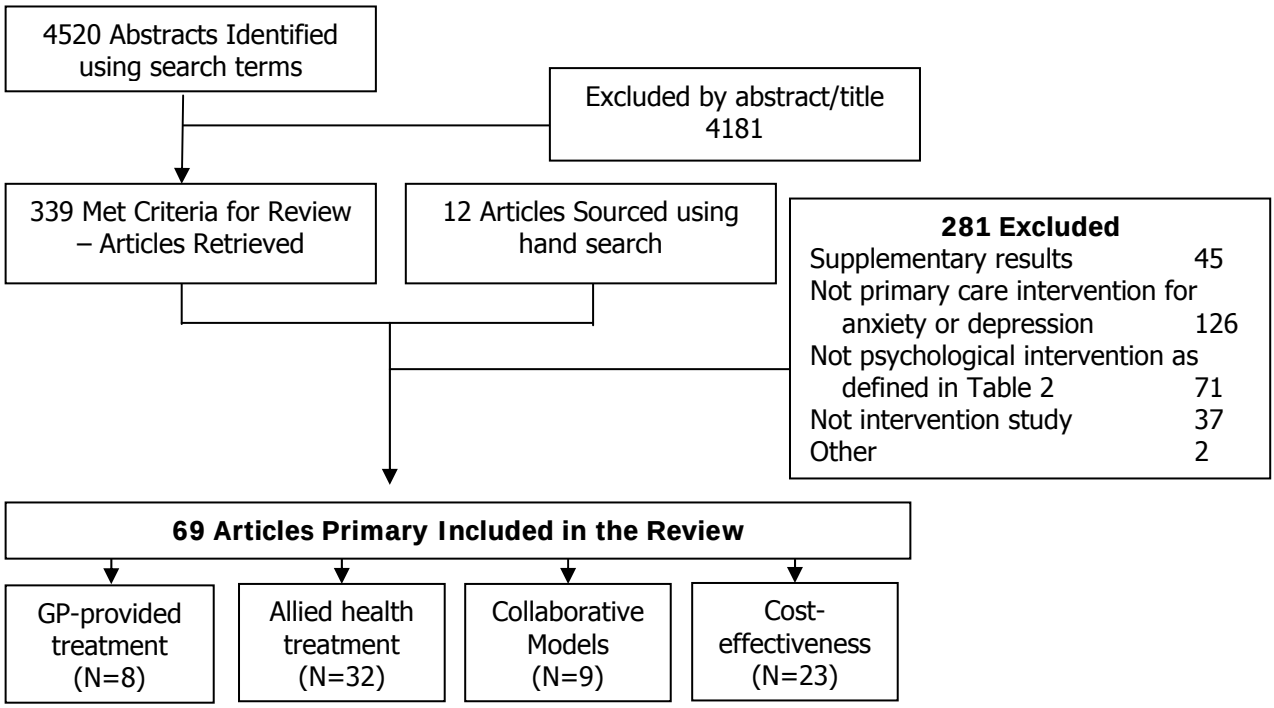
Database	Search Terms	
MEDLINE	1. TS="primary health care"/"primary healthcare"/"primary care"/"general practice*" "family practice"/"primary mental health care"/"family physician"/"primary nursing care"/"primary medical care"/"GP"/"GPs"/ family medicine/"Delivery of Health Care"/"cooperation"/ "interdisciplinary team"/"patient care team"/"mental health services"/"primary health care delivery" /"primary medical care delivery"/"general practice delivery" /"comprehensive care"/"coordinated care"/"integrated care"/ "continuity of care"/"accessibility of care"/"service planning"/"health service structures"/"health service organization"/"health service funding"/ "health service governance"	
	2. MH:exp=" Primary Health Care"/"Family Practice"/"Physicians, Family"/"Primary Nursing Care"/"Delivery of Health Care"/"Cooperative Behavior"/"Mental Health Services"/ "Comprehensive Health Care"/"Continuity of Patient Care"	
	3. TS=psychotherapy/ counsel*/"supportive therapy"/"Behavior therapy" /"Behaviour Therapy"/"Cognitive Behavior Therapy"/"Cognitive Behaviour Therapy"/"Cognitive Therapy"/"Behavior Analysis"/"Behavior Modification"/" Exposure Techniques"/"Activity Scheduling"/"Cognitive Analysis"/"Cognitive Interventions"/"Thought Challenging"/"Cognitive Restructuring"/Relaxation/ "Guided Imagery"/"Problem-Solving"/"Anger Management"/" Stress Management" /"Social Skills"/"Motivational Interviewing"/"Interpersonal Therapy" /"Parent Management Training"/Psychoeducation/ "Psychological Treatment"/CBT/ Interpersonal Techniques/"Behavior Control"/"Behaviour Control"/"Aversive Therapy"/ "psychological desensitization"/"Implosive Therapy"/Bibliotherapy /"self-help"/"family therapy"	
	4. MH:exp=Counseling/Psychotherapy/"Behavior Therapy"/"Cognitive Therapy" /("Psychotherapy, Rational-Emotive" AND Therapeutics)/ Relaxation/ "Imagery Psychotherapy"/"Behavior Control"/"Aversive Therapy"/"Desensitization, Psychologic" /"Relaxation Techniques"/"Implosive Therapy"/Bibliotherapy/ "Psychotherapy, Brief"/"Psychotherapy, Multiple"/ "Psychotherapy Rational-Emotive"	
	5. TS= Depressi*/Dysthymi*/"Seasonal Affective Disorder"/Anxiety/Agoraphobia /"Obsessive-Compulsive Disorder"/ OCD/"Pani Disorder"/"GAD"/"Generali?ed anxiety Disorder"/Phobi*/ "Stress Disorder*"/PTSD/"Adjustment Disorder*"	
	6. MH:exp="Depressive Disorder, Major"/"Depressive Disorder"/"Depression, Postpartum" /"Dysthymic Disorder"/"Seasonal Affective Disorder"/"Anxiety Disorders"/ "Agoraphobia" /"Obsessive-Compulsive Disorder"/"Panic Disorder"/"Phobic Disorders"/"Stress Disorders, Traumatic"/ "Combat Disorders"/"Stress Disorders, Traumatic, Acute"/"Stress Disorders, Post-Traumatic"/ "Adjustment Disorders" /"Neurotic Disorders"	
	7. (1 OR 2) AND (3 OR 4) AND (5 OR 6)	2780
SCOPUS	See Appendix 3 for Terms	488
PsycINFO	See Appendix 3 for Terms	867
Cochrane	See Appendix 3 for Terms	279
Web of Science	See Appendix 3 for Terms	1418
PubMed	See Appendix 3 for Terms	664
TOTAL	(EXCLUDING DUPLICATES)	**4520**

Note: Forward slash (/) represents the Boolean operator "OR".

Table 2: Inclusion/Exclusion Criteria

Inclusion Criteria	Exclusion Criteria	Justification
After 1979	Before and including 1979	Development of modern CBT, IPT; trials more methodologically rigorous
Depressive Disorders (Major Depressive Disorder, dysthymia), and Anxiety Disorders (Panic Disorder, PTSD, OCD, Generalised Anxiety Disorder, Specific and Social Phobias).	Primarily psychotic disorders; eating disorders; bipolar disorder; Mental Retardation; Personality Disorders, substance use, somatoform disorders (hypochondriasis, conversion, pain disorder, body dysmorphophobia, somatization); Medical illness.	High prevalence disorders with high disability, which are amenable to psychotherapeutic approaches.
Actively recruited from General Practice Setting.	Exclusively secondary/tertiary care. Exclusively Hospital Care.	Focus of review on primary care research. Most patients who seek professional care for mental illness present to GPs in the first instance.
Must be intervention/program to treat existing mental illness	Preventative approach. Purely theoretical paper.	Review prioritises clinical and health service research
Psychotherapy must be a component	Exclusively pharmacological approach.	Focus of review on psychological treatments
Psychotherapy using: CBT; PST; IPT; Psychoeducation	Exclusively other psychological approach (e.g., psychodynamic; gestalt; generic counselling; .)	Highly relevant to current Australian focus of policy on Focussed Psychological Strategies.
Must have some relevance to Australian Context	Purely description of overseas context with no transferability	Report designed for Australian context
English Language	Not English	Pragmatic consideration.
General depression/anxiety population	Specific population such as depression in post-operative cardiac patients	For relevance to general primary care context.
For Health Economics Papers – Cost and Outcome data – Comparative Arm	For Health Economics Papers - Absence of cost/outcome data - Non-comparative study	Necessary elements of health economics evaluations.

Figure 1 Flowchart of Review Process for Primary Articles



Note: As three papers appear in more than 1 category, the number of papers does not add to 69. Five review articles from the past two years also sourced and discussed in the collaborative models chapter.

1.1.4. QUALITY

In addition to extracting data from papers, the reviewers also coded the quality of studies. For the trials assessing psychological interventions, quality was based on Cochrane Guidelines (17), as applied in a previous review of collaborative primary care trials (18). Assessments of study quality were therefore based on four main possible sources of bias: randomisation and allocation concealment (19), fidelity to the planned intervention, follow-up rates and analytic methods (intention-to-treat analyses)(20, 21), and blinded outcome assessments (22). Based on these criteria and following Cochrane guidelines, risk of bias was coded as low (all elements met), moderate (one or more elements partially met), and high (one or more elements not met). Self-report measures were considered partially blinded, as participants were aware of treatment they received but not study hypotheses. Where information was not provided in published primary or supplementary articles, we attempted to contact the study authors for additional description. Where information was unavailable, the criteria were coded as partially met. For the economic evaluation articles, formal criteria of economic evaluation quality have been applied to each of the identified studies in order to assess quality (23) (see Appendix 10 for rating scale). To ensure compatibility in quality ratings, a subset of papers were independently cross-reviewed by separate reviewers.

1.1.5. STRENGTH OF EVIDENCE

In order to provide a simple but accurate assessment of the findings, we have graded the strength of evidence of each major finding. The four categories are:

(1) *No Studies Identified*

(2) *Inconclusive Evidence*; where the findings are based on a very small number of studies that are either inconsistent or at high risk of bias

(3) *Limited Evidence*; where the findings are based on an extrapolation of indirect evidence from a large number of studies; from generally consistent findings in two or more studies with a high risk of bias; or from one study with moderate risk of bias

(4) *Good Evidence*; where the findings are based on generally consistent evidence in two or more studies with low to moderate risk of bias.

1.1.6. STAKEHOLDER CONSULTATIONS

In addition to the literature review, we also conducted a number of stakeholder consultations. These consultations took place during the formulation of our research question, and also following the initial synthesis of the findings and drafting of the policy options. The consultations were of three main forms: (1) short, confidential semi-structured interviews; (2) circulations of iterations of our report; and (3) informal discussions in conference settings. We took this approach as we believed it would be an effective way to engage time-poor senior policy and research staff in discussions relevant to mental health reform and to what they viewed to be the most pressing issues regarding the optimisation of the primary mental health care system. In taking this approach we recognise that we have not sought to conduct original research such as the thematic coding of interviews, which is beyond the scope of our review.

Notwithstanding such limitations, we consulted a wide range of stakeholders about our review including past and current senior policy advisors, policy evaluators, health economists, divisions of general practice (both senior managers and mental health program managers), consumers, GPs, psychologists, social workers and occupational therapists. We recognise that consulting these individuals does not in any way represent agreement or consensus of the various professional colleges, organisations or other stakeholders regarding the focus or conclusions of our review. Indeed, recent reforms to the delivery of psychological treatments in Australia have been the subject of much debate, discussion and differences of opinion in both the medical and lay press. However, our stakeholder consultations have been invaluable in shaping the focus of our review and in informing us with respect to the current Australian context.

1.2. POLICY CONTEXT

1.2.1. MODELS OF MENTAL HEALTH CARE IN AUSTRALIA

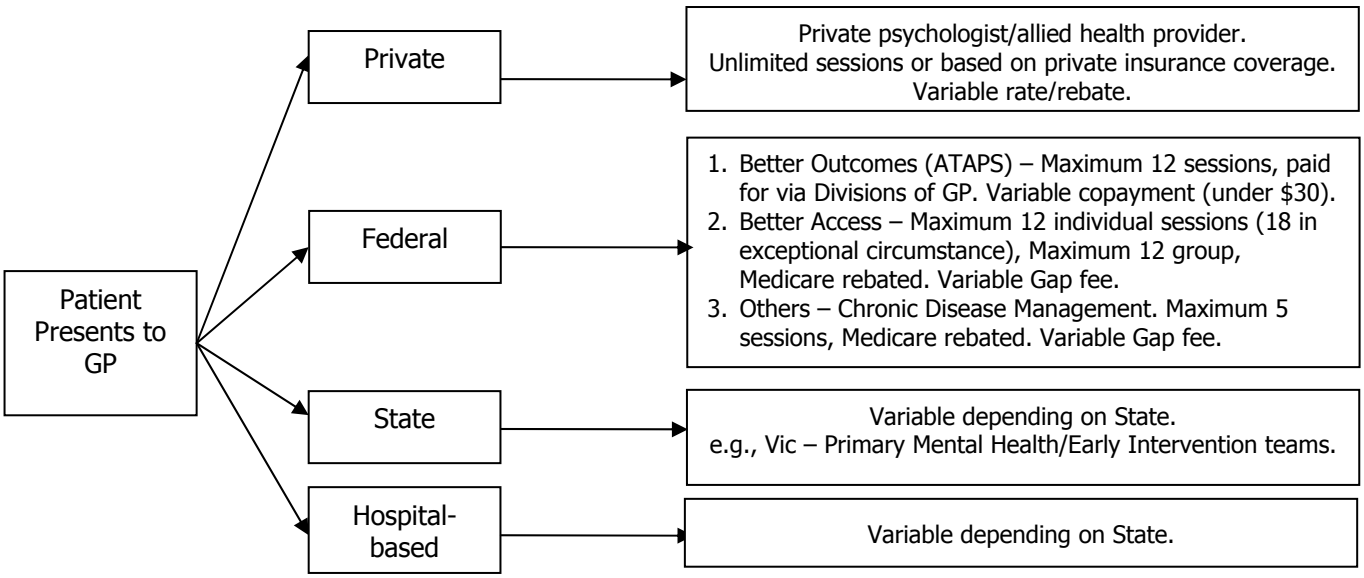
The question of how to provide psychological treatments must be considered in the context of the Australian setting. In our primary care system, patients presenting to GPs with mental disorders may be managed by the GP or referred for specialist psychological treatment through one of a number of methods: private referral, state-based psychological services, the Better Outcomes in Mental Health Care Initiative, the Better Access to Psychiatrists, Psychologists and GPs through the Medicare Benefits Schedule (Better Access) Initiative, or a range of referral models for rural and Indigenous populations (24-26). A summary of these pathways is shown in Figure 2.

1.2.2. STATE-BASED MENTAL HEALTH CARE INITIATIVES

States have traditionally held the greater responsibility for provision of services for mental illness in Australia. In the most recent National Mental Health Report (27), it was reported that in 2002-2003 the state governments provided $1.98 billion and the Federal government $1.21 billion for funding on mental health.

Most of the state-provided funding was for hospital services (29% of state and federal funding) and non-hospital or ambulatory services (22.9% of funding), with subsidies for pharmacological treatments through the Pharmaceutical Benefit Scheme forming the greatest proportion of federal provision (27). State and territory services are not uniform, and most states are further divided into particular zones or areas, with regionalised teams responsible for in-patient and community health service delivery within such areas. State services include crisis assessment services, services for individuals with severe mental disorders (such as acute inpatient and extended care inpatient services), and community mental health services for treatment, assessment, and case management (e.g., 24). Most states also have additional specialised programs that are provided either statewide or regionally, such as the Primary Mental Health and Early Intervention Teams for treatment or secondary consultation in Victoria (28), the Aboriginal Psychiatric Service located at Graylands Hospital in Western Australia (29), and the Mobile Assertive Care Services in South Australia (30).

Figure 2 GP Referral Pathways to Psychological Treatments in Australia



Note: Better Outcomes=Better Outcomes in Mental Health Care Initiative; ATAPS=Access to Allied Psychological Services; Better Access=Better Access to Psychiatrists, Psychologists and GPs through the Medicare Benefits Schedule initiative.

1.2.3. FEDERAL MENTAL HEALTH CARE INITIATIVES

Recent policy reforms in Australia have incrementally been widening consumer access to psychological treatments through primary care, with generalist or specialist providers[1] able to administer such treatments. Commencing in 2001, the Federal Government allocated $120.4 million over four years for the Better Outcomes in Mental Health Care Initiative (31). Through this initiative, GPs who have completed the requisite training can claim reimbursement for developing structured 3-step mental health care plans with patients, and for conducting focussed psychological treatments (CBT, IPT, psychoeducation, relaxation) (32). Alternatively, GPs can refer patients to psychologists and other allied health providers (social workers, occupational therapists, mental health nurses, Indigenous health workers), who are funded through the regionalised Divisions of General Practice to conduct six sessions of evidence-based treatment with patients referred by GPs, with six further sessions available on re-referral. The program was renewed in 2005, with a further $102 million allocated over four years for continuation of the program, and $42.6 million over five years for expansion of the program. Contracts with Divisions of General Practice have been renewed until 2009 (31).

From July 2004, the Enhanced Primary Care items (re-termed Chronic Disease Management in 2005) of Medicare were expanded to include provision of services for mental health issues, along with other chronic diseases covered by the items. In this initiative, GPs can refer individuals for a maximum of five sessions per year with registered allied health providers (including psychologists, occupational therapists, social workers, mental health nurses, and Indigenous health workers), following completion of a multidisciplinary care plan (33, 34).

1 While we acknowledge that disagreement exists over definitions of who and what constitutes a "generalist" or "specialist" provider, for the purposes of this report General Practitioners are considered the main generalist providers of psychological treatment in the Australian Health Care system, and Allied Health staff that deliver psychological treatments are considered to be specialist providers, including psychologists, social workers, mental-health orientated occupational therapists, and other workers as relevant. As noted and for reasons mentioned previously, psychiatrist and nurse-provision of psychological treatments is not considered in this document.

In November 2006, a further Federal government initiative commenced as part of broader Council of Australian Government (COAG) reforms, termed the Better Access to Psychiatrists, Psychologists and GPs through the Medicare Benefits Schedule program (the Better Access program; see Table 3)(26). Of the $1.9 billion assigned to the program, $538 million was designated for the increased provision of psychological services by GPs, psychiatrists and allied health providers. The Better Access program is open to individuals with diagnosed mental illnesses, excluding dementia, delirium, tobacco use disorder, and mental retardation, according to the International Classification of Diseases-10 (ICD-10, 35). Individuals initially can receive six sessions of Medicare-rebated services with allied health providers (psychologists, social workers, occupational therapists), with six more sessions available following review and re-referral by their GP, unless there are exceptional circumstances. Unlike the Better Outcomes program, GPs do not have to undergo specific training or to register with Divisions in order to access the Medicare items or to refer to psychological treatment by psychologists and allied health providers[2]. Furthermore, the referral process for this program is a more direct system where psychologists, specific occupational therapists and social workers are able to access fee-for-service MBS items rather than applying to the Divisions of General Practice. The Better Access and Better Outcomes programs are designed to function as complementary systems, with the former program designed to make psychological services more widely available, while the latter program has more flexibility and scope for development to suit the needs of particular regions. Both these programs require judgement on the part of the individual GPs regarding which patients they choose to manage, and which are referred for specialist treatment.

Table 3: COAG Mental Health Care Reforms (2006-2011)

	Selected Components from the New Federal Measures on Mental Health
1.	$538 million over 5 years to promote a team approach to mental health care, including: • Medicare rebate items for GPs to provide early intervention, assessment and management of patients with mental disorders as part of a mental health care plan. • New Medicare items to encourage psychiatrists to see more patients, including increased rebates for initial patient assessment and preparation/review of a management plan with GPs. • New Medicare items for clinical psychologists to provide up to 12 sessions of psychological assessment and therapy services, when clients are referred by GPs. • New Medicare items for appropriately trained allied health workers (psychologists, social workers and occupational therapists) to provide up to 12 sessions of focussed psychological strategies, when clients are referred by GPs.
2.	$51.7 million over 5 years to improve access to mental health services for people in rural and remote regions.
3.	$191.6 million over 5 years to enable eligible private psychiatry practices, general practices and other appropriate organisations to employ mental health nurses in a coordination role to support mental health care.
4.	An additional $56.9 million over 5 years to boost capacity of telephone and web-based counselling services, and $2.4 million for expansion of Lifeline.
5.	Provision for 420 extra mental health nursing places and 200 postgraduate clinical psychology university places, 75 additional scholarships for nursing and psychology and increased clinical exposure for junior medical officers.

The uptake of the new GP and psychological items from the Better Access program has been dramatic (see Figure 3, 36), although it has leveled off since May 2007. In the first 11 months, GPs claimed MBS items for creating 414,587 mental health plans and for conducting 327,744 extended mental health consultations, although this contrasts with a limited number of formal mental health reviews (73,203).

2 Note that from November 2006-April 30th 2007, the 3-step Mental Health Plan from the Better Outcomes initiative was phased out to be replaced by the GP Mental Health Plan Medicare items (2710, 2713), removing the incentive payment at review. Due to these changes, GPs do not have to undergo level I training to access the ATAPS component of the Better Outcomes initiative (see Appendix 1 for more detail regarding the Better Outcomes/Better Access initiatives). The new Medicare items are therefore now used for both the Better Outcomes and Better Access initiatives.

The uptake of GP-conducted focused psychological strategies has remained fairly constant over the same time period, with 32,796 consultations conducted from November 2006-September 2007. In the same period, Medicare was billed for a total of 1,052,191 sessions with allied health providers. These statistics indicate that there has been a far greater use of the Medicare items than was expected; indeed the number of mental health care plans developed by GPs has already exceeded the 170,000 forecast for the five-year initiative, while the 145,488 psychological services claimed in September 2007 compares with a five-year forecast of 960,000 services in total **(37)**. Such uptake statistics have been suggested to reflect the substantial unmet need for evidence-based psychological treatments in Australia in the past (see 38), which has previously been well-documented **(39)**, where access to psychological treatment was beyond the means of most Australians. The uptake of such services highlights the need for the examination of the evidence base for the efficacy of such interventions in primary care settings.

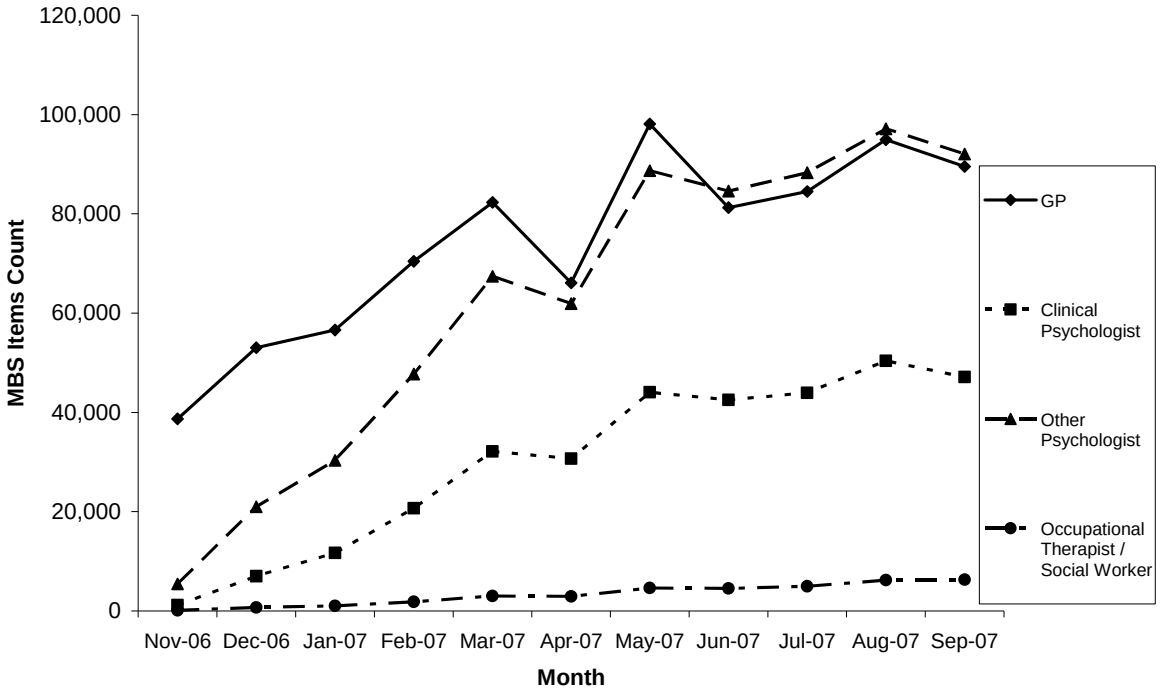


Figure 3 Uptake of MBS Mental Health Items (Nov 2006-July 2007)

1.2.4. RELEVANCE OF OVERSEAS MENTAL HEALTH CARE RESEARCH TO AUSTRALIA

Around the world, the structure and functioning of primary mental health systems vary widely. The pathways to care, the types of mental health specialists, the care provided, the communication protocols, the follow up requirements and the strength of primary care may differ between these systems of mental health care. A particular challenge for this review of models of mental health care is to decide how applicable the research undertaken in other countries is to the current Australian system, as most research into primary care psychology is conducted in the US, Canada and the UK. Starfield and Shi (40) rated countries according to whether they had system policies that are conducive to primary care, as well as characteristics of practice that reflect good primary care. They found that the US had low primary care strength; Canada and Australia were intermediate; whereas the UK had the strongest system and practice characteristics of the Western countries. More specifically, as shown in Table 4, the characteristics of primary care psychological treatment services vary between Australia and the US, Canada, and the UK (24, 41-45). The weaker US primary care system raises the possibility that US studies utilising GP treatment-as-usual as a control condition may be related to larger treatment effects than the equivalent treatment in UK and Australian studies. In general, results of US studies may be less transferable to Australian settings than UK studies.

Table 4: The Characteristics of Primary Care Mental Health Care in Australia, the US, Canada and the UK

Country	Characteristics
Australia	Universal, tax-based insurance scheme. State/Commonwealth with separate health responsibilities. Patients insured for 85%-100% of GP fees. GP paid per consultation. Smaller primary care teams. Incentives for mental illness consultations via Better Outcomes/Better Access programs.
Canada	Primary care is free at point-of-contact. Psychologists are mainly private providers, except in hospital settings. Recent shift to promote multidisciplinary teams in primary care (Family Health Teams). These occasionally include salaried psychologists, but more often social workers/"mental health workers" offering counseling. Administration and delivery varies by province/territory. Recent establishment of the Mental Health Commission of Canada, with one task to create a national mental health strategy.
UK	Tax-based, national system. Funding held by primary care trusts. Patient registration. GP paid via patient list. Free at point-of-contact. GPs generally work in teams of 6-8, assisted by allied health workers and support staff. Mental health staff may work in (1) close association of Community Mental Health Team (CMHT) with single point of referral from primary care and integration of services; (2) out-patients model; (3) attachment of CMHT members to perform clinics in primary care; (4) consultation-liaison model
US	Lower ratio of GP/Primary Care Physicians to Specialists, more direct access to specialists, costs shared by consumers. Fee-for service and managed care schemes that govern medical care. In HMOs, doctors work in group practices that may have mental health workers attached. More generally, Primary Care Physicians work as individual providers independent of Community Mental Health Teams. Recently, opposing trends towards (1) Integrated settings with increased role for primary care physicians to manage mental illness and act as gatekeepers; (2) "Carve-out" organisations where non-physicians act as gatekeepers and primary care providers may be bypassed altogether.

2. GP AND ALLIED HEALTH PROVISION OF PSYCHOLOGICAL TREATMENTS

2.1. INTRODUCTION

GPs are clearly an important part of Australia's mental health workforce, and the delivery of mental health care by GPs has several potential advantages. GPs are highly accessible to consumers; can provide continuous care, manage physical comorbidity and manage pharmacological treatments; and have the capacity to assess and manage complex presentations such as undifferentiated illness, somatisation and substance abuse (46).

Psychological treatment by specialist allied health providers has potential advantages over GP-provided services, including being more intensive and allowing provision of care without the time limitations and competing demands on providers such as GPs. Allied health providers also have greater specific skills and have access to existing systems of clinical supervision. Clearly, allied health providers of psychological treatment are not a homogenous group, with specialist workers including clinical psychologists, non-clinical psychologists, social workers, occupational therapists and Indigenous mental health workers. The training of each of these professions may vary substantially, and there may also be differences in their effectiveness for treating specific anxiety and depressive disorders.

The distinction between GP and allied health-delivered psychological treatments has important implications for the mental health system and for health policy. Which patients should be receiving less intensive GP-based psychological interventions and which patients should be apportioned a share of limited specialist-delivered services? What evidence is there for generalist versus specialist provision of psychological treatments? Additionally, what can the research tell us about how services can best be delivered in settings with less access to specialist care such as rural, remote or Indigenous settings?

2.2. PSYCHOLOGICAL TREATMENT PARADIGMS AND EVIDENCE-BASE

Psychological interventions can be categorised descriptively along a continuum of complexity, from stress-management, through focused psychological strategies, to formal psychotherapies (47). Stress-management strategies aim to reduce arousal or anxiety in the present time, and include relaxation, meditation and imagery. Focused psychological strategies are specific therapeutic strategies that are aimed at discrete aspects of problems (47), and in the definition for Medicare-reimbursement, include psychoeducation, CBT, IPT, relaxation strategies, and skills training (including PST, anger-management, and social skills training) (14). They usually do not require extensive formal training, are well-suited to primary care settings, and are frequently used in combination with other therapeutic interventions as a package of treatment (47). In contrast, formal psychotherapies are complete therapeutic interventions rather than specific therapeutic components, and are usually offered in a set series of sessions according to a treatment plan. They require specific and complex training, are usually longer and more intensive, and their practitioners are regulated by relevant professional bodies (47). Examples of formal psychotherapies include CBT, IPT, psychodynamic and gestalt therapy.

There is high standard scientific evidence from efficacy studies (i.e., from research trials) for CBT and IPT approaches in secondary care (5). In line with this, the description of the Medicare-reimbursed items for clinical psychological services ("psychological therapy services") state that, "In addition to psycho-education, it is recommended that CBT be provided. However, other evidence-based therapies - such as IPT - may be used if considered clinically relevant." (14). Theoretically, CBT suggests that maladaptive beliefs about the self, others and the future, lead to unhelpful interpretations about situations and contribute to the maintenance of disorders.

IPT focuses on the conflicts and transitions in the patient's relationships, in order to improve communication or readjust expectations, and aims to assist patients to build or better utilise their social support network, facilitating crisis management.

Most research trials have taken place in specialised secondary care, with the corollary that the evidence for the efficacy of CBT and IPT treatments in primary care populations has not often been such a focus of research. Katon and colleagues (48) note four limitations of the generalisability of specialist mental health research to primary care populations, based on differences in populations attending these services. First, primary care patients are often seen at earlier stages of illness and have less severe illnesses, for which treatments may be less effective. Second, primary care patients often have comorbid physical illnesses that could interfere with or reduce response to treatments. Third, primary care interventions are often provided at a lower intensity than the same treatments in specialist care. Fourth, primary care patients may be more ambivalent about the need for treatment and less motivated to carry out treatments than patients in specialist secondary clinics. While raised as criticisms of pharmacological research, these issues are also relevant to psychological treatments. Similar comments were noted by Raine et al. (49) who conducted a meta-analysis of trials of psychological interventions for somatic conditions in primary and secondary care, finding that treatments were more effective in secondary care, perhaps due to there being a greater severity of disease, greater intensity of treatment and more closely supervised interventions in secondary care. They note:

> Pragmatic studies of the effectiveness of psychological interventions in primary care and on unselected patients are needed to provide a basis for decisions about health care provision. Studies should identify which elements of an intervention require specialist training and which require specialist intervention. They should also measure the effectiveness of interventions carried out by primary care staff after a realistic amount of training and with the aid of standard manuals for patients and practitioners (49 p. 10).

These issues lead to this research review focussing specifically on psychological treatments within a primary care context or population.

2.3. FINDINGS

2.3.1. EFFECTIVENESS OF GP AND ALLIED HEALTH PROVISION OF PSYCHOLOGICAL TREATMENTS

2.3.1.1. EFFECTIVENESS OF GP PROVISION OF PSYCHOLOGICAL TREATMENTS

The most rigorous evaluation of randomised RCTs of GP-provided psychological treatment was a recent Cochrane review by Huibers and colleagues (50). They searched the Cochrane Library and database for randomised controlled trials, controlled clinical trials and controlled patient preference trials where psychological interventions of at least a two-session length were delivered by GPs. They reported only two high quality RCTs regarding GP provision of psychological treatment for depression, conducted by one research group (51, 52). From these trials they concluded that there is high level evidence that problem solving therapy (PST) conducted by GPs is effective in the treatment of depression and is no less effective than antidepressant medication, and limited evidence that it is more effective than placebo and no less effective than PST by a nurse-practitioner or combination therapy. However, they caution these findings due to the low number of participants in the studies, that a single research group was responsible for both trials, and that experienced research GPs took part in the study. In addition to these trials, we identified four other RCTs and two before-after studies through our review, and these articles are summarised in Table 5 (for detail, Appendix 4). Thus, eight studies were identified using GPs as therapists. These studies dealt with Major Depressive Disorder (51-53), depressive or anxiety symptoms (54, 55), social phobia (56) and Panic Disorder/Generalised Anxiety Disorder (GAD) (57).

The eight studies involved a total of 1094 participants, with a median age of approximately 38 and a median of 77% female participants. Six of the trials were RCTs.

Table 5: Summary of Evidence for the Effectiveness of GP Provision of Psychological Treatments

Authors	Design (Diagnosis)	Organisation	Interventions	Training (Manual)	Location and Provider	Primary Outcomes - Symptoms
C. S. Scott et al. (53)	Before-After (MDD)	General Practice, England, UK	Brief CBT (6 sessions)	Visiting GP with extensive training. (standard booklet)	In primary care. New GP for CBT; regular GP continued TAU.	Post; Mean 54% fall on Depression. 6/7 patients no longer met criteria for depression.
Mynors-Wallace et al. (52)	RCT (MDD)	General Practice, England UK	PST (6 sessions) Medication Placebo (PL)	2 GPs, 1 psychiatrist. Reading, role plays, training video, supervised practice for 5 patients. (Manualised)	Treatment by new GP. Patient's home or local health care centre.	At 12 weeks on depression; PST<PL; PST=Med. No difference by provider.
Mynors-Wallace et al. (51);	RCT (MDD)	General Practice, England UK	PST (6 sessions) PST (nurse; 6 sessions) Medication PST(nurse)+ Medication(GP)	3 GPs, 2 nurses. GPs received theoretical training and supervised practice for 5 patients. Supervised by therapist. (Manualised)	Treatment by new GP. Patient's home or local health care centre.	At 12 and 52 wks; All groups improved on depression. PST(GP)= PST(nurse) =PST +Med=Med
Blomhoff et al. (56)	RCT (Soc Ph)	Primary Care Centres, Norway/ Sweden	BT(8 sessions)+ Placebo Medication BT+Medication Placebo (PL)	50 primary care physicians (incl. 2 psychiatrists); 30 hour training program that included exposure therapy, training video, written material, role playing. local group supervision (Manualised)	Treatment by new GP.	At 24 wks; all groups improved on Social Phobia Scale. On response - BT+Med=Med >PL. BT=PL; BT+Med=BT. From 24-52 wks; only BT+PL improved.
Judd et al. (54)	RCT (MDD)	General Practice, Australia	Medication Medication+IPT (6 sessions).	Trained with video and written materials (Patient and Treatment Manuals)	Treatment by regular GP	On depression, at wk 12; Med=Med+IPT
King et al (55)	RCT (Depression)	General Practice, England UK	CT TAU	Four half-day workshops. (NA)	Treatment by regular GP.	On depression, at 6 mth, CT=TAU.
van Boeijen et al (57)	RCT (GAD/PD)	General Practices, Netherlands	Guideline Based treatment (GP; included CBT) Guided Self-help (GP; 5 sessions) CBT (therapist; 12 sessions)	GPs present at two educational meetings on diagnosis, management. Supervision every 2 months. Weekly supervision for therapists. (self-help and CBT manualised)	Treatment by regular GP.	All groups improved significantly on anxiety to follow-up. GP Guideline=GP Self-help=CBT.
Finucane and Mercer (58)	SBA (Dep and Anx)	Scotland, UK	Mindfulness-based CBT	One research GP with training (8 wk course, further training). (Manualised)	New GP for mindfulness course.	On depression; significant fall at 3 mths.

