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**WHAT IS THE PLACE OF GENERALISM IN MENTAL  
HEALTH CARE IN AUSTRALIA?: A SYSTEMATIC  
REVIEW OF THE LITERATURE**

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## ACRONYMS

ABS	Australian Bureau of Statistics
Additional MH Education	Additional education places, scholarships and clinical training in mental health
AGPN	Australian General Practice Network
APS	Australian Psychological Society
AHWAC	Australian Health Workforce Advisory Committee
AIHW	Australian Institute of Health and Welfare
ATAPS	Access to Allied Psychological Services
BEACH	Bettering the Evaluation and Care of Health
Better Access	Better Access to Psychiatrists, Psychologists and GPs (MBS)
Better Outcomes	Better Outcomes in Mental Health Care
BOiMH	Better Outcomes in Mental Health
CBT	Cognitive Behavioural Therapy
COAG	Council of Australian Governments
CRUfAD	Clinical Research Unit for Anxiety and Depression
DivGP	Divisions of General Practice Program
DSM	Diagnostic and Statistical Manual of Mental Disorders
MAHS	More Allied Health Services
MHN	Mental Health Nurse
MHNIP	Mental Health Nurse Incentive Program
MHSA	Mental Health Services in Australia
MHSRRAP	Mental Health Services in Rural and Remote Areas Program
MHTC	Mental health in tertiary curricula
NAP	National Action Plan
NGO	Non Governmental Organisation
NGP-TSI	Nursing in General Practice Training and Support Initiative
PST	Problem Solving Therapy
SM	Strengthening Medicare
Tele-Counsel	Telephone Counselling, Self Help and Web-based Support Programs

ACKNOWLEDGMENT .....	3
ACRONYMS .....	5
BACKGROUND AND RATIONALE.....	8
RESEARCH QUESTIONS .....	11
METHOD .....	12
CONSULTATIONS.....	12
THE SEARCH STRATEGY.....	12
SELECTION OF SYSTEMATIC REVIEWS.....	12
GREY LITERATURE.....	13
SCOPE OF STUDY .....	13
QUALITY ASSESSMENT .....	15
DATA EXTRACTION.....	16
ANALYSIS FRAMEWORK .....	16
OVERVIEW OF INCLUDED STUDIES .....	20
RESULTS .....	23
QUESTION 1.....	23
QUESTION 2.....	27
QUESTION 3.....	34
QUESTION 4.....	37
DISCUSSION.....	41
KEY FINDINGS.....	41
POLICY OPTIONS.....	43
LIMITATIONS OF THE EVIDENCE .....	44
REFERENCES .....	45
REFERENCES TO AUSTRALIAN STUDIES.....	45
REFERENCES TO THE AUSTRALIAN STUDIES.....	48
REFERENCES TO SYSTEMATIC REVIEWS .....	50
GREY LITERATURE REFERENCES.....	51
IN-TEXT REFERENCES.....	52
APPENDICES.....	54
APPENDIX A: AUSTRALIAN WORKFORCE STATISTICS.....	54
APPENDIX B: KEY PRIMARY HEALTH CARE AND WORKFORCE POLICIES .....	56
APPENDIX C: CHANGES TO THE RESEARCH QUESTIONS .....	58
APPENDIX D: SEARCH STRATEGIES .....	59
APPENDIX E: REASONS FOR EXCLUSION .....	62
APPENDIX F: CONSULTATION QUESTIONS .....	63
APPENDIX G: QUALITY ASSESSMENT TOOL .....	64
APPENDIX H: COMPONENTS OF THE FRAMEWORK.....	68
APPENDIX I: CATEGORIES AND CODING .....	69
APPENDIX J: GREY LITERATURE .....	71
APPENDIX K: SUPPORTS IN THE AUSTRALIAN STUDIES .....	81
APPENDIX L: DESCRIPTION OF INCLUDED STUDIES .....	82
APPENDIX M: ANALYSES OF COMPONENTS OF THE CONFIGURATIONS OF CARE .....	93
APPENDIX N: SUPPORTS AND WHO PROVIDES THEM.....	96
APPENDIX O: CONFIGURATIONS OF CARE BY PROVIDER- DETAILS.....	97

## List of Tables

Table 1	Inclusion Criteria
Table 2	Results of the quality checks of the Q2 international effectiveness studies
Table 3	Characteristics of the included studies
Table 4	Elements of care provided by primary care providers in Australia based on Grey Literature and Key Informants
Table 5	Management of mental health encounters in General Practice
Table 6	Combinations of providers and conditions in the published Australian studies
Table 7	Examples of supports given to Australian generalist providers
Table 8	Configurations of care by element of care
Table 9	Selected providers of elements of care by outcomes alone and in combination
Table 10	General practitioners, elements of care and outcomes
Table 11	Primary care nurses, elements of care and outcomes
Table 12	Counsellors, Social Workers, Non-Clinical Psychologists, Elements of Care and Outcomes
Table 13	Mental Health Nurses, Elements of Care and Outcomes
Table 14	Summary table of configurations of care by provider
Table 15	What are the key current workforce and primary care initiatives in Australia?