Note: RCT=Randomised Controlled Trial; MDD=Major Depressive Disorder; Soc Ph=Social Phobia; GAD=Generalised Anxiety Disorder; PD=Panic Disorder; Dep=Depression; Anx=Anxiety; PL=Placebo; CBT=Cognitive Behavioural Therapy; BT=Behaviour Therapy; IPT=Interpersonal Therapy; TAU=GP Treatment-as-usual.

C. Scott and colleagues (53) conducted a pilot study, using a before-after design for Major Depressive Disorder (MDD). They found that 6/7 patients treated no longer met criteria following six weeks of CBT. A further pilot study was conducted by Finucane and Mercer (58), examining the use of mindfulness-based group CBT for depressive and anxiety symptoms, with the patients reporting significantly lower symptoms following the trial. While promising, the small sample size and uncontrolled nature of these studies limits any conclusions that can be drawn.

Mynors-Wallace and colleagues conducted two trials of PST for MDD that we judged to be at low-risk of bias. In these studies, they found evidence that six weeks of PST delivered by GPs was superior to placebo and equivalent to medication (52), and that GP-delivered PST was equivalent to nurse-delivered PST, medication and combined medication and nurse-delivered PST (51).

Blomhoff and colleagues (56) conducted the largest trial in primary care, examining the effect of placebo or medication and GP-delivered behavioural therapy (BT) or treatment-as-usual in a cross-over design for Social Phobia in Scandinavia.

They found the medication groups were superior to placebo at 24 weeks, while the BT group did not differ from the placebo or medication groups. However, only the BT group improved from 24-52 weeks, suggesting a slower response to the non-medication treatments.

The previous studies provide some support for the efficacy of GP-provided psychological treatments. In particular, the Mynors-Wallace studies provide good quality evidence for the efficacy of PST delivered by these providers (51, 52). However, one difficulty is that in the above studies, patients were generally not seeing their regular GP, but rather were assigned to a trained research GP, making the transferability to regular practice settings open to question. Three studies explicitly utilised the patients' regular GPs in treatment (57).

In the first of these studies, conducted in an Australian setting, Judd and colleagues examined whether medication plus six sessions of IPT (adapted for usability by GPs) was superior to medication alone for MDD. They found no differences at 12 weeks, although there were notable difficulties in recruitment of patients, leading to a small sample size and a risk of bias (31). King and colleagues (55) conducted a large trial in the UK, where patients with depressive symptoms were treated by their regular GP, half of whom had been trained in cognitive therapy in four half-day workshops. They found no differences on self-reported depression or anxiety symptoms at six months. Finally, van Boeijen et al. (57) found no difference for patients with Panic Disorder (69% of participants) and GAD (31%) undertaking 12 sessions of CBT with therapists in secondary care, compared to receiving either guided-bibliotherapy by GPs or guideline-based treatment by GPs (including CBT). However, the GP delivered guideline-based treatment, including CBT, was seen as unfeasible by participating GPs as they felt it was either too time consuming or they were incapable of delivering the treatment.

In addition to published trials, we also explored relevant grey literature reports. An Australian RCT of GP-delivered CBT by the Primary Care Evidence Based Psychological Interventions (PEP) collaboration (59), including two of this report's authors (GB, JG), has recently been submitted to Beyondblue's Victorian Centre of Excellence, and updated unpublished results are presented in Table 6 (Final Report, 60). Of note, the training was 20 hours of CBT training based on the Better Outcomes criteria administered by the Royal Australian College of GPs' General Practice Mental Health Standards Collaboration (61).

Table 6: Summary of Unpublished RCT of GP Provision of CBT

Summary and Key Findings
GPs who undertook CBT training demonstrated an improvement in knowledge of CBT techniques
GPs who undertook CBT training demonstrated increased confidence in providing CBT to treat depression
GPs who undertook training in CBT demonstrated improvements in CBT skills as measured using standardised simulated patient consultations (Assessed by Young and Beck [62] scale of CBT skill)
Patients in both the intervention (GPs trained in CBT) and control group (GPs not trained in CBT) showed clinical improvements at 3 months. However, there was no difference between intervention and control groups.
Overall, there were high levels of satisfaction with their GP, although in most instances, the care seems to have been more of a supportive, empathetic nature rather than explicit provision of CBT. Additionally, interviews supported the idea that patients expect their GPs to work collaboratively with specialist mental health care providers.

While studies are not supportive of the role of GPs in delivering more complex psychological strategies such those derived from CBT and IPT, a number of qualifications must be made with regard to the literature. First, there are few studies regarding the delivery of such strategies by GPs, and those that exist may be underpowered with respect to the ability to find differences. Second, the packages may include inadequate training interventions and clinical supervision to ensure adequate delivery of CBT or IPT. Third, the interventions generally do not account for the role of clustering within the randomisation of the trials. For this reason, we believe that it is premature to make clear-cut conclusions regarding the effectiveness of GP-delivered CBT or IPT.

In summary, and as noted by Huibers et al. (50) there is support in the research for the use of GP-delivered problem-solving approaches to depression, although the GP in these trials (51, 52) was not the patient's usual primary care provider. The evidence for the effectiveness of GP-delivered CBT or IPT is inconclusive, with the limited evidence finding no advantage relative to usual treatment for depression or social phobia, but the evidence base was far from clear-cut. Promising results were provided in one study that found that guided self-help by GPs for two anxiety disorders (Panic Disorder, GAD) was as effective as CBT delivered in secondary care by trained therapists. These findings are shown in Box 1.

Box 1 Summary of Key Findings Regarding GP-Provision of Psychological Treatments in Primary Care

- **Good evidence** that GPs delivery of problem-solving therapy for depression is superior to usual treatment and equivalent to treatment by antidepressant medication. It is unclear the extent to which such results are relevant to real-world settings.
- **Limited evidence** that GPs delivery of guided, manualised bibliotherapy for panic disorder is as effective as referral to secondary care therapist.
- **Inconclusive evidence** for the effectiveness of CBT or IPT delivered by GPs.

2.3.1.2. EFFECTIVENESS OF ALLIED HEALTH PROVISION OF PSYCHOLOGICAL TREATMENTS

There is extensive evidence for the effectiveness of formal psychotherapies (particularly CBT and IPT) provided by well-trained clinical psychologists in secondary care (5, 63-65), and it is of interest whether similar results have been found for allied health delivered interventions in primary care populations. Around the world, a variety of "allied health" professionals with variable amounts of training have been incorporated in primary care, especially in the UK where link workers and counsellors are part of the workforce. In Australia, allied health workers such as social workers, occupational therapists and Indigenous health workers have been supported by a number of initiatives such as the Better Outcomes, Better Access and the Chronic Disease Management programs (25, 26). Allied health workers can fulfil a coordination or care manager role but in a number of programs are also funded to provide *focussed psychological strategies*. It is in this latter role of delivering psychological treatments in which we are most interested in this component of the review, with particular attention to the nature of the training of such allied health providers. While we also wished to report on RCTs involving occupational therapists and Indigenous health workers, the published literature was limited to trials involving social workers and psychologists.

Therefore, in this section of the review, we report on those studies that involved psychological interventions provided to primary care patients, and the evidence of effectiveness regarding providers of care. Since such patients have necessarily been recruited from primary care, these studies often involve some form of multiprofessional care, for example GPs monitoring and reviewing patients or pharmacological treatments. Therefore, we also summarise collaborative elements of interventions where they are reported.

Thirty-two studies were identified that focussed on the treatment of psychological disorders in primary care by psychologists and social workers. A summary of the papers is presented in Table 7, and full details are available in the appendices (see Text, Table 16, Table 17 in Appendix 5). Where details were not provided in primary reports, available supplementary reports were also consulted, and we also attempted to contact study authors by email for details.

Table 7: Summary of Study Properties for Allied Health Provision of Psychological Treatments

		Count
Provider	Psychologist Only	20
	Social Worker Only	4
	Psychologist/Social Worker	1
	Mixed (incl. other workers)	5
	Not Stated	2
Location	UK	15
	US	12
	Netherlands	4
	Canada	1
Major Diagnosis	MDD	11
	Dysthymia	4
	Depressive/Anxiety Symptoms	4
	Generalised Anxiety Disorder	4
	Panic Disorder	6
	Other Psychological Problems	3
Patient Population	<25% Ethnic Minority	7
	>25% Ethnic Minority	6
	NA	19
Female Proportion	<75% Female	18
	>75% Female	12
	Not Reported	2
Primary Age Range	Adolescent	1
	Adult	28
	Elderly	3
Psychiatric comorbidity	Not Excluded Systematically	9
	Bipolar, psychosis, Substance Abuse Excluded	23

		Count
Year Published	<1990	7
	1990-1994	4
	1995-1999	4
	2000-2004	8
	2005-2007	9
Design	RCT	29
	Non-RCT	3
Number in Trial	21-50	8
	51-100	7
	101-200	10
	201+	7
Patient Recruitment	Systematic Screening	8
	Database	1
	Clinician Referral	19
	Mixed	4
Psychological Approach	CBT/BT	25
	IPT	3
	PST	4
Group Format	Yes	5
	No	27
Length of Therapy (sessions)	<=6	10
	7-12	15
	13-18	3
	19+	3
	Not limited	1

Note: MDD=Major Depressive Disorder; RCT=Randomised Controlled Trial; CBT=Cognitive Behavioural Therapy; BT=Behavioural Therapy; IPT=Interpersonal Therapy; PST=Problem Solving Therapy.

The 32 studies involved a total of 4893 subjects. Three studies had elderly populations, one adolescent, and the remainder adult. Most studies excluded participants with psychosis, bipolar disorder and organic brain syndromes after systematic screening (23/32). The median percentage of female participants in the studies was approximately 71%, and only six studies explicitly reported greater than 25% ethnic minority participants (19 studies not available). The majority of studies were from the UK (15/32) and US (12/32).

The majority of studies examining treatment in primary care examined individuals with depressive disorders comprising major depressive disorder [MDD] (66-76), dysthymia (76-80), and depressive or minor anxiety symptoms (81-84). The remainder of studies examined Panic Disorder (57, 85-89), Generalised Anxiety Disorder (90-93) or unspecified psychological difficulties (94-96); no articles were identified that examined interventions for the other anxiety disorders such as Obsessive-Compulsive Disorder, Post-Traumatic Stress Disorder, and Social Phobia.

As the majority of studies reported differences on continuous measures of effectiveness (22/32), or on both continuous measures and dichotomous rules of recovery and response (8/32), we largely examined outcomes used continuous measures. Twenty-five studies reported post-study outcomes compared to wait-list, treatment-as-usual (TAU) or placebo comparators (non-systematic comparators), with 11 reporting superior outcomes for therapy conditions, and 15 equivalent, with none reporting worse outcomes. Ten studies compared psychotherapy to medication only, with largely equivalent results (1/10 superior, 8/10 equivalent, 1/10 worse).

For those studies reporting follow-up assessments, the median length of follow-up was 12 months. At follow-up, compared to wait-list, TAU or placebo, 6/13 studies reported better, and 7/13 studies equivalent outcomes for psychotherapy. Only two studies with medication comparators reported 12-month depressive symptoms, with one of these reporting equivalence, and one reporting medication superiority.

Considering the findings overall, there is encouraging but not unequivocal evidence for the usefulness of psychological therapies when delivered in primary care, with the studies suggesting that psychotherapy is effective for these disorders and no worse than medication when provided in the same trial. Below, we will further tease out the findings with respect to the providers of therapy, length and modality of therapy, and consideration with regard to efficacy for different disorders.

When considering the anxiety disorders, studies were identified dealing with Panic Disorder and GAD. For patients with Panic Disorder, advantages were found for CBT compared to waitlist (85, 88), psychologist-guided bibliotherapy (87), non-CBT therapy (89), but CBT was equivalent to GP-delivered bibliotherapy (57). At follow-up, one study found lower levels of additional treatment had been sought by the CBT group at six months (85), suggesting superior outcomes, and one study found improvements in anxiety symptoms at 8.5 months but not two years (89, 97). Patients with GAD benefited at post-treatment from short-term CBT of four-to-eight sessions (90-93). Follow-up information is limited, with Power and colleagues finding CBT patients sought less additional treatment in the next six (92) to twelve months (91), and Price and colleagues (93) finding greater recovery at six months for CBT in a non-RCT design.

Of note, Durham and colleagues (98) followed-up patients from Power and colleagues' 1990 trial of CBT for GAD after 11-14 years (92, 99), interviewing 33 of the 93 patients who could be traced. They found no significant differences between the groups, although the amalgamated CBT group and not the non-CBT group had a significant fall on blinded ratings of anxiety symptoms compared to pre-treatment scores. Recovery did not differ between the two conditions, with 69% of patients having no DSM-IV diagnosis at follow-up. While the low follow-up rates limit conclusions, affecting both the power to identify differences between groups and the potential for bias due to systematic drop-outs from the study, the results tend to point towards a small advantage for CBT, which is of interest given that the trial involved only seven sessions of treatment and follow-up was conducted over a decade later, with most participants (70%) not seeking additional treatment within this time.

Regarding MDD, positive results were found for many studies in the short-term comparing CBT to TAU, placebo or Waitlist (66-68, 70-72), but not always (69, 73-75). There were only a limited number of studies reporting follow-up outcomes, with some studies finding superiority (70, 71, 75), and some equivalence (72-74). Fewer studies investigated dysthymia, with little evidence of superior outcome to placebo, TAU or waitlist. These results suggest that while there is evidence for the effectiveness of psychological treatment for major depression, regarding dysthymia the evidence is far sparser, with large trials failing to find superiority.

When considering the make-up of the allied health workforce, most studies represented in this review utilised psychologists alone, with a minority of studies employing social workers alone, or a mixture of staff. Following the inclusion criteria, psychiatrist and nurse providers acting alone were not represented. Given the lack of studies, it is difficult to determine the efficacy of social workers when providing CBT. One study provided encouraging results for group but not individual treatment (68), a non-RCT showed evidence of improved outcome for combined medication and group CBT for PD (86), and one study found no difference between generic social worker counselling and psychologist-provided cognitive therapy (69). While two other studies failed to show an effect for social worker-provided treatment, one used brief PST (81) and the other a specific minority prenatal population (82), making it difficult to generalise from the studies. The lack of evidence suggests that further studies utilising providers such as social workers, general mental health workers, and counsellors is required.

A further question is "how much therapy is needed", particularly in real-world primary care contexts where therapy tends to be shorter or less intense than equivalent secondary settings (49).

The studies reviewed differed greatly in the intensity of sessions, from as little as four-to-six sessions of psychological treatment (71, 73, 79, 81, 83, 84, 90, 91, 93, 100), to those with over 18 sessions (66, 67, 70). Generally, studies using low numbers of sessions tended to be more recent, perhaps reflecting the wider move towards cost-considerations in health care (44). In particular, the four studies utilising PST tended towards a low session length, commensurate with the intent of the therapy to be a simple, time-limited approach, while the CBT and IPT approaches tended to be longer. Power and colleagues directly examined the question of intensity of therapy for Panic Disorder, finding superiority at follow-up for CBT relative to minimal CBT and bibliotherapy. Furthermore, other studies suggest that the effect of psychotherapy may be slower than medication (70, 85). In a study of older adults, case management was shown to improve outcomes relative to CBT alone for depression/dysthymia (76). These studies suggest that longer-term assistance may be an important element in treatment, as suggested by the design of system level[3] interventions (18, 101). It should be noted that van Boeijen (57) did not find CBT to be superior to guided self-help by GPs. It may that GPs are particularly credible therapists for panic disorder, due to the health-related concerns of many patients.

Consideration also needs to be given to the generalisability of studies to settings with large numbers of minority patients, given the multicultural nature of Australia and considering the need to determine the applicability of findings to our Indigenous cultures. Likely reflecting the demographic make-up of the different countries, most studies with more than 25% ethnic participants were conducted in the US rather than the UK. The distribution of ethnic minorities across the studies seemed fairly independent of the success of CBT and target disorder. While the findings of such research are limited, there is cause for hope that treatments will transfer to ethnic minority populations. Indeed, one prominent collaborative study has directly addressed this issue, transferring an intervention effectively to a non-white population in Chile (102). It would be naïve to ignore that close attention must be paid to cultural considerations, such as matching as closely as possible the background of therapist and client (86), when transferring therapeutic approaches to minority cultures in Australia.

Box 2 Summary of Key Findings Regarding Allied Health-Provision of Psychological Treatments in Primary Care

- **Good Evidence** that psychotherapy delivered by psychologists has similar treatment effects to medication for Depression. **Limited evidence** for Panic Disorder and Generalised Anxiety Disorder
- **Good Evidence** that psychotherapy delivered by psychologists is superior to usual treatment or Placebo for Major Depressive Disorder, and Panic Disorder, but not for Dysthymia. **Limited evidence** for Generalised Anxiety Disorder.
- **Limited evidence** that psychological treatments can be effectively delivered to minority or non-Caucasian populations.
- **Limited evidence** that social workers can effectively deliver psychological therapies for depression and anxiety.
- **No studies identified** regarding effectiveness of psychotherapy by other workers (OTs, Indigenous health workers).

3 Systems-level interventions refer to those where systems of care are altered, such as occurs in collaborative interventions which alter providers of care, communication between providers, plans for provision of care, and so forth.

Table 8: Summary of Evidence for the Effectiveness of Allied Health Provision of Psychological Treatments

Authors	Design (Diagnosis)	Organisation	Interventions	Location and Collaborative Elements	Primary Outcomes - Symptoms
Blackburn et al. (66)	RCT (MDD)	General Practice, Scotland, UK	CT (23 sessions) CT+Medication. Med	Location unclear. Medication in consultation with Psychiatrists	At post; on depression (CT+Med=CT)<Med.
Earll and Kincey (94)	RCT (None)	General practice, England, UK.	BT (not limited) TAU	Wthin practice. Reports and verbal feedback to GP	At 7 mths from referral; proportion not "personally ill"; BT 45% TAU 50%.
Robson et al (95)	RCT (None)	General Practice, England, UK.	BT+TAU (10 weeks) TAU	Working within health centre.	BT<TAU on severity to 32 wks from referral; at 12 mths BT=TAU.
Teasdale et al. (67)	RCT (MDD)	General Practice, England UK.	CT (20 sessions) TAU	Location not stated. GPs prescribed medication	Post treatment, CT<TAU on depression; 3 mths follow-up no difference.
Trepka et al. (96)	CCT (None)	Health Centre, Scotland UK	Group CT (11-13 sessions) Individual Counselling	Location not stated.	Individual<Group CT at post on anxiety; At 1 yr Group CT reductions ns; individual counselling remained sig.
Lindsay et al. (90)	RCT (GAD)	GPs, Scotland UK	CBT group (8 sessions) Anxiety Management Group (8 sessions) Medication Wait-list	Location not stated.	At post; fall on Anxiety for CBT and AMT but not Medication and WL; CBT=AMT=Med<WL on anxiety post-treatment. At follow-up no changes on anxiety for CBT and AMT (Medication and WL not assessed)
Power et al (91)	RCT (GAD)	GP setting, Scotland UK	CBT (4 sessions) Medication Placebo	Treatment in primary care.	Anxiety decreased in all groups. At post-treatment CBT<PL. CBT=Med; Med=PL.
Power et al (1990) Durham et al (103)	RCT (GAD)	GP setting, Scotland UK	CBT (7 sessions) Medication CBT+ Medication CBT+Placebo Placebo	Treatment provided in primary care.	On anxiety; (CBT+Medication=CBT=CBT+PL)<PL Med=PL; Med+CBT<Med CBT, PL+CBT=Med
M. Scott and Stradling (68)	RCT (MDD)	Health Centre, Liverpool UK.	CBT (12 sessions) Group CBT (12 sessions) TAU	Treatment at health centre. Assessments available to GPs. GPs managed medication.	On depression, Group CBT=CBT; Group CBT<WL.
A. Scott and Freeman (69)	RCT (MDD)	General Practices Scotland, UK	CT (to 16 sessions) SW Counselling Psychiatrist Medication GP TAU.	Treatment in primary care.	At wk 16 on depression Social Work<TAU (but initial differences). Recovery- Social Work superior to TAU.
Miranda and Munoz (77)	RCT (Minor Dep)	Primary care, US.	Group CBT (8 sessions) No-intervention/ brief information control	Location not stated. No collaboration stated.	For those with minor depression; greater reduction in depression at 6 mth/1 yr for CBT vs control group. No differences for non-minor depression.
Schulberg et al (70). Coulehan et al. (104)	RCT (MDD)	Ambulatory health centres, US	IPT (20 sessions) Medication (psychiatrist) GP TAU	All treatments in usual primary care setting. Usual GP care. Non-responder after 8-10 weeks, referred to GP.	Med<TAU on depression at all assessment points; IPT<TAU at 8 months; Med=IPT at all points.
Sharp et al. (85) (105)	RCT (PD)	General practice, Scotland, UK.	CBT (12 sessions) Medication Placebo Placebo+CBT Medication+CBT	Treatment in usual primary care setting. Access to GP.	On anxiety, at all time points to 12 wks, CBT=Med =PL+CBT=Med+CBT. From wk 4, FL+CBT<PL. At wk 6-12, all treatment groups<PL.
C. Scott et al (71)	RCT (MDD)	General Practice, England UK	CBT (6 sessions) TAU	Location not specified. All patients managed by GPs.	On depression, no differences post. CBT<TAU at 58 wks. Greater recovery in CBT than TAU at post.
Mitchell (86)	Before-After (PD)	Self-referred to large HMO, US	Medication +Group CBT (8 sessions) Medication	Group at HMO. Medication by psychiatrist.	On anxiety, Group CBT+medication superior to Medication only.
Power et al. (87)	RCT (PD)	General Practice, Scotland UK	CBT (8 sessions) Minimal CBT (6 sessions) Guided bibliotherapy	Treatments in primary care. Patients required to take medication as prescribed.	On anxiety; at wk 7 and 12 CBT<minimal CBT=bibliotherapy. At 6 mths, CBT superior to (minimal CBT=bibliotherapy) on recovery.
Price et al. (93)	Non-RCT; case-control trial (GAD, anxiety secondary to MDD)	Family practice in HMO; US. Matched sample from internal medicine patients	Integrated care including CBT (4-6 sessions) TAU (internal medicine patients)	Treatment at HMO. Patient, psychologist and primary care provider formulated treatment. Regular communication between PCP and psychologist. Liaison psychiatrist on call.	Anxiety at 3 mth CBT=TAU; 6 mth CBT<TAU. At 6 mth; recovery higher in CBT than TAU.

Authors	Design (Diagnosis)	Organisation	Interventions	Location and Collaborative Elements	Primary Outcomes - Symptoms
Ward et al. (72)	RCT (3 way randomised data) (MDD)	General Practices, England, UK	CBT (6-12 sessions) Counselling (6-12 sessions) TAU	Treatment in primary care. Patient free to see GP, but refrain from medication in CBT/Counselling groups.	On depression; at 4mth CBT=counsel<TAU; at 12 mth CBT=counsel=TAU.
Williams et al. (78)	RCT (Dysthymia/ Minor depression)	Primary care practices, US	PST (6 sessions) Medication Placebo	Treatment in primary care setting. No medication for PST group.	On depression; 11 wks, Med<PL; Med=PST; PST=PL. Greater symptom improvement in wks 2-11 in PST compared to PL.
Barrett et al. (79)	RCT (Dysthymia/ Minor depression)	Primary care practices, US	PST (6 sessions) Medication Placebo	Treatment in primary care. No medication for PST group.	On depression; 11 wks, PST=Med=PL. For completers, remission higher in dysthymia for PST and Med than PL. For minor depression, no difference
Browne et al. (80)	RCT (Dysthymia)	Primary care Health Services Organisation, Canada.	IPT (12 sessions) Medication IPT+ Medication	Treatment in HMO. No other med.	On depression, at 6 mth and 2 yrs Med=Medication+IPT<IPT. Greater responding at 6 mth in Med, Med+IPT than IPT only.
Lang (83)	RCT (Anxiety and Depression)	Veterans primary care clinic, US	CBT (4 sessions) Wait-list	Treatment at psychologist offices.	At post, significant reduction on anxiety and depression for treatment but not Waitlist. Significant increase in anxiety 1 month following treatment.
Sharp et al. (88)	RCT (PD)	General Practices, Scotland, UK	CBT (8 sessions) Group CBT (8 sessions) Waiting list (12 wks)	Seen in general practice setting. Patients allowed to continue taking medications.	At 12 wks, on anxiety, Group CBT<Waitlist, CBT<Waitlist. At 3 mth follow-up, group CBT poorer than CBT on responding.
Arean et al. (76)	RCT (MDD/ dysthymia)	Primary Care provider and self-referral. US.	Group CBT (18 sessions). Case Management (CM) Group CBT+CM	Therapists at hospital site and conducted groups there.	On depression. At 6 mths, no differences. At 12 mth, Group CBT+CM<Group CBT. CM=Group CBT+CM, CM=Group CBT.
Clarke et al (73)	RCT (MDD)	Pediatric HMO, US.	TAU+CBT(Ave 5.3 sessions) TAU (inc. Medication)	On-site therapist. GP monitored medication. Therapist/GP consultation.	To 52 wks, depression, no differences between conditions by time.
van Boeijen et al (57)	RCT (GAD/PD)	General Practices, Netherlands	Guideline Based (GP; inc. CBT) Guided Self-help (GP; 5 sessions) CBT (therapist; 12 sessions)	Treatment at alternative location. Medication allowed.	All groups improved significantly on anxiety to follow-up. No differences by condition.
Addis et al. (97);	RCT (PD)	HMO, US.	CBT (12-15 sessions,) Non-CBT therapy	Therapists HMO workers at independent clinical agency. GP monitored medication.	On panic symptoms; At 5.5 mths, CBT=TAU. At 8.5 mths, CBT<TAU. At 2 yrs, CBT=TAU.
Brouwers et al. (81)	RCT (GAD, mild dep, other).	Netherlands.	PST (5 sessions) TAU	Treatment at primary care clinic where SW work. Medication allowed by GP.	On anxiety; both groups reached normal levels in 3-6 months; no differences in improvement at 3, 6 or 18 mths.
Lang et al (84)	RCT (Anx and Dep)	Primary care clinics, California, US	Modified PST(4 sessions) TAU	Location not specified. Not restricted in medication use	Greater decrease in anxiety and depression for PST group compared to TAU. Some decay of effect to 6 mth.
McKee et al. (82)	RCT (depressive symptoms)	Community health centres, US.	CBT (8 sessions) + education+ social support. TAU	Treatment at home or health centre.	At 3-mths, on depression CBT=TAU.
van Schaik et al. (74)	RCT (MDD)	Amsterdam, Netherlands	IPT (10 sessions) TAU	Intervention in general practice. GP informed of diagnosis and asked not to prescribe antidepressants.	At 2 and 6 mths, depression IPT=TAU. No differences in remission at 2 and 6 mth.
Conradi et al. (75)	RCT (MDD)	General Practice, Netherlands	Education program (3 sessions) Education+ psychiatrist consult Eucation+ brief CBT (12 sessions) TAU by GP	Treatments in primary care, included GP TAU. Feedback from program to GP, including care plan. GPs given 2 hour session regarding depression management.	At 6 mth, all groups same on recovery from depression; At 36-mth on depression, Psychiatrist+education and CBT+education< TAU=Education.

Note: RCT=Randomised Controlled Trial; CCT=Case Control Trial; MDD=Major Depressive Disorder; GAD=Generalised Anxiety Disorder; Dep=Depression; CT=Cognitive Therapy; BT=Behavioural Therapy; CBT=Cognitive Behavioural Therapy; PST=Problem Solving Therapy; TAU=Treatment as usual; SW=Social Worker; inc=including; Med=Medication; AMT=Anxiety Management Training; WL=Waitlist; PL=Placebo; CM=Case Management; mth=month; yr=year.

2.3.2. COST-EFFECTIVENESS OF GP AND ALLIED HEALTH PROVISION OF PSYCHOLOGICAL TREATMENTS

The majority of the economic evaluation papers meeting the inclusion criteria for review[4] were focused on the assessment of the cost-effectiveness of allied health provision of psychological treatment (summarised in Table 9, for detail see Appendix 8, Table 22). Thirteen studies clearly evaluated the cost-effectiveness of CBT delivered by a psychologist within a primary care setting. Of these thirteen, four utilised a two-group design (i.e., CBT versus usual GP care) and the remainder included a third pharmacotherapy arm. One study also evaluated CBT but did not specify who delivered the intervention (106). A further three studies evaluated self-help CBT, either using computerised administration (107, 108) or bibliotherapy (109). One study evaluated a mixed CBT/counselling intervention (80), another evaluated IPT delivered by a psychologist or psychiatrist (110) and a third (111) evaluated two quality improvement strategies for medication and psychological therapy. The majority of the studies focused on either depression alone (six studies) or depression and anxiety (8); the remaining three only included subjects with anxiety (two of these were modelled studies). No economic evaluations were identified regarding psychological treatment provided by GPs.

The majority of studies adopted a health sector perspective whereby only costs accruing to the health sector are included in the analysis. While this is common practice in many health economic evaluations, caution must be exercised in the interpretation of such results, as limited costing perspectives may sometimes miss important costs that accrue within other sectors (such as welfare). This could lead to incorrect recommendations about the true cost-effectiveness of interventions. However, a broad health sector perspective (including both government and non-government financed health services) is usually sufficient to pick up important resource use and rarely misses important costing categories. Though a few primary studies did adopt wider costing perspectives (usually with the addition of productivity and travel costs[5]), the conclusions of these studies did not differ widely from those with more limited costing perspectives. The majority of studies adopted a cost-effectiveness framework whereby costs were expressed in monetary terms and outcomes were expressed in physical units (such as reductions in the Beck Depression Inventory). In contrast, cost utility studies measured outcomes using a generic outcome metric such as a quality-adjusted life-year (QALY) or a disability-adjusted life-year (DALY). The defining feature of these metrics is that they can be used across disease categories (whereas disease specific measures are only meaningful within a single disease context) and more importantly the outcomes *across* diseases can be compared. For example, the cost-effectiveness of depression interventions may be compared to the cost-effectiveness of interventions for heart disease. Such studies are certainly preferable from an economic viewpoint, as decisions regarding resource use within the health sector as a whole need to be made, leading inevitably to comparisons across diseases. Cost-utility studies help to make this process explicit rather than implicit (see next paragraph for discussion of the results of such studies). Of the total studies included in this section of the review, 13 also included a cost-utility analysis (whereby outcomes where measured in either DALYs or QALYs).

4 The inclusion criteria were the same as for the effectiveness research question except that the papers also had to undertake a full economic evaluation whereby the costs and consequences of at least two alternatives (in terms of treatment – usually an intervention and a comparator condition) were considered. Due to lower direct research evidence, modeling studies not directly targeting primary care, and studies using alternative forms of psychological administration (i.e., computerised) were also considered.

5 Productivity costs (sometimes referred to as indirect costs) refer to lost work-time due to either having to attend health appointments or time off due to the intervention (which might be permanent if the person has had to give up work, or temporary if shorter absences from work were required due to ill-health). The inclusion of such costs is controversial due largely to equity reasons and methodological uncertainty, and are therefore not included in many health economic evaluations (see Drummond et al., 2005; for further information).

Focusing on the thirteen studies clearly evaluating CBT, the majority (8) of the studies received an excellent rating of quality, with only two poor quality studies noted.

The best studies involved the use of more than one intervention group (usually CBT versus pharmacotherapy versus usual GP care) and are largely characterised by a series of Australian modelled cost-utility studies (59, 112-116). The studies show that CBT delivered by psychologists is a cost-effective intervention within the Australian context. These six studies all use a modeled design drawing on international evidence of effectiveness, in order to assess the cost-effectiveness of different strategies to treat depression and anxiety using cost-utility. The setting was not necessarily primary care, as all simply modeled evidence-based care (largely a mental health specialist delivering CBT, a psychiatrist delivering pharmacotherapy or some form of self-help or bibliotherapy). The inclusion of a GP was apparent in all studies, usually in terms of initial referral. All studies found the interventions to be cost-effective from an Australian perspective (all fell below the shadow-price cut-off of $50,000 per DALY averted). However, it should be noted that these studies only considered costs from a health sector perspective and important costs which may fall outside this perspective were not included (such as costs accruing to the welfare sector or the general economy). All these publications can be traced back to two major studies, one led by Associate Professor Theo Vos, called the ACE (Assessing Cost-Effectiveness) in mental health study which aimed to assess the cost-effectiveness of a number of different treatment options compared to usual care within an Australian setting. The other study was headed by Professor Gavin Andrews, and aimed to assess current Australian practice and evidence-based practice compared to a "do nothing" or null scenario.

In contrast only one of the four studies using a two-group design (which were of an overall lower quality rating) found that CBT delivered by a psychologist was cost effective (the 3 other studies found no differences observed in costs or outcomes). The two studies evaluating computer delivery of CBT were both of excellent quality and found the intervention to be cost-effective. The McCrone et al. (2004) study is notable in its breadth of service coverage, though the methodology used to measure Quality Adjusted Life-Years (QALYs) was crude (108). However, this particular study included both cost-effectiveness and cost-utility methods[6] allowing different types of outcomes to be considered in the incremental cost-effectiveness ratios, hence providing policy advisors with a broad range of economic information.

The majority of primary studies (defined as trial type designs) were set in the UK, and therefore have some transferability to the Australian setting in terms of having a GP as the primary gateway to the mental health system and a large publicly-financed health sector. However, in these studies subjects generally did not pay for psychological treatment as an out-of-pocket expense, with such costs accruing to the government or the UK National Health Service.

Finally, there appears to be relatively good economic evidence suggesting that psychological therapies delivered by allied health professionals represent good value for money. However, even though there are some Australian studies supporting this conclusion, all such studies are modelled utilising largely international evidence of effectiveness. There is a need for more Australian based primary studies to verify this conclusion.

6 The key difference between these two types of economic evaluations is the way in which outcomes are expressed. Cost-effectiveness studies report outcomes in physical units meaningful to the intervention or disease being considered (such as reductions in depression scores on the BDI or HDRS) in contrast cost-utility studies express outcomes in generic health outcome indices (usually preference weighted) such as DALYs or QALYs. Cost-benefit studies are a third type of economic evaluation technique whose distinguishing feature is the monetarisation of health outcomes (usually expressed in a willingness to pay format).

Box 3. Summary of Key Findings Regarding Cost-Effectiveness of Provision of Psychological Treatments in Primary Care

- **No studies identified** regarding the cost-effectiveness of GP-delivered psychological treatments.
- **Good evidence** that psychologist-delivered therapies represent good value-for-money, but all Australian studies utilised modelling methodology.

Table 9: Summary of Evidence for the Cost-Effectiveness of Allied Health Provision of Psychological Treatments

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
Antonuccio, Thomas et al., 1997 (106)	Unipolar depression (using several studies)	CBT (15 sessions with unspecified professional + 5 booster sessions) and group CBT	Medication (Prozac)	Modeled No particular setting - stated aim is to do with managed care in US.	Direct health sectors costs, productivity costs and other effects such as multiplier effect due to Outcomes not modeled (but come in via probability of success)	CBT cheaper than drugs (+33%) and combination (+23%)	3
Bower, Byford et al., 2000 (117)	Depression (with and without anxiety as a co-morbidity)	CBT and non-directive counseling by therapists (up to 12 sessions)	Usual GP care	Prospective randomised trial UK study - relatively transferable to Australia	Costs: Health care services and non-treatment costs (e.g. travel and childcare. Lost production Outcomes: BDI and EQ 5D	No differences in outcomes between 2 interventions (at 4 months diffs compared to Usual care observed but disappears by 12 months) No cost diffs observed.	8
Browne, Steiner et al., 2002 (80)	Dysthymia disorder (DSM-IV)	Setraline alone or interpersonal therapy (by 'counsellors') (time limited therapy of 12 sessions alone or combination	All three treatments were compared to each other – No control group	Single blind RCT 6 month & 2 year f'up Canada specifically in primary care setting.	Costs: Health sector costs and production effects including welfare payments. Outcomes: Montgomery Asberg Primary measure: Depression Rating Scale. Secondary measures Social Adjustment Scale, McMaster Family Assessment device, CES-D and VAS to also measure depression	All treatments effective and setraline also cheaper than others	8
Chisholm, Sanderson et. al., 2004 (118)	Depression (not differentiated by co-morbidities .)	Broad range of pharmaceutical and psychotherapeutic interventions	The null (natural course of depression). Plus incremental analysis of the different Treatment options	Modeled using WHO-Choice Generalised Cost-Effectiveness Analysis	Costs: Health sector Outcomes: :DALYs modeled from published studies using popmed (Markov model)	All treatment strategies appear cost-effective – particularly Proactive collaborative care strategies	10
Gould, Otto et al., 1995 (119)	Panic Disorder	CBT (psychologist) + drug Treatment	Compared to each other	Meta-analysis USA	Costs- psychology consults Outcomes-effect size	CBT as effective than drugs and group CBT was cheaper	1
Haby, Tonge et al., 2004 (112)	Major depression in children and adolescents (using DSM-IV criteria)	CBT (defined as 12 sessions) by different types of professionals and SSRIs	Current Australian practice (people not receiving effective treatments	Modeled using best available evidence Australia – GP referral to others	Costs: Health sector Outcomes: DALY (modeled from existing literature and the NSMHWB)	CBT by a publicly financed psychologist most cost-effective – SSRIs and other therapists providing CBT (public and private psychiatrists as well as private psychologists) all fall below the threshold of $50,000/DALY	10

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
Heuzenroeder, Donnelly et al., 2004 (113) 8	Generalised Anxiety Disorder and Panic Disorder (using DSM-IV criteria)	CBT and SNRIs	Current Australian practice (people not receiving effective treatments	Modeled using best available evidence Australia – GP referral to others	Costs: Health sector Outcomes: DALY (modeled from existing literature and the NSMHWB)	CBT by a publicly financed psychologist are the most C/E – CBT delivered by various therapists are all more CE than Medication.	10
Issakidis, Sanderson et al., 2004 (114)	Anxiety disorders differentiated by severity	Mild anx: 10% self-help, 60% CBT rest drugs. Mod-severe: 70% CBT mainly (70%) – with some drugs. The remaining 30% - Treatment with meds managed by a GP	Current Australian practice and the null	Modeled using best available evidence Australia	Costs: Govt and health service perspective Outcomes: YLD (as in the DALY)	All modeled interventions appear cost-effective – if we swapped from current care to optimal care the costs would remain similar but the health gains would be markedly increased (to <$20,000/DALY averted	10
Kaltenthaler, Brazier et al., 2006 (107)	anxiety, depression, phobias, panic and obsessive-compulsive behaviour (OCD)	Computerised CBT (4 different products considered) – HTA review	Treatment as usual	Modeled (based on sponsor data) UK – National Health Service	Outcome – depression treated (classified into minimal, mild, moderate and severe) Costs: Intervention costs including license fees, computer hardware, screening, clinical support, capital overheads + other costs (personal communication from McCrone)	All products considered cost-effective with a high probability of the ICER falling below £30,000 per QALY), When modeling OCD packages, the CE was highly influenced by the assumptions made around licensing	10
King, Sibbald et al., 2000 (120)	depression or mixed depression with anxiety	*Non-directive counseling (provided by counselors) *CBT (provided by clinical psychologists)	Usual GP care –	RCT – 4 and 12 month f'up (not total) however included provisions for patient preferences 24 general practices in the UK	Costs: Health sector costs Outcomes: BDI, Clinical Interview Schedule (ICD-10 Diagnosis), Brief symptom Inventory, modified social adjustment Scale, Satisfaction questionnaire, EuroQoL	The two interventions were more effective at 4 month follow-up but differences disappeared by 12 months. No sig differences in costs were found. Overall conclusion was that psych therapy more C/E in the short-term only.	9
Lave, Frank et al., 1998 (110)	Major Depression (n=276)	*Medication (nortriptyline hydrochloride) *Interpersonal psychotherapy	Usual care – GPs told patient has depression only.	RCT – with up to 12 months follow-up USA	Costs: health sector costs plus time and travel costs Trial costs of interventions, Outcomes: depression free days (measured by the HAM-D), BDI and quality adjusted days (using a conversion methodology from previous research	The ICER for Medication relative to usual care ranges from US$12.66 to $16.87 which translates to direct cost per quality-adjusted year gained from $11270 to $19510 (drugs slightly better than psych	8

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
McCrone, Knapp et al., 2004 (108)	Anxiety and depression	Computer delivered CBT	Usual GP care	RCT – various f'up points up to 12 months General practices in England	Costs: Societal (including lost productivity) Outcomes: BDI, BAI, Work and Social Adjustment Scale – depression free days using the BDI, (same method as Lave was used to estimate QALYs)	Intervention was cost-effective and resulted in a net benefit (where outcomes were multiplied by a shadow price)	10
Mihalopoulos, Kiropoulos et al., 200 (59)	Depression and anxiety	Panic online (internet based therapy for panic disorder) and PEP (GP training in CBT)	Usual care in PC	Modeled and Threshold analysis Australia	Costs: Health sector (derived from published literature Outcomes: Modeled DALYs using interpolation	PEP is likely to be quite C/E – though evidence is based on other published trials. PEP type interventions are also likely to be cost-effective even with moderate effect sizes (in the vicinity of 0.1)	9
Revicki, Siddique et al., 2005 (121)	Major depression in low income minority member	*Medication *CBT – delivered by psychotherapists supervised by a clinical psychologist	Community referral – educated on depression and then referred to community providers	RCT (12 months f'up) USA – recruitment was from PC but interventions were not necessarily PC based	Costs: Only direct med costs included as the study adopted a largely payer perspective Outcomes: Depression free days measured by the HAM-D (DFD were also used to estimate QALYs, SF-36,	The cost per additional depression-free day was USD 24.65 for Medication and USD 27.04 for CBT compared with community referral. Small initial diffs on the SF-36 not maintained @ f'up.	8
Richards, Barkham et al., 2003 (109)	mild-moderate anxiety and depression in PC (GHQ used to detect caseness)	Cognitive behavioural based self-help package facilitated by practice nurses	Usual care by GPs	RCT (up to 3 month follow-up) PC teams in the UK	Costs: health sector Outcomes: CORE-OM, EuroQol-5D, consultation satisfaction questionnaire	No differences really observed on costs or outcomes except CBT group had greater satisfaction	6
Sanderson, Andrews et al., 2003 (115)	Depression, dysthymia and bipolar disorder (from the NSMHWB)	*Current mental health services in Aust (derived from the NSMHWB) *Broad range of Evidence based medicine including psychological and pharmacotherapies	Do nothing	Modeled Australia	Costs: Outcome: YLD (modeled by best available literature)	Current direct mental health-related health averted just under 30,000 YLDs giving a cost-effectiveness ratio of $20,633/YLD. Outcome could be increased by nearly 50% at similar cost with implementation of an evidence-based package bringing the ICER to 10,737 dollars per YLD.	10
Schoenbaum, Unützer et al., 2001 (111)	1356 pats with Depression (measured by telephone CIDI)	2 quality improvement strategies to do with meds – and psychotherapy (CBT training)	Usual care	Group level RCT (where randomisation occurred at the practice level). F'up up to 2 years 46 PC clinics in 6 Managed care organisations	Costs: health sector plus productivity and time costs (separately measured) Outcomes :SF-12, QALYs (using the SF-12), days with depression burden	The Quality intervention appears to be cost effective. QI-therapy may have a better overall value in terms of cost per QALY than QI-meds, therefore value to improving access to structured psychotherapy for depressed primary care patients.	7

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
Scott and Freeman, 1992 (69)	Depression	Amitryptiline prescribed by a psychiatrist and CBT by a clinical psychologist, case work by a social worker	Routine care by a GP (could include referral to another agency)	RCT with 16 weeks of follow-up (ratings at 0, 4 and 16 weeks) 14 UK primary care practices	Standard observer rating of depression (HAM-D) at outset and after four and 16 weeks. Numbers of patients recovered at four and 16 weeks. Structured evaluation of treatment by patients at 16 weeks. Costs: Very limited health sector (only cost of therapist contact plus drug costs only)	Small clinical advantage of intervention groups and large costs differences observed – therefore interventions deemed not very cost-effective	6
Shapiro, Sank et al., 1982 (122)	Anxiety or depression	CBT group Individual CBT administered by a mental health specialist	Traditional process-orientated interpersonal group.	RCT pre and post Treatment (average of 24 days) USA - HMO	Costs: Only of the interventions – very roughly calculated Outcomes: BDI, State-Trait Anxiety Inventory, Adult self expression scale	All three experimental groups improved and no diffs in outcome found Group CBT cheaper than individual	2
Vos, Corry et al., 2005 (123)	Depression – from NSMHWB	Bibliotherapy CBT (individual and group delivered by psychologists and psychiatrists) Medication	Usual care (from NSMHWB)	Modeled Australia	Costs: health sector Outcomes: DALYs (using effect size translations from previous literature	All interventions for MDD have favourable ICERs under Australian health service conditions.	10

Notes: RCT=Randomised Controlled Trial; PC = Primary Care; QI=Quality Improvement; F'up = Follow-up; NSMHWB = National Survey of Mental Health and Well-being; HMO = Health Maintenance Organisation; QoL = Quality of Life; QALYs = Quality Adjusted Life Years; DALYs = Disability Adjusted Life Years; ICERs = Incremental costs effectiveness ratios; YLD = Years Lost due to Disability; C/E=Cost-Effective; DFD = Depression Free Days; SSRI = Selective Serotonin Reuptake Inhibitors; BDI = Beck Depression Inventory; VAS = Visual-Analogue Scale; SF-36 = Short-Form Health Survey – 36 Item Version; CORE-OM = Clinical Outcomes in Routine Evaluation - Outcome Measure; EQ-5D = EuroQol-5D Measure of Quality of Life.

Q[1] – refers to the Drummond quality ratings. All studies were rated by according to the 10 point Drummond criteria (see Appendix 10). The scores in the table refer to the total numbers of 'yes' ratings received for the 10 criteria. Note that the rating forms also included the categories 'can't tell' and 'partially' which implicitly carry a score of 0 (equal to 'no'). Therefore the ratings presented here are purposefully stringent. We consider scores 9 -10 to represent high quality evaluations, 6-8 to represent reasonable studies with some notable flaws and <5 to represent poor quality evaluations whose results can not be relied upon.

3. COLLABORATIVE MODELS OF MENTAL HEALTH CARE INVOLVING PSYCHOLOGICAL TREATMENTS

3.1. INTRODUCTION

The trajectory of primary mental health care reforms in Australia has been towards greater collaboration between GPs and mental health care specialists. This has been achieved through the gradual introduction of a range of educational, financial and bureaucratic mechanisms introduced over the last decade, with the initiatives aiming to increase cooperation and communication between health providers. For example, for GPs to refer a depressed patient to psychologists through the Better Access program, they are required to create a "GP Mental Health Care Plan" and forward a referral form to the psychologist, while the psychologist must provide a written report to the medical practitioner, including information on assessments conducted, treatment provided, and recommendations on future management (14).

There is a significant body of published literature regarding interventions involving collaborative models of mental health care. Such collaborative models incorporate at least two individuals working together to improve treatment for the individual, such as a primary care physician (in US studies), mental health specialist, or a depression-care manager. We will draw on recent reviews and on individual studies for this component of our report, with particular emphasis on elements of those models that appear to be effective, and the cost-effectiveness of these programs. In addition, results of a series of interim reports from the Better Outcomes ATAPS program undertaken by some of the authors of this report (JP, GB, LN) are summarised (see http://www.health.gov.au/internet/wcms/publishing.nsf/Content/mental-boimhc-repts).

3.2. FINDINGS

3.2.1. EFFECTIVENESS OF COLLABORATIVE MODELS OF MENTAL HEALTH CARE INVOLVING PSYCHOLOGICAL TREATMENTS

3.2.1.1. REVIEWS

We identified five recent research reviews dealing with collaborative approaches to managing depression, which are listed in Table 10. Note that the reviews included both psychological and pharmacological approaches to treatment. Gilbody et al. (124) performed a meta-analysis of outcomes, showing improvements due to collaborative care in depression outcomes at 6 months and for up to 5 years. Effect size was related to medication compliance, and to the professional background and supervision of case managers, although they failed to find improved outcomes when psychotherapy was included as an element of collaborative models. Gunn et al. (101) concluded that collaborative interventions were associated with modest improvements in outcomes. Four caveats were noted, that most trials recruited patients willing to take medication so may not generalise to the broader population, that trials were almost exclusively conducted in the US and may not generalise, that attrition rates were not accounted for by trials, and that the quality of reporting according to CONSORT guidelines was generally poor. Craven and Bland (125) noted that collaboration is most successful when building on preexisting clinical relationship, that it is most effective when paired with clinical guidelines, that skill transfer requires service restructuring, and that patient education and follow-up were powerful predictors of positive outcomes. They also flagged the issues that most studies focused on depression and the number of studies was small. Christensen et al. (126) found that good outcomes were associated with studies that included case-management, enhanced systematic care, supervised self-help programs, and community-care, but not with studies that incorporated training and feedback to GPs alone. Finally, Williams and colleagues (2007) found that almost all multifaceted interventions led to clinically important improvements in short-term depression outcomes, which persisted for up to four years.

All interventions included care management for depression, general support and patient education. They suggest that such approaches are particularly important for patients with major depression and dysthymia, significant medical, psychiatric or social comorbidity, or treatment resistant depression, whereas minor depression may be better served by watchful waiting approaches.

Table 10: Description of Five Reviews of Collaborative Approaches to Mental Health Care

Authors	Databases	Search date	Article type	Articles Included	Review
Christensen et al. (126)	PubMed, Cochrane, PsycINFO	To Oct 2005.	RCT, CCT	71	Narrative, basic statistical
Craven and Bland (125)	Medline, Embase, PsycINFO, Cochrane, others.	To June 2005	Mostly RCTs	38	Narrative
Gilbody et al. (124)	Medline, Embase, CINAHL, PsycINFO, Cochrane	To Feb, 2006	RCT	37	Meta-analysis
Gunn et al. (101)	Medline, PubMed, Cochrane	2004	RCT	11	Narrative
Williams et al. (18)	Medline, HealthSTAR, CINAHL, PsycINFO, Cochrane	To Feb, 2006	RCT	28	Narrative

3.2.1.2. COMPONENTS OF MODELS IN INDIVIDUAL STUDIES

From the research review, we identified nine studies of collaborative or complex interventions that involved psychotherapeutic approaches in primary care (see Table 11). Studies dealt with a variety of age-groups in depression, including adolescents (127), adult patients (102, 128-130), and the elderly (131, 132). Two additional studies detailed interventions for Panic Disorder and GAD (133, 134). Risk of bias in the studies was judged to be low-to-moderate for all studies, with the exception of the single non-RCT design (131). The studies included a total of 5042 participants, with a median age of 44.2, a median gender ratio of 73.8% female, and a median of 71.25% Caucasian participants.

With the exception of Katon et al. (128), all the studies identified were published in the last four years, indicating a recent move towards collaborative models that incorporate psychotherapy as a component. Nevertheless, given the paucity of research, there will necessarily be gaps in the evidence base. While the studies took differing approaches to reporting results, most studies reported improvements for collaborative-care interventions relative to treatment as usual. Grympa et al. (131) did not have a treatment-as-usual control group, but found similar naturalistic results to a previous RCT utilising comparable methods on the same site. Hedrick et al. (130) also found no effect, but her control group had equal access to the specialists, biasing towards a null result (18). Thus, the reported collaborative models were generally successful.

This being the case, what then are the elements and processes adopted within these collaborative models that lead to their success? One difficulty in answering this question is that in most of the reported studies it is difficult or impossible to tease out which aspects of the collaborative model led to its success (125). Mirroring a recent review (101) by some of the authors of this report (JG, GB), we assessed the effectiveness of collaborative approaches and examined the components of these models with respect to the inclusion of (i) a multiprofessional approach, where a GP or family physician and at least one other health professional were involved; (ii) A structured management plan, where practitioners were required to instigate an agreed treatment plan; (iii) Scheduled patient follow-up, where patients were scheduled for at least one telephone or face-to-face follow-up appointment; (iv) Enhanced inter-professional communication, where communication between professionals was facilitated through standardised mechanisms such as referral correspondence, letters, case-conferences, shared records or other forms of feedback between care-givers.

3.2.1.3. MULTIPROFESSIONAL APPROACH

Consistent with our definition of a collaborative model in primary care, all studies involved a primary care physician/GP working in tandem with at least one-other care provider. The most common care structure was for the GP to retain responsibility for the patient; with a range of specialist providers engaged including psychologists, care managers and social workers. Notably, although our review did not focus specifically on the role of psychiatrists and nurses, both these groups featured prominently in a number of collaborative models. The overall care management role was usually adopted by the GP, a care manager, or interestingly, the specialist provider of psychological treatment. Psychological treatment tended to be provided by a specialist with mental health qualifications, though they were not necessarily psychologists.

3.2.1.4. STRUCTURED MANAGEMENT PLAN

All of the studied utilised a structured management plan as part of the collaborative intervention, and this generally was reported clearly within the methodological descriptions of the studies. In general, these plans were developed as part of the study protocols and were then supplemented by the GP or a care manager. Structured management plans tended to incorporate core elements such as education, encouraging self-care and monitoring, and additional elements depending on illness severity, such as prescribing medication or a stepped-care approach to referral (usually based on clinical guidelines or the study protocol). For example, depending on patient preference, guideline-based pharmacological or psychological interventions would be trialled alone or in combination. If the first approach failed to produce a response, medication dose or type would be altered, or the patient would augment the initial CBT/pharmacological approach with the alternative treatment approach.

3.2.1.5. NATURE OF PSYCHOLOGICAL INTERVENTION

Psychological interventions varied across studies, but generally were short-term and evidence-based. Interventions spanned from those that were less demanding on therapist time, including seven weekly sessions of group-psychoeducation (102) and guided self-help in a CBT approach (133), to those that were more intensive, for example, utilising 12 sessions of individual or group CBT (127, 129). Consistent with the prominence of problem-solving approaches within short-term psychological treatments in primary care, these approaches were also used in some of the collaborative studies (131, 132).

3.2.1.6. SCHEDULED FOLLOW-UP

Most studies included scheduled follow-up sessions as a component of the intervention. These generally incorporated psychotherapy booster-sessions or the monitoring of mood-state and medication usage. The follow-up sessions were mostly not specified to occur at specific weeks of treatment, but were flexible depending on perceived need by the care managers. Two studies also utilised a computerised tracking system to assist with patient follow-up. The integrated care-manager/psychotherapist role assumed in some studies allowed the flexibility for the follow-up session to reinforce psychological techniques for most patients, while linking the patient in with other pharmacological options if they were failing to respond to their past psychological or pharmacological treatment, or had worsened in their condition. Notably, as reported earlier, one non-collaborative study directly comparing group CBT, case management, and combined CBT and case management found the combined condition outperformed the CBT-only condition for depression in an elderly population, highlighting the potential benefits of having staff performing ongoing follow-up (76).

3.2.1.7. ENHANCED COMMUNICATION

Reflecting the primary role of the GP in the patient's provision of services, enhanced communication with the GP formed a core-component of most interventions. These again varied in intensity, with some studies having minimal discussions with the GP regarding medication, to those such as Katon et al. (128), where the psychologist consulted with the GP on each case, had weekly meetings, the psychologist provided handwritten and immediate feedback to the GP regarding each case, and placed the relapse prevention note on file.

Table 11: Elements of Collaborative Models of Mental Health Care Involving Psychological Treatments.

Authors	Design (Diagnosis)	Organisation	Elements						Outcomes - symptoms
			Multi-professional Approach	Structured Treatment Plan	Psychological Intervention	Scheduled Follow-up	Enhanced Communication	Training (Manual)	
Katon et al.(128)	RCT (MDD)	HMO, US	Primary care physician, psychologists, psychiatrists.	Highly structured depression treatment program.	Solution-focussed cognitive therapy. 4-6 contacts,	Psychologist completed telephone contacts	Case-by-case psychol-PCP contact, weekly team meeting, notes; plan in file.	Doctoral trained. 20 hrs training, supervision. (patient manual)	At 7-mths; response for MDD; intervention>TAU. For minor depression, intervention=TAU.
Araya et al. (102)	RCT (MDD)	Primary Care Clinics, Chile	GP and SW or Nurse from local clinics	Structured groups; Monitoring; Systematic medication	7 weekly group psychoeducation; Information on depression.	2 booster sessions	Alert notes, arranging appointments for patients.	12 hrs training; 8 hrs supervision. 4 hr training GPs (booklet)	On depression level; Stepped Care<TAU
Hedrick et al. (130)	RCT (MDD/ Dysthymia)	VA primary care clinic, US	PCP; psychologist; SW; psychology technician. All available in both models.	Guideline based treatment, stepwise plan reviewed at 6/12 weeks.	CBT group by psychologist/SW (6 sessions); individual session with psychol/ psychiatrist.	SW staff member/student contacted participants on regular basis.	Weekly meetings. Electronic progress notes with tracking system.	PCP given 3 hrs of training in collaborative and liaison care. (workbook)	3 mths, on depression, intervention<Liaison model; 9 mths; intervention=Liaison model.
Wells et al.(129).	RCT (MDD/ Dysthymia/ depression)	Managed care, US	PCP, nurses (case managers), psychiatrist (meds cond), psychologist (therapy cond)	Guidelines given to staff on treatment, medication, treatment plans	To 12 sessions individual/group CBT.	No formal follow-up in therapy, monthly contact in meds condition.	Team meetings and case reviews held by team leaders.	2-day workshop. For specialists. Local supervision (manuals)	At 12-mths and 57 mth, intervention<TAU on % depressed.
Asarnow et al. (127)	RCT (MDD)	Mixed Primary Care sites, US	PCP, care managers (PhD level).	Plan developed with primary care physician including CBT or medication	CBT in individual or group, 12 wks and relapse prevention.	Brief follow up contacts by care manager	Treatment collaborative, coordinated care with physician.	1 day training - CM. PCP given training. (manuals)	On depression level; Quality Improvement < TAU at 6 mths.
Rollman et al (133)	RCT (PD/GAD)	Primary care, US	GP, Care Manager (non-psychologists), consultant doctor/psychiatrist	Preference-guided systematic treatment - self-management, pharmacological, specialist. Education	Self-help CBT workbook, with guidance from care manager.	Regular care-manager contact.	Weekly 60-75 minute patient review, suggestions to PCP, patient.	CMs -workbooks; lectures; weekly meeting; super-vision; 1 meeting with PCPs. (workbook)	At 12 mths; on Panic/ anxiety levels; intervention<TAU Superior outcomes for those with PD, PD/GAD but not GAD only.
Roy-Byrne et al.(134)	RCT (PD)	Primary care clinics, US	PCP, psychologist, psychiatrist	Structured CBT, workbook, medication algorithm	6 sessions CBT in 3 months.	6 follow-up booster sessions to monitor, reinforce CBT and check meds.	Weekly meeting. Coordinated care by behavioural health specialist, telephone, fax, email with PCP	Training for psychologists. PCP - 1-hr med training (workbook)	At 12 mths; Remission in intervention>TAU (superior).
Grympa et al. (131)	Non RCT (Depression)	Primary care, HMO, US	PCP, psychiatrist, depression care manager, medical assistant	Stepped care, education, medication management, PST, depression class.	Variable sessions Problem solving treatment.	Follow up by DCM, tracking system.	As-needed consultation. Medication by PCP.	CM -4 days; training patients. (manuals)	With >6 mths treatment; Post-study=RCT on depression level.
Hunkeler et al. (132).	RCT (MDD/ Dysthymia)	Mixed Primary Care Sites, US	PCP, psychiatrist and depression care manager (psychologist/ nurse)	Stepped care. Education, treatment algorithm.	6-8 sessions of Problem Solving Therapy	Monthly telephone appointments with DCM, tracking system.	Weekly team review. Medication by PCP on advice.	CM - 4 days; training patients. Med protocol for PCP. (manuals)	At 12 mth and 24 mth on depression level, Stepped Care<TAU.

Note: RCT=Randomised Controlled Trial; MDD=Major Depressive Disorder; PD=Panic Disorder; GAD=Generalised Anxiety Disorder; SW=Social Worker; TAU=Treatment as Usual; PCP=Primary Care Physician

3.2.2. COST-EFFECTIVENESS OF COLLABORATIVE MODELS OF MENTAL HEALTH CARE INVOLVING PSYCHOLOGICAL TREATMENTS

In contrast to the previous section where a number of economic evaluation studies of psychological therapies by allied health professionals were identified, only three economic evaluation studies of collaborative care were located, and two of the studies were conducted by the same authors (refer to Table 12)[7]. Two of the studies used a cost-utility methodology and all adopted a health sector perspective. The two best studies in terms of quality (136, 137) both concluded that collaborative care was a cost-effective model of treatment, in that it produced acceptable cost-effectiveness ratios in comparison to usual care. The study for the WHO using WHO-CHOICE methodology[8] by Chisholm et al. (118) also found that proactive and collaborative care is a highly cost-effective option for the epidemiological subregion to which Australia belongs. However it is important to note that the comparator in this study is 'do nothing' or the 'null' condition, which is not the true comparator within the Australian Primary care sector.

It must be cautioned that all the primary collaborative care studies were undertaken in the USA, which offers a fundamentally different paradigm of health care to Australia, with quite different associated health costs (usually higher). Interestingly, the Von Korff et al. (137) study found that patients with major depression benefited much more from the intervention compared to patients with mild depression. However, benefits were found for both groups. Finally, all studies report the short-term cost-effectiveness of these models of care, such that studies determining whether the benefits are maintained over the longer term are required.

3.3. SUMMARY

Taken together, these findings provide evidence for the efficacy and cost-effectiveness of collaborative interventions for depression and for panic disorder, which incorporate forms of focussed psychological strategies. However, there are notable limitations to these findings. First, no Australian trials were conducted, with the trials almost exclusively taking place in the US primary care system, possibly limiting generalisability. Second, it is unclear to what extent psychotherapy provided in the trials is a crucial aspect of the program. In their meta-analysis of wider collaborative approaches, Gilbody et al. (124) reported that trials with specific forms of psychotherapy were added to medication management were no more effective, although trials where antidepressant medication were prescribed at entry were also no more effective than other collaborative care models. This is consistent with general findings of the relative equality of medication and psychotherapy approaches to treatment. In addition, without formal decomposition studies, it is difficult to compare across studies as to the necessity of psychological aspects of interventions. Third, most studies deal with depression in various age groups or panic disorder in adults, and it is unclear how generalisable these studies are various groups with other high prevalence disorders.

7 One other study identified in this review, [135. Croghan TW, Melfi CA, Dobrez DG, Kniesner TJ. Effect of mental health specialty care on antidepressant length of therapy. Med Care 1999;37(4 Suppl Lilly):AS20-3.], bundled people receiving antidepressant therapies with 'psychotherapies' (in a retrospective case control design). While this study cannot be classified as collaborative care it is certainly not psychotherapy. This study received a very low quality rating and can not be considered particularly useful in answering the key research question of this review. Details are available in Table 22, Appendix 8.

8 The WHO-CHOICE methodology refers to largely modelled studies using specified costing and outcome methods developed by the WHO and detailed in their website: http://www.who.int/choice/en/

Table 12: Summary of Evidence for the Cost-Effectiveness of Collaborative Models of Mental Health Care Involving Psychological Treatments

Study	Disorder (patient description)	Intervention	Comparator	Study type and setting	Costs and Outcomes	Results	Q
Katon, Schoenbaum et al. 2005 (138)	Depression and dysthymic disorder (DSM – IV) in 60+ year olds	1 year stepped collaborative plan including either a psychologist or nurse supporting the PC physician. Treatment involved either an anti-depressant or problem solving Treatment	Usual care were physician was notified of diagnosis and could then offer usual care which included both antidepressant medication and/or supportive counselling	RCT with added EE – up to 2 year F'up 18 primary care clinic in USA	Costs: Largely health sector (not all HS costs though) Outcomes: Depression free days (measured by the 20 item Hopkins Symptom checklist) and QALYs – using a rudimentary method	Incremental outpatient cost per QALY US$2,519. Bootstrapping suggested that in 25% of iterations the intervention is dominant	5
Katon, Russo et al. 2006 (136)	Panic Disorder (DSM-IV) – N=232	Collaborative Care including CBT (up to 6 sessions modified for the PC setting) and up to 6 phone calls by a mental health specialist, Medication (usually SSRIs) usually managed by the PC physician	Usual care (could include medication and/or referral to a mental health professional)	RCT – 12 month f'up 6 PC clinics in USA	Cost: largely health sector perspective Outcomes: Anxiety free days (measured by the anxiety severity index, depression also measured by the CES-D, QALYs measured by interpolation from previous studies which used the SF-12 Brazier weights)	Intervention sig more effective – incremental analysis shows US$14,158-$24,776 per QALY	9
Von Korff, Katon et al. 1998 (137)	Depressive illness 1 RCT 217 2 RCT 153. Diagnosed by Inventory of Diagnostic Symptoms using DSM-III-R criteria	Collaborative care – brief CBT and enhanced patient education – mainly by psychologists	Usual care – Unclear	2 RCTs 1) about enhanced management of Medication and brief psychoeducation 2) collaborative care F'up – 12 months USA	Costs: Health sector Outcomes: % of patients achieving a reduction of 50% on the SCL-90 4 months after randomisation	Collaborative Care increased costs with modest cost offsets. For MDD there was a modest increase in cost-effectiveness (due to lower costs for collaborative care vs TAU). For pats with minor dep collaborative care was more costly (therefore less C/E).	9

3.4. BETTER OUTCOMES REPORTS

As noted above, none of the individual effectiveness studies were conducted in Australia. The Better Outcomes Access to Allied Psychological Services program and its detailed evaluations using a Minimum Data Set, provide insights into an Australian model of collaborative care, although the evaluations are naturalistic rather than being RCTs. A series of ten interim reports and related publications (e.g., 139, 140-142) provide useful information (for details, see Appendix 7, Table 20).

The Better Outcomes reports suggest that the various programs operating under the initiative produced positive clinical results, and reflecting this, provider and consumer participation increased drastically over the life of the program. In these programs, Divisions of General Practice developed models of psychotherapy provision to suit local conditions, and significantly, these models were seen to change over time in response to feedback from consumers, GPs and allied health providers involved in the program. For example, some pilot projects that initially had either very simple or very complex models of referral moved to models with intermediate complexity in response to GP-feedback (143). Many divisions also offered a combination of referral models to respond most effectively to service needs (144).

Over time, initial difficulties reported with the initiative also lessened, again reflecting adaptations by divisions in response to local feedback (145).

Three reports are of particular relevance to this review. First, the Eighth Interim Report examined consumer's clinical outcomes with respect to models of service delivery (146). While limited by relatively low levels of reporting of outcome data and the observational nature of findings, the report found that models with referral direct from GP to allied health provider, such as are now used in the Better Access system, were associated with improved clinical outcomes. Furthermore, delivery of services by allied health from their own consulting rooms (as opposed to co-locating with GPs or using other locations) was associated with poorer outcomes. Earlier reports had reported positive views of co-location models, which provide greater opportunity for communication, collaboration and knowledge transfer, although such models reduce the range of providers to whom GPs can refer (147). Such findings are consistent with the positive clinical outcomes from systems-level interventions leading to greater collaboration between providers (see above).

In the Seventh Interim Report, differences in models and usage were examined with relation to rural and urban settings (148). There was greater relative uptake of rural services, perhaps due to gaps in existing services. Further, while outcomes were positive in both localities, allied health staff in rural areas were more likely to be directly employed, co-located and receive direct referrals. This difference reflects regions adapting to local conditions, and highlights that regional divisions moved towards being employers in an attempt to guarantee services. Such findings provide further support for the government's support for both direct fee-for-service models (i.e., Better Access) and models that are free to be adapted to local conditions (i.e., Better Outcomes).

Finally, the most recent report (10th interim report) further examined changes over time (149). In particular, the report suggests that there have been continued positive results from the program in terms of consumer outcomes and GP involvement. The report also notes that while the introduction of the Better Access program coincided with an initial decrease in referrals to the Better Outcomes programs in urban areas, the change was not sustained and the Better Outcomes program continues to be utilised, consistent with the Federal Government aim for the programs to be complementary rather than competing initiatives.

A summary of all findings regarding collaborative treatments is provided in Box 4.

Box 4 Summary of Key Findings Regarding Collaborative Psychological Treatments in Primary Care

- **Good evidence** that collaborative Interventions involving (1) psychotherapy; (2) structured management plans; (3) scheduled follow-up; (4) a multiprofessional approach; and (5) enhanced communication are superior to treatment as usual in primary care for Depression, Panic Disorder and GAD.
- **Limited evidence** suggests that collaborative and pro-active interventions are cost-effective for depression and panic disorder
- **Limited evidence** that collaborative programs involving psychotherapy under the Australian Better Outcomes program produce reduction in symptoms. Models with greater collaboration in Australia (direct-referral with co-location) produced superior results.

4. KEY FINDINGS AND POLICY OPTIONS

4.1. KEY FINDINGS

A summary of all key findings is provided in Box 5.