## List of Figures

Figure 1	Search Results and Process of Selection for Primary Studies
Figure 2	Model of the contribution of 'configurations of care' to the policy arena
Figure 3	Analytical framework based on the 'configurations of care'

## BACKGROUND AND RATIONALE

Mental health disorders are the leading cause of the disability burden in Australia and account for approximately 27% of the total years lost to disability. These disorders affect approximately one in five adults during their lifetime and 10-15% of young people in any one year. The prevalence of these disorders is rising and they have significant personal, social and economic costs [169, 171].

Australian mental health services are provided by GPs, specialists, practice nurses and allied health staff who are funded nationally and specialist staff who are funded by the States. Services provided by allied health staff and funded, or part funded, publicly are part of government initiatives and sometimes these initiatives define the item of service provided, the number of services and the reimbursement. Community health services undertake prevention and health promotion activities and generalist counselling services as part of early intervention approaches. NGOs are an increasingly important source of information, support, advocacy and sometimes counselling for people with mental health conditions and include Lifeline (counselling and information services), Beyond Blue (national depression initiative), ARAFMI (Association of Relatives and Friends of the Mentally Ill), state-government funded mental health NGOs (life skills, social support, counselling, health promotion) and various web services provided by entities such as the Black Dog Institute and the Clinical Research Unit for Anxiety and Depression (CRUFAD) among many others. State governments are developing free 24 hour mental health telephone services which provide information and advice to patients, their families and non-mental health providers.

In Australia the term generalist refers to GPs, practice and other primary care nurses, non-clinical psychologists, social workers, counsellors and occupational therapists. Mental health nurses, psychiatrists, and clinical psychologists are regarded as specialists, who work independently but provide supports to generalists or work in ongoing relationships with generalists. Generalist providers treat patients for a wide range of health conditions. They are usually based within community settings and may:

- provide a first point of contact with the health system and operate as a gateway to other parts of the health system through referrals
- provide holistic and continuing care to patients and their families/carers over time and across episodes of care and/or
- coordinate care for patients receiving care from several different providers [170]

Although not a new role, in recent years attempts have been made to promote the role of the generalist with special skills in a particular area. This is an attempt to combine some of the advantages of generalism and specialism, and to provide a source of support for other generalists from within their own ranks [176]. In a major Australian review of the best evidence for mental health care for particular conditions GPs and other generalist providers are key providers of care for almost all conditions [173]. In rural and remote areas generalists care for a larger proportion of people with severe and persistent conditions with varying levels and types of specialist support (e.g. tele-psychiatry, visiting specialist programs etc).

In the last 30 years in Australia as in most developed countries, many specialist mental hospitals have been closed and a policy of mainstreaming has been adopted in which patients are treated in general acute care hospitals or in the community. This has extended the role of some generalists in the assessment, diagnosis and ongoing management of patients with mental health conditions. State and federal governments have endorsed the Council of Australian Governments (COAG) recommendations of integrating generalist and specialist health services to achieve early and equitable access to quality services.



As a result a number of initiatives have been implemented and designed to support the re-orientation of mental health care into the primary health care sector which include:

- Better Outcomes in Mental Health Care (BOiMHC) initiative
- Better Access initiative
- More Allied Health Services (MAHS) initiative
- Access to Allied Health Providers initiative

The Better Outcomes in Mental Health Care initiative provides a case planning incentive for GPs, the 3 Step Mental Health Process. This includes an Assessment (Step 1), the preparation of a Mental Health Care Plan (Step 2), and a Review (Step 3). In the financial year July 2006 to June 2007 there were 299,803 claims made for the GP Mental Health Care Plan item (1,414 per 100,000 population)

[[http://www.medicareaustralia.gov.au/statistics/dyn\\_mbs/forms/mbsgtab4.shtml](http://www.medicareaustralia.gov.au/statistics/dyn_mbs/forms/mbsgtab4.shtml)].

Under the Better Access initiative psychiatrists can be reimbursed for taking part in case conferences with GPs and others and providing advice to GPs through the GP Psychiatrist Support service [<http://www.adgp.com.au/site/index.cfm?display=15577>].

The MAHS initiative provides funding to Rural Divisions of General Practice to improve access to allied health services including Psychologists, Social Workers, Specialist Nurses, Aboriginal Mental Health workers and Counsellors which may be used for assessment or planning, service delivery and in some cases population interventions

[<http://www.health.gov.au/internet/wcms/publishing.nsf/content/health-pcd-programs-mahs>].

The ATAPs program and the Access to Psychiatrist Support elements of Better Access and Better Outcomes in Mental Health initiatives. These initiatives finance/ partly finance support but do not necessarily of themselves ensure a supply of support services where they are most needed.

In addition to the initiatives above mental health care policy in general has focused on developing avenues to provide support to generalists in managing patients with mental health care needs as a direct response to an increasing expectation that generalist providers will recognise and diagnose mental health conditions and provide ongoing management within community settings. This has included the development of consultation-liaison programs, increased mental health education to generalists and programs that aim to increase the access to either specialists or allied health professionals for patient referrals for ongoing specialist care.

A number of consultation-liaison and similar programs have been trialled in Australia and are available in particular places [144]. These often work on a 'stepped care' logic [173] which identifies normal patterns of service according to condition, severity and urgency and puts into place mechanisms so that generalists can be supported by specialists when needed often expediting referrals and providing telephone or electronic access for consultation and advice. These arrangements are not universally available.

Education for generalists is largely provided through Divisions of General Practice who usually have one or more mental health project officers. They provide education and training based on local needs which are often identified through an annual needs analysis questionnaire and provided as part of the continuing medical education program [168]. This may include facilitating particular educational programs, often developed by Universities, such as the Sphere program [[www.spheregp.com.au](http://www.spheregp.com.au)]. Most Divisions organise the training required as part of government mental health initiatives. A good example is the level 1 and level 2 training that was required for GPs in the Better Outcomes in Mental Health (BOiMH) program. Further details are provided in the Annual Survey of Divisions [168].

Despite recent initiatives and increased focus on the provision of support to generalists providing mental health care, there has been an increased burden on generalist providers, NGOs and carers due to the shift away from institutional care.

There have been concerns raised about the capability of the current generalist providers in the primary care sector to continue to meet the increased workload. This is largely due to ongoing primary mental health care workforce issues which include:

- Clinician shortages
- A disproportionate geographic distribution of generalist providers
- An ageing generalist workforce
- A reduction in the numbers of specialist mental health nurses entering the workforce
- Generalist providers reporting difficulties in working collaboratively with other providers in providing services

A number of generalist workforce issues currently prevail in Australia that result in difficulties in the provision of primary health care in general, but is escalated in the provision of primary mental health care (A full description of workforce statistics is provided in Appendix A). This includes a shortage of GPs in regional and remote areas and a relatively small number (29.3%) of nurses working in mental health care who have completed formal training. There are an increasing number of psychologists in rural areas but limited supply in remote areas. Many obstacles have been cited that prevent recruitment and retention of mental health care nurses including short comings of education programs, pay and working conditions, regulation and accreditation issues and the lack of ease and affordability of re-entry into the workforce. In addition, the number of Medicare funded services is falling for psychiatrists and there exists different provider remuneration rates under MBS items, BOiMH and MAHS initiatives.

On the positive side, since 2000 there have been an increasing number of general practices employing practice nurses who have a potential role in mental health care delivery. However, many issues including variation in practice nurse roles and training and incentives remain to be addressed. The Australian government is funding mental health nurses to work in general practices as part of the primary health team and have provided funding for cognitive behavioural therapy (CBT) for psychologists under the BOiMH, MAHS and MBS.

In evidence to the Productivity Commission the Mental Health Council of Australia stated that:

“ Further research is required to understand the current capacity of the various professions and workers to expand their roles to relieve key pressure points such as those faced by psychiatrists, mental health nurses and general practitioners”[171].

A greater understanding of the elements of care provided by generalists and the extent and types of supports required to enable them to undertake these roles are needed. Paramount is determining the effectiveness of generalists in providing different elements of mental health care and the implications this may have for building the capacity of generalists to continue to provide mental health services and in overcoming current workforce issues through the implementation of evidence informed health policy.

This review seeks to develop an international typology of the elements of care undertaken by generalist primary care providers and the evidence that supports these roles to inform Australian mental health care and workforce policy.

## RESEARCH QUESTIONS

The review had four main research questions:

1. What elements of care do generalist primary health care providers currently provide to adults with mental health problems in Australia and what supports do they have in doing this?
2. What elements of mental health care can be effectively undertaken by generalist primary health care providers, taking into account the range of patients and mental health problems (including co-morbidities) and health service context? When is this effective alone or with additional support from other providers or services?
3. What are the implications (of effective elements) for workforce arrangements (linkage, structure, education, funding etc.)?
4. How does this relate to current workforce and other primary health care initiatives in Australia?

Question 1 maps the roles played by generalist primary health care providers in Australia and the supports they receive. Question 2 examines the effectiveness of generalists who provide elements of mental health care in primary health care settings. Question 3 examines the implications of this evidence of effectiveness for workforce arrangements in Australia and Question 4 draws implications for workforce and primary health care initiatives.

The precise form of the research questions changed as the research developed. The final questions are listed below. The changes are documented in Appendix C.