4.1.1. GP PROVISION OF PSYCHOLOGICAL TREATMENTS IN PRIMARY CARE

There was inconclusive evidence that GP-delivery of specific psychological treatments led to clinical improvements for primary care patients experiencing depression and anxiety disorders. However, there were two exceptions. First, GP delivery of PST for depression appeared to be more effective than treatment as usual and equivalent to treatment by antidepressants, when the GP had received appropriate training. Second, GP delivery of guided manualised bibliotherapy for Panic Disorder appeared to be as effective as referral to a specialist provider in one study. There were no studies identified regarding the cost-effectiveness or otherwise of GP-provision of psychological treatments.

4.1.2. PSYCHOLOGIST PROVISION OF PSYCHOLOGICAL TREATMENTS IN PRIMARY CARE

There was substantial and consistent evidence to support psychologist-delivered therapy, including CBT, IPT, and PST, to primary care populations experiencing anxiety or depressive disorders. Psychologist-delivered psychotherapy was generally more effective than placebo, waitlisted groups and GP-treatment as usual. There was relatively good economic evidence that psychologist-delivered psychological treatment to primary care populations was good value-for-money, although there were no primary Australian studies to verify this conclusion.

4.1.3. NON-PSYCHOLOGIST ALLIED-HEALTH PROVISION OF PSYCHOLOGICAL TREATMENTS IN PRIMARY CARE

There is a scarcity of research for the effectiveness of social worker, occupational therapist, or Indigenous health worker-provision of specific psychological treatments in primary care populations. Only one RCT provided evidence for the effectiveness of group treatment by social workers compared to GP treatment-as-usual for MDD.

4.1.4. COLLABORATIVE MODELS OF MENTAL HEALTH CARE INVOLVING PSYCHOLOGICAL TREATMENTS

Collaborative interventions involving (1) psychotherapy, (2) a multiprofessional team, (3) structured management plans, (4) scheduled patient follow-up and (5) enhanced communication were consistently more effective than treatment as usual, although the precise contribution of each of these elements to treatment success is not known. Such collaborative models also appeared to be more cost-effective in the short-term. However, evidence regarding whether the benefits are maintained in the longer-term was not available.

Box 5 Summary of All Key Findings Regarding Provision of Psychological Treatment in Primary Care

Theme	Key Findings
GP Provision	• **Good evidence** that GPs delivery of problem-solving therapy for depression is superior to usual treatment and equivalent to treatment by antidepressant medication. It is unclear the extent to which such results are relevant to real-world settings. • **Limited evidence** that GPs delivery of guided, manualised bibliotherapy for panic disorder is as effective as referral to secondary care therapist. • **Inconclusive evidence** for the effectiveness of CBT or IPT delivered by GPs. • **No studies identified** regarding the cost-effectiveness of GP-delivered psychological treatments.
Allied Health Provision	• **Good Evidence** that psychotherapy delivered by psychologists has similar treatment effects to medication for Depression. **Limited evidence** for Panic Disorder and Generalised Anxiety Disorder • **Good Evidence** that psychotherapy delivered by psychologists is superior to usual treatment or Placebo for Major Depressive Disorder, and Panic Disorder, but not for Dysthymia. **Limited evidence** for Generalised Anxiety Disorder. • **Good evidence** that psychologist-delivered therapies represent good value-for-money, but all Australian studies utilised modelling methodology. • **Limited evidence** that psychological treatments can be effectively delivered to minority or non-Caucasian populations. • **Limited evidence** that social workers can effectively deliver psychological therapies for depression and anxiety. • **No studies identified** regarding effectiveness of psychotherapy by other workers (OTs, Indigenous health workers).
Collaborative Interventions	• **Good evidence** that collaborative Interventions involving (1) psychotherapy, (2) structured management plans, (3) scheduled follow-up, (4) a multiprofessional approach; and (5) enhanced communication are superior to treatment as usual in primary care for Depression, Panic Disorder and GAD. • **Limited evidence** suggests that collaborative and pro-active interventions are cost-effective for depression and panic disorder • **Limited evidence** that collaborative programs involving psychotherapy under the Australian Better Outcomes program produce reduction in symptoms. Models with greater collaboration in Australia (direct-referral with co-location) produced superior results.

4.2. POLICY OPTIONS

In this section, we aim to provide options for policy based on findings from our review, which we hope will assist policy advisors in relation to the delivery of psychological treatments in Australian primary care. As we are employing a knowledge support approach with an aggregative aim (16), we have a primary goal of providing policy advisors with a relevant synthesis of the evidence so as to inform decision-making. In providing policy options we recognise the significant limitations in moving from the research evidence. In addition to consideration of effectiveness, multiple economic, pragmatic and logistical considerations will influence the feasibility of policy options. In the case of Australia's mental health system, which is in the midst of reforms of an unprecedented scale, it would be naïve to suggest system-level changes without careful consideration of current policies and their implementation.

Additionally, we recognise that the research evidence we have synthesised often fails to answer the context-specific questions that most interest policy advisors. For example, evidence for the effectiveness of collaborative models of mental health care does not easily translate into answering policy questions about which elements of such models should be incorporated into Australian reforms. Finally, it should be noted that few of the RCTs reviewed were conducted within Australia, and the reports most relevant to Australia (the interim reports of the Better Outcomes programs) are limited by being naturalistic reports rather than RCTs.

With these caveats in mind, we provide policy advisors options for policy directions that flow from the key principles identified in our review. We focus on options that are feasible based on discussions with stakeholders, and include the following options for Australia's primary mental health care system: (1) Support Collaboration in the Workforce; (2) Train the Workforce; and (3) Undertake Strategic Evaluations.

4.2.1. SUPPORT COLLABORATION

- Increase use of existing collaborative service incentives such as the Better Outcomes ATAPS and Better Access programs by GPs and allied health providers
- Support non-psychologist allied health providers workforce to utilise existing service incentives
- Continue to support locally developed collaborative models such as the Better Outcomes ATAPS program
- Develop systems that provide GP supervision and support by psychologists or other allied health providers
- Give additional financial/training support to GPs who provide limited psychological treatments, especially in areas where there is a dearth of specialist services

4.2.2. TRAIN THE WORKFORCE

- Fund targeted professional training of GPs focusing on training regarding mental health assessment, planning, reviewing, problem solving and behavioural treatment, gate-keeping and matching therapist-patient according to need (stepped care)
- Fund targeted training of psychologists, focusing on working with primary care populations
- Fund targeted training of non-psychologist allied health providers, focusing on training in *focussed psychological strategies*, problem-solving and working with primary care populations
- Promote primary mental health care workforce training approaches that incorporate an emphasis on early inter-professional training and training in primary health care settings, and that make explicit a coherent career pathway

4.2.3. UNDERTAKE STRATEGIC EVALUATIONS

- As part of scheduled evaluations, commission a national evaluation strategic framework that includes data on clinical outcomes
- As part of scheduled evaluations, monitor psychological-service utilisation and cost to consumers, especially for geographic or demographic groups less able to access services (e.g., rural and regional areas, Northern Territory, Indigenous, youth, health care card holders)
- Identify and support priority research areas (e.g., (1) cost-effectiveness studies of psychological treatments in an Australian setting, (2) effectiveness studies of non-psychologist allied health providers, (3) consumer and carer experiences of primary care psychological treatments)

5. REFERENCES

1. Mathers CD, Vos ET, Stevenson CE, Begg SJ. The Australian Burden of Disease Study: measuring the loss of health from diseases, injuries and risk factors. Med J Australia 2000;172:592-596.
2. Andrews G, Henderson S, Hall W. Prevalence, comorbidity, disability and service utilisation: Overview of the Australian Mental Health Survey. Br J Psychiat 2001;178:145-153.
3. Charles J, Britt H, Fahridin S, Miller G. Mental health in general practice. Aust Fam Physician 2007;36:200-201.
4. Jorm A, Korten AE, Rodgers B, Pollitt P, Jacomb PA, Christensen H, et al. Belief systems of the general public concerning the appropriate treatments for mental disorders. Soc Psychiatry Psychiatr Epidemiol 1997;32:468-473.
5. Roth A, Fonagy P. What Works for Whom? A Critical Review of Psychotherapy Research. 2nd ed. New York: Guildford; 2005.
6. Australian Health Ministers. National Mental Health Plan. Canberra: Mental Health Branch, Commonwealth Department of Health and Family Services; 1992.
7. Australian Health Ministers. Second National Mental Health Plan. Canberra: Mental Health Branch, Commonwealth Department of Health and Family Services; 1998.
8. Australian Health Ministers. National Mental Health Plan 2003-2008. Canberra: Australian Government; 2003.
9. Mental Health Council of Australia. Not for Service: Experiences of injustice and despair in mental health care in Australia. Canberra: Author; 2005.
10. The Senate Select Committee on Mental Health. A national approach to mental health from crisis to community: First report. Canberra: Commonwealth of Australia; 2006.
11. The Senate Select Committee on Mental Health. A national approach to mental health from crisis to community: Second report. Canberra: Commonwealth of Australia; 2006.
12. Institute of Medicine (US) Committee on Crossing the Quality Chasm: Adaptation to Mental Health and Addictive Disorders. Improving the Quality of Health Care for Mental and Substance-Use Conditions: Quality Chasm Series. Washington, DC: National Academies Press; 2006.
13. Australian Health Ministers. Mental Health statement of rights and responsibilities. Canberra: Commonwealth of Australia; 1991.
14. Australian Government Department of Health and Aging. Medicare Benefits Schedule Explanatory Notes. Canberra: Author. Available from http://www.health.gov.au/internet/wcms/publishing.nsf/Content/E1C80E2B5D02C0A3CA2571FD0010B85B/$File/Explanatory%20Notes%20M6%20and%20M7.pdf. Accessed 5/05/2007; 2007.
15. Khan KS, Popay J, Kleijnen J. Development of a Review Protocol. In. York: Centre for Reviews and Dissemination, University of York, UK. http://www.york.ac.uk/inst/crd/pdf/crd4_ph2.pdf; 2007.
16. Mays N, Pope C, Popay J. Systematically reviewing qualitative and quantitative evidence to inform management and policy-making in the health field. J Health Serv Res Policy 2005;10:6-20.
17. Higgins JPT, Green S. Handbook for Systematic Reviews of Interventions 4.2.6. In: The Cochrane Library, Issue 4, 2006. Chichester, UK: John Wiley and Sons, Ltd; September 2006.

18. Williams JW, Gerrity M, Holsinger T, Dobscha S, Gaynes BN, Dietrich AJ. Systematic review of multifaceted interventions to improve depression care. Gen Hosp Psychiat 2007;29:91-116.

19. Schulz KF. Subverting randomization in controlled trials. JAMA-J. Am. Med. Assoc. 1995;274:1456-1458.

20. Schulz KF, Grimes DA. Sample size slippages in randomised trials: exclusions and the lost and wayward. Lancet 2002;359:781-785.

21. Tierney JF, Stewart LA. Investigating patient exclusion bias in meta-analysis. Int J Epidemiol 2004;34:79-87.

22. Noseworthy JH, Ebers CG, Vandervoot MK, Farquhar RN, Yetisir E, Roberts A. The impact of blinding on the results of a randomised, placebo-controlled multiple sclerosis clinical trial. Am J Neurol 1994;44(16-20).

23. Drummond MF, Sculpher MJ, Torrance GW, O'Brien BJ, Stoddart GL. Methods for the Economic Evaluation of Health Care Programmes. 3rd ed. Oxford: Oxford Medical Publications; 2005.

24. Meadows G, Singh B, Grigg M, editors. Mental Health in Australia: Collaborative Community Practice. 2nd ed. Melbourne: Oxford University Press; 2007.

25. Hickie I, Groom GL. Primary care-led mental health service reform: An outline of the Better Outcomes in Mental Health Care initiative. Australas Psychiat 2002;10:376-382.

26. Australian Government Department of Health and Aging. Better Access to Psychiatrists, Psychologists and General Practitioners through the MBS [about 4 screens]. DHOA. In: http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-betteraccess-1. Accessed 8/3/2007. Canberra; 2006.

27. Department of Health and Ageing. National Mental Health Report 2005: Summary of Ten Years of Reform in Australia's Mental Health Services Under the National Mental Health Strategy 1993-2003. Canberra. Available at http://www.health.gov.au/internet/wcms/publishing.nsf/Content/0C3CBA336332521FCA25729000174444/$File/report05.pdf: Commonwealth of Australia; 2005.

28. Victorian Government Department of Human Services. An introduction to Victoria's public clinical mental health services. Melbourne: Victorian Government Department of Human Services, Mental Health Branch; 2006.

29. Health Department of Western Australia. Mental Health Reforms in Western Australia: A Report of the Government Reform Program. Perth: Health Department of Western Australia; 2000.

30. South Australian Mental Health Service. Metropolitan Area Mental Health Services: A Guide to Principles, Practices and Service Delivery. Adelaide: South Australian Mental Health Service; 1992.

31. Australian Government Department of Health and Aging. Better Outcomes in Mental Health Care. Canberra: Author. Available from http://www.health.gov.au/internet/wcms/publishing.nsf/content/mental-boimhc. Accessed 16/03/2007; 2006.

32. Blashki G. GP provision of counselling. More research is necessary. Aust Fam Physician 2003;32(1-2):67-8.

33. Australian Government Department of Health and Aging. Allied Health Fact Sheet. Canberra: Author. Available at http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-medicare-health_pro-gp-pdf-allied-cnt.htm. Accessed 09/05/2007.; 2007.

34. Australian Government Department of Health and Aging. Chronic Disease Management (CDM) Medicare Items (new from 1 July 2005). Canberra: Author. Available from

http://www.health.gov.au/internet/wcms/publishing.nsf/content/pcd-programs-epc-chronicdisease.htm. Accessed 28/04/2007.; 2007.

35. World Health Organization. The tenth revision of the International Classification of Diseases and Related Health Problems (ICD-10). Geneva: Author; 1992.
36. Australian Government Medicare Australia. Medicare Benefits Schedule (MBS) Item Statistics Reports. Canberra: Author; c2007 [Updated 2007 October 27; cited 2007 October 28]. Available from: http://www.medicareaustralia.gov.au/statistics/dyn_mbs/forms/mbs_tab4.shtml; 2007.
37. Australian Government Department of Health and Aging. Better Access to Mental Health Care - Questions and Answers. Canberra: Author. Available at http://www.health.gov.au/internet/wcms/publishing.nsf/Content/C0AA936E6D40C25CCA2572020002E469/$File/Q&As.pdf. Accessed 07/05/2007; 2006.
38. Metherell M. Health Scheme Swamped. Sydney Morning Herald 2007 28/3/2007.
39. Andrews G, Issakidis C, Carter G. Shortfall in mental health service utilisation. Br J Psychiat 2001;179:417-425.
40. Starfield B, Shi L. Policy relevant determinants of health: An international perspective. Health Policy 2002;60:201-218.
41. Cronin E. Health care system characteristics and delivery of primary care for depression in the UK and Australia: Early findings from the UK. In: http://www.anu.edu.au/aphcri/Presentations/Cronin_April_2005.ppt#256,1,Health care system characteristics and delivery of primary care for depression in the UK and Australia. Accessed 3/5/07.; 2005.
42. Weiner J, Gillam S, Lewis R. Organization and financing of British primary care groups and trusts: observations through the prism of US managed care. J Health Serv Res Policy 2002;7:43-50.
43. Health Council of Canada. Health Council of Canada Annual Report to Canadians 2006: Health Care Renewal in Canada: Measuring Up? http://www.healthcouncilcanada.ca/docs/rpts/2007/HCC_MeasuringUp_2007ENG.pdf. Accessed 3/05/2007.; 2007.
44. Druss BG. The mental health/primary care interface in the United States: History, structure and context. Gen Hosp Psychiat 2002;24:197-202.
45. Goldberg D. Psychiatry and primary care. World Psychiatry 2003;2:153-157.
46. Blashki G, Judd FK, Piterman L, editors. General Practice Psychiatry. Sydney: McGraw-Hill; 2006.
47. Hodgins G, Wilhelm K, Hassed C, Pierce D. Psychological Interventions. In: Blashki G, Judd FK, Piterman L, editors. General Practice Psychiatry. Sydney: McGraw-Hill; 2006. p. 277-303.
48. Katon W, Von Korff M, Lin E, Walker E, Simon G, Robinson P, et al. Methodologic issues in randomised trials of liaison psychiatry in primary care. Psychosom Med 1994;56(2):97-103.
49. Raine R, Haines A, Sensky T, Hutchings A, Larkin K, Black N. Systematic review of mental health interventions for patients with common somatic symptoms: Can research evidence from secondary care be extrapolated to primary care? Brit Med J 2002;325:1082-.
50. Huibers MJH, Beurskens AJHM, Bleijenberg G, van Schayck CP. The effectiveness of psychosocial interventions delivered by general practitioners. Cochrane Database Syst Rev 2003(2):CD003494.
51. Mynors-Wallis L, Gath DH, Day A, Baker F. Randomised controlled trial of problem solving treatment, antidepressant medication, and combined treatment for major depression in primary care. Brit Med J 2000;320(7226):26-30.

52. Mynors-Wallis L, Gath DH, Lloyd-Thomas AR, Tomlinson D. Randomised controlled trial comparing problem solving treatment with amitriptyline and placebo for major depression in primary care. Brit Med J 1995;310(6977):441-5.

53. Scott CS, Scott JL, Tacchi MJ, Jones RH. Abbreviated Cognitive Therapy for Depression - a Pilot-Study in Primary-Care. Behav Cogn Psychoth 1994;22(1):57-64.

54. Judd FK, Piterman L, Cockram AM, McCall L, Weissman MM. A comparative study of venlafaxine with a focused education and psychotherapy program versus venlafaxine alone in the treatment of depression in general practice. Hum Psychopharm Clin 2001;16(5):423-428.

55. King M, Davidson O, Taylor F, Haines A, Sharp D, Turner R. Effectiveness of teaching general practitioners skills in brief cognitive behaviour therapy to treat patients with depression: randomised controlled trial. Brit Med J 2002;324(7343):947-50.

56. Blomhoff S, Haug TT, Hellstrom K, Holme I, Humble M, Madsbu HP, et al. Randomised controlled general practice trial of sertraline, exposure therapy and combined treatment in generalised social phobia. Br J Psychiat 2001;179:23-30.

57. van Boeijen CA, van Oppen P, van Balkom AJLM, Visser S, Kempe PT, Blankenstein N, et al. Treatment of anxiety disorders in primary care practice: a randomised controlled trial. Br J Gen Pract 2005;55(519):763-9.

58. Finucane A, Mercer SW. An exploratory mixed methods study of the acceptability and effectiveness of Mindfulness-Based Cognitive Therapy for patients with active depression and anxiety in primary care. BMC Psychiat 2006;6:14.

59. Mihalopoulos C, Kiropoulos L, Shih STF, Gunn J, Blashki G, Meadows G. Exploratory economic analyses of two primary care mental health projects: implications for sustainability. Med J Australia 2005;183(10 Suppl):S73-6.

60. The PEP Advisory Group. Primary Care Evidence Based Psychological Interventions (The PEP Study). Unpublished report. Melbourne: beyondblue; 2007.

61. The Royal Australian College of General Practitioners. GPMHSC training standards - effective 1 January 2005: Available from http://www.racgp.org.au/Content/NavigationMenu/educationandtraining/HealthCare/Guidelinesandapplicationforms/FormsandguidelinesforTrainingProviders/trainingstandards.htm. Accessed 8/05/2007; 2006.

62. Young J, Beck AT. The cognitive therapy scale. Philadelphia: Centre for Cognitive Therapy. Unpublished Manuscript.; 1980.

63. Hollon SD, Stewart M, Strunk D. Enduring effects for cognitive behaviour therapy in the treatment of depression and anxiety. Ann Rev Psychol 2006;57:285-315.

64. Butler AC, Chapman JE, Forman EM, Beck AT. The empirical status of cognitive-behavioral therapy: A review of meta-analyses. Clin Psychol Rev 2006;26:17– 31.

65. Deacon BJ, Abramowitz JS. Cognitive and Behavioral Treatments for Anxiety Disorders: A Review of Meta-analytic Findings. J Clin Psychol 2004;60:429-441.

66. Blackburn IM, Bishop S, Glen AI, Whalley LJ, Christie JE. The efficacy of cognitive therapy in depression: a treatment trial using cognitive therapy and pharmacotherapy, each alone and in combination. Br J Psychiat 1981;139:181-9.

67. Teasdale JD, Fennell MJ, Hibbert GA, Amies PL. Cognitive therapy for major depressive disorder in primary care. Br J Psychiat 1984;144:400-6.

68. Scott MJ, Stradling SG. Group cognitive therapy for depression produces clinically significant reliable change in community-based settings. Behav Psychother 1990;18(1):1-19.

69. Scott AI, Freeman CP. Edinburgh primary care depression study: treatment outcome, patient satisfaction, and cost after 16 weeks. Brit Med J 1992;304(6831):883-7.

70. Schulberg HC, Block MR, Madonia MJ, Scott CP, Rodriguez E, Imber SD, et al. Treating major depression in primary care practice. Eight-month clinical outcomes. Arch Gen Psychiat 1996;53(10):913-9.

71. Scott C, Tacchi MJ, Jones R, Scott J. Acute and one-year outcome of a randomised controlled trial of brief cognitive therapy for major depressive disorder in primary care. Br J Psychiat 1997;171:131-4.

72. Ward E, King M, Lloyd M, Bower P, Sibbald B, Farrelly S, et al. Randomised controlled trial of non-directive counselling, cognitive-behaviour therapy, and usual general practitioner care for patients with depression. I: clinical effectiveness. Brit Med J 2000;321(7273):1383-8.

73. Clarke G, Debar L, Lynch F, Powell J, Gale J, O'Connor E, et al. A randomised effectiveness trial of brief cognitive-behavioral therapy for depressed adolescents receiving antidepressant medication. J Am Acad Child Psy 2005;44(9):888-98.

74. van Schaik A, van Marwijk H, Ader H, van Dyck R, de Haan M, Penninx B, et al. Interpersonal psychotherapy for elderly patients in primary care. Am J Geriat Psychiat 2006;14(9):777-86.

75. Conradi HJ, de Jong P, Kluiter H, Smit A, Van Der Meer K, Jenner JA, et al. Enhanced treatment for depression in primary care: long-term outcomes of a psycho-educational prevention program alone and enriched with psychiatric consultation or cognitive behavioral therapy. Psychol Med in press.

76. Arean PA, Gum A, McCulloch CE, Bostrom A, Gallagher-Thompson D, Thompson L. Treatment of depression in low-income older adults. Psychol Aging 2005;20(4):601-609.

77. Miranda J, Munoz R. Intervention for minor depression in primary care patients. Psychosom Med 1994;56(2):136-41.

78. Williams JW, Barrett J, Oxman T, Frank E, Katon W, Sullivan M, et al. Treatment of dysthymia and minor depression in primary care: A randomised controlled trial in older adults. JAMA - J Am Med Assoc 2000;284(12):1519-26.

79. Barrett JE, Williams JW, Jr., Oxman TE, Frank E, Katon W, Sullivan M, et al. Treatment of dysthymia and minor depression in primary care: a randomised trial in patients aged 18 to 59 years. J Fam Practice 2001;50(5):405-12.

80. Browne G, Steiner M, Roberts J, Gafni A, Byrne C, Dunn E, et al. Sertraline and/or interpersonal psychotherapy for patients with dysthymic disorder in primary care: 6-month comparison with longitudinal 2-year follow-up of effectiveness and costs. J Affect Disorders 2002;68(2-3):317-30.

81. Brouwers EPM, Tiemens BG, Terluin B, Verhaak PFM. Effectiveness of an intervention to reduce sickness absence in patients with emotional distress or minor mental disorders: a randomised controlled effectiveness trial. Gen Hosp Psychiat 2006;28(3):223-9.

82. McKee MD, Zayas LH, Flher J, Boyd RC, Nam SH. Results of an intervention to reduce perinatal depression among low-income minority women in community primary care. J Soc Serv Res 2006;32(4):63-81.

83. Lang AJ. Brief intervention for co-occurring anxiety and depression in primary care: a pilot study. Int J Psychiat Med 2003;33(2):141-54.

84. Lang AJ, Norman GJ, Casmar PV. A randomised trial of a brief mental health intervention for primary care patients. J Consult Clin Psych 2006;74(6):1173-9.

85. Sharp DM, Power KG, Simpson RJ, Swanson V. Fluvoxamine, Placebo, and Cognitive Behaviour Therapy Used Alone and in Combination in the Treatment of Panic Disorder and Agoraphobia. J Anxiety Disord 1996;10:219-242.

86. Mitchell CG. Treating anxiety in a managed care setting: A controlled comparison of medication alone versus medication plus cognitive-behavioral group therapy. Res Social Work Prac 1999;9(2):188-200.

87. Power KG, Sharp DM, Swanson V, Simpson RJ. Therapist Contact in Cognitive Behaviour Therapy for Panic Disorder and Agoraphobia in Primary Care. Clinical Psychology and Psychotherapy 2000;7(1):37-46.

88. Sharp DM, Power KG, Swanson V. A comparison of the efficacy and acceptability of group versus individual cognitive behaviour therapy in the treatment of panic disorder and agoraphobia in primary care. Clin Psychol Psychot 2004;11(2):73-82.

89. Addis ME, Hatgis C, Krasnow AD, Jacob K, Bourne L, Mansfield A. Effectiveness of cognitive-behavioral treatment for panic disorder versus treatment as usual in a managed care setting. J Consult Clin Psychol 2004;72(4):625-635.

90. Lindsay WR, Gamsu CV, McLaughlin E, Hood E, Espie CA. A controlled trial of treatments for generalised anxiety. Br J Clin Psychol 1987;26:3-15.

91. Power KG, Jerrom DW, Simpson RJ, Mitchell MJ, Swanson JM. A controlled comparison of Cognitive-behaviour Therapy, Diazepam and Placebo in the management of generalised anxiety. Behav Psychother 1989;17(1):1-14.

92. Power KG, Simpson J, Swanson V, Wallace LA. A controlled comparison of cognitive-behavior therapy, diazepam, and placebo, alone and in combination, for the treatment of generalised anxiety disorder. J Anxiety Disord 1990;4:267-292.

93. Price D, Beck A, Nimmer C, Bensen S. The treatment of anxiety disorders in a primary care HMO setting. Psychiat Quart 2000;71(1):31-45.

94. Earll L, Kincey J. Clinical psychology in general practice: A controlled trial evaluation. J Roy Coll Gen Pract 1982;32:32-37.

95. Robson M, France R, Bland M. Clinical psychologist in primary care: Controlled clinical and economic evaluation. Br Med J 1984;288:1805-1808.

96. Trepka C, Laing I, Smith S. Group treatment of general practice anxiety problems. J Roy Coll Gen Pract 1986;36(284):114-7.

97. Addis ME, Hatgis C, Cardemil E, Jacob K, Krasnow AD, Mansfield A. Effectiveness of cognitive-behavioral treatment for panic disorder versus treatment as usual in a managed care setting: 2-year follow-up. J Consult Clin Psych 2006;74(2):377-385.

98. Durham RC, Chambers JA, MacDonald RR, Power KG, Major K. Does cognitive-behavioural therapy influence the long-term outcome of generalised anxiety disorder? An 8-14 year follow-up of two clinical trials. Psychol Med 2003;33(3):499-509.

99. Power KG, Simpson RJ, Swanson V, Wallace LA. Controlled comparison of pharmacological and psychological treatment of generalised anxiety disorder in primary care. Br J Gen Pract 1990;40(336):289-94.

100. Williams JW. Treatment of mild depression in elderly patients. JAMA - J Am Med Assoc 2000;284(23):2994.

101. Gunn J, Diggens J, Hegarty K, Blashki G. A systematic review of complex system interventions designed to increase recovery from depression in primary care. BMC Health Serv Res 2005;6(88):doi:10.1186/1472-6963-6-88.

102. Araya R, Rojas G, Fritsch R, Gaete J, Rojas M, Simon G, et al. Treating depression in primary care in low-income women in Santiago, Chile: a randomised controlled trial. Lancet 2003;361(9362):995-1000.

103. Durham RC, Chambers JA, Power KG, Sharp DM, Macdonald RR, Major KA, et al. Long-term outcome of cognitive behaviour therapy clinical trials in central Scotland. Health Technol Assess 2005;9(42):1-174.

104. Coulehan JL, Schulberg HC, Block MR, Madonia MJ, Rodriguez E. Treating depressed primary care patients improves their physical, mental, and social functioning. Arch Intern Med 1997;157(10):1113-20.

105. Sharp DM, Power KG, Simpson RJ, Swanson V, Anstee JA. Global measures of outcome in a controlled comparison of pharmacological and psychological treatment of panic disorder and agoraphobia in primary care. Br J Gen Pract 1997;47(416):150-5.

106. Antonuccio DO, Thomas M, Danton WG. A cost-effectiveness analysis of cognitive behavior therapy and fluoxetine (prozac) in the treatment of depression. Behav Ther 1997;28(2):187-210.

107. Kaltenthaler E, Brazier J, De Nigris E, Tumur I, Ferriter M, Beverley C, et al. Computerised cognitive behaviour therapy for depression and anxiety update: a systematic review and economic evaluation. Health Technol Assess 2006;10(33):iii, xi-xiv, 1-168.

108. McCrone P, Knapp M, Proudfoot J, Ryden C, Cavanagh K, Shapiro DA, et al. Cost-effectiveness of computerised cognitive-behavioural therapy for anxiety and depression in primary care: randomised controlled trial. Br J Psychiat 2004;185:55-62.

109. Richards A, Barkham M, Cahill J, Richards D, Williams C, Heywood P. PHASE: a randomised, controlled trial of supervised self-help cognitive behavioural therapy in primary care. Br J Gen Pract 2003;53(495):764-70.

110. Lave JR, Frank RG, Schulberg HC, Kamlet MS. Cost-effectiveness of treatments for major depression in primary care practice. Arch Gen Psychiat 1998;55(7):645-51.

111. Schoenbaum M, Unutzer J, Sherbourne C, Duan N, Rubenstein LV, Miranda J, et al. Cost-effectiveness of practice-initiated quality improvement for depression: Results of a randomised controlled trial. JAMA - J Am Med Assoc 2001;286(11):1325-1330.

112. Haby MM, Tonge B, Littlefield L, Carter R, Vos T. Cost-effectiveness of cognitive behavioural therapy and selective serotonin reuptake inhibitors for major depression in children and adolescents. Aust NZ J Psychiat 2004;38(8):579-91.

113. Heuzenroeder L, Donnelly M, Haby MM, Mihalopoulos C, Rossell R, Carter R, et al. Cost-effectiveness of psychological and pharmacological interventions for generalised anxiety disorder and panic disorder. Aust NZ J Psychiat 2004;38(8):602-12.

114. Issakidis C, Sanderson K, Corry J, Andrews G, Lapsley H. Modelling the population cost-effectiveness of current and evidence-based optimal treatment for anxiety disorders. Psychol Med 2004;34(1):19-35.

115. Sanderson K, Andrews G, Corry J, Lapsley H. Reducing the burden of affective disorders: is evidence-based health care affordable? J Affect Disorders 2003;77:109-25.

116. Vos T, Haby MM, Magnus A, Mihalopoulos C, Andrews G, Carter R. Assessing cost-effectiveness in mental health: helping policy-makers prioritise and plan health services. Aust NZ J Psychiat 2005;39(8):701-12.

117. Bower P, Byford S, Sibbald B, Ward E, King M, Lloyd M, et al. Randomised controlled trial of non-directive counselling, cognitive-behaviour therapy, and usual general practitioner care for patients with depression II: Cost effectiveness. Brit Med J 2000;321(7273):1389-92.

118. Chisholm D, Sanderson K, Ayuso-Mateos JL, Saxena S. Reducing the global burden of depression - Population-level analysis of intervention cost-effectiveness in 14 world regions. Br J Psychiat 2004;184:393-403.

119. Gould RA, Otto MW, Pollack MH. A meta-analysis of treatment outcome for panic disorder. Clin Psychol Rev 1995;15:819-844.

120. King M, Sibbald B, Ward E, Bower P, Lloyd M, Gabbay M, et al. Randomised controlled trial of non-directive counselling, cognitive-behaviour therapy and usual general practitioner

care in the management of depression as well as mixed anxiety and depression in primary care. Health Technol Assess 2000;4(19):1-83.

121. Revicki DA, Siddique J, Frank L, Chung JY, Green BL, Krupnick J, et al. Cost-effectiveness of evidence-based pharmacotherapy or cognitive behavior therapy compared with community referral for major depression in predominantly low-income minority women. Arch Gen Psychiat 2005;62(8):868-75.
122. Shapiro J, Sank LI, Shaffer CS, Donovan DC. Cost effectiveness of individual vs. group cognitive behavior therapy for problems of depression and anxiety in an HMO population. J Clin Psychol 1982;38(3):674-7.
123. Vos T, Corry J, Haby MM, Carter R, Andrews G. Cost-effectiveness of cognitive-behavioural therapy and drug interventions for major depression. Aust NZ J Psychiat 2005;39(8):683-92.
124. Gilbody S, Bower P, Flher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. Arch Intern Med 2006;166(21):2314-21.
125. Craven MA, Bland R. Better practices in collaborative mental health care: an analysis of the evidence base. Can J Psychiat 2006;51(6 Suppl 1):7S-72S.
126. Christensen H, Griffiths KM, Wells L, Kljakovic M. Models of mental health delivery: Efficacy, support and policy, http://www.anu.edu.au/aphcri/Domain/MentalHealth/index.php. Canberra: Australian Primary Health Care Research Institute, ANU; 2005.
127. Asarnow JR, Jaycox LH, Duan N, LaBorde AP, Rea MM, Murray P, et al. Effectiveness of a quality improvement intervention for adolescent depression in primary care clinics: a randomised controlled trial. JAMA - J Am Med Assoc 2005;293(3):311-9.
128. Katon W, Robinson P, Von Korff M, Lin E, Bush T, Ludman E, et al. A multifaceted intervention to improve treatment of depression in primary care. Arch Gen Psychiat 1996;53(10):924-32.
129. Wells KB, Sherbourne C, Schoenbaum M, Ettner S, Duan N, Miranda J, et al. Five-year impact of quality improvement for depression: results of a group-level randomised controlled trial. Arch Gen Psychiat 2004;61(4):378-86.
130. Hedrick SC, Chaney EF, Felker BL, Liu C-F, Hasenberg N, Heagerty P, et al. Effectiveness of collaborative care depression treatment in veteran's affairs primary care. J Gen Intern Med 2003;18:9-16.
131. Grypma L, Haverkamp R, Little S, Unutzer J. Taking an evidence-based model of depression care from research to practice: making lemonade out of depression. Gen Hosp Psychiat 2006;28(2):101-7.
132. Hunkeler EM, Katon W, Tang L, Williams JW, Jr., Kroenke K, Lin EHB, et al. Long term outcomes from the IMPACT randomised trial for depressed elderly patients in primary care. Br Med J 2006;332(7536):259-63.
133. Rollman BL, Belnap BH, Mazumdar S, Houck PR, Zhu F, Gardner W, et al. A randomised trial to improve the quality of treatment for panic and generalised anxiety disorders in primary care. Arch Gen Psychiat 2005;62(12):1332-41.
134. Roy-Byrne P, Craske MG, Stein MB, Sullivan G, Bystritsky A, Katon W, et al. A randomised effectiveness trial of cognitive-behavioral therapy and medication for primary care panic disorder. Arch Gen Psychiat 2005;62(3):290-8.
135. Croghan TW, Melfi CA, Dobrez DG, Kniesner TJ. Effect of mental health specialty care on antidepressant length of therapy. Med Care 1999;37(4 Suppl Lilly):AS20-3.

136. Katon W, Russo J, Sherbourne C, Stein MB, Craske M, Fan M-Y, et al. Incremental cost-effectiveness of a collaborative care intervention for panic disorder. Psychol Med 2006;36(3):353-63.

137. Von Korff M, Katon W, Bush T, Lin EH, Simon GE, Saunders K, et al. Treatment costs, cost offset, and cost-effectiveness of collaborative management of depression. Psychosom Med 1998;60(2):143-9.

138. Katon W, Schoenbaum M, Fan M-Y, Callahan CM, Williams J, Jr., Hunkeler E, et al. Cost-effectiveness of improving primary care treatment of late-life depression. Arch Gen Psychiat 2005;62(12):1313-20.

139. Pirkis J, Morley B, Kohn F, Blashkl G, Burgess P, Headey A. Improving access to evidence-based mental health care: General practitioners and allied health professional collaborate. Primary Care Psychia 2004;9(4):125-130.

140. Pirkis J, Kohn F, Morley B, Burgess P, Blashki G. Better Outcomes in Mental Healthcare? Primary Care Ment Health 2004;2(141-149).

141. Morley B, Pirkis J, Sanderson K, Burgess P, Kohn F, Nacarella L, et al. Better outcomes in mental health care: The impact of different models of psychological service provision on consumer outcomes. Aust NZ J Psychiat 2007;41:142-149.

142. Pirkis J, Stokes D, Morley B, Kohn F, Mathews R, Naccarella L, et al. Impact of Australia's Better Outcomes in Mental Health Care Program on psychologists. Aust Psychol 2006;41:152-159.

143. Morley B, Kohn F, Pirkis J, Blashki G, Burgess P. Evaluating the Access to Allied Health Services Component of the Better Outcomes in Mental Health Care Initiative (Second Interim Evaluation Report). Melbourne: Program Evaluation Unit, University of Melbourne; 2004.

144. Pirkis J, Morley B, Kohn F, Blashki G, Burgess P. Evaluating the Access to Allied Psychological Services component of the Better Outcomes in Mental Health Care program (Fifth interim evaluation report): Models of service delivery:Profile and association with access. Melbourne: Program Evaluation Unit, University of Melbourne; 2005.

145. Kohn F, Morley B, Pirkis J, Shandley K, Nacarella L, Blashki G, et al. Evaluating the Access to Allied Psychological Services Component of the Better Outcomes in Mental Health Care Program (Sixth Interim Evaluation Report): Progressive achievements over time. Melbourne: Program Evaluation Unit, University of Melbourne; 2005.

146. Morley B, Pirkis J, Sanderson K, Burgess P, Kohn F, Nacarella L, et al. Evaluating the Access to Allied Psychological Services Component of the Better Outcomes in Mental Health Care Program (Eighth Interim Evaluation Report): Consumer outcomes: The impact of different models of psychological service provision. Melbourne: Program Evaluation Unit, University of Melbourne; 2006.

147. Morley B, Kohn F, Pirkis J, Blashki G, Burgess P. Evaluating the Access to Allied Health Services component of the Better Outcomes in Mental Health Care initiative (Third interim evaluation report): Benefits and barriers associated with different models of service delivery. Melbourne: Program Evaluation Unit, University of Melbourne; 2005.

148. Morley B, Kohn F, Nacarella L, Pirkis J, Blashki G, Burgess P. Evaluating the Access to Allied Psychological Services Component of the Better Outcomes in Mental Health Care Program (Seventh Interim Evaluation Report): Rural and urban projects: Similarities and differences. Melbourne: Program Evaluation Unit, University of Melbourne; 2006.

149. Flher J, Pirkis J, Kohn F, Bassilios B, Blashki G, Burgess P. Evaluating the Access to Allied Psychological Services Component of the Better Outcomes in Mental Health Care Program (Tenth Interim Evaluation Report): Progressive Achievements Over Time. Melbourne: Program Evaluation Unit, University of Melbourne; 2007.

150. Blackburn IM, Bishop S. Is there an alternative to drugs in the treatment of depressed ambulatory patients? Behav Psychoth 1981;9:96-104.

151. Blackburn IM, Bishop S. Changes in cognition with pharmacotherapy and cognitive therapy. Br J Psychiat 1983;143:609-17.

152. Hamilton M. The Hamilton Rating Scale for Depression. In: Sartorius N, Banto T, editors. Assessment of Depression. New York: Springer; 1986.

153. Smit A, Kluiter H, Conradi HJ, van der Meer K, Tiemens BG, Jenner JA, et al. Short-term effects of enhanced treatment for depression in primary care: results from a randomised controlled trial. Psychol Med 2006;36(1):15-26.

154. Sharp DM, Power KG. Predicting Treatment Outcome for Panic Disorder and Agoraphobia in Primary Care. Clin Psychol Psychot 1999;6(5):336-348.

155. Sharp DM, Power KG. Psychologist, patient, and general practitioner ratings of outcome of pharmacological and psychological treatments for panic disorder and agoraphobia in primary care. Behav Cogn Psychoth 1998;26(1):13-27.

156. Sharp DM, Power KG, Swanson V. Reducing therapist contact in cognitive behaviour therapy for panic disorder and agoraphobia in primary care: global measures of outcome in a randomised controlled trial. Br J Gen Pract 2000;50(461):963-8.

157. Pirkis J, Blashki G, Headey A, Morley B, Kohn F. Evaluating the Access to Allied Health Services Component of the Better Outcomes in Mental Health Care Initiative (First Interim Evaluation Report). Melbourne: Program Evaluation Unit, University of Melbourne; 2003.

158. Kohn F, Morley B, Pirkis J, Blashki G, Burgess P. Evaluating the Access to Allied Health Services Component of the Better Outcomes in Mental Health Care Initiative (Fourth Interim Evaluation Report). Melbourne: Program Evaluation Unit, University of Melbourne; 2005.

159. Naccarella L, Morley B, Pirkis J, Kohn F, Blashki G, Burgess P. Evaluating the Access to Allied Psychological Services Component of the Better Outcomes in Mental Health Care Program (Ninth Interim Evaluation Report): Demand Management Strategies. Melbourne: Program Evaluation Unit, University of Melbourne; 2006.

160. Barrett B, Byford S, Knapp M. Evidence of cost-effective treatments for depression: a systematic review. J Affect Disorders 2005;84(1):1-13.

161. Bower P, Richards D, Lovell K. The clinical and cost-effectiveness of self-help treatments for anxiety and depressive disorders in primary care: a systematic review. Br J Gen Pract 2001;51(471):838-45.

162. Bower P, Rowland N. Effectiveness and cost effectiveness of counselling in primary care. Cochrane Database Syst Rev 2006;3:CD001025.

163. Bower P, Byford S, Barber J, Beecham J, Simpson S, Friedli K, et al. Meta-analysis of data on costs from trials of counselling in primary care: using individual patient data to overcome sample size limitations in economic analyses. Br Med J 2003;326(7401):1247-50.

164. Hunsley J. Cost effectiveness and medical cost-offset considerations in psychological service provision. Can Psychol 2003;44(1):61-73.

165. Myhr G, Payne K. Cost-effectiveness of cognitive-behavioural therapy for mental disorders: implications for public health care funding policy in Canada. Can J Psychiat 2006;51(10):662-70.

166. Otto MW, Pollack MH, Maki KM. Empirically supported treatments for panic disorder: Costs, benefits and stepped care. J Consult Clin Psych 2000;68:556-563.

167. Schulberg HC, Raue PJ, Rollman BL. The effectiveness of psychotherapy in treating depressive disorders in primary care practice: clinical and cost perspectives. Gen Hosp Psychiat 2002; 24(4):203-12.

APPENDIX 1. ADDITIONAL DETAILS REGARDING PRIMARY CARE PSYCHOLOGICAL SERVICES IN AUSTRALIA

BETTER OUTCOMES IN MENTAL HEALTH CARE INITIATIVE

Through the **Better Outcomes in mental Health care** initiative the barriers to delivery of quality mental health care in General Practice, for example inadequate mental health education and training and limited referral pathways, have begun to be addressed in a structured and systematic way.

The program was introduced in 2001 with funding of $120.4 million over four years. It is improving community access to quality primary mental health services by providing better education and training for general practitioners (GPs) and more support for GPs from allied health professionals and psychiatrists. Further funding of $142.7 million over four years has been provided to continue and expand the program to 2008-09. It encourages the use of evidence-based practice in the treatment of mental health disorders in primary care settings.

The key components of the initiative were:

- Education and training for GPs - to familiarise GPs with the initiative and to increase their mental health skills
- The 3 Step Mental Health Process - a Service Incentive Payment (SIP) was provided to encourage effective management of mental health problems by GPs through a 3-Step Mental Health Process that included an assessment, a mental health plan and a review. GPs were reimbursed for providing the 3 step mental health plan via a combination of service incentive payments and Medicare Benefits Schedule rebates. This component commenced on 1 July 2002
- Focused Psychological Strategies - to encourage appropriately trained GPs to provide evidence based focused psychological strategies (FPS) through the provision of Medicare Benefits Schedule (MBS) rebates. This component commenced on 1 November 2002. General practitioners are required to have appropriate training for the provision of FPS and be registered with the Health Insurance Commission
- Access to Allied Psychological Services (ATAPS) - to enable GPs to access psychological and other allied health services to support their patients with mental health disorders. This component was rolled out through 16 pilots in 2002-2003, with Divisions of General Practice as fund-holders
- Access to Psychiatrist Support - to better enable psychiatrists and GPs to participate in case conferencing and for psychiatrists to provide emergency advice to support GPs. Changes to the case conferencing component of the Enhanced Primary Care MBS items for consultant physicians from 1 May 2002 supports psychiatrists to participate in case conferencing

REQUIREMENTS FOR THE PROVISION OF FOCUSSED PSYCHOLOGICAL STRATEGIES (FPS) UNDER THE GENERAL PRACTITIONER MBS ITEM FOR FPS.

Doctors eligible to use the MBS item for FPS are:

- Medical practitioners including general practitioners, but excluding specialists and consultant physicians
- Registered with the Health Insurance Commission as participating in the Better outcomes in mental health care initiative

- Have completed the relevant FPS training requirements and are registered with the HIC to use these item numbers
- Provide FPS services from a practice that is either participating in the Practice Incentive Program or is an accredited general practice

REQUIREMENTS FOR GENERAL PRACTITIONER REFERRAL OF PATIENTS FOR FOCUSSED PSYCHOLOGICAL STRATEGIES

Where general practitioners determine that psychological interventions are the preferred treatment for patients with mental health disorders, they may still use any existing pathways and systems to access these services, such as referral to a psychiatrist or to existing public or private mental health sector services.

However General Practitioners who are registered with the HIC as participating in the Better outcomes in mental health care initiative, have two additional pathways available to access FPS for their patients with defined mental health disorders. The decision to refer a patient must be made in the context of the 3 Step Mental Health Process. The additional pathways are:

1. In the Access to Allied Health Pilot sites, the General Practitioner may refer to a specific allied health professional for the provision of FPS for the defined mental health disorders; and

2. In all areas, FPS may be provided by General Practitioners who are registered with the HIC for the provision of FPS. Where the referring General Practitioner also has the required FPS registration, they can provide these services themselves. Where they do not have the required FPS registration, they can refer to another General Practitioner who has this registration for the provision of FPS for the defined mental health disorders.

CHANGES TO BETTER OUTCOMES INITIATIVE FOLLOWING INTRODUCTION OF BETTER ACCESS INITIATIVE

The Australian Government will continue to honour its commitment to supporting the key components of the BOIMHC Initiative, including education and training for GPs, appropriate remuneration of GPs for delivery of Focused Psychological Strategies, support from psychiatrists, and access to allied health services.

- The increased range of referral pathways under Better Access complements the range of initiatives funded under the Better Outcomes in Mental Health Care Program (BOIMHC)
- Divisions of General Practice will continue to operate their Access to Allied Psychological Services projects to 2008-09
- The Access to Allied Psychological Services (ATAPs) component will continue through Divisions of General Practice to offer an alternative referral pathway for GPs, and the GP Psychiatrist Support component will continue to provide advice to GPs on the management of patients
- Divisions of General Practice will continue to manage the ATAPs component of BOIMHC and this has been reflected in the recent renewal of funding agreements to June 2009
- The 3 Step Mental Health Process items (or PIP incentive payment 'trigger' items) will run in parallel to the new GP Mental Health Care items from 1 November 2006 to 30 April 2007
- The 3 Step Mental Health Process incentive payment and associated MBS trigger items will be withdrawn from 1 May 2007
- Consultation will take place with professional groups and Divisions about adapting education, training and infrastructure associated with BOIMHC to support the Better Access initiative

- The new MBS items for clinical psychologists and other allied health professionals will be implemented in consultation with key stakeholders, including GP representative groups and the Australian Psychological Society, to ensure alignment with the BOIMHC program
- Access by appropriately trained GPs to MBS items for the delivery of Focused Psychological Strategies will continue
- It is likely the introduction of the new MBS items for psychology and allied health services may, over the medium term, reduce demand for allied health services through ATAPS, although the impact is likely to vary from Division to Division
- The GP Psychiatrist Support Service will also continue to provide a network for GPs to seek patient management advice from a psychiatrist within 24 hours

BETTER ACCESS INITIATIVE

The 'Better Access to Psychiatrists, Psychologists and General Practitioners through the Medicare Benefits Schedule', COAG initiative, aims to increase community access to general practitioners, psychiatrists, clinical psychologists and other allied mental health professionals for mental health care. The Better Access to psychiatrists, psychologists and GPs commenced 1 November 2006. Some changes occurred on May 1 2007.

New MBS Items have been introduced as part of the initiative, including services provided by psychiatrists, GPs, Psychologists and other allied health providers.

- New Psychiatrist items 296, 297, and 299 for new patients, and an increase in rebate levels for psychiatrist items 291, 293, 304, 306, 314, 316, 319, 324, 326, 334, and 336
- New GP items for preparation of a GP Mental Health Care Plan (2710); for review of a GP Mental Health Care Plan (2712); and for a GP Mental Health Consultation (2713); and minor changes to referral arrangements and an increase in rebates for Focused Psychological Strategies services provided by GPs (items 2721 – 30-40 minute consultation; and 2725; 40+ minute consultation)
- New Psychological Therapy items (80000 to 80020) for up to 12 individual and up to 12 group consultations per patient with eligible clinical psychologists in a calendar year

BETTER ACCESS REFERRAL PATHWAYS

- All GPs can refer patients who are being managed under a mental health care plan through Better Access
- GPs can refer to clinical psychologists, psychologists, social workers and occupational therapists who are registered with Medicare Australia
- All patients who are assessed as having a Mental Disorder as defined in the MBS are eligible for services under the initiative
- There are no mandatory training requirements to access the new GP items

TRAINING AND EDUCATION

As of 1 November there are no mandatory training requirements for GPs to refer patients through the new Better Access initiative. This includes GPs referring patients under Better Access for services through the Access To Allied Psychological Services (ATAPS) projects. However, it is strongly recommended that GPs providing mental health care using the new GP mental health care items have completed appropriate mental health training, such as receiving training recognised through the General Practice Mental Health Standards Collaboration. GPs claiming service incentive payments for the 3 step mental health process services, or providing focused psychological strategies (FPS), continue to require level 1 or level 2 training respectively and registration with Medicare Australia.

Completion of familiarisation training will no longer be required. In order to access Medicare items for GP Focused Psychological Strategies, GPs will still need to complete Level 1 and Level 2 training.

3-STEP MENTAL HEALTH PROCESS - SERVICE INCENTIVE PAYMENT

The new GP Mental Health Care items under the Better Access initiative incorporate the existing 3 Step Mental Health Process items and associated Service Incentive Payment (SIP). These existing 3 Step Mental Health process SIP items will be available until 30 April 2007 to enable GPs to complete and claim for work commenced but not finished by 1 November 2006. From 1 November 2006 GPs should use the new GP Mental Health Care items to prepare new mental health care plans for patients who require them.

MEDICARE BENEFIT SCHEDULE ITEMS

GP ITEMS

- 2710 the GP Mental Health Care Plan preparation
- 2712 the GP Mental Health Care Plan review
- 2713 the GP Mental Health Care Consultation
- 291 or 293 the psychiatrist assessment and management plan

GROUP M6 PSYCHOLOGICAL THERAPY SERVICES

- 80000 - 80020 services by a registered clinical psychologist referred by a medical practitioner as part of the GP mental health care plan (up to 12 sessions per cal year of individual and group services)

GROUP M7 FOCUSSED PSYCHOLOGICAL STRATEGIES (ALLIED MENTAL HEALTH)

- 80100-80120 services by a psychologist referred by a medical practitioner as part of the GP mental health care plan (up to 12 sessions per cal year of individual and group services)
- 80125 - 80145 services by an occupational therapist referred by a medical practitioner as part of the GP mental health care plan (up to 12 sessions per cal year of individual and group services)
- 80150-80170 services by a social worker referred by a medical practitioner as part of the GP mental health care plan (up to 12 sessions per cal year of individual and group services)

GROUP M8 PREGNANCY SUPPORT COUNSELING

- 81000-81010 non-directive counseling services by a psychologist, social worker or mental health nurse to a woman concerned with a current or past 12 months pregnancy, where referred by a medical practitioner. (max of 3 services)

SERVICES TO BE DELIVERED BY ALLIED HEALTH

There are two types of services able to be redeemed by allied health under the Better Access initiative. Firstly, clinical psychologists registered with Medicare are eligible to provide "Psychological Therapy Services", in which the government suggests that "In addition to psycho-education, it is recommended that cognitive-behaviour therapy be provided.

However, other evidence-based therapies — such as interpersonal therapy — may be used if considered clinically relevant." In contrast, non-clinical psychologists, social workers and occupational therapists must provide "Focused psychological strategies", which are defined as: Psychoeducation (including motivational interviewing); Cognitive-behavioural therapy including behavioural interventions (Behaviour modification, exposure techniques, activity scheduling) and cognitive interventions (cognitive therapy); relaxation strategy (including progressive muscle relaxation and controlled breathing), and skills training (including problem solving skills and training, anger management and social skills training). Note that "Psychological Therapy Services" attract a higher rebate than "Focused Psychological Strategies" (14).

References accessed 3 May 2007 (Better outcomes in mental health care initiative)

http://www.crufad.com/phc/index.htm

http://www.health.gov.au/internet/wcms/publishing.nsf/Content/mental-boimhc

http://www.adgp.com.au/Site/index.cfm?display=2550

http://www.health.gov.au/internet/wcms/publishing.nsf/Content/coag-mental-overview-mental+health+care+items.htm

http://www.health.gov.au/internet/wcms/publishing.nsf/Content/mbsonline-downloads

http://www.health.gov.au/internet/wcms/publishing.nsf/Content/B444E30202CBDD93CA2570A400097806/$File/SummaryofChanges.pdf

APPENDIX 2. LIST OF ACRONYMS AND ABBREVIATIONS USED IN REPORT

Diagnoses and Diagnostic Manuals
Anx = Anxiety
Dep = Depression
DSM = Diagnostic and Statistical Manual of Mental Disorders (editions include DSM-III; DSM-III-Revised; DSM-IV).
GAD = Generalised Anxiety Disorder
ICD-10 = International Classification of Diseases – 10th Edition
MDD = Major Depressive Disorder
OCD = Obsessive Compulsive Disorder
PD = Panic Disorder
PTSD = Post-traumatic Stress Disorder
RDC = Research Diagnostic Criteria
Soc Ph = Social Phobia

Design
CCT = Case Control Trial
RCT = Randomised Controlled Trial
SBA = Simple Before-After

Health-Economics
C/E = Cost-Effective
DALYs = Disability Adjusted Life Years
DFD = Depression Free Days
EE = Economic Evaluation
ICERs = Incremental Cost-Effectiveness Ratios
QALYs = Quality Adjusted Life Years
OOP = Out-Of-Pocket
YLD = Years Lost due to Disability

Medications
Antidep = Antidepressant Medication
Amit = Amitriptyline (Class - Tryclic Antidepressant)
Fluv = Fluvoxamine (Class – SSRI)
Med = Medication
Parox = Paroxetine Hydrochloride (Class – SSRI)
PL = Placebo
Sert = Sertraline Hydrochloride (Class – SSRI)
SNRI = Serotonin-Norepinephrine Reuptake Inhibitors
SSRI = Selective Serotonin Reuptake Inhibitors
Ven = Venlafaxine Hydrochloride (Class – SNRI)

Other/Generic
Diffs = Differences
F'up = Follow-up
HMO = Health Maintenance Organisation
Inc = Including
Mth = Month
MBS = Medicare Benefits Schedule
NA = Not available
ns = Non-significant (statistically)
NSMHWB = National Survey of Mental Health and Well-being
PC = Primary Care
QI = Quality Improvement

QoL = Quality of Life
Sig = Significant (Statistically)
Wk = Week
Yr = Year.

Professional Groups/Government
COAG = Council of Australian Governments
MHPA = Mental Health Professionals Association

Scales and Diagnostic Interviews
Depression
BDI = Beck Depression Inventory (BDI-I and BDI-II versions)
CES-D = Center for Epidemiologic Studies-Depression Scale
DSSI/sAD = Delusions-Symptoms-States Inventory/states of Anxiety and Depression
HAM-D = Hamilton Rating Scale – Depression
HSCL-D-20 = Hopkins Symptoms Check List - Depression
MADRS = Montgomery Ashberg Depression Rating Scale
VAS = Visual-Analogue Scale

Anxiety
HAM-A = Hamilton Rating Scale - Anxiety
PDSS = Panic Disorder Severity Scale
STAI = State Trait Anxiety Inventory

Functioning
BSI = Brief Symptom Inventory
CORE-OM = Clinical Outcomes in Routine Evaluation - Outcome Measure
EQ-5D = EuroQol-5D Measure of Quality of Life
GHQ = General Health Questionnaire
HSC = Hopkins Symptoms Checklist
SF-36 = Short-Form Health Survey – 36 Item Version
SF-12 = Short-Form Health Survey – 12 Item Version

Interview
CIDI = Composite International Diagnostic Interview
MINI = The Mini-International Neuropsychiatric Interview
PRIME-MD = Primary Care Evaluation of Mental Disorders
PSE = Present State Examination
SCID-IV = Structured Clinical Interview for DSM-IV Diagnoses (also SCID-P = patient version)

Staff
GP = General Practitioner
OT = Occupational Therapist
PCP = Primary Care Physician
Psychol = Psychologist
SW = Social Worker

Therapy Modalities/Conditions
AMT = Anxiety Management Training
BT = Behaviour Therapy
CBT = Cognitive Behavioural Therapy
CM = Case Management
CT = Cognitive Therapy
IPT = Interpersonal Therapy
PST = Problem Solving Therapy
TAU = GP Treatment-as-usual.
WL = Waitlist

APPENDIX 3. FULL SEARCH TERMS FOR NON-MEDLINE DATABASES

Table 13: Full Search Terms for SCOPUS, PSYCINFO, Cochrane, Web of Science, and PubMed.

Database	Search Terms	
MEDLINE	See Table 1, Main Text	2780
SCOPUS	TITLE-ABS-KEY("primary health care"/"primary healthcare"/"primary care"/(general practi*)/"family practice"/"primary mental health care"/"family physician"/"primary nursing care"/"primary medical care"/"GP"/"GPs"/family medicine/"Delivery of Health Care"/"cooperative care"/"cooperation"/"interdisciplinary team"/"patient care team"/"mental health services"/"primary medical care delivery"/"general practice delivery"/"comprehensive care"/"coordinated care"/"integrated care"/"continuity of care"/"accessibility of care"/"service planning"/"health service structures"/"health service organization"/"health service funding"/"health service governance"/"health care services"/"continuum of care"/"mental health services"/"primary health care"/"community services"/"health care delivery"/"health care utilization"/"health care seeking behavior"/"health maintenance organizations"/"health service needs"/"managed care"/"mental health programs"/"outreach programs"/"telemedicine"/"health care policy"/"health care administration") **AND** TITLE-ABS-KEY("Depressive Disorder, Major"/"Depressive Disorder"/"Depression, Postpartum"/"Dysthymic Disorder"/"Seasonal Affective Disorder"/"Anxiety Disorders"/"Agoraphobia"/"Obsessive-Compulsive Disorder"/"Panic Disorder"/"Phobic Disorders"/"Stress Disorders, Traumatic"/"Combat Disorders"/"Stress Disorders, Traumatic, Acute"/"Stress Disorders, Post-Traumatic"/"Adjustment Disorders"/"Neurotic Disorders"/depressi*/dysthymi*/"Seasonal Affective Disorder"/anxiety/agoraphobia/"Obsessive-Compulsive Disorder"/ocd/"Panic Disorder"/"GAD"/"Generalised anxiety Disorder"/"Generalized Anxiety Disorder"/phobi*/stress disorder*/ptsd/"Adjustment Disorder"/"Adjustment Disorders") **AND** TITLE-ABS-KEY(psychotherapy/counsel*/"supportive therapy"/"behavior therapy"/"cognitive behavior therapy"/"cognitive therapy"/"cognitive behaviour therapy"/"behavior analysis"/"behavior modification"/"exposure techniques"/"activity scheduling"/"cognitive analysis"/"cognitive interventions"/"thought challenging"/"cognitive restructuring"/"psychotherapy, rational-emotive"/relaxation/"guided imagery"/"imagery psychotherapy"/"problem-solving"/"anger management"/"stress management"/(psychotherapy and therapeutics)/"social skills"/"motivational interviewing"/"interpersonal therapy"/"parent management training"/psychoeducation/"psychological treatment"/cbt/"interpersonal techniques"/"behavior control"/"aversive therapy"/"psychological desensitization"/(desensitization, psychologic*)/"implosive therapy"/bibliotherapy/"Psychotherapy, Brief"/"Psychotherapy, Multiple"/"Psychotherapy, Rational-Emotive"/"self-help"/"family therapy"/"psychological treatment")	488

Note: Forward slash (/) represents the Boolean operator "OR".

Database	Search Terms	
PsycINFO	KW=("anxiety disorders"/"acute stress disorder"/"generalized anxiety disorder"/"obsessive compulsive disorder"/"panic disorder"/"phobias"/"social phobia"/"posttraumatic stress disorder"/ "major depression"/"dysthymic disorder"/"endogenous depression"/"postpartum depression"/"reactive depression"/"recurrent depression"/"treatment resistant depression"/PTSD/GAD/OCD) **AND** KW=("health care services"/"continuum of care"/"mental health services"/"primary health care"/"community services"/"health care delivery"/"health care utilization"/"health care seeking behavior"/"health maintenance organizations"/"health service needs"/"managed care"/"mental health programs"/"outreach programs"/"telemedicine"/"health care policy"/"health care administration"/"general practi*"/"primary mental health care") **AND** KW=("psychotherapy"/"behavior therapy"/"child psychotherapy"/"cognitive behavior therapy"/"cognitive behaviour therapy"/"behaviour therapy"/"individual psychotherapy"/"interpersonal psychotherapy"/"rational emotive behavior therapy"/"solution focused therapy"/"cognitive therapy"/"online therapy"/"anxiety management"/"behavior modification"/"behavior therapy"/"cognitive techniques"/"relaxation therapy"/"stress management"/counseling/counseling/psychotherapy/counsel*/"supportive therapy"/"behavior therapy"/"cognitive therapy"/"cognitive behaviour therapy"/"behavior analysis"/"behavior modification"/"exposure techniques"/"activity scheduling"/"cognitive analysis"/"cognitive interventions"/"thought challenging"/"cognitive restructuring"/"psychotherapy, rational-emotive"/relaxation/"relaxation strategies"/"guided imagery"/"imagery psychotherapy"/"problem-solving"/"anger management"/"stress management"/(psychotherapy and therapeutics)/"social skills"/"motivational interviewing"/"interpersonal therapy"/"parent management training"/psychoeducation/"psychological treatment"/cbt/"interpersonal techniques"/"behavior control"/"aversive therapy"/"psychological desensitization"/(desensitization, psychologic*)/"relaxation techniques"/"implosive therapy"/bibliotherapy/"psychotherapy, brief"/"psychotherapy, multiple"/"psychotherapy, rational-emotive"/"self-help"/"family therapy"/"psychological treatment")	867

Note: Forward slash (/) represents the Boolean operator "OR".

Database	Search Terms
Cochrane	("primary health care"/"primary healthcare"/"primary care"/(general practi*)/"family practice"/"primary mental health care"/"family physician"/"primary nursing care"/"primary medical care"/"GP*"/"family medicine"/"Delivery of Health Care"/"cooperative care"/"cooperation"/"interdisciplinary team"/"patient care team"/"mental health services"/"comprehensive care"/"coordinated care"/"integrated care"/"continuity of care"/"accessibility of care"/"service planning"/"health service structures"/"health service organization"/"health service funding"/"health service governance"/"health care services"/"continuum of care"/"mental health services"/"community services"/"health care delivery"/"health care utilization"/"health care seeking behavior"/"health maintenance organizations"/"health service needs"/"managed care"/"mental health programs"/"outreach programs"/"telemedicine"/"health care policy"/"health care administration") **AND** ("Depressi*"/anxiety/"Dysthymic Disorder"/"Seasonal Affective Disorder"/"Anxiety Disorders"/"Agoraphobia"/"Obsessive-Compulsive Disorder"/"Panic Disorder"/"Phobic Disorders"/"Combat Disorders"/"Neurotic Disorders"/dysthymi*/ocd/"Panic Disorder"/"GAD"/"Generalised anxiety Disorder"/"Generalized Anxiety Disorder"/phobi*/stress disorder*/ptsd/"Adjustment Disorder"/"Adjustment Disorders") **AND** (psychotherapy/counsel*/"supportive therapy"/"behavior therapy"/"cognitive behavior therapy"/"Cognitive Therapy"/"cognitive behaviour therapy"/"behavior analysis"/"behavior modification"/"exposure techniques"/"activity scheduling"/"cognitive analysis"/"cognitive interventions"/"thought challenging"/"cognitive restructuring"/relaxation/"guided imagery"/"imagery psychotherapy"/"problem-solving"/"anger management"/"stress management"/"social skills"/"motivational interviewing"/"interpersonal therapy"/"parent management training"/psychoeducation/"psychological treatment"/cbt/"interpersonal techniques"/"Behavior Control"/"Aversive Therapy"/"psychological desensitization"/"Implosive Therapy"/bibliotherapy/"self-help"/"family therapy") 279

Note: Forward slash (/) represents the Boolean operator "OR".

Database	Search Terms	
Web of Science	TS=("primary health care"/"primary healthcare"/"primary care"/(general practi*)/"family practice"/"primary mental health care"/"family physician"/"primary nursing care"/"primary medical care"/"GP"/"GPs"/family medicine/"Delivery of Health Care"/"cooperative care"/ "cooperation"/"interdisciplinary team"/"patient care team"/"mental health services"/"primary health care delivery"/"primary medical care delivery"/"general practice delivery"/"comprehensive care"/"coordinated care"/"integrated care"/("continuity of care")/"accessibility of care"/"service planning"/"health service structures"/"health service organization"/"health service funding"/"health service governance" /"primary care"/"health care services"/"continuum of care"/"mental health services"/"primary health care"/"community services"/"health care delivery"/"health care utilization"/"health care seeking behavior"/"health maintenance organizations"/"health service needs" /"managed care"/"mental health programs"/"outreach programs"/"telemedicine"/"health care policy"/"health care administration") **AND** TS=("Depressive Disorder, Major"/"Depressive Disorder"/"Depression, Postpartum"/"Dysthymic Disorder"/"Seasonal Affective Disorder"/ "Anxiety Disorders"/"Agoraphobia"/"Obsessive-Compulsive Disorder"/"Panic Disorder"/"Phobic Disorders"/"Stress Disorders, Traumatic" /"Combat Disorders"/"Stress Disorders, Traumatic, Acute"/"Stress Disorders, Post-Traumatic"/"Adjustment Disorders"/"Neurotic Disorders" /depressi*/dysthymi*/"Seasonal Affective Disorder"/anxiety/agoraphobia/"Obsessive-Compulsive Disorder"/ocd/"Panic Disorder"/"GAD" /"Generalised anxiety Disorder"/"Generalized Anxiety Disorder"/phobi*/stress disorder*/ptsd/"Adjustment Disorder"/"Adjustment Disorders") **AND** TS=(counseling/counseling/psychotherapy/counsel*/"supportive therapy"/"behavior therapy"/"cognitive behavior therapy"/"cognitive therapy"/"cognitive behaviour therapy"/"behavior analysis"/"behavior modification"/"exposure techniques"/"activity scheduling"/"cognitive analysis"/"cognitive interventions"/"thought challenging"/"cognitive restructuring"/"psychotherapy, rational-emotive"/relaxation/"relaxation strategies"/"guided imagery"/"imagery psychotherapy"/"problem-solving"/"anger management"/"stress management"/(psychotherapy and therapeutics)/"social skills"/"motivational interviewing"/"interpersonal therapy"/"parent management training"/psychoeducation/ "psychological treatment"/cbt/"interpersonal techniques"))/(("behavior control"/"aversive therapy"/"psychological desensitization"/ (desensitization, psychologic*)/"relaxation Techniques"/"Implosive Therapy"/bibliotherapy/"Psychotherapy, Brief"/"Psychotherapy, Multiple"/"Psychotherapy, Rational-Emotive"/"self-help"/"family therapy"/"psychological treatment")	1418

Note: Forward slash (/) represents the Boolean operator "OR".