## METHOD

### CONSULTATIONS

There were three phases of consultations. Telephone interviews were conducted at the beginning of the review with selected policy makers and providers at Commonwealth, State and local level to identify the key challenges they experience and to assist in the development of the review questions. In the second phase, the analytical model and selected findings were sent to key informants for comment on the robustness and relevance of the model, the findings and the policy options which may arise. Informants were selected to ensure a broad range of stakeholder perspectives were canvassed, including Commonwealth and State mental health and primary mental health policy officers, regional mental health directors, professional groups, mental health researchers, academics and divisions of general practice. Attempts were also made to consult with mental health consumer organisations. A face to face consultation was held with representatives from the Australian Government Department of Health and Ageing to discuss final results and draft policy options, based on a brief summary of the report. Discussion centred on the implications of the findings for current services and developing policies. The consultation questions are provided in Appendix F.

### THE SEARCH STRATEGY

Primary studies were sought through electronic databases, snowballing from the reference lists of the included experimental studies and hand searching key journals. Studies of interest for purposes of data extraction were limited to randomised control trials (RCTs), before and after studies (controlled and non-controlled), cohort studies, and comparative studies. In addition, information was sought on major National and State/Territory mental health initiatives and policies through searches of websites and consultation with key informants and representatives from State Health Departments.

The majority of the primary research studies were identified through electronic databases. These included Medline (1995-2007), CINAHL (1995-2007), EMBASE (1995-2007), PsycINFO (1995-2007), Australasian Medical Index (1995-2007), APAIS (1995-2007) and Sociological Abstracts (1995-2007). The search was conducted during December 2006 and was finalised in January 2007. Journals that were hand searched included Medical Journal of Australia (1995-2007), Professional Psychology (1995-2007), Australasian Psychiatry (1999-2007), Australian and New Zealand Journal of Psychiatry (1998-2007), Australian e-Journal for the Advancement of Mental Health (2002-2007), Australian Journal of Primary Health (2000-2007), and Australian Health Review (2000-2007).

A wide range of terms were combined with "mental health", "primary health care", "primary care" and terms related to generalist providers to develop both title and key word searches (Appendix D). Search terms were identified by the Research Team and tested during a scoping exercise which identified subject headings and relevant text word searches appropriate to each database. The search strategies were run in the various electronic databases and the results were stored as a list of references in Endnote 10.

### SELECTION OF SYSTEMATIC REVIEWS

Reviews were sought using the Cochrane Library (Cochrane Reviews, DARE, HTA, and NHE EED) using a list of Key MeSH subject headings. Systematic reviews found in the main search of electronic databases were also included.

The full text of published systematic reviews were assessed by one researcher (AW) using the same criteria for relevance as for the primary research studies (See Inclusion Criteria section below). A second researcher (HL) assessed reviews where the relevance was not clear.

Information was extracted to support the synthesis of information and related particularly to the evidence of effectiveness (Question 2). This information was then used for triangulation to support the findings from the primary research studies and the synthesis.

## GREY LITERATURE

A search for Australian grey literature was undertaken starting with the Primary Mental Health Care Australian Resource Centre web site ([www.parc.net.au](http://www.parc.net.au)) and the Australian Government Department of Health and Ageing site ([www.health.gov.au/mentalhealth](http://www.health.gov.au/mentalhealth)) and supplemented by other sources identified from the initial consultation exercise, and by the research team's knowledge. A summary of selected grey literature is included in Appendix J. This Literature was used to answer Question 1 and to provide background information for the systematic review.

## SCOPE OF STUDY

The inclusion criteria were developed by the research team, drawing on the research findings, discussions with key stakeholders and pragmatic decisions on scope that needed to be made throughout the review (See Table 1).