Database	Search Terms	
PubMed	("primary health care"/"primary healthcare"/"primary care"/(general practi*)/"family practice"/"primary mental health care"/"family physician"/"primary nursing care"/"primary medical care"/"GP"/"GPs"/family medicine/"Delivery of Health Care"/"cooperative care"/"cooperation"/"interdisciplinary team"/"patient care team"/"mental health services"/"primary medical care delivery"/"general practice delivery"/"comprehensive care"/"coordinated care"/"integrated care"/"continuity of care"/"accessibility of care"/"service planning"/"health service structures"/"health service organization"/"health service funding"/"health service governance"/"primary care"/"health care services"/"continuum of care"/"mental health services"/"primary health care"/"community services"/"health care delivery"/"health care utilization"/"health care seeking behavior"/"health maintenance organizations"/"health service needs"/"managed care"/"mental health programs"/"outreach programs"/"telemedicine"/"health care policy"/"health care administration") **AND** ("Depressive Disorder, Major"/"Depressive Disorder"/"Depression, Postpartum"/"Dysthymic Disorder"/"Seasonal Affective Disorder"/"Anxiety Disorders"/"Agoraphobia"/"Obsessive-Compulsive Disorder"/"Panic Disorder"/"Phobic Disorders"/"Stress Disorders, Traumatic"/"Combat Disorders"/"Stress Disorders, Traumatic, Acute"/"Stress Disorders, Post-Traumatic"/"Adjustment Disorders"/"Neurotic Disorders"/depressi*/dysthymi*/"Seasonal Affective Disorder"/anxiety/agoraphobia/"Obsessive-Compulsive Disorder"/ocd/"Panic Disorder"/"GAD"/"Generalised anxiety Disorder"/"Generalized Anxiety Disorder"/phobi*/stress disorder*/ptsd/"Adjustment Disorder"/"Adjustment Disorders") **AND** (psychotherapy/counsel*/"supportive therapy"/"behavior therapy"/"cognitive behavior therapy"/"cognitive therapy"/"cognitive behaviour therapy"/"behavior analysis"/"behavior modification"/"exposure techniques"/"activity scheduling"/"cognitive analysis"/"cognitive interventions"/"thought challenging"/"cognitive restructuring"/"psychotherapy, rational-emotive"/relaxation/"relaxation strategies"/"guided imagery"/"imagery psychotherapy"/"problem-solving"/"anger management"/"stress management"/(psychotherapy and therapeutics)/"social skills"/"motivational interviewing"/"interpersonal therapy"/"parent management training"/psychoeducation/"psychological treatment"/cbt/"interpersonal techniques"/"behavior control"/"aversive therapy"/"psychological desensitization"/(desensitization, psychologic*)/"Relaxation Techniques"/"Implosive Therapy"/bibliotherapy/"Psychotherapy, Brief"/"Psychotherapy, Multiple"/"Psychotherapy, Rational-Emotive"/"self-help"/"family therapy"/"psychological treatment") **LIMITS**: English, Clinical Trial, Editorial, Letter, Meta-Analysis, Practice Guideline, Randomized Controlled Trial, Review, Case Reports, "Clinical Trial, Phase I", "Clinical Trial, Phase II", "Clinical Trial, Phase III", "Clinical Trial, Phase IV", Comment, Comparative Study, Controlled Clinical Trial, Corrected and Republished Article, Government Publications, Guideline, Historical Article, Journal Article, Multicenter Study, Scientific Integrity Review, Technical Report, Core clinical journals, Nursing journals, PubMed Central	664
TOTAL	**(EXCLUDING DUPLICATES)**	**4520**

Note: Forward slash (/) represents the Boolean operator "OR".

APPENDIX 4. ADDITIONAL DETAILS REGARDING GP PROVISION OF PSYCHOLOGICAL TREATMENTS

Table 14: GP-Delivered Interventions – Study Entry, Demographics and Quality

			Subject				Study Quality			
Authors	**Design (Diagnosis)**	**Organisation (Practice, Clinicians)**	**N**	**Entry**	**Exclusion**	**Demographics**	**Unit of Randomisation (Concealment)**	**Analysis (Follow-up rates)**	**Blinding**	**Risk**
C. S. Scott et al. (53)	SBA (MDD)	General Practice, England, UK (1 practice, 1 clinician)	7	Referred by one GP. Screened by independent assessor (DSM-IIIR); BDI>20. Age 18-65.	Psychosis; bipolar; organic brain damage; psychosis; secondary depression to non-affective disorder.	Mean age: 35.8 Female 100% White NA	NA (NA)	NA (post-7-9 wks; 100%)	Yes	High
Mynors-Wallace et al. (52)	RCT (MDD)	General Practice, England UK (15 practices, 26 clinicians)	91	GPs referred patients into trial. Met criteria for MDD. HAM-D≥13. 18-65.	Comorbid disorders except Anxiety disorders; current treatment; current/past psychosis; serious suicidal intent; recent drug/alcohol abuse; physical problems precluding medication.	Mean Age 37.1 Female 76.9% White 95.6%	Patient, stratified by MDD severity (sealed envelopes)	Defined Completers, >4 sessions (post-12 wks; 90.1%)	Yes	Low
Mynors-Wallace et al. (51);	RCT (MDD)	General Practice, England UK (24 clinicians)	151	GPs referred patients into trial. Met criteria for MDD. HAM-D≥13; illness duration≥4 wks. 18-65.	Comorbid psychiatric disorders or physical illness predating MDD; current treatment; brain damage; learning difficulties; psychosis; serious suicidal intent; recent drug/alcohol abuse; other problems precluding participation.	Mean Age 35 Female 76.8% White 94.7%	Patient, stratified by MDD severity and chronicity (independent researcher using random number system with cards in sealed envelopes)	Intent-to-treat (post-12 wks; 89.4%) (1 yr from entrance; 74.8%)	Yes	Low
Blomhoff et al. (56)	RCT (Soc Ph)	Primary Care Centres, Norway/ Sweden (41 practices, 47 physicians)	387	Consecutively recruited from primary care (N=238) or from advertisements. Social Phobia to DSM-IV based on MINI-R clinical interview, duration≥1 yr; Clinical Global Impression Social Phobia Scale≥4. 18-65.	PD predating Soc Ph, or any other current anxiety disorder (except specific phobia), MDD, substance use or eating disorder; lifetime history of psychosis, bipolar disorder; suicide risk; alcohol/ substance abuse; expected bad compliance.	Mean Age 40.4 Female 60.5% White NA	Patient, by blocks of 8 to Med/PL; separated randomisation to BT (Computerised random number system, sealed envelopes)	Intent-to-treat "efficacy" analysis (wk 24 from entrance; 89.4%) (wk 52; 84.8%)	Partial (blind to med only)	Mod

			Subject				Study Quality			
Authors	**Design (Diagnosis)**	**Organisation (Practice, Clinicians)**	**N**	**Entry**	**Exclusion**	**Demographics**	**Unit of Randomisation (Concealment)**	**Analysis (Follow-up rates)**	**Blinding**	**Risk**
Judd et al. (54)	RCT (MDD)	General Practice, Australia (92 clinicians, 22 recruited)	31	MDD meeting DSM-IV; duration≥4 wks; judged to need medication. 18-65.	Medical Screen.	Mean Age 37.5 Female 77.4% White NA	Recruited by treating General Practitioner (NA)	Intent-to-treat (post-12 wks; 90.3%)	Self-Report	Mod
King et al (55)	RCT (Depression)	General Practice, England UK (84 clinicians)	272	Screened consecutive patients for HADS≥11. 18+.	Psychosis, organic brain syndrome, learning disabilities.	Mean Age NA Female 70.4% White NA	Cluster randomised by GP in blocks of six. (sealed, opaque envelopes)	Intent-to-treat (NA)	Self-report	Mod
van Boeijen et al (57)	RCT (GAD/PD)	General Practices, Netherlands (46 practices)	142	GPs identified PD or GAD with Short and Simple Screening Interview (≥5). Secondary screening using SCID-IV diagnostic interview (RDC)	Organic Mental Disorder; mental retardation; psychosis; recent treatment of anxiety; use of antidepressants.	Mean Age 38.4 Female 62.7% White NA	General Practice assigned to manual/guidelines; patients assigned to CBT vs GP care (sealed opaque envelopes by independent clinician)	Intent-to-treat (post-at 12 wks; 88.0%) (follow up-1 yr following start; 67.6%)	Self-report	Mod
Finucane and Mercer (58)	SBA (Dep and Anx)	Scotland, UK (NA)	13	GPs recruited patients. Assessed for 1.5 hrs. History of recurrent MDD or depression/anxiety; MDD symptoms>2 wks, BDI>14. 18-65.	Organic brain disease, drug/alcohol abuse, history of psychosis or mania, diagnosed personality disorder, currently suicidal by BDI, unable to participate due to low energy.	Mean Age 43 Female 76.9% White NA	Not Applicable.	Completers (3 mth; 84.6%)	Self-report	High

Table 15: GP-Delivered Interventions – Interventions, Training and Outcomes

Authors	Design (Diagnosis)	Interventions	Training (Manual)	Collaborative Elements (med usage)	Clinical Outcomes		
					Symptoms	Function	Other
C. S. Scott et al. (53)	SBA (MDD)	Brief CBT (6 wks; 6 sessions)	Visiting GP with extensive training. (standard patient booklet)	In primary care. GP continued TAU. (one patient on med)	Post; Mean 54% fall on HAM-D. 6/7 patients no longer met criteria for MDD.	NA	NA
Mynors-Wallace et al. (52)	RCT (MDD)	PST (12 wks, 6 sessions) Med (Amit) PL	Two GPs, 1 psychiatrist. Reading, role plays, training video, supervised practice for 5 patients. (Manualised)	Patient's home or local health care centre. (no med)	At 12 weeks on HAM-D; PST<PL; PST=Med. No difference by provider.	At 12 weeks on social adjustment scale; PST=Med; PST superior to PL.	All 28 participants who completed PST were satisfied, compared with 21/25 Med.
Mynors-Wallace et al. (51);	RCT (MDD)	PST (GP; 12 wks, 6 sessions) PST (nurse; 12 wks, 6 sessions) Med (Fluv; Parox) PST(nurse)+ Med(GP)	Three GPs, 2 nurses delivered PST. GPs received theoretical training and supervised practice for 5 patients. Supervised by therapist. (Manualised)	Patient's home or local health care centre. (no med)	At 12 and 52 wks; All groups improved on HAM-D. PST(GP)= PST(nurse) =PST +Med=Med	At 12 and 52 wks; All groups improved on Social Adjustment Scale. PST(GP)= PST(nurse) =PST +Med=Med	NA
Blomhoff et al. (56)	RCT (Soc Ph)	BT+PL (8 sessions in 12 wks) Med(Sert) BT+Med PL	50 primary care physicians (incl. 2 psychiatrists); 30 hour training program that included exposure therapy, training video, written material, role playing. local group supervision (Manualised)	Patients assigned to new GP	At 24 wks; all groups improved on Social phobia scale, by defined response; BT+Med=Med >PL. BT=PL; BT+Med=BT. From 24-52 wks; only BT+PL improved on SPS.	ON the SF-36 mental health function; all groups improved to wk 24. From wk 24-52; PL and BT improved, BT+Med and Med deteriorated.	NA
Judd et al. (54)	RCT (MDD)	Med(Ven) Med+IPT (6 sessions, 12 wks).	Trained with video and written materials (Patient and Treatment Manuals)	Treatment by regular GP	On BDI, at wk 12; Med=Med+IPT	On SF-36 at wk 12; Med=Med+IPT	NA
King et al (55)	RCT (Depression)	CT TAU	Four half-day workshops. (NA)	Treatment by regular GP. Informed of assessment.	On BDI, at 6 mth, CT=TAU.	On SF-36 at 6 mth, CT=TAU.	On STAI, at 6 mth, CT=TAU.

Authors	Design (Diagnosis)	Interventions	Training (Manual)	Collaborative Elements (med usage)	Clinical Outcomes		
					Symptoms	Function	Other
van Boeijen et al (57)	RCT (GAD/PD)	Guideline Based treatment (GP; inc. CBT; variable sessions) Guided Self-help (GP; 5 sessions) CBT (therapist; 12 sessions)	GPs present at two educational meetings on diagnosis, management. Supervision every 2 months. Weekly supervision for therapists. (self-help and CBT manualised)	Treatment by regular GP.	All groups improved significantly on STAI to follow-up. GP Guideline=GP Self-help=CBT.	All groups improved significantly on SDS to follow-up. GP Guideline=GP Self-help=CBT.	All groups improved significantly on BDI to follow-up. GP Guideline=GP Self-help=CBT. GPs viewed CBT in guidelines as unfeasible, >50% given medication or referred to secondary care.
Finucane and Mercer (58)	SBA (Dep and Anx)	Mindfulness-based CBT	One research GP with training as Mindfulness instructor (8 wk course, further training). (Manualised)	New GP for mindfulness course.	On BDI; significant fall at 3 mths.	On STAI; significant fall.	NA

APPENDIX 5. ADDITIONAL DETAILS REGARDING ALLIED HEALTH PROVISION OF PSYCHOLOGICAL TREATMENTS

MAJOR DEPRESSIVE DISORDER

Ten of the eleven studies examining psychotherapy for MDD were judged to be of low or moderate risk of bias. Encouraging results for psychotherapy were found in two small early studies from the UK, using long-term CBT (20 weeks), in comparison to medication (66, 150, 151), and to TAU (67). At surface level, the four subsequent studies failed to find an advantage for CBT (68-71). However, while not finding an effect for individual CBT, M. Scott and Stradling found group-CBT to be superior to waitlist controls at post (68). A. Scott and Freeman found no advantage for cognitive therapy compared to wait-list control, although medication groups also had no advantage, while superiority of generic social-work counselling to TAU could have been due to initial differences between the groups. Schulberg and colleagues compared medication, TAU, and IPT comprising weekly sessions over 4 months, followed by 4 monthly maintenance sessions (70, 104). In this study, medication was seen to act more quickly to reduce depression in comparison with TAU, with IPT producing slower reductions that only reached significance by the end of the maintenance phase of therapy (8 months). C. Scott and colleagues (71) found no difference for short-term CBT (6 weeks) at post-treatment using the Hamilton Rating Scale for Depression (152), although differences were significant at one year follow-up, and also at post-treatment when using an alternative self-report inventory, or when using a recovery rather than absolute change criteria.

Since 2000, five additional studies have been produced. Ward and colleagues (72) found psychologist-delivered CBT to be equivalent to non-directive counselling, and superior to TAU at post-treatment on self-reported depression, with the differences disappearing by 12 months post-randomisation. Areán and colleagues (76) found no differences between group CBT, case management, and combined case-management/CBT at post-treatment. At 12 months follow-up, they found the combined condition to be superior to CBT alone, although curiously the opposite pattern was observed with respect to functional outcomes. Clarke et al. (73) found no advantage for adolescents who received short-term CBT and medication compared with those receiving medication, although there was some improvement in function and service use. The most recent two studies hail from the Netherlands. Van Schaik and colleagues (74) found no differences between 10 sessions of IPT delivered by psychologists and nurses in an elderly population, compared to TAU, at both 2 and 6 months. Finally, Conradi and colleagues (75, 153) compared patient education, education plus psychiatric consultation, education plus brief CBT, and TAU. They found that all groups were equivalent in the short-term (6 months), but at 3 years the psychiatric and CBT conditions were superior to education only or TAU.

MINOR DEPRESSION OR DYSTHYMIA

A number of studies have been conducted examining minor depression, dysthymia, or sub-clinical depression. In the earliest, Miranda and Munoz (77) excluded participants with major depressive disorder and dysthymia. They found that in comparison to TAU, 8 sessions of group CBT led to reductions in self-report depression at 6 months and 1 year, but only for those with minor depression. In a large study examining brief PST versus medication or placebo, no advantage was found for PST in adults (79) or the elderly (78), at post-treatment. Post-hoc analyses suggested remission was higher in adults for PST and medication versus TAU, but only for dysthymia and not minor depression (79). Browne and colleagues (80) conducted the largest study in primary care, involving 707 participants, and compared medication, IPT and combined medication and IPT. They found that medication and combined treatment were superior to IPT alone, at both 6 months (post-treatment) and 2 year follow-up. They note, however, that when examining costs, the combined treatment had advantages over the medication-only condition.

ANXIETY/DEPRESSION

Lang and colleagues report on two studies examining mixed samples experiencing anxiety and depression in primary care. In a small pilot study in a veteran's clinic, very brief CBT (4 sessions) was superior on self-report depression and anxiety relative to TAU (83), although the low follow-up rates make the study at risk of bias. In a slightly larger study in primary care, modified problem solving treatment (4 sessions) was superior to TAU (84); approximately 68% of participants in this study had MDD. In a Dutch study, Brouwers and colleagues reported that PST (5 sessions) for generalised anxiety/mild MDD provided by a social worker was no superior to TAU (81). Finally, McKee and colleagues (82) examined social-worker provided CBT for low-income, pregnant minority women, finding no difference at 3 months postpartum relative to TAU, although the low-follow up rates should be acknowledged.

GENERALISED ANXIETY DISORDER

Four studies have examined psychotherapy for GAD in primary care, although three were judged to be at high risk of bias. Lindsay and colleagues (90) found group CBT, group Anxiety Management and medication (benzodiazepine) to all be superior to waitlist, with the improvement maintained in the group treatments at 3 months following therapy. Power and colleagues found CBT (6 weeks) to be superior to placebo and no different to benzodiazepine treatment post-study (91). Their subsequent, larger study found similar results for longer term CBT (9 weeks) over TAU, with combined medication and CBT also being superior to medication (92, 99). Finally, in a non-RCT, Price and colleagues (93) found integrated care plus CBT to be superior to TAU up to 3 months post-therapy.

PANIC DISORDER

Six studies examined the use of psychotherapy for Panic Disorder. Sharp and colleagues compared 12 session CBT with medication, placebo and combined treatments, finding all treatment groups to be superior to placebo at post-treatment (85, 105, 154, 155), with the combined medication/CBT group differentiating from the placebo group at an earlier stage of treatment. The same group conducted two studies examining the effectiveness of different formats of CBT therapy. In a comparison of group CBT, individual CBT and waitlist for panic disorder, they found the two treatment groups to be superior (88). However, group CBT showed a lower proportion of individuals finishing treatment, and a lower percentage showing clinically significant change at follow-up. Their third study compared different intensities of treatment, contrasting bibliotherapy (1.5 hours therapist contact), minimal contact CBT (2 hours total contact) and normal CBT (12 hours contact) (87, 156). At post-study, minimal and full contact CBT were superior to bibliotherapy on anxiety and depression levels. The normal CBT group was also superior to the minimal CBT group on some measures of disability at 12-weeks (156), and superior to both the minimal CBT and bibliotherapy group on recovery from anxiety at 6 months (87).

Mitchell examined medication only against combined medication and CBT delivered by a social worker, finding superior results in the combined treatment at post-treatment, although as a non-RCT, the study was potentially biased. Addis and colleagues (89, 97) compared CBT (12-15 sessions) against non-CBT therapy, with no difference between groups post treatment, but both lower anxiety and depression in the CBT group at 8.5 months. At 2 years, there was no difference between the groups. Finally, in the Netherlands, van Boeijen et al. (57) found no difference for Panic Disorder (69% of participants) and GAD (31%) when comparing 12 sessions of CBT by therapists to guided-bibliotherapy by GPs and to guideline-based treatment by GPs (including CBT). However, the guideline-based treatment, including CBT, was seen as unfeasible by participating GPs.

UNSPECIFIED DISTRESS

Three studies examined treatment where no specific criteria for depressive or anxiety disorders were used, perhaps more generally mimicking conditions in primary care. Earll and Kincey (94) found no difference between behaviour therapy and TAU at 7 months from the start of treatment. Robson and colleagues (95) reported outcomes for a large number of participants given BT or TAU in a health centre. They found superiority on a non-standard measure of severity to 32 weeks from referral, with no difference at 12 months. Both of these studies were not manualised. Trepka and colleagues (96) compared group cognitive therapy and individual counselling of an unspecified nature for anxiety treatment, finding an advantage post-treatment for the individual-treatment group that was maintained at 12 months.

Table 16: Allied Health-Delivered Interventions – Study Entry, Demographics and Quality

			Subject				Study Quality			
Authors	**Design (Diagnosis)**	**Organisation (Practice, Clinicians)**	**N**	**Entry**	**Exclusion**	**Demographics**	**Unit of Randomisation (Concealment)**	**Analysis (Follow-up rates)**	**Blinding**	**Risk**
Blackburn et al. (66)	RCT (MDD)	General Practice, Scotland, UK (1 practice)	39	Referred by clinicians. Screened using PSE (RDC); BDI≥14. Age 18-65.	Deluded, Extreme retardation; bipolar; psychosis.	Mean age: 43.3 Female 78.1% White NA	Patient. (NA)	Completers (20 wks from start, 62%)	Yes	High
Earll and Kincey (94)	RCT (None)	General practice, England, UK. (1 practice, 4 clinicians)	48	No criteria. Age 15+	Psychosis, brain disease, current treatment.	Mean age 37.1 Female 71.4% White NA	Patient (sealed envelopes)	Completers (7 mths from ref; 79%)	Partial (If informed)	Mod
Robson et al (95)	RCT (None)	General Practice, England, UK. (6 clinicians)	429	No criteria.	None.	Mean age 32.9 Female 72% White NA	Patient (card system)	Completers (12 mths from start; NA)	No	High
Teasdale et al. (67)	RCT (MDD)	General Practice, England UK. (13 practices)	44	Screened by GP (RDC), BDI>20. Rescreened by psychiatrist.	Psychosis	Mean age 37.5 Female 94% White NA	Patient (NA)	Completers (post-ave 17 wks, 77%) (3 mths post; 75%)	Yes	Mod
Trepka et al. (96)	CCT (None)	Health Centre, Scotland UK (1 practice)	26	Anxiety assessed by psychologist.	Comorbid psychiatric conditions	Mean age 36.1 Female 83.3% White NA	Matched with 12 individual treatment (Not Applicable)	Completers (post 65%; 1 yr post 54%)	No (Self-report)	High
Lindsay et al. (90)	RCT (GAD)	GPs, Scotland UK (2 practices)	40	GP referral; GHQ anxiety >3/7.	GHQ dep>3/7. GP diagnosis of specific phobia.	Mean age 36.1 Female 60% White NA	Patient (no blinding)	Completers (post 100%) (3 months post 85% of therapy groups only)	No (self-report)	High
Power et al (91)	RCT (GAD)	GP setting, Scotland UK (NA)	31	GP referral; Psychologist screen using PSE (RDC); HRS-A>15; symptoms>1 mth; No psychol Med in 3 wks prior to study	Primary phobic or MDD disorders.	Mean Age 34.2 Female 87% White NA	Patient (independent generation, sealed envelopes)	Unclear (post NA) (12 mth post NA)	Blind to medication; partial to CBT (If informed)	Mod

			Subject				Study Quality			
Authors	**Design (Diagnosis)**	**Organisation (Practice, Clinicians)**	**N**	**Entry**	**Exclusion**	**Demographics**	**Unit of Randomisation (Concealment)**	**Analysis (Follow-up rates)**	**Blinding**	**Risk**
Power et al (92, 99) Durham et al (103)	RCT (GAD)	GP setting, Scotland UK (NA)	111	GP referral; Psychologist screen using PSE (RDC); HRS-A>15; symptoms>1 mth; 18-65.	No psychol Med in 3 wks prior to study.	Mean Age 40.5 Female 71.2% White NA	Patient (independent generation, sealed envelopes)	Completers (post-at 10 wks; 93.5%) (6 mths post 84.7%) (11-14 years post; 29.7%)	Blind only to medication (GP/Psyc Rated)	High
M. Scott and Stradling (68)	RCT (MDD)	Health Centre, Liverpool UK. (1 practice, 5 clinicians)	67	GP referred depressed patients. Screened by psychiatrist for RDC for MDD. BDI≥14	NA	Mean age: 33 Female 70.1% White NA	Patient (predetermined sequence based on referral flow and time constraints)	Intent to treat (Post 71.6%)	Self-Report	Mod
A. Scott and Freeman (69)	RCT (MDD)	General Practices Scotland, UK (14 practices; 63 GPs)	121	GP identification; Screened by lay trained coordinator for DSM-III.	Delusions, Schizophrenia, Suicide risk, Alcohol/Drug abuse.	Mean Age 31.8 Female 75% White NA	Patient (sealed envelopes)	Completers (post – at 16 wk 93.2%)	Partial (If informed)	Mod
Miranda and Munoz (77)	RCT (Minor Dep)	Primary care, CA, US. (NA)	150	Contacted from clinics. Diagnostic Interview Schedule to exclude. 18-69. (33% had BDI≥18)	MDD, dysthymia, substance abuse, psychotic disorders, bipolar disorder, organic brain disorders.	Mean Age 52.5 Female 62% White 35.1%	Patient (NA)	Intent-to-treat (post – at 2 mth 92%) (4 mth post 90%) (10 mth post 92%)	Self-Report	Mod
Schulberg et al (70). Coulehan et al. (104)	RCT (MDD)	Academically affiliated ambulatory health centres (4 practices), US	276	Recruited from waiting rooms. 18-64 yrs. CES-D≥22; not presently treated. Second screening using interview schedule (RDC). Third screening, HAM-D≥13.	No medical/ psychiatric conditions preventing randomisation.	Mean age 38.1 Female 83.3% White 55.4%	Patient, blocked by groups of 10 (Computer generated, sealed envelopes)	Intent-to-treat (8 mth from start, 54.3%)	Yes	Low

			Subject				Study Quality			
Authors	**Design (Diagnosis)**	**Organisation (Practice, Clinicians)**	**N**	**Entry**	**Exclusion**	**Demographics**	**Unit of Randomisation (Concealment)**	**Analysis (Follow-up rates)**	**Blinding**	**Risk**
Sharp et al. (85) (105)	RCT (PD)	General practice, Scotland, UK. (NA)	190	GP referral to study; clinical psychologist semi-structured interview. DSM criteria (RDC), HAM≥15 at entry and day 7; duration≥3 mnths; 18-70.	Washout from drugs; MDD as defined as MADRS≥21; OCD, psychosis, severe concurrent somatic disease, neurological deficits or disease; substance abuse; high suicide risk; pregnant; physical disability; psychological treatments in previous 6 months.	Mean age 37.6 Female 77.1% White NA	Patient (Opaque envelopes)	"Defined Completers" (≥42 days treatment) (post – at 12 wks, 78%) (6 mth post 66.3%)	Yes	Mod
C. Scott et al (71)	RCT (MDD)	General Practice, England UK (11 practices)	48	Identified by GPs. Assessed by psychiatrist for DSM criteria, BDI≥20, duration<2 yrs. 18-65.	Bipolar disorder, organic brain damage, psychosis, dysthymic disorder, depression secondary to psychiatric illness, previous CBT, non-reader.	Mean age 41 Female 66% White NA	Patient, Stratified by gender, severity-BDI≥30, chronicity (NA)	Completers (post- at wk 7; 71%) (1 yr post 50%)	Yes	Mod
Mitchell (86)	SBA (PD)	Self-referred to large HMO, Washington (NA)	56	18+. Diagnosed as having PD.	No comorbid mental disorder.	Mean age 38.1 Female 76.8% White 33.9%	Not applicable.	NA (post NA)	Self-report	High
Power et al. (87)	RCT (PD)	General Practice, Scotland UK (26 practices)	104	Referred by GP; Screened by psychologist, DSM-III criteria; HAM-A≥15; symptoms≥3 mths; no psychological treatment in 6 mths. 18-70.	Montgomery Ashberg Depression Scale<20	Mean age 38.3 Female NA White NA	Patient (blind assignment)	"Defined Completers" (≥42 days treatment) (post - wk 12; 87.5%) (6 mth post; 60.5%)	Yes	Mod

			Subject				Study Quality			
Authors	**Design (Diagnosis)**	**Organisation (Practice, Clinicians)**	**N**	**Entry**	**Exclusion**	**Demographics**	**Unit of Randomisation (Concealment)**	**Analysis (Follow-up rates)**	**Blinding**	**Risk**
Price et al. (93)	Non-RCT; case-control trial (GAD, anxiety secondary to MDD)	Family practice in HMO; Colorado, US. Matched sample from internal medicine patients (1 practice).	214	Primary care providers screened all patients suspected of anxiety, secondary assessment by psychologist. Automated screening and diagnostic tool for DSM-IV. 18+.	Current alcohol/ substance abuse. Psychosis, dementia, bipolar disorder, terminal illness. Suicide risk referred to mental health department.	(Family Practice Cohort) Mean Age 44.5 Female 81.4% White 85.7%	Cohort controlled by treatment unit. (Not Applicable)	Completers (6 mth from referral, 64%)	Yes.	High
Ward et al. (72)	RCT (3 way randomised data) (MDD)	General Practices, England, UK (24 practices, 73 GPs)	197	Referred by GP. Assessed by researcher. BDI≥14. 18+.	Suicidal intent, psychological therapy in past 6 mths, restricted mobility, organic brain disease, inability to complete questionnaire.	Mean age 37 Female 77.2% White 89.8%	Patient stratified by BDI (opaque envelopes; preference arm for refusers).	Intent-to-treat (4 mth from referral, 91.3%) (12 mth from referral, 83.7%)	Self-report	Mod
Williams et al. (78)	RCT (Dysthymia/ Minor depression)	Primary care practices, US (4 practices)	415	Referral and screening at clinics. Assessed for DSM-III-R criteria by psychologist/ psychiatrist using PRIME-MD. HAM-D≥10. 60+.	MDD, psychosis, schizophrenia, schizoaffective disorder, bipolar disorder, substance abuse within 6 mths, antisocial or borderline personality disorder, serious suicidal risk, moderate cognitive impairment, terminal illness, current treatment.	Mean age 71 Female 41.4% White 78.2%	Patients, blocked and stratified by site, diagnosis, using computerised random numbers, (concealed assignment codes).	Intent-to-treat (post - 11 wk 74.9%)	Yes	Low
Barrett et al. (79)	RCT (Dysthymia/ Minor depression)	Primary care practices (2 practices), US	241	Referral and screening at clinics. Assessed for DSM-III-R criteria by psychologist/ psychiatrist using PRIME-MD. HAM-D≥10. 18-59.	MDD, psychosis, schizophrenia, schizoaffective disorder, bipolar disorder, substance abuse within 6 mths, antisocial or borderline personality disorder, serious suicidal risk, moderate cognitive impairment, terminal illness, current treatment.	Mean age 44.1 Female 63.9% White 90%	Patients, blocked and stratified by site, diagnosis, using computerised random numbers (concealed assignment codes).	Intent-to-treat (post - 11 week 79.3%)	Yes	Low

			Subject				Study Quality			
Authors	**Design (Diagnosis)**	**Organisation (Practice, Clinicians)**	**N**	**Entry**	**Exclusion**	**Demographics**	**Unit of Randomisation (Concealment)**	**Analysis (Follow-up rates)**	**Blinding**	**Risk**
Browne et al. (80)	RCT (Dysthymia)	Primary care Health Services Organisation, Canada. (NA)	707	Screening at for DSM-IV. 18-74.	Pregnant, history of using Sert; acute suicide risk, participating in other study, unwilling to undertake washout, on any sertonergic drug, bipolar disorder, schizophrenia, psychosis, unstable medical condition.	6 mth Completers Mean age 42.4 Female 68% White NA	Patient (Computerised randomisation schedule)	Completers analysis (post- at 6 mths 82.8%) (2 yrs after entrance 74.3%)	Yes	Mod
Lang (83)	RCT (Anxiety and Depression)	Veterans primary care clinic, US (1 practice)	35	Screened in waiting room using Brief Symptom Inventory. BSI≥63. On further assessment, entered if CES-D≥16 or BAI≥12. 18+	Excluded if BAI≥36 or CES-D≥39 and judged to have major mental disorder and be severely distressed on Anxiety Disorders Interview Schedule. Psychosis, cognitively impaired, CBT in past two years.	Mean age 48.6 Female 14.3% White 63%	Patient (NA)	Completers (post-at 1 mth 54%) (1 mth after post- 54%)	Self-report.	High
Sharp et al. (88)	RCT (PD)	General Practices, Scotland, UK (NA)	97	Referred by GPs. Meet DSM-IV criteria, HAM-A≥15, MADRS≤20; symptoms≥3 mths, no psychological treatment for PD in past 6 mths 18-70.	NA	Completers Mean age 37.7 Female NA White NA	Patient (Opaque envelopes)	"Defined completers" (>5 sessions) (post-at 12 wks, 72.2%) (3 mth post 57.7%)	Yes	Mod
Arean et al. (76)	RCT (MDD/ dysthymia)	Primary Care provider and self-referral. US. (NA)	67	Clinician or self-referral. Structured clinician interview. Low income, DSM-IV criteria for MDD or dysthymia, 60+	Cognitively impaired, history of psychosis or mania, current substance abuse or dependence, current antidepressant use.	Mean age 65.3 Female 64.2% White 58.2%	Patient, stratified by diagnosis and site (computer generated)	NA (Post 74.6%) (6 mth post, 65.7%) (12 mth post, 71.6%)	Yes	Mod

			Subject				Study Quality			
Authors	**Design (Diagnosis)**	**Organisation (Practice, Clinicians)**	**N**	**Entry**	**Exclusion**	**Demographics**	**Unit of Randomisation (Concealment)**	**Analysis (Follow-up rates)**	**Blinding**	**Risk**
Clarke et al (73)	RCT (MDD)	Pediatric HMO, US. (NA)	152	Identified SSRI users using electronic records, with PCP permission to contact youth. DSM-IV diagnosis using structured interview. 12-18.	Excluded schizophrenia, developmental/ intellectual disability. Extreme suicide risk.	Mean Age 15.3 Female 79% White 86%	Patient, block stratified, by age and depression severity. (computerised system)	Intent-to-treat (6 wk from randomisation 86.8%) (12 wk from randomisation 80.2%) (6 mth from randomisation 83.6%) (1 yr from randomisation 75%)	Yes	Low
van Boeijen et al (57)	RCT (GAD/PD)	General Practices, Netherlands (46 practices)	142	GPs identified PD or GAD with Short and Simple Screening Interview (≥5). Secondary screening using SCID-IV diagnostic interview (RDC)	Organic Mental Disorder; mental retardation; psychosis; recent treatment of anxiety; use of antidepressants.	Mean Age 38.4 Female 62.7% White NA	General Practice assigned to manual/guidelines; patients assigned to CBT vs GP care (sealed opaque envelopes by independent clinician)	Intent-to-treat (post-at 12 wks; 88.0%) (follow up- 1 yr following start; 67.6%)	Self-report	Mod
Addis et al. (97);	RCT (PD)	HMO, US. (NA)	80	Self-referred via member newsletter or by physicians. Diagnostic assessment for PD or sub-threshold panic. 18-70	Seeking treatment for other disorder, untreated substance use in past 6 mths, psychosis in past 5 yrs, at risk of suicide, involved in individual psychotherapy.	Mean Age 39.9 Female 70% White 80%	Patient (Independent allocation)	Intent-to-treat (1 yr 93.8%) (2 yrs 90%)	Yes	Low

			Subject				Study Quality			
Authors	**Design (Diagnosis)**	**Organisation (Practice, Clinicians)**	**N**	**Entry**	**Exclusion**	**Demographics**	**Unit of Randomisation (Concealment)**	**Analysis (Follow-up rates)**	**Blinding**	**Risk**
Brouwers et al. (81)	RCT (GAD, mild MDD, no disorder).	Netherlands.(70 clinicians)	194	Emotional distress/minor mental illness according to GP or self-report; on paid employment; on sick leave for emotional or mental problems<3 mths. Given CIDI. 18-60.	Severe mood disorders or anxiety disorders. Already receiving psychotherapy.	Mean age: 39.7 Female 59.3 White NA	Patient, block randomisation, (sealed envelopes by independent administrator)	Intent-to-treat (3 mth after randomisation 96.9%) (6 mth after randomisation 92.3%) (18 mth after randomisation 84.0%)	Partial (possibly informed)	Low
Lang et al (84)	RCT (Anx and Dep; 67.7% MDD)	Primary care clinics, California, US (4 practices).	62	Screened in waiting room or referred by PCP. BSI T score≥63 on any subscale. Given MINI interview. 18+	CBT in past year, serious medical illness, suicidality, lifetime schizophrenia, psychosis, mental retardation, organic mental disorder, bipolar disorder, OCD, eating disorder, alcohol substance abuse in previous 6 mths.	Mean Age 46.6 Female 53.2% White 79%	Patient, stratified by entrance method. (random-numbers table)	Intent-to-treat (Post 83.8%) (3 mths post 75.8%) (6 mths post 74.2%)	Self-report	Mod
McKee et al. (82)	RCT (depressive symptoms)	Community health centres, US.	100	Low-income, minority women receiving prenatal care for low-risk pregnancy, with BDI≥14.	No major mental illness or medical complication.	Mean age 24.7 Female 100% White 0%	Patient (independent allocation, sealed envelopes)	Intention-to-treat (3 mths postpartum approx 57%)	Self-report	Mod
van Schaik et al. (74)	RCT (MDD)	Amsterdam, Netherlands (12 practices)	143	Identified by screening questionnaire to recent attendees. Second screening by researcher using PRIME-MD for depression. 55+	Treatment at time of screening, severe cognitive impairment.	Mean Age 67.9 Female 69.2% White NA	Patient blocked by practice (independent researcher using random number table)	Intent-to-treat (2 mth following entrance 83.2%) (6 mth following entrance 83.9%)	Yes	Low

			Subject				Study Quality			
Authors	**Design (Diagnosis)**	**Organisation (Practice, Clinicians)**	**N**	**Entry**	**Exclusion**	**Demographics**	**Unit of Randomisation (Concealment)**	**Analysis (Follow-up rates)**	**Blinding**	**Risk**
Conradi et al. (75)	RCT (MDD)	General Practice, Netherlands (49 clinicians)	267	Patients currently treated for MDD by GP. Given telephone screening and face-to-face structured interview for diagnosis. 18-70.	Psychosis, bipolar disorder, dementia, primary alcohol/substance abuse, pregnancy, receiving specialty mental health treatment.	Mean Age 42.8 Female 65% White NA	Patient, blocked (Computer generated random list, using opaque sealed envelopes)	Intent-to-treat (3 mth from baseline 90.3%) (6 mth from baseline 85.0%) (36 mth from baseline 84.6%)	Partial.	Mod

Table 17: Allied Health-Delivered Interventions – Interventions, Training and Outcomes

Authors	Design (Diagnosis)	Interventions	Training (Manual)	Collaborative Elements (med usage)	Clinical Outcomes: Symptoms	Clinical Outcomes: Function	Clinical Outcomes: Other
Blackburn et al. (66)	RCT (MDD)	CT (20 wks; 23 sessions) CT+Med(antidep). Med	Psychologists. (Followed Beck Manual, gave patient info sheet)	Location unclear. Med Prescription in consultation with Psychiatrists	Significant percentage change on HAM-D post; 74.2% on CT+Med; 77.3% on CT; 16.4% on Med. (CT+Med=CT)<Med.	NA	NA
Earll and Kincey (94)	RCT (None)	BT (not limited) TAU	Psychologist. (No)	Working within practice. Assessment and treatment reports to doctor; verbal feedback as necessary. (54.8% on med during trial)	At 7 mths from referral; proportion not "personally ill" on DSSI/sAD scale; BT 45% TAU 50%. (ns)	NA	Lower prescriptions for psychotropic drugs in BT group.
Robson et al (95)	RCT (None)	BT+TAU (10 wks) TAU	Psychologist. (No)	Working within health centre. (NA)	BT<TAU on likert scale of severity to 32 wks from referral; at 12 mths BT=TAU.	NA	Satisfaction significant to 22 wks; at 12 mths 71% BT vs 66% TAU (ns)
Teasdale et al. (67)	RCT (MDD)	CT (20 wks, 20 sessions) TAU	Experienced psychologists, trained by Beck's centre. Therapy rated for fidelity. (No)	Location not stated. GPs prescribed medication (67.6% on medication)	Post treatment, CT<TAU on HAM-D; 3 mths follow-up ns.	NA	NA
Trepka et al. (96)	CCT (None)	Group CT (11-13 sessions, 11-13 wks) Ind Counselling (Not Spec)	Psychologist and Nurse-led group (Manualised group)	Location not stated. TAU allowed. (Nine patients on meds prior to group.)	STAI significant red for both groups. Ind<Group CT at post on STAI; At 1 yr Group CT reductions ns; individual counselling remained sig.	NA	Fall in staff usage; significant for individual counselling; ns for group.