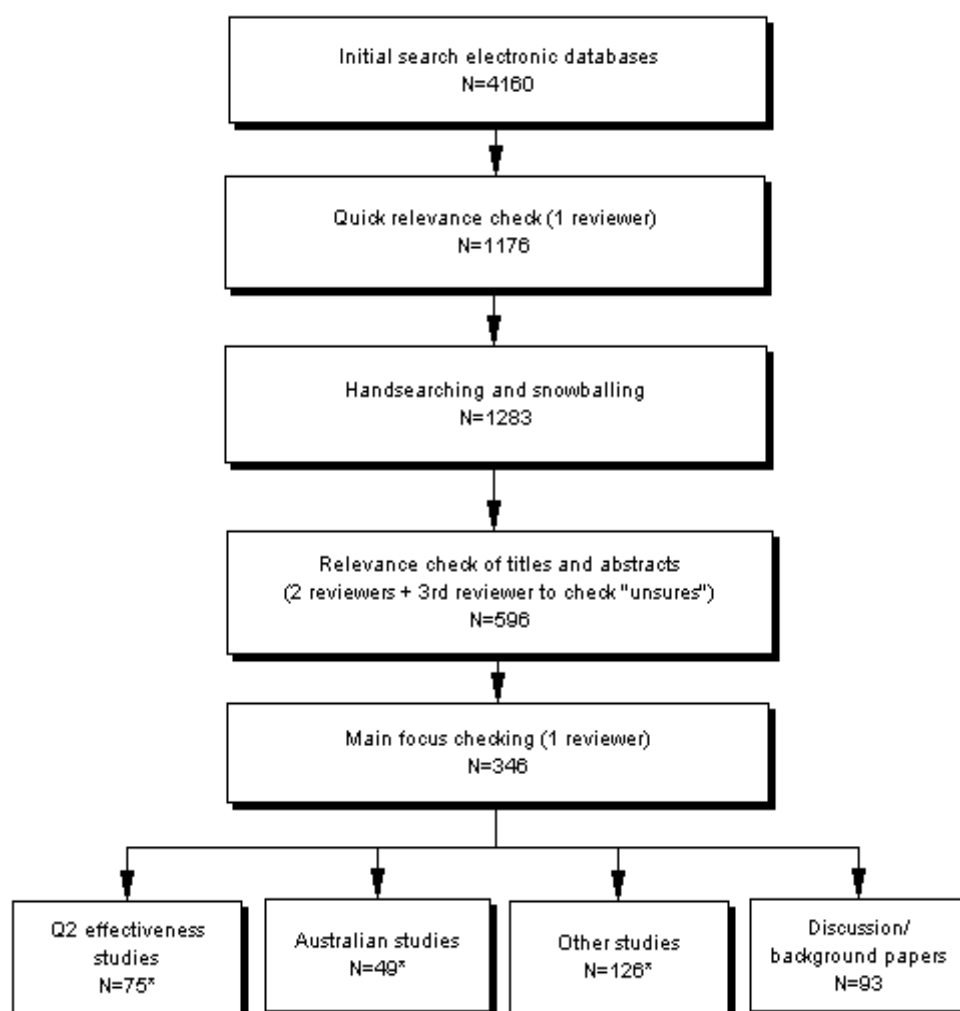
**Table 1: Inclusion criteria**

Criteria	Inclusion
<b>Time period</b>	1995-2007
<b>Language</b>	English
<b>Countries</b>	Australia, United Kingdom, United States of America, Canada, New Zealand, Netherlands
<b>Conditions and population groups</b>	<ul style="list-style-type: none"> <li>- High prevalence mental health conditions, (eg anxiety and depression, including post natal depression)</li> <li>- Low prevalence mental health conditions (eg schizophrenia, bipolar etc)</li> </ul>
<b>Providers</b>	1ST contact front line services/providers including: <ul style="list-style-type: none"> <li>- GPs/family physicians</li> <li>- Other practice staff, including practice nurses</li> <li>- Community health services/workers</li> <li>- Clinical psychologists</li> <li>- Social workers, occupational therapists, psychologists</li> <li>- Telephone counsellors</li> <li>- Primary Care Mental Health Workers (specific category of new workers in England)</li> <li>- Indigenous mental health workers</li> <li>- Mental health nurses</li> </ul>
<b>Types of services</b>	<ul style="list-style-type: none"> <li>- Mental health prevention/ health promotion/ early intervention</li> <li>- Assessment/ referral</li> <li>- Care planning/ case management/ self management support-patient education</li> <li>- Social/ psychological</li> <li>- Shared care with more specialised mental health services/ providers</li> <li>- Provide training, support/consultation/advice to PHC service to enable them to provide PMHC services, and where the PHC worker remains the case manager</li> </ul>
<b>Approach</b>	<ul style="list-style-type: none"> <li>- Who work as part of generalist PHC service or with other PHC providers</li> </ul>

The following were excluded:

- Services provided by specialist providers unless there was evidence of collaborative care with generalist providers
- Care not provided in a primary health care setting
- Care for conditions and issues often associated with mental illnesses such as domestic violence and smoking, counselling for lifestyle change, intellectual disabilities, child and adolescent mental health, substance abuse disorders except where they were a co-morbid condition, services for carers, outpatient care unconnected with primary health care and home based care delivered by specialists alone
- Somatoform disorder
- Suicide
- Innovative interventions provided by researchers were excluded where there was no evidence that PHC providers were involved.

**Figure 1 Search results and process of selection for primary studies**



\*NB: During data extraction a further 9 articles were excluded.

## INITIAL ASSESSMENT

One reviewer (KL) screened the titles and abstracts of all the articles retrieved from the electronic database searches. This resulted in 1176 articles being retained for further assessment.

Two reviewers (KL and AW) reviewed the titles and abstracts of the selected articles using the inclusion criteria. Articles were marked as “unsure” if they did not contain sufficient information for a decision to be made or where there was some uncertainty regarding scope. These “unsure” articles were reviewed again by two reviewers (DP and JM). Where a decision could not be reached on the abstract alone, the full paper was retrieved for consideration. Excluded articles were checked by a third reviewer (DP). This process resulted in 596 articles for further review.

## ASSESSMENT BASED ON RELEVANCE AND MAIN FOCUS

A “main focus check” was conducted on the remaining included articles (N=596) by one reviewer (AW) based on the abstract or full article when required. This identified those articles with a focus on the elements of mental health care, direct relationship to role of generalists or support to generalists performing their roles, workforce implications or statistics, and innovative program models. Where this was unclear, articles were reviewed by a two reviewers (DP and JM). Excluded studies from the “main focus check” were sent to a third reviewer (KL) for checking.

All included studies were allocated a study type in order to identify higher level studies for Question 2 and prioritise articles for development of the typology of elements of care. These study types were identified by one reviewer (AW). In cases where the study type could not be determined it was referred to a second reviewer (MH) for decision.

Following the above processes, 346 research papers were included in the primary studies database. 75 were suitable for inclusion in the Q2 studies of effectiveness subset and 49 in the Q1 Australian studies subset. A further 126 studies and 93 discussion papers were retained for use in the background and discussion sections of the systematic review.

## QUALITY ASSESSMENT

A published quality checklist [167] was used to assess the methodological rigor of the included Q2 effectiveness studies (Appendix G) by two independent researchers. One researcher performed quality checks on all the included studies, with the second researcher undertaking checks on an overlapping sample of 20% of the dataset to establish a reliability coefficient using intra-cluster correlation with one-way ANOVA. (0.76). Three studies did not undergo a quality check as they were late inclusions resulting from the snowballing exercise.

The checklist assigned scores to various components and an overall quality score for each study. Component scores are important as overall scores could mask a low component scores. Study quality was categorised arbitrarily as high (2.5-3.0), good (2.0-2.49) and poor (0-1.99). The results of the quality check are given in Table 2 below.

**Table 2: Results of the quality checks of the Q2 international effectiveness studies**

Study type	Poor quality (0-1.99)	Good quality (2-2.49)	High quality (2.5-3)	High and poor	Check not performed	Total
Randomised controlled trial	2	15	28	1	2	48
Before and after	1	5	5	0	1	12
Comparative	1	0	2	0	0	3
Cohort	0	1	0	0	0	1
<b>Total</b>	4	21	35	1	3	64

## **RANDOMISED CONTROLLED TRIALS**

The majority of randomised controlled trials (43/48) received high or good ratings. However, a large number of the studies had poor component scores for selection bias, blinding, withdrawals and dropouts. Dependent on the context in which the studies were conducted these elements may reduce the reliability of the results reported. Two randomised controlled trials received poor overall ratings in the quality assessment.

One study, which reported results in two papers,[9,10] was assigned quality scores that were different for the two papers i.e. one paper was given a high score and the other a low score. In the analysis the appropriate quality scores were attached to the respective outcomes reported in that paper.

## **BEFORE AND AFTER STUDIES**

Overall, the before and after studies received good to high ratings in the quality assessment and are considered to have employed adequate study methods to support findings of effectiveness reported. Of the 12 studies, eight reported significant positive outcomes. Two received high ratings, five good and one poor. Quality assessment was not undertaken on one of these studies.

## **COMPARATIVE STUDIES**

Three comparative studies were included in the primary data set. Two were high quality studies and one was low quality. There were no positive significant outcomes reported for these studies.

## **COHORT STUDY**

One cohort study was included in the primary data set. This study was found to have a good quality rating overall. The study received poor quality ratings for selection bias, study design and blinding.

## **DATA EXTRACTION**

A data extraction template was developed in Access 2002. Two independent researchers (KL and JM) extracted information from half the studies each from the primary research papers. To check reliability of extraction a randomly selected sample (20%) of studies were double entered and reviewed for accuracy by a third researcher (GPD). Agreement was high at 93.9%. Queries during the data extraction process were firstly discussed by both researchers until agreement was reached. If agreement was not reached, it was reviewed by a third member of the research team (DP).

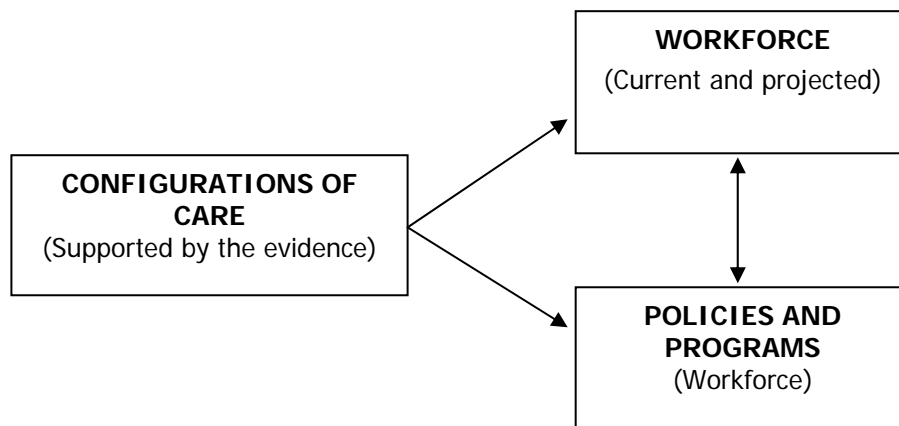
Where more than one paper reported the same study, details concerning elements of care and/or supports provided were retrieved from the earliest study (that is, not duplicated) and outcomes reported in the different papers were combined. The coding scheme is given in Appendix I.