Authors	Design (Diagnosis)	Interventions	Training (Manual)	Collaborative Elements (med usage)	Clinical Outcomes		
					Symptoms	Function	Other
Lindsay et al. (90)	RCT (GAD)	CBT group (4 wks, 8 session) Anxiety Management Group (4 wks, 8 session) Med group (BZ) WL group	Psychologist. 3 workshops; support group; review of session content. No formal rating of fidelity. (Manualised groups)	Location not stated. (6-wk washout of drugs prior to trial)	At post; fall on Zung Anx for CBT and AMT but not Med and WL; CBT=AMT=Med<WL on Zung post-treatment. At follow-up no changes on Zung anxiety for CBT and AMT (BZ and WL not assessed)	GHQ general health improved post for CBT, Med, AMT. CBT=Med<AMT=WL post; GHQ Social skills improved post for CBT, AMT. CBT=Med=AMT<WL post. No changes for CBT and AMT on GHQ general health or social (BZ, WL not assessed)	NA
Power et al (91)	RCT (GAD)	CBT (6 wks, 4 sessions) Med (DZ) PL	Psychologist. No formal rating of fidelity. (Semi-Manualised CBT)	Treatment provided in primary care. (no med for therapy group)	HAM-A decreased in all groups at post. At post-treatment CBT<PL. CBT=Med; Med=PL.	NA	At 12 mth, 3/10 CBT, 7/10 Med and 6/11 PL sought additional treatment.
Power et al (92, 99) Durham et al (103)	RCT (GAD)	CBT (9 wks, 7 sessions) Med (DZ) CBT+Med CBT+PL PL	Psychologist. No formal rating of fidelity. (Guidelines for CBT)	Treatment provided in primary care. GP rating symptoms (no med for therapy group)	All groups improved by psych/GP ratings of severity at 10 wks; on HAM-A (CBT+Med=CBT=CBT+PL)<PL Med=PL; Med+CBT<Med CBT, PL+CBT=Med PL+CBT, Med< CBT+Med (GP rating). GPs noted improvements in 45% Med; 36% PL; 86% CBT; 87% CBT+Med; 72% PL+Med. At 11-14 yrs; significant improvement on HAM-A for CBT but not non-CBT group. CBT=non-CBT.	At 70 days; on GHQ total; Med<CBT; PL<CBT; Med<CBT+Med; PL<CBT+Med	6 month post; no diff in number given Med; Greater referrals to further treatment for PL, Med.
M. Scott and Stradling (68)	RCT (MDD)	CBT (12 sessions, 3 mths) Group CBT (12 sessions, 3 mths) TAU	CBT provided by SW. No fidelity review reported (NA)	Treatment at health centre. Results of assessments made available to GPs. GPs managed medication.	On BDI, Group CBT=CBT; Group CBT<WL.	NA	NA

Authors	Design (Diagnosis)	Interventions	Training (Manual)	Collaborative Elements (med usage)	Clinical Outcomes		
					Symptoms	Function	Other
A. Scott and Freeman (69)	RCT (MDD)	CBT (up to 16 sessions) SW Counselling Psychiatrist Med (Amit) GP TAU.	Experienced psychologists No formal rating of fidelity. (No)	Treatment provided in primary care. (No meds in therapy groups.)	At wk 4, HAM-D Med<TAU; wk 16 SW<TAU (but could be due to initial differences). Recovery (HAM-D≤6) SW superior to TAU.	NA	Overall satisfaction SW>Med,GP
Miranda and Munoz (77)	RCT (Minor Dep)	Group CBT (8 wks, 8 sessions x 2hrs) No-intervention/ brief information control	Doctoral Level psychologist. No formal rating of fidelity. (Manualised CBT)	Location not stated. No collaboration stated. (Average of 4 medications per patient)	For those with minor depression; greater reduction in BDI at 6 mth and 1 yr for CBT vs control group. No differences for non-minor depression.	No differences in visit to medical clinic.	For those with minor depression, somatisation by HSC lower at 6 mth and 1 yr in group CBT vs control group.
Schulberg et al (70). Coulehan et al. (104)	RCT (MDD)	IPT (8 months; 20 sessions) Med(NT by psychiatrist) GP TAU (informed of diagnosis)	Psychologists and psychiatrists already skilled in IPT. Trained in standardised IPT, consultation meetings and review of audiotaped sessions. (no manual stated)	All treatments in usual primary care setting. Usual GP care during intervention. If non-responder after 8-10 weeks, referred to GP for other treatment. Therapy patients free to see GP. GP informed of diagnosis in TAU condition.	Med<TAU at all assessment points; IPT<TAU at 8 months; Med=IPT at all points. Recovery (HAM-D≤6), CBT=med superior to TAU.	At 8 mth, IPT and Med combined associated with greater improvement that TAU on SF-36 except for general health and pain.	Medical comorbidity at baseline associated with poorer functional outcomes. 42% of Med completed full protocol; 39% of IPT.

Authors	Design (Diagnosis)	Interventions	Training (Manual)	Collaborative Elements (med usage)	Clinical Outcomes		
					Symptoms	Function	Other
Sharp et al. (85) (105)	RCT (PD)	CBT (12 wks; 12 sessions) Med (FL) PL PL+CBT Med+CBT	Masters level psychologist with 7 years experience. Fidelity performed but not reported. (treatment manual for patients)	Treatment conducted in usual primary care setting. None explicit, but patients continued to have access to GP. (No concurrent meds in CBT group)	On HAM-A, at all time points to 12 wks, CBT=Med =PL+CBT=Med+CBT. From wk 4, FL+CBT<PL. At wk 6-12, all treatment groups<PL. At 6 mths, clinically significant change on HAM-A descriptively higher in groups with CBT relative to FL and PL.	At 12 wks, on General Health Questionnaire; CBT groups<Med-only groups; Med<PL, Med<PL+CBT. Same results for Sheehan Disability Scale.	Higher levels of those with CBT did not have additional treatment at 6 mth. On Depression (MADRS), FL+CBT and CBT<PL at wk 6 and 12, PL+CBT and FL< PL at wk 12. At all time points no diff between active treatment groups. Lower levels of anxiety and higher extraversion predicted better outcome at day 84; higher depression predicted worse outcome at 6 months.
C. Scott et al (71)	RCT (MDD)	CBT (6 wks, 6 sessions) TAU	Post-graduate qualified (not specified). Quality of treatment assessed by audio-taping of sessions. (Yes)	Location of treatment not specified. All patients continued to be managed by GPs. (95.8% of patients on antidepressants)	On HAM-D, no differences post. CBT<TAU at 58 wks; On BDI, CBT<TAU at post 7 wks. Greater recovery in CBT than TAU at post (HAM-D≤6).	NA	NA
Mitchell (86)	SBA (PD)	Med+Group CBT (8 sessions, 8 wks) Med	CBT provided by SW. No fidelity. (Manualised)	Group at HMO. Medication by psychiatrist.	On SCBAI, Group CBT+med superior on behavioural, cognitive and somatic subscale relative to Med.	NA	NA
Power et al. (87)	RCT (PD)	CBT (8 sessions, 12 hours total); minimal CBT (6 sessions, 2 hours total) bibliotherapy (1.5 hrs contact)	Clinical psychologist. Fidelity not reported. (treatment manual for patients)	All treatments in primary care setting. Patients required to take medication as prescribed.	On HAM-A; at wk 7 and 12 CBT<minimal CBT=bibliotherapy. At 6 mths, CBT<minimal CBT=bibliotherapy on recovery (HAM-A≤10).	At wk 12 on Sheehan disability scale; disruption to work CBT<minimal CBT=bibliotherapy; on disruption to social life and home life CBT=minimal CBT<bibliotherapy.	On depression (MADRS); at wk 12 CBT=minimal CBT<bibliotherapy.

Authors	Design (Diagnosis)	Interventions	Training (Manual)	Collaborative Elements (med usage)	Clinical Outcomes		
					Symptoms	Function	Other
Price et al. (93)	Non-RCT; case-control trial (GAD, anxiety secondary to MDD)	Integrated care including CBT (4-6 sessions) TAU (internal medicine patients)	PhD level psychologists. No report of treatment fidelity. (None)	Treatment at Family Practice Department of HMO. Patient, psychologist and primary care provider formulated treatment plan. Regular communication between PCP and psychologist via voicemail, brief contact, joint sessions. Liaison psychiatrist on call for PCP or psychologist.	Anxiety by Shedler Quick Diagnostics Panel; 3 mth CBT=TAU; 6 mth CBT<TAU. At 6 mth; recovery higher in CBT than TAU (Shedler≤10).	NA	CBT>TAU on 10/11 indicators of satisfaction
Ward et al. (72)	RCT (3 way randomised data) (MDD)	CBT (6-12 sessions, 6-12 weeks) Counselling (6-12 sessions, 6-12 weeks) TAU	Accredited psychologists. Ratings of treatment fidelity. (Manualised)	Treatment in primary care setting. Patient free to see GP, but GP asked to refrain from prescribing medication in CBT/Counselling groups. 28.5% of CBT/Counsel received medication.	On BDI; at 4mth CBT=counsel<TAU; at 12 mth CBT=counsel=TAU.	12 mth, social adjustment superior in CBT/TAU (CBT=TAU<Counsel).	Completers only; on satisfaction, at 4 mth CBT=Counsel> TAU. At 12 mth Counsel>TAU
Williams et al. (78)	RCT (Dysthymia/ Minor depression)	PST (6 sessions, 11 weeks) Med (Par) PL	7 PhD psychologists, 3 SW, 2 masters-level counsellors. Training including theory, role playing, training video, practice cases. No rating of fidelity reported (Manualised treatment)	Treatment in primary care setting. Medication prohibited for PST group.	On HSCL-D-20; all groups significant improvement. 11 wks, Med<PL; Med=PST; PST=PL. Greater symptom improvement in wks 2-11 in PST compared to PL. No interaction with diagnosis.	At 11 wk, mental health functioning (SF-36); Med>PL improvement for high/intermediate baseline functioning in dysthymia. PST=PL for all baseline levels in dysthymia. In minor depression, Med>PL and PST>PL for low baseline levels of functioning.	NA

Authors	Design (Diagnosis)	Interventions	Training (Manual)	Collaborative Elements (med usage)	Clinical Outcomes		
					Symptoms	Function	Other
Barrett et al. (79)	RCT (Dysthymia/ Minor depression)	PST (6 sessions, 11 weeks) Med (Par) PL	7 PhD psychologists, 3 SW, 2 masters-level counsellors. Training including theory, role playing, training video, practice cases. No rating of fidelity reported (Manualised treatment)	Treatment in primary care setting. Medication prohibited for PST group.	On HSCL-D-20; all groups significant improvement. 11 wks, PST=Med=PL. No interaction with diagnosis. For completers, remission (HAM-D≤6) higher in dysthymia for PST=Med>PL. For minor depression, PST=Med=PL.	At 11 wk, mental health functioning (SF-36) change; PST=Med=PL. Greater improvements in Med group with low/initial functioning; no significant improvements in PST or PL group.	NA
Browne et al. (80)	RCT (Dysthymia)	IPT (12 sessions, 6 months) Med (Sert) IPT+Med	15 masters- level therapists. 2 weeks of IPT training, weekly case conferences. Review of treatment fidelity. (NA)	Treatment conducted in HMO. No other med.	On depression (MADRS), at 6 mth and 2 yrs Med=Sert+IPT<IPT. Greater responding 6 mth Med, Med+IPT than IPT only (40% reduction on MADRS).	Social adjustment Scale-Self Rating and family function at 6mth and 2 yrs Med=Med+IPT=IPT.	NA
Lang (83)	RCT (Anxiety and Depression)	CBT (4 sessions, 4 weeks) Wait-list	Clinical psychologist. Review of treatment fidelity. (Manualised)	Treatment at psychologist offices.	At post, significant reduction on BAI and CES-D for treatment group but not Waitlist. Significant increase in anxiety 1 month following treatment for completers.	At post, significant reduction on QOLI for treatment group but not Waitlist.	NA
Sharp et al. (88)	RCT (PD)	CBT (8 sessions, 12 wks) Group CBT (8 sessions, 12 wks) Waiting list (12 wks)	Clinical Psychologist. No report of review of treatment fidelity. (Written treatment manual)	All patients seen in general practice setting. Patients allowed to continue taking medications through study.	At 12 wks, on HAM-A, Group CBT<Waitlist, CBT<Waitlist. At 3 mth follow-up group CBT poorer than CBT on % showing significant change (HAM-A≤13).	NA	Drop-out in group CBT>CBT=Waitlist. At 12 wks, on MADRS, Group CBT<Waitlist, CBT<Waitlist.

Authors	Design (Diagnosis)	Interventions	Training (Manual)	Collaborative Elements (med usage)	Clinical Outcomes		
					Symptoms	Function	Other
Arean et al. (76)	RCT (MDD/ dysthymia)	Group CBT (18 sessions, 6 months). Case Management (CM) Group CBT+CM	2 Clinical Psychologists, 2 masters-level SW. Treatment fidelity assess by videotape. (maualised)	Therapists worked at hospital site and conducted groups there.	HAM-D. At 6 mths, no differences. At 12 mth follow up, Group CBT+CM<Group CBT. CM=Group CBT+CM, CM=Group CBT.	At 6 mth, Group CBT, Group CBT+CM superior to CM alone. At 12 months, Group CBT superior to Group CBT+CM, CM alone on functional outcomes.	NA
Clarke et al (73)	RCT (MDD)	TAU+CBT(Ave 5.3 sessions, follow up to 12-months) TAU (inc. SSRI)	Master's level psychologists. 20 hours of training and weekly supervision, videotaped sessions for fidelity. (Manualised)	On-site mental health specialist provided treatment. GP continued to monitor medication. Ongoing therapist and PCP consultation.	To 52 wks, HAM-D, no differences between conditions by time.	To 52 wk, SF-12 Mental component greater improvement in CBT+TAU; no differences on global or physical components.	Significant reductions in TAU services in CBT condition. No difference on satisfaction across conditions.
van Boeijen et al (57)	RCT (GAD/PD)	Guideline Based treatment (GP; inc. CBT; variable sessions) Guided Self-help (GP; 5 sessions) CBT (therapist; 12 sessions)	GPs present at two educational meetings on diagnosis, management. Supervision every 2 months. Weekly supervision for therapists. (self-help and CBT manualised)	Treatment at alternative location. Medication allowed.	All groups improved significantly on STAI to follow-up. GP Guideline=GP Self-help=CBT.	All groups improved significantly on SDS to follow-up. GP Guideline=GP Self-help=CBT.	All groups improved significantly on BDI to follow-up. GP Guideline=GP Self-help=CBT. GPs viewed CBT in guidelines as unfeasible, >50% given medication or referred to secondary care.
Addis et al. (97);	RCT (PD)	CBT (12-15 sessions, 12-15 weeks) Non-CBT therapy	Masters-level psychologists. 2-day workshop in CBT, 2 training cases, audiotaped sessions, limited supervision.	Therapists HMO workers who worked at independent clinical agency. GP continued to monitor medication.	At 5.5 mths, CBT=TAU. At 8.5 mths, CBT<TAU on PDSS. At 2 yrs, on PDSS, CBT=TAU. At 1 yr, interaction with completer status, with completer CBT<TAU on panic severity.	NA	At 8.5 mths, CBT<TAU on BDI. At 2 yrs, CBT=TAU. No difference in use of additional SSRI, benzodiazepine or psychotherapy over 2 yr follow-up

Authors	Design (Diagnosis)	Interventions	Training (Manual)	Collaborative Elements (med usage)	Clinical Outcomes		
					Symptoms	Function	Other
Brouwers et al. (81)	RCT (GAD, mild MDD, no disorder).	PST (5 sessions, 10 wks) TAU	PST provided by SW. 3-day training with 2 follow-up sessions checking adherence to protocol. (manualised)	Treatment at primary care clinic where SW work. Medication allowed by GP.	On HADS; both groups reached normal levels in 3-6 months; no differences in improvement at 3, 6 or 18 mths.	On SF-36; both groups reached normal levels in 3-6 months; no differences at 3, 6 or 18 mths.	No significant difference in sick leave duration. At 3 mths, 5/8 satisfaction statements higher in PST vs. TAU
Lang et al (84)	RCT (Anx and Dep; 67.7% MDD)	Modified PST(4 sessions) TAU	2 PhD level psychologists. No reported review of fidelity. (Manualised)	Location not specified. Not restricted in medication use (55%)	Greater decrease in anxiety and depression (measured by BSI-18) for PST group compared to TAU. Some decay of effect to 6 mth post-test.	On mental functioning (SF-12) greater increase in intervention vs TAU.	Generally positive satisfaction by those completing the program (4.3/5)
McKee et al. (82)	RCT (depressive symptoms)	CBT (8 sessions)+ education+ social support. TAU	CBT provided by SW.	Treatment at home or health centre.	At 3-mths, on BDI CBT=TAU.	At 3-mths, on social support, CBT=TAU.	NA
van Schaik et al. (74)	RCT (MDD)	IPT (10 sessions in 5 months) TAU	Six psychologists and nine psychiatric nurses with 5+ years experience. Trained in IPT in 2 day course with 2 wkly supervision. Audiotaped sessions. (Manualised)	Intervention delivered in general practice. GP informed of diagnosis and asked not to prescribe antidepressants.	At 2 and 6 mths, MADRS depression IPT=TAU. PRIME-D – no diff 2 mth; significantly lower rates of MDD at 6 mths in IPT group. No differences in remission by (MADRS<10) at 2 and 6 mth.	At 6 mth, on mental and social functioning, IPT superior to TAU. On physical, IPT=TAU	NA
Conradi et al. (75)	RCT (MDD)	Education program (3 sessions) Education+ psychiatrist consult Eucation+ brief CBT (12 sessions) TAU by GP	Clinical psychologists provided CBT. Adherence monitored by supervisor. (Manualised)	Treatments in primary care setting. All treatments included TAU from GP. Written feedback from education program to GP after each session, including self-care plan. Feedback regarding CBT. GPs given 2 hour booster session regarding depression management.	At 6 mth, all groups same on recovery (BDI≤14) At 36-mth on BDI, Psychiatrist+education and CBT+education< TAU=Education.	NA	Significantly lower compliance with CBT than psychiatrist visit. At 6-mths, greater satisfaction with all education programs vs TAU.

APPENDIX 6. ADDITIONAL DETAILS REGARDING COLLABORATIVE INTERVENTIONS

Table 18: Collaborative Interventions - Study Entry, Demographics and Quality

Authors	Design (Diagnosis)	Organisation (Practice, Clinicians)	Subject				Study Quality			
			N	Entry	Exclusion	Demographics	Unit of Randomisation (Concealment)	Analysis (Follow-up rates)	Blinding	Risk
Katon et al.(128)	RCT (MDD)	HMO, US (1 clinic, 22 physicians)	153	Referred by PCPs, agreed to initiate antidepressants. Inclusion, SCL-20≥0.75. Age 18-80.	Current alcohol abuse; current psychosis; serious suicidal ideation; dementia; pregnancy; terminal illness; limited English; non-committed to HMO.	Mean Age 46.4 Female 73.8% White 86.9%	Patient, stratified by depression severity in blocks of 8 (opaque envelope*)	Completers (1 mth 91.5%) (4 mth, 83.7%) (7 mth, 76.5%)	Yes	Medium
Araya et al. (102)	RCT (MDD)	Primary Care Clinics, Chile (3 practices).	240	Screened consecutive female patients; GHQ-12≥5 at screening and 2 wks later. MDD by MINI. Age 18-70.	Psychosis; bipolar; organic current alcohol abuse; serious suicide risk; psychiatric consult in previous 3 mths.	Mean age: 42.7 Female 100% White 0%	Patient, blocked by 20; stratified by clinic. (Independent recruiters; numbered-sealed envelops)	Intention-to-treat (Post-3 mths 87.9%; follow-up 6 mths 87.9%)	Yes	Low
Hedrick et al. (130)	RCT (MDD/ Dysthymia)	Veteran's Affairs primary care clinic, US (4 Firms, 79 clinicians)	354	(1) Referral from unrelated study screening patients; (2) Mailed screening for other study; (3) Prevention survey at clinic check-in; (4) Referral by PCP. Structured interview (PRIME-MD) for MDD/Dysthymia.	Patients currently undergoing specialty mental health treatment. Patients requiring treatment for substance abuse or PTSD. Acute suicidality; psychosis.	Mean age 57.2 Female 4.5% White 79.7%	Firm (NA)	Intention-to-treat (3 mths 92.7%) (9 mths, 92.1%)	Yes	Low
Wells et al.(129).	RCT (MDD/ Dysthymia/ Depressive Symptoms)	Managed care, US (6 organisations, 46 practices, 181 clinicians)	1356	Screened consecutive patients with stem items from CIDI for MDD/ dysthymia (51% with current depressive disorder). 18+	Acute medical emergency, limited English/Spanish, non-insured. For pilot only, bipolar and alcohol abuse.	Mean age 43.7 Female 71% White 57% 43.3% anxiety dis, 50% dep.N=991 follow-up.	Clinics, by random number table, in blocks (NA)	Intention-to-treat (6 mth 85%) (12 mth 83%) (57 mth 73%)	Yes*	Low

Authors	Design (Diagnosis)	Organisation (Practice, Clinicians)	Subject				Study Quality			
			N	Entry	Exclusion	Demographics	Unit of Randomisation (Concealment)	Analysis (Follow-up rates)	Blinding	Risk
Asarnow et al. (127)	RCT (MDD)	Mixed Primary Care sites, US (6 clinics)	418	Screened at clinic, for MDD or dysthymia on stem items from CIDI and CES-D≥16; OR CES-D≥24. 42.6% MDD/Dysthymia Aged 13-21.	Not English speaking, clinician not in study.	Mean age 17.2 Female 78% White 12.7%	Patient, stratified by site and clinician, blocked in pairs by clinician (Independent staff blind to assessment)	Intention-to-treat (follow-up; 6 mths; 82%)	Yes	Low
Rollman et al (133)	RCT (PD/GAD)	Primary care, US (4 practices)	191	Screened consecutive patients using PRIME-MD for anxiety. If positive and not excluded, administered PRIME-MD for DSM PD/GAD. HAM-A≥14 or PDSS≥7. 18-64.	Dementia; psychosis; unstable medical condition; alcohol abuse; language barrier; bipolar disorder; current treatment; plans to leave study practice.	Mean age 44.2, Female 81% White 95%.	Patient; blocked by 25 or 30 (opaque envelopes)	Intention-to-treat (2 mth 71%) (4 mth 67%) (8 mth 65%) (12 mth 75%)	Yes	Low
Roy-Byrne et al.(134)	RCT (PD)	Primary care clinics, US (3 clinics).	232	Referrals from clinicians; screening in waiting room using 2-question test. Administered telephone structured interview for PD. Willing to accept medication and CBT; panic attack in prior week. 18-70.	Limited English; suicidal ideation; terminal illness; psychosis; substance abuse; dementia; pregnancy; current treatment.	Mean age 41.2, Female 58% White 65.5%	Patient; alternating assignment stratified by depression and referral status (independent allocation)	Intention-to-treat (3 mth 77.2%) (6 mth 75.9%) (9 mth 71.1%) (12 mth 77.2%)	Yes	High
Grympa et al. (131)	Non RCT (Depression)	Primary care, HMO, San Diego (1 organisation, 2 clinics, 36 clinicians)	297	NA. Not restricted in age.	NA.	Mean age 61.5 Female 79.2% White NA.	Not relevant.	Completers ("post-study) compared to RCT in Hunkeler et al (below).	No.	High
Hunkeler et al. (132).	RCT (MDD/ Dysthymia)	Mixed Primary Care Sites, San Diego, US (8 organisations, 18 clinics).	1801	Referrals and systematic screening. 2-item screener (PRIME-MD). Eligible given structured interview (SCID) for MDD/Dysthymia. Aged 60+.	Bipolar disorder; psychosis; alcohol abuse; severe cognitive impairment; acute suicide risk; current psychiatric treatment.	Mean age 71.2 Female 65% White 77%	Patient stratified by recruitment method and clinic (random numbers in sealed envelopes)	Intention-to-treat (6 mths; 87.2%) (12 mths-post; 82.3%) (24 mths-follow-up; 76.6%)	Yes	Low

Table 19: Collaborative Interventions – Interventions, Training and Outcomes

Authors	Elements						Medication usage	Outcomes - symptoms	Outcomes - Function	Satisfaction
	Multi-professional Approach	Structured Treatment Plan	Psychological Intervention	Scheduled Follow-up	Enhanced Communication	Training (Manual)				
Katon et al.(128)	Primary care physician, psychologists, psychiatrist. Psychologists working within clinic.	Highly structured depression treatment program.	Solution-focussed cognitive therapy. 4-6 contacts, 2.5-3.5 hours of contact	Psychologist completed telephone contacts at 2, 4, 12 and 24 weeks	Case-by-case psychologist-PCP contact, weekly team meeting with psychologist, handwritten consultation note same day as each visit, copy of relapse prevention plan put in file.	Doctoral trained, experienced therapists. 20 hrs training, weekly supervision by psychiatrist. (patient manual)	At 7 mths; self-report; greater medication use in intervention group compared to TAU.	At 7-mths; response (>50% change) on SCL-20 for MDD; intervention> TAU. For minor depression, intervention=TAU in response.	NA	At 4 mths, greater satisfaction in intervention group.
Araya et al. (102)	GP and SW or Nurse from local clinics	Structured groups; Systematic Monitoring For severe-systematic antidepressants	7 weekly group psychoeducation; x 75 min. Information on depression, treatment, basic cognitive and relapse prevention strategies.	2 booster sessions at weeks 9 and 12, each 75 min. Structured psychological	Health workers communicated with doctors through alert notes and arranging appointments for patients.	12 hrs training; 8 hrs supervision. 4 hr training for GPs (standard patient booklet)	79% vs 34% medication use in stepped care vs TAU.	On HAM-D; Stepped Care<TAU	On SF-36; Stepped Care>TAU (superior) on all subscales.	NA
Hedrick et al. (130)	PCP; clinical psychologist; social workers; psychology technician. Providers notified of diagnosis. All professionals available in liaison model.	Guideline recommendations by collaborative group, stepwise treatment plan by resource intensiveness reviewed at 6, 12 wks.	CBT group led by psychologist or SW (6 sessions); individual session with psychologist or psychiatrist.	SW staff member/student contacted participants on regular basis.	Team met weekly to discuss treatment plan. Team communicated with PCP via electronic progress notes, with tracking system. Psychiatrist contacted PCP when PCP queried treatment plan.	PCP given 3 hrs of training in collaborative care and liaison. (workbook for clients)	Medication part of treatment plan. Prescription higher in intervention group; but adequate medication not.	At 3 mths, using SCL, intervention<Liaison model; At 9 mths; intervention=Liaison model.	At 3 mths, using SDS, intervention<Liaison model; At 9 mths; intervention=Liaison model. At 3 and 9 mths; using SF-36; intervention=Liaison model.	Both groups highly satisfied; no differences between groups.

Authors	Elements						Medication usage	Outcomes - symptoms	Outcomes - Function	Satisfaction
	Multi-professional Approach	Structured Treatment Plan	Psychological Intervention	Scheduled Follow-up	Enhanced Communication	Training (Manual)				
Wells et al.(129).	Physician, nurses (case managers), psychiatrist (meds cond), psychologist (therapy cond)	Guidelines given to staff on treatment, medication, treatment plans	Up to 12 sessions individual or group CBT. In first and second 6 months; QI-therapy received 38%/34% 4+ sessions.	No formal follow-up in therapy, monthly contact in meds condition.	Team meetings and case reviews held by team leaders.	2-day workshop. Training to PCP, nursing supervisor, mental health specialist. Local leaders supervised therapists. (manuals)	At 12 mths, intervention>TAU on medication use, counselling.	At 12-mths, using CES-D cut-point, intervention<TAU on % depressed. At 57-months, using CIDI screening, intervention<TAU on % depressed (due to psychotherapy condition)	At 12 mths, Intervention>TAU on mental health quality of life; Intervention=TAU on physical QoL. At 57 mths, mental health QoL intervention=TAU.	NA
Asarnow et al. (127)	Primary care clinicians, care managers (PhD in mental health or nursing).	Treatment plan developed with primary care physician including CBT or medication	CBT in individual or group, 12 wks and relapse prevention. 32% saw psychotherapy/ counselling in intervention group.	Brief follow up contacts by care manager	Treatment plan developed collaboratively, coordinated care with physician who prescribed medication.	1 day training for CM on CBT. PCP given training and educational materials in QI condition. (manuals)	12.5% QI vs 16.2% TAU on any medication.	On CES-D; Quality Improvement < TAU at 6 mths.	On MHS-12; QI>TAU at 6 mths (superior)	Satisfaction higher in QI group.
Rollman et al (133)	GP, Care Manager (non-psychologists), consultant doctor/psychiatrist	Preference-guided systematic treatment - self-management, pharmacological, referral to specialist. Education	Self-help CBT workbook, with guidance from care manager.	Regular care-manager contact.	Weekly 60-75 minute patient review with Study authors, suggestions to PCP and patient, recommendations passed to PCP.	CMs trained with workbooks; lectures at university; direct supervision of calls; weekly meetings. 1 hr meeting with PCPs and medication suggestions. (workbook)	At 12 mths; intervention=TAU on medication use.	At 12 mths; on PDSS, HAM-A; intervention<TAU (superior). Interaction with diagnosis; superior outcomes for those with PD, PD/GAD but not GAD only.	At 12 mths; on SF-12, mental outcomes intervention>TAU (superior); physical outcomes intervention=TAU.	NA
Roy-Byrne et al.(134)	Primary care physician, psychologist, psychiatrist	Structured CBT, workbook, medication algorithm	6 sessions CBT in 3 months.	6 follow-up booster sessions to monitor, reinforce CBT and check meds.	Weekly meeting with psychiatrist. Coordinated care by behavioural health specialist using telephone, fax, email with PCP	Training given to psychologists. PCP received 1-hr of training on medication. (workbooks)	At 12 mths; intervention=TAU on medication use.	At 12 mths; Remission (no panic attacks; Fear Questionnaire<10) intervention>TAU (superior).	At 12 mths; WHO disability; intervention<TAU (superior). SF-12 mental and physical; intervention=TAU.	NA.

Authors	Elements						Medication usage	Outcomes - symptoms	Outcomes - Function	Satisfaction
	Multi-professional Approach	Structured Treatment Plan	Psychological Intervention	Scheduled Follow-up	Enhanced Communication	Training (Manual)				
Grympa et al. (131)	GP, psychiatrist, depression care manager, medical assistant	Stepped care, treatment plan, education, antidepressant management, PST, depression class.	Variable sessions Problem solving treatment. 46% utilised PST.	Follow up by DCM, tracking system.	As-needed consultation by psychiatrist with DCM. Medication prescribed by GP on advice.	CM trained for study over 4 days; 5 training patients in PST. (manuals)	At 6 mths; for those with >6 mths treatment; Post-study=RCT on medication.	At 6 mths; for those with >6 mths treatment; Post-study=RCT on PHQ-9. Post-study with <10 wks treatment had less improvement than those with >6 mths treatment.	NA	Lower use of PST in Post-study than in RCT.
Hunkeler et al. (132).	GP, psychiatrist and depression care manager (psychologist/ nurse)	Stepped care. Education, treatment algorithm for psychosocial vs. pharmacological treatment, level pharmacological treatment.	6-8 sessions of Problem Solving Therapy in primary care setting, 30% received in 1st year.	Monthly telephone appointments with DCM, tracking system.	Weekly team review by psychiatrist and DCM. Medication prescribed by GP on advice.	CM trained for study over 4 days; 5 training patients in PST. Medication protocol for PCP. (manuals)	At 12 mths; on medication, stepped care>TAU; 73% vs 57.2%.	At post (12 mth) on SCL-20, Stepped Care<TAU. At 24 mth, stepped care<TAU.	At 12 mths; functional impairment; stepped care<TAU (Superior). QoL stepped care>TAU (superior). At 24 mths; functional impairment; stepped care=TAU. QoL stepped care>TAU (superior).	At 12 mths; satisfaction greater in stepped care group.