## **ANALYSIS FRAMEWORK**

A careful examination of the studies showed that interventions consisted of one or more elements of care delivered by a provider who often received one or more supports in providing that care. We have termed these combinations of provider, element and supports 'configurations of care'. Figure 2 illustrates how the requirements for workforce policies and programs will be determined to a large extent by the 'configurations of care' supported by evidence (which may include significant changes to current practice) and the current and projected workforce available to provide the care.

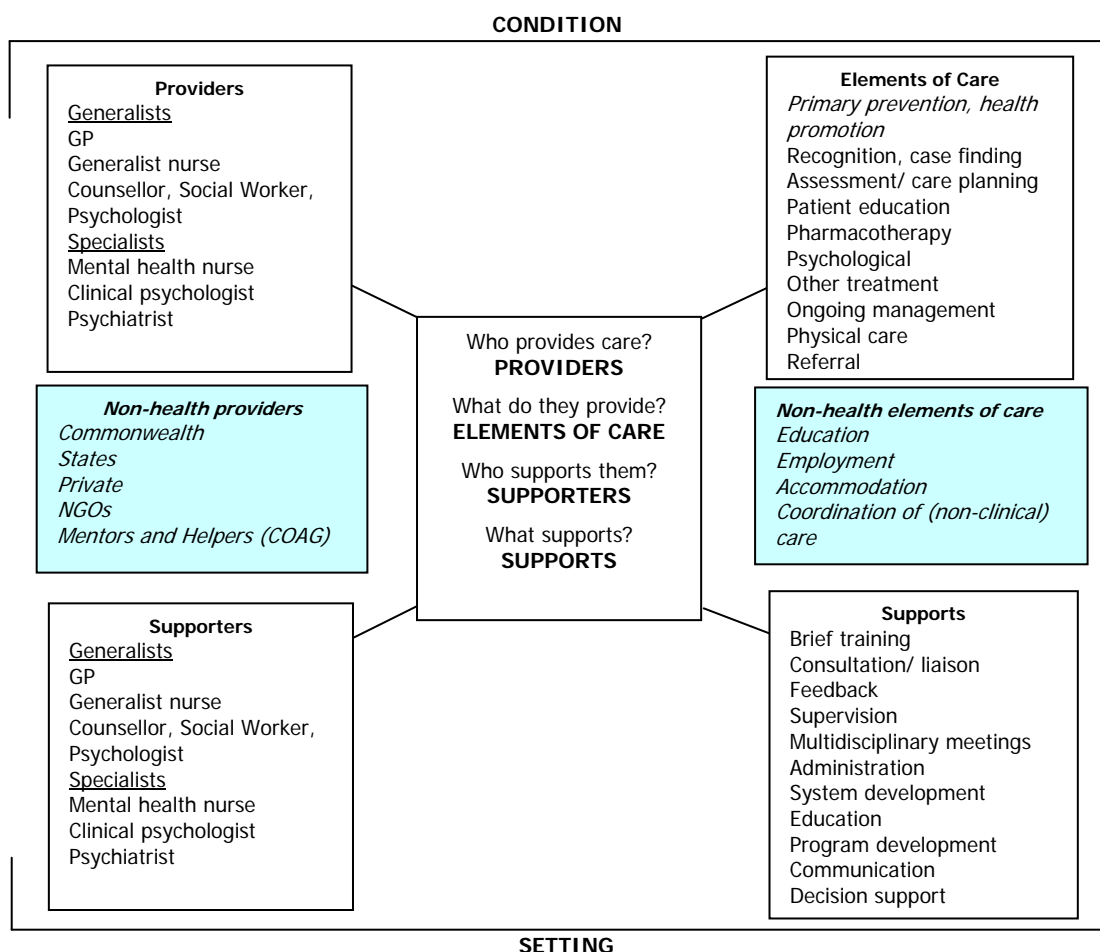


**Figure 2 Model of the contribution of 'configurations of care' to the policy arena**



Our analysis and synthesis of the data retrieved from the included studies was the basis for our analytical framework (see Figure 3). Configurations of care were made up of four components: who provides care; what elements of care do they provide; who supports them in providing that care and what supports are provided. The descriptions of each of the components were developed at the beginning of the project and these were further refined by performing a content analysis of the interventions within the primary research papers and extraction of the type of generalist provider and the associated elements of care undertaken and supports required or provided. The emerging typology was reviewed by key stakeholders for face validity. In addition, a content analysis was performed on the interventions in relevant studies on the systematic reviews to verify the reliability of the typology and to find any elements of care not found in the primary research papers to comprehensively define the components within the configurations of care. The components are described in detail in Appendix H.