APPENDIX 7. ADDITIONAL DETAILS REGARDING BETTER OUTCOME PROJECTS

Table 20: Summary of the Interim Reports of the Better Outcomes – ATAPS Programs.

Report	Main Area	Main Findings
1. Pirkis et al. (157)	Models of service delivery, uptake and advantages/disadvantages of pilots.	Round 1 pilots. Operating under a range of models from simple voucher systems to complex brokerage systems, means of retaining allied health professionals (contractual, direct employment), location of allied health (services in GPs' rooms, own rooms or third location). Different models have pros and cons. GPs appreciate the simplicity and efficiency of the voucher system, but feel that it does not promote good interprofessional communication and consumers argue that it means that they are not always referred to the most appropriate provider. Brokerage system more likely to cause confusion among GPs, but they are willing to accept this if advantages to consumers clearly demonstrated. The brokerage system promotes high quality care (improves collaboration, ensures good 'match' between consumer/allied health). Intermediate model – co-location of allied health in GPs' practices – combines simplicity with good opportunities for communication, but reduces consumer choice of allied health. Pilots significant in terms of numbers of GPs, allied health and consumers involved. Appear to be reaching target groups (e.g., consumers on low incomes) and providing appropriate services (e.g., CBT), but lack of consistent reporting. For GPs, advantages included: saving time/cost; location of service delivery; feedback from allied health; upskilling and knowledge improvement. Disadvantages included barriers to education and training; delays in registration; confusion about system; opportunity costs and other risks; and sub-optimal communication. For allied health, advantages included increased referral base; improved relationships with GPs; clinical supervision. Disadvantages included payment anomalies; communication difficulties; and co-location issues. For consumers advantages included access to psychological services; increased satisfaction; and improved outcomes. Difficulties were barriers to attendance and inappropriateness of referrals.
2. Morley et al. (143)	Models of service delivery, levels and characteristics of users and usage, advantages/ disadvantages of Round 1 pilots and supplementary projects.	Models utilised have changed over time to meet the needs of stakeholders. Some projects moving to intermediate complexity where GPs are provided with detailed registries of Allied Health professionals and their skills and competencies. Significant increase in uptake over time, although there are concerns about capping on referral numbers from GPs. Majority of participants of low-income, with education lower than year 12, and experiencing anxiety or depression. Most participants receiving individual CBT, with no copayments necessary. GP report benefits of improved collaboration with allied health, increased referral options, new skills and knowledge in managing mental health, and a structured approach to managing mental health. Consumers benefiting through increased access to mental health services. Barriers for GPs include perceptions of complexity of the service and time demands, confusion about how the service operates, perceived lack of flexibility, referral limits, payment issues and caseload impact. Allied health concerns include lack of decision-making. Consumers have some issues with referral (i.e., who gets referred) and location.
3. Morley et al. (147)	Barriers and benefits associated with retaining allied health, with locations of allied health, and with different referral mechanisms.	Evaluation forum held in September 2004, provided validity for first two reports. Allied health retained through contractual arrangements (e.g., with individual providers or community health agencies) or through direct employment. Allied health provide services generally from their own rooms or GP-practices. Provided support for original referral mechanisms (voucher, brokerage, register) but also a fourth (direct referral) in operation. Forum highlighted pros and cons of various models (e.g., provision through GP-rooms) and highlights need to account for contextual variation so as to best suit local needs.

Report	Main Area	Main Findings
4. Kohn, Morley, Pirkis, Blashki and Burgess (158)	Models of service delivery, levels and characteristics of users and usage, benefits and barriers, lessons learnt.	Round 1 and 2 summary. Increase in utilisation, with 2.5-3.5 fold increase relative to 2nd interim report. Majority of participants low income, experiencing depression or anxiety, and 46% have no previous history of specialist mental-health care. Most sessions individual-based CBT, with an average of 3.6 sessions/consumer. 63% of sessions did not require copayment. Stakeholders satisfied with project. Benefits for GPs included upskilling, improved capacity for quality care, range of referral options, but barriers included education and training requirements, limited referral capacity, suboptimal feedback for allied health, and issues with payment. Benefits for allied health include improved relationships with GPs and increased referral base, but barriers such as frustration at lack of decision-making power, and issues with referral process, remuneration and travel. Some consumers had equity issues related to number and format of sessions. However, there have been improvements since earlier reports with respect to confusion regarding systems, allied health express less difficulties with lack of guaranteed work, and problems with inappropriate referrals less common.
5. Pirkis et al. (144)	Profile of models of service delivery and association with access levels.	Considerable variability across models used: 76% allied health retained under contract; 28% through direct employment and 7% other means. 63% provide services through GP rooms; 63% through own rooms; and 42% from other location. 27% of systems used a voucher system; 24% a brokerage system; 25% a register system and 51% direct referral systems. Many models adopt a combination of approaches. No models appeared to be significantly related to consumer outcomes.
6. Kohn, Morley, Pirkis, Shandley et al. (145)	Change over time of participation by professionals and consumers, experiences of the system; outcomes for consumers.	There has been a dramatic increase in GP participation over the life of the projects (from 417 GPs to 1,266), and number of consumers receiving treatment (from 11.5/day to 46.1/day). The profile of consumers has remained stable over time, with typical participant being female, around 40, with low income, no history of mental health issues and diagnosed with anxiety/depression. Average number of sessions stable at four. While there was an increase over time in use of copayments, levels had subsequently fallen. Benefits for GPs reported in earlier reports remain, but less barriers reported than in earlier projects (e.g., remuneration, confusion over system, lack of feedback from allied health), perhaps due to action by divisions to remove. Allied health report barriers such as inadequate remuneration and travel time, but less difficulty than in earlier pilots. Consumers' issues remain largely with equity in accessing service and restricted level of sessions. While level of report of clinical outcome low (<5%), it is positive in 88% of cases.
7. Morley, Kohn et al. (148)	Rural versus urban models of service delivery, levels and characteristics of users and usage, outcomes for consumers. General rural versus urban issues.	Allied Health in rural areas are more likely to be directly employed, provide services from GPs rooms and receive direct referrals. Proportionally greater uptake of services in rural areas, perhaps reflecting greater service gaps. Differences in socio-demographic and clinical profiles of customers reflect make-up of local population and support needs of GPs. Customer outcomes positive in both localities. Local providers have addressed different hurdles in establishing programs, but responded to them as innovative ways. In rural areas, problems included distance, attracting qualified staff, lack of training and support for GPs, high unemployment and stigma. In urban areas, problems were related to uptake and demand, workforce shortages, and availability and coordination with other services.
8. Morley, Pirkis et al. (146)	Level of consumer outcome and association with model of service delivery.	Projects achieving positive effects of medium magnitude. Models of service delivery did not impact significantly on outcomes, except that direct referral models achieving more positive outcomes. Trends towards employment of allied health by divisions being related to positive outcomes, and for delivery of services by allied health from their own consulting rooms being related to poorer outcomes.
9. Naccarella et al. (159)	Demand-management in Divisions of General Practice (see also Table 21)	Administered survey to ATAPS project officers regarding the use of different demand management strategies aimed at the primary-secondary care interface, and asking which they found most useful. They found that most regions reported that they used, and found useful, centralised administration systems to monitor and enforce the management of demand. The use of limits on referral numbers and restrictive intake criteria were reported as the second and third most useful strategies, though they were less often utilised by regions. The use of additional copayments was both used infrequently and not highlighted as being helpful.

Report	Main Area	Main Findings
10. Flher et al. (149)	Participation by GPs/allied health over time; profile of consumers and care over time, changes in the uptake of services following the introduction of the Better Access program; outcomes for consumers?	Increase in GP participation from 449 GP referring to 135 allied health (July-Sep 2003); to 2,451 GPs to 1,225 allied health (July-Sep 2006). Profile of consumers has remained fairly consistent; consumers typically female, around 40, on low incomes, no previous history of mental health care, and have been diagnosed with depression or anxiety disorders. The profile of care has not changed over time in either urban or rural areas, with majority being individual, 46-60 minutes, and consisting of CBT. Only notable fluctuation was rise and subsequent fall of use of copayment. While Better Access has been well utilised, there has not been a commensurate decrease in the number of sessions provided through the ATAPS component, except for a small early drop in the number of sessions provided in urban projects, which has now levelled out. In outcomes, the projects were shown to be achieving positive outcomes of large or medium magnitude.

Table 21: Divisions of GP utilisation of Demand Management Strategies in Better Outcomes ATAPS program (based on 159).

STRATEGY	WAYS IN WHICH STRATEGY MIGHT BE OPERATIONALISED	Regions Utilising (%)	Most useful (%)
Restrict intake criteria	Develop specific inclusion/exclusion guidelines (e.g., target patients who have particular diagnoses, are on low incomes, and/or have not accessed or are unable to access other mental health services)	50	13
Monitor and limit referrals	Track and cap number of referrals per GP per period (e.g., allocate set number of vouchers per GP per month/quarter) Track and redistribute unused referrals (e.g., recall and reallocate unused or partially used vouchers)	61	29
Prioritise referrals	Establish and maintain a waiting list or a triage system	41	6
Optimise session delivery	Encourage group sessions (e.g., offer group session referral options to GPs, provide incentives for allied health professionals to provide group sessions, and/or encourage patients to attend groups sessions) Limit number of sessions available to patients Monitor session attendance and reallocate unused sessions	53	7
Seek co-payments	Establish and maintain a co-payment system	37	0
Inform/train GPs	Provide training to equip GPs with skills to manage some patients themselves. Identify and promote other referral pathways to GPs Inform GPs of the need to limit services Promote GP provision of psychological support	82	6
Match allied health workforce to demand	Ensure appropriate numbers and time fractions of allied health professionals to whom referrals can be made	50	3
Put in place systems and/or administrative procedures	Centralise administration to implement and monitor and enforce demand management Strategies	76	24
Encourage partnerships/ collaboration	Encourage GPs and allied health professionals to monitor referral levels together Encourage collaboration of professional groups	55	6
Develop strategic funding arrangements	Review/monitor overall expenditure (e.g., introduce quarterly billing system) Allocate services by geographical region Develop demand management-specific formulae	43	6

Note: Regions can endorse use of multiple strategies (adds to >100%), but can only report one strategy as most useful.

APPENDIX 8. ADDITIONAL DETAILS REGARDING COST-EFFECTIVENESS OF PSYCHOLOGICAL TREATMENTS

Table 22: Cost-effectiveness of Allied Health Provision of Psychological Treatments

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
Antonuccio, Thomas et al, (1997)(106)	Unipolar depression (using several studies)	CBT (15 sessions with unspecified professional + 5 booster sessions) and group CBT	Pharmacotherapy (prozac)	Modeled Not really modeled to a particular setting (especially NOT PC) – stated aim is to do with managed care in US.	Direct pat costs (inc HC provider, medication, lost wages, travel costs, co-morbidity costs. Indirect costs (multiplier effect, reduced taxes, reduced community service work). Indirect costs (lost productivity, multiplier effect, reduced taxes, lost income due to suicide). Outcomes not modeled (but come in via probability of success)	CBT cheaper than drugs (+33%) and combination (+23%)	3
Bower, Byford et al. 2000 (117)	Depression (with and without anxiety as a co-morbidity)	CBT and non-directive counseling by therapists (up to 12 sessions)	Usual GP care	Prospective randomised trial UK study - relatively transferable to Aust	Costs: Health care services (primary and secondary services, drugs and private health services. Non-treatment costs included travel and childcare. Lost production due to lost work time through illness. Outcomes: BDI and EQ 5D	Both psychotherapies reduced depressive symptoms with no diff between the 2 (as at 4 months) However by 12 months all groups had equivalent outcomes. No differences on the EuroQoL were observed There were no significant differences between the costs at 4 or 12 months	8
Browne, Steiner et al. 2002 (80)	Dysthymia disorder (DSM-IV) – screened in PC (using the UN-CIDI) and then if screened positive were formally assessed using the SCID-P	Setraline alone or interpersonal therapy (by 'counsellors') (time limited therapy of 12 sessions [with an average of 10 attended]) alone or Combination of both	All three treatments were compared to each other – NO control group	Single blind RCT 6 month and 2 year f'up Canada specifically in primary care setting.	Costs: Therapist time, drug costs, primary care (not sure how defined), emergency room, specialists, hospitalisation, lab services. Plus OOP for meds and services, and production losses (time off work, cash transfer effects of illness. Outcomes: Montgomery Asberg Primary measure: Depression Rating Scale. Secondary measures Social Adjustment Scale, McMaster Family Asse4ssment device, CES-D and VAS to also measure depression	At 6 months, significant differences observed for all combinations (compared to baseline however at 2 years all 3 Treatment effective but setraline or combination more effective than IPT alone. No diffs between groups on QoL (SAS scale) There was also a sig difference in costs – with IPT alone having the lowest costs – combination plus drug alone showed no diffs. Unfortunately no incremental analysis was undertaken	8

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
(Chisholm, Sanderson et al. 2004 (118)	Depression (not differentiated by co-morbidities .) – ICD with dysthymia excluded	Older anti-depressant; newer antidepressants; brief psychotherapy (including CBT and problem solving); older antidepressant plus brief psychotherapy; newer anti-depressants plus brief psychotherapy; proactive collaborative care with older antidepressants; and, proactive collaborative care w newer antidepressants. All interventions modeled for 10 years.; ** not sure what proactive care is	The null (natural course of depression). Plus incremental analysis of the different Treatment options	Modeled using WHO-Choice Generalised Cost-Effectiveness Analysis 4 episub-regions of the world. Includes Australia as part of the Western pacific A cluster (with Japan).	Costs: individual (including drug and therapy costs (6-8 sessions); primary care (3-6 visits) case management (4-6 contacts), outpatient care and inpatient care.; and programme level (including provisions for training GPs and case managers + central admin Outcomes: :DALYs modeled from published studies using popmed (Markov model)	Proactive collaborative care strategies had the best population wide health gain. Most C/E was pharmacotherapy with older anti-depressants. Proactive collaborative care with older antidepressants was the most C/E combined care. For the region Aust falls in adding psychotherapy to existing drug regimes resulted in acceptable C/E ratios – though adding 'proactive care' was more CE that psychotherapy.	10
Croghan et al (1999) (135)	Depression	Combining psychotherapy with drug care in order to increase likelihood of therapeutic guideline adherence	Current practice (for these patients enrolled	Quasi-experimental retro design (6 months prior Treatment and 12 months post Treatment) USA	Costs: Data from insurance claims forms – drugs and therapy costs Outcomes: continuity of antidepressant meds	Patients who received secondary specialist care more likely to maintain Treatment	0
Gould, Otto et al. 1995	Panic	CBT (psychologist) + drug Treatment	Compared to each other	Meta-analysis USA	Costs- psychology consults Outcomes-effect size	CBT as effective than drugs and group CBT though was cheaper	1

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
Haby, Tonge et al. 2004 (112)	Major depression in children and adolescents (using DSM-IV criteria)	CBT (defined as 12 sessions) by different types of professionals and SSRIs	Current Australian practice (people accessing services who do not receive effective treatments	Modeled using best available evidence Australia – GP referral to others	Costs: Health sector (drugs, therapist, GPs Outcomes: DALY (modeled from existing literature and the NSMHWB)	CBT by a publicly financed psychologist are the most C/E – SSRIs and other therapists providing CBT (public and private psychiatrists as well as private psychologists) all fall below the threshold of $50,000/DALY	10
Heuzenroeder, Donnelly et al. 2004 (113) 8	Generalised anxiety disorder and panic disorder (using DSM-IV criteria)	CBT and SNRIs	Current Australian practice (people accessing services who do not receive effective treatments	Modeled using best available evidence Australia – GP referral to others	Costs: Health sector (drugs, therapist, GPs and OOP) Outcomes: DALY (modeled from existing literature and the NSMHWB)	CBT by a publicly financed psychologist are the most C/E – CBT delivered by various therapists are all more CE than pharmacotherapy.	10
Issakidis, Sanderson et al. 2004 (114)	Anxiety disorders differentiated by severity Study looked @ c/E of current care and optimal care	Mild anx: 10% via self-help, 60% CBT and remainder drugs. Mod-severe: CBT mainly (70%) – with a proportion also using drugs. The remaining 30% would be Treatment with meds as a 1st line therapy-managed by a GP	Current Australian practice and the null	Modeled using best available evidence Australia	Costs: Govt and health service perspective (including medical, pharmaceutical and self-help materials) Outcomes: YLD (as in the DALY)	All modeled interventions appear cost-effective – finally if we swapped from current care to optimal care the costs would remain roughly similar but the health gains would be markedly increased (to <$20,000/DALY averted	10
Kaltenthaler, Brazier et al. 2006 (107)	anxiety, depression, phobias, panic and obsessive-compulsive behaviour (OCD)	Computerised CBT (4 different products considered) – HTA review	Treatment as usual	Modeled (based on sponsor data) UK – National Health Service	Outcome – depression treated (classified into minimal, mild, moderate and severe based on the BDI scores from the trials (data submitted by sponsors) Costs: Intervention including license fees, computer hardware, screening, clinical support, capital overheads + other costs from personal communication from McCrone	Beating the Blues - £1801perQALY pounds and 86.8% (threshold of £30,000 per QALY), for Cope £7139 and 62.6% and for Overcoming Depression £5391 and 54.4%. For phobia/panic software, the ICER/QALY of FF over relaxation was £2380. Its position compared with TCBT is less clear. When modeling OCD packages, the CE was highly influenced by the assumptions made around licensing	10

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
King, Sibbald et al. 2000 (120)	464 subjects with either depression or mixed depression with anxiety (scored 14+ on the BDI)	*Non-directive counseling (provided by counselors) *CBT (provided by clinical psychologists) Both types of therapy had to be provided over 6-12 sessions	Usual GP care – discussions with patients and prescriptions of medication (GPs asked not to refer to specialists for at least 4 months (preferably 12)	RCT – 4 and 12 month f'up (not total) however included provisions for patient preferences 24 general practices in the UK	Costs: Health professional consults, medication and time off work. Health records (recording service utilisation) from each of the practices were also assessed for 12 months prior to study entry and Outcomes: BDI, Clinical Interview Schedule (ICD-10 Diagnosis), Brief symptom Inventory, modified social adjustment Scale, Satisfaction questionnaire, EuroQoL	At 4 months both psych therapies had reduced depressive symptoms significantly (a clinically sig difference). These differences were not observed in other measures of outcome. By 12 months all differences had disappeared (all groups had improved but the GP group had improved the most (not between this time period GPs could refer to specialists). At 12 months the non-directive group was sig more satisfied than the others No sig differences in costs were found. Overall conclusion was that psych therapy more C/E in the short-term only.	9
Lave, Frank et al. 1998 (110)	Major Depression (n=276)	*Pharmacotherapy (nortriptyline hydrochloride) – administered by GPs and internists following a strict schedule with designated visit times . *Interpersonal psychotherapy – delivered by a psychiatrist or psychologist including 16 weekly sessions followed by 4 monthly continuation sessions	Usual care – GPs told pat has depression only.	RCT – with up to 12 months follow-up USA	Costs: Trial costs of interventions, health service use (including physician visits,, prescriptions, emergency department and hospitalisations – via administrative data sets, other services by outside providers via questionnaire. Indirect costs were also included transportation and time costs Outcomes: depression free days (measured by the HAM-D), BDI and quality adjusted days (using a conversion methodology from previous research	Pharmacotherapy pats did slightly better than those assigned to interpersonal psychotherapy (of both economic costs and quality-of-life outcomes). Both were more effective than usual care, cost more. The ICER for pharmacotherapy relative to usual care ranges from US$12.66 to $16.87 which translates to direct cost per quality-adjusted year gained from $11270 to $19510	8

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
McCrone, Knapp et al. 2004 (108)	Anxiety and depression (n=274)	Computer delivered CBT – described in the paper	Usual care – including full range of Treatment available to the GP	RCT – various f'up points up to 12 months General practices in England	Costs: mental health care – including psychiatrists, psychologists, CMHN, counselors and other therapists) primary care staff (GPS, practice nurses, district nurses and health visitors) hospital use (including o/p care, day surgery and ED), home help, meds, other services (e.g. chiropractors, physiotherapists and dieticians. Lost productivity also measured Outcomes: BDI, BAI, Work and Social Adjustment Scale – depression free days using the BDI, estimations method based on previous literature (same method as Lave) was used to estimate QALYs	Main eco results presented as net benefit (where the clinical outcome is multiplied by some shadow-price "λ". Regarding costs the CBT group was a bit higher but this was NS after controlling for trial based costs. Though the CBT group had significantly lower prod costs. The CBT group had sig better outcomes on the key measures. The QALY gains were however quite small. Therefore intervention was more expensive but more effective compared to usual practice	10
Mihalopoulos, Kiropoulos et al. 200 (59)	Depression and anxiety	Panic online (internet based therapy for panic disorder) supported by either a GP or a psychologist and PEP (GP training in CBT)	Usual care in PC	Modeled and Threshold analysis Australia	Costs: Health sector (derived from published literature Outcomes: Modeled DALYs using interpolation	PEP is likely to be quite C/E – though evidence is based on other published trials. PEP type interventions are also likely to be cost-effective even with moderate effect sizes (in the vicinity of 0.1)	9
Revicki, Siddique et al. 2005 (121)	Major depression in 267 low income minority member	*Pharmacotherapy – managed by primary care nurses supervised by psychiatrists *CBT – delivered by psychotherapists supervised by a clinical psychologist	Community referral – educated on depression and then referred to community providers (don't know who these providers are)	RCT (12 months f'up) USA – recruitment was from PC but interventions were not necessarily PC based	Costs: intervention costs, medical costs, hospitalisations, ED, outpatient visits to physicians and other health sector providers and all meds – only direct med costs included as the study adopted a largely payer perspective Outcomes: Depression free days measured by the HAM-D (DFD were also used to estimate QALYs, SF-36,	Both intervention groups had significantly lower adjusted mean Hammers (and therefore DFDs) scores. The cost per additional dep -free day was USD 24.65 for pharmacotherapy and USD 27.04 for CBT compared with community referral. Small initial diffs on the SF-36 not maintained @ f'up.	8

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
Richards, Barkham et al. 2003 (109)	139 people with mild-moderate anxiety and depression in PC (GHQ used to detect caseness)	Cognitive behavioural based self-help package facilitated by practice nurses including 3 appointments	Usual care by GPs	RCT (up to 3 month follow-up) PC teams in the UK	Costs: GPs, practice nurses, medication, counselling, mental health worker, outpatient psychologist, outpatient psychiatrist, self-help (booklet) Outcomes: CORE-OM, EuroQol-5D, consultation satisfaction questionnaire	Patients Treatment with CBT attained similar clinical outcomes for similar costs and were more satisfied than patients Treatment in usual care. On-treatment analysis showed patients CBT were more likely to be below clinical threshold at 1 month. This difference was less well marked at 3 months (OR = 1.36, 95% CI = 0.52 to 3.56).	6
Sanderson, Andrews et al. 2003) (115)	Depression, dysthymia and bipolar disorder (from the NSMHWB)	*Current mental health services in Aust (derived from the NSMHWB) *Evidence based medicine (medication, psychological therapies –CBT, family therapy, specific counselling [including problem solving] and manualised self-help	Do nothing	Modeled Australia	Costs: Outcome: YLD (modeled by best available literature)	Current direct mental health-related health averted just under 30,000 YLDs giving a cost-effectiveness ratio of 20,633 dollars per YLD. Outcome could be increased by nearly 50% at similar cost with implementation of an evidence-based package of optimal treatment, halving the cost-effectiveness ratio to 10,737 dollars per YLD.	10

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
Schoenbaum, Unützer et al. 2001 (111)	1356 pats with Depression (measured by telephone CIDI)	2 quality improvement (QI) interventions QI meds – nurse specialists trained to support med adherence through monthly telephone contacts or visits QI therapy- practice therapists were trained to provide CBT therapy. Though pats in all trial arms could have therapy or meds however the extra resources in each of the trial arms made it easier to get the appropriate med or therapy	Usual care	Group level RCT (where randomisation occurred at the practice level). F'up up to 2 years 46 PC clinics in 6 Managed care organisations	Costs: intervention costs including training,, ED, medical and mental health care visits, meds, (no hospital costs included) employment, time costs (separately measured) Outcomes :SF-12, QALYs (using the SF-12), days with depression burden	Compared to usual care, average health care costs increased $419 in QI-meds and $485 in QI-therapy. Patients had 25 and 47 fewer days with depression burden and were employed 17.9 and 20.9 more days during the study period. QI-therapy may have a better overall value in terms of cost per QALY than QI-meds, therefore value to improving access to structured psychotherapy for depressed primary care patients.	7

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
Scott and Freeman 1992 (69)	Depression meeting DSM-III criteria on a structured clinical interview (n=121)	Amitryptiline prescribed by a psychiatrist (seen weekly for first 2 weeks and then fortnightly or monthly as required), CBT by a clinical psychologist (number of sessions not specified except that they were weekly to start with but sessions lasted 50 minutes), case work by a social worker (sessions numbers not specified but weekly to start with)	Routine care by a GP (could include referral to another agency)	RCT with 16 weeks of follow-up (ratings at 0, 4 and 16 weeks) 14 UK primary care practices	Standard observer rating of depression (HAM-D) at outset and after four and 16 weeks. Numbers of patients recovered at four and 16 weeks. Structured evaluation of treatment by patients at 16 weeks. Costs: Total length and cost of therapist contact plus drug costs only – no stated perspective.	Marked improvement in depressive symptoms occurred in all treatment groups over 16 weeks. Any clinical advantages of specialist treatments over routine general practitioner care were small, but specialist treatment involved at least four times as much therapist contact and cost at least twice as much as routine general practitioner care. Psychological treatments, especially social work counselling, were most positively evaluated by patients.	6
Shapiro, Sank et al. 1982 (122)	44 outpatient subjects enrolled in a HMO diagnosed with anxiety or depression	CBT group Individual CBT administered by a mental health specialist	Traditional process-orientated interpersonal group.	RCT pre and post Treatment (average of 24 days) USA - HMO	Costs: Only of the interventions – very roughly calculated Outcomes: BDI, Stait-Trait Anxiety, Adult self expression scale	All three experimental groups improved and no diffs in outcome found Group CBT cheaper than individual	2
Vos, Corry et al. 2005 (123)	Depression – from NSMHWB	Bibliotherapy CBT (individual and group delivered by psychologists and psychiatrists) Pharmacotherapy	Usual care (from NSMHWB) – largely non-evidence based medicine (EBM) options (i.e. transferring current people not receiving EBM to EBM options)	Modeled Australia	Costs: health sector (medical - GPs and specialists, psychologists, meds, OOP) all modeled from a private and public sector provision perspective Outcomes: DALYs (using effect size translations from previous literature	All interventions for MD have favourable ICERs under Australian health service conditions. Bibliotherapy, group CBT, individual CBT by a psychologist on a public salary and tricyclic antidepressants are very cost-effective, falling below 10,000 Australian dollars per Maintenance Treatment with SSRIs is the most expensive option (ranging from $17,000 - 20,000 per DALY).	10

Study	Disorder (patient description)	Intervention	Comparator	Study Type and setting	Costs and Outcomes	Results	Q[1]
Katon, Schoenbaum et al. 2005 (138)	Depression and dysthymic disorder (DSM – IV) in 60+ year olds	Improving mood promoting Access to Collaborative Treatment (IMPACT). 1 year stepped collaborative plan including either a psychologist or nurse supporting the PC physician. Treatment involved either an anti-depressant or problem solving Treatment	Usual primary care were the physician was notified of the diagnosis and could then offer usual care which included both antidepressant medication and/or supportive counselling	RCT with added EE – up to 2 year F'up 18 primary care clinic in USA	Costs: Payer perspective of outpatient costs including meds, specialty mental health care (PC and specialists, lab tests, emergency dept and the cost of the intervention (salary + OH). Inpatient costs were also included Outcomes: Depression free days (measured by the 20 item Hopkins Symptom checklist) and QALYs – using a rudimentary method of an increase in weights of between 0.2-0.4 for depression remission.	Incremental outpatient cost per QALY US$2,519. Bootstrapping suggested that in 25% of iterations the intervention is dominant	5
Katon, Russo et al. 2006 (136)	Panic Disorder (DSM-IV) – N=232	CBT (up to 6 sessions modified for the PC setting) and up to 6 phone calls by a mental health specialist and pharmacotherapy (usually SSRIs) usually managed by the PC physician	Usual primary care could include medication and/or referral to a mental health professional	RCT – 12 month f'up 6 PC clinics in USA	Costs: Outpatient costs – payer perspective including code for psychotherapy; mental health, primary care and emergency room visits and hospitalisation plus medications Outcomes: Anxiety free days (measured by the anxiety severity index,) depression also measured by the Center for epidemiological survey depression scale, QALYs measured by interpolation from previous studies which used the SF-12 Brazier weights	Intervention sig more effective – incremental analysis shows US$14,158-$24,776 per QALY	9
Von Korff, Katon et al. 1998 (137)	Depressive illness 1 RCT 217 2 RCT 153. Diagnosed by IDS using DSM-IIIR	Collaborative care – brief cognitive behavioural therapy and enhanced patient education – provided mainly by psychologists	Usual care – not sure exactly what this consists of	2 RCTs 1) about enhanced management of pharmacotherapy and brief psychoeducation 2)collaborative care F'up – 12 months USA	Costs: medical, psychology, meds, ambulatory care (GP visits for things other than depression, medical specialty, lad and radiology,, emergency room, hospital and ancillary services such as physical therapy Outcomes: % of patients achieving a reduction of n50% on the SCL-90 4 months after randomisation	Collaborative Care increased the costs. There was a modest cost offset due to reduced use of specialty mental health services, but costs of ambulatory medical care services did not differ b/w the intervention and cont groups. For major dep there was a modest increase in cost-effectiveness (due to lower costs for CC cf. UC. For pats with minor dep CC was more costly (therefore less C/E).	9

APPENDIX 9. REVIEWS FOR ECONOMICS ARTICLES

1. Barrett et al. (160) – A systematic review of published economic evaluations of interventions for depression. Fifty-eight papers met the criteria for inclusion
2. Bower et al. (161) – A systematic review of self-help treatments for anxiety and depression in primary care.
3. Bower et al. (162) – A Cochrane review.
4. Bower et al. (163) – A meta-analysis on costs from clinical trials
5. Gould et al. (119) – A meta-analysis of treatment of outcome for panic disorder
6. Hunsley (164) – A review of cost issues of psychological interventions (not a systematic review) – aim of paper was to acquaint psychologists with costing issues.
7. Kalenthaler et al. (107) – A HTA review of computerised CBT for anxiety – 1 economic evaluation cited (McCrone et al., 2004)
8. Myhr and Payne (165) – A review regarding the cost-effectiveness of CBT for the treatment of mental disorders (not necessarily in a primary care setting).
9. Otto et al. (166) – A review of CBT versus pharmacotherapy for panic disorder.
10. Schulberg et al. (167) – A review of the use of psychotherapy to treat depression in primary care practice – also reviews the economic evaluation literature available up to the time of the review.
11. Vos et al. (116) – Looks at all ACE-MH studies and provides advice to policy advisors

APPENDIX 10. QUALITY RATING PROFORMA FOR ECONOMIC EVALUATION ARTICLES

Drummond criteria checklist: Study:_____

1.	**Was a well-defined question posed in answerable form?** 1.1. Did the study examine both costs and effects of the service(s) or programme(s)? 1.2. Did the study involve a comparison of alternatives? 1.3. Was a viewpoint for the analysis stated and was the study placed in any particular decision making context? 1. YES ☐ 2. NO ☐ 3. Partially ☐ 4. Can't tell ☐
2.	**Was a comprehensive description of the competing alternatives given (i.e. can you tell who did that to whom, where, and how often)?** 2.1. Were any important alternative omitted? 2.2. Was (Should) a do-nothing alternative (be) considered? 1. YES ☐ 2. NO ☐ 3. Partially ☐ 4. Can't tell ☐
3.	**Was the effectiveness of the programmes or service established?** 3.1. Was this done through a randomised, controlled clinical trial? If so, did the trial protocol reflect what would happen in regular practice? 3.2. Was effectiveness established through an overview of clinical studies? 3.3. Were observational data or assumptions used to establish effectiveness? If so, what are the potential biases in results? 1. YES ☐ 2. NO ☐ 3. Partially ☐ 4. Can't tell ☐
4.	**Were all the important and relevant costs and consequences for each alternative method identified?** 4.1 Was the range wide enough for the research question at hand? 4.2 Did it cover all relevant viewpoints? 4.3 Were capital costs, as well as operating costs, included? 1. YES ☐ 2. NO ☐ 3. Partially ☐ 4. Can't tell ☐
5.	**Were costs and consequences measured accurately in appropriate physical units?** 5.1 Were any of the identified items omitted from measurement? If so, does this mean that they carried no weight in the subsequent analysis? 5.2 Were there any special circumstances that made measurement difficult? 1. YES ☐ 2. NO ☐ 3. Partially ☐ 4. Can't tell ☐
6.	**Were any costs and consequences valued credibly?** 6.1 Were the resources of all values clearly identified? 6.2 Were market values employed for changes involving resources gained or depleted? 6.3 Were market values absent, or market values did not reflect actual values, were adjustments made to approximate market values? 6.4 Was the valuation of consequences appropriate for the question posed? 1. YES ☐ 2. NO ☐ 3. Partially ☐ 4. Can't tell ☐

7.	**Were costs and consequences adjusted for differential timing?** 1. YES ☐ 2. NO ☐ 3. Partially ☐ 4. Can't tell ☐
8.	**Was an incremental analysis of costs and consequences of alternatives performed?** 1. YES ☐ 2. NO ☐ 3. Partially ☐ 4. Can't tell ☐
9.	**Was allowance made for uncertainty in the estimates of costs and consequences?** 9.1 If data on costs or consequences were stochastic, were appropriate statistical analysis is performed? 9.2 If a sensitivity analysis was employed, was justification provided for the ranges of values (for key study parameters)? 1. YES ☐ 2. NO ☐ 3. Partially ☐ 4. Can't tell ☐
10.	**Did the presentation and discussion of study results include all issues of concern to users?** 10.1 Were the conclusions of the analysis based on some overall index or ratio of costs to consequences? If so, was the index interpreted intelligently or in a mechanistic fashion? 10.2 Did the study results compared with those of others who have investigated the same question? If so, were allowances made for potential differences in study methodology? 10.3 Did the study discuss the generalisability of the results to other settings and patient/client groups? 10.5 Did the study discuss issues of implementation, such as the feasibility of adopting the 'preferred' programme given existing financial or other constraints, and whether any freed resources could be redeployed to other worthwhile programmes? 1. YES ☐ 2. NO ☐ 3. Partially ☐ 4. Can't tell ☐