Figure 3 Analytical framework based on the ‘configurations of care’



Elements of care refer to the range of tasks and roles undertaken by providers in patient care. While these elements were separately coded they are not usually delivered alone. A patient may receive pharmacotherapy and psychological therapies from a single provider, or they may receive the same combination of therapies from a combination of providers e.g. a GP and counsellor. Experimental studies focus on particular elements of care to increase knowledge but this may make such studies less representative of standard clinical practice. Some providers such as GPs may provide most of the elements of care, especially to patients with mild and moderate conditions, however this may not be fully represented in the interventions examined in this systematic review.

Providers were allocated to generalist or specialist categories based on whether they were providing first contact care or whether they provided specialist care in collaboration with generalists. Hence clinical psychologists, psychiatrists and mental health nurses were defined as specialists because they do not provide first contact care. GPs, primary care nurses and (non clinical) psychologists were categorised as generalists. In the Australian context an important distinction is made between registered and clinical psychologists whom we defined as specialist providers. In the Australian context, an important distinction is made between registered psychologists whom we have defined as generalists and clinical psychologists known as specialists.

Clinicians who provide elements of care may do so alone but are often the recipients of supports from other generalist and specialist staff. These supports range from brief training to ongoing consultation and liaison and the development of decision-support mechanisms. Supports differ from elements of care in that they are provided to clinicians and not directly to patients or populations.

A clinician may provide both elements of care to patients and supports to generalist clinicians. For instance a psychiatrist might provide brief training to primary care staff and also be directly involved in the assessment of patients in primary care settings.

Key informants in the consultation process stated that the care of people with mental health conditions, particularly those with severe conditions, requires care from providers who are not part of the health system and are part of Commonwealth and State governments, public, private and voluntary sectors, and include the mentors and helpers envisaged in the COAG national action plan. These non-health providers deliver education, employment, accommodation and coordination of assistance, to people with mental health conditions. While the non-health providers and elements of care are not part of this systematic review they are an essential part of the picture and hence included in the framework (see Table 3).

## OVERVIEW OF INCLUDED STUDIES

Table 3 describes the included studies. Forty-four Australian studies were identified from 50 research papers. All but 3 studies were excluded from consideration for question 2 because of unsuitable study design but they are useful sources of information about the configuration of care provided in Australia.

The Australian studies were largely descriptive (13/44) or survey based (12/44) and most were based in general practice (34/44). There was a good spread of studies across urban and rural/remote settings and jurisdictions. Two-thirds (29/44) concerned unspecified mental illness and a further quarter (11/44) addressed mild/moderate depression and emotional disorders. Only four studies examined the more severe and chronic conditions such as Schizophrenia and Chronic Psychosis.

The 64 studies selected for Question 2 were described in 75 research papers. Forty-eight (75%) were randomised controlled trials and 12 (18%) before and after studies. There were three comparative and one cohort study. These studies are listed in the references and summarised in Appendix L.

Forty-six studies (72%) were undertaken in general practice alone and a further five in a combination of general practice and other settings. The remaining studies were set in Veterans Affairs centres, patients' homes and primary care facilities attached to Universities.

The majority of studies were conducted in the UK (n=32) or the US (n=28). There were three studies from Australia and one from the Netherlands. No studies met the selection criteria from Canada or New Zealand.

Thirty-eight studies (60%) addressed the role of generalists in the provision of care for patients with mild to moderate depression and emotional disorders. Nineteen studies (29%) were concerned with schizophrenia, chronic psychosis and severe depression and two studies addressed postnatal depression. Two studies looked at both mild and severe depression and three studies did not specify the condition or severity of the mental illness concerned.

**Table 3: Characteristics of included studies**

Study characteristics	Australian Studies		Primary studies	
	Number of studies	Percentage		
<b>Study design</b>				
Descriptive	13	29%		
Survey	12	27%		
Mixed methods	4	9%		
Dataset analysis	3	7%		
Interviews	3	7%		
Randomised controlled trial	2	5%	48	75%
Before and after study	2	5%	12	18%
Comparative study			3	5%
Cohort study			1	2%
Audit	2	5%		
Case control	1	2%		
Post intervention study	1	2%		
Qualitative study	1	2%		
<b>Settings</b>				
General practice	25	57%	46	72%
General practice and other	9	20%	5	8%
Community mental health	3	7%		
Veterans affairs			3	5%
University centres			2	3%
Home			2	3%
Other	7	16%	6	9%
<b>Location</b>				
Both urban and rural/remote	15	34%	10	15%
Rural/remote	12	27%	4	6%
Urban	10	23%	38	60%
Not specified	7	16%	12	19%
<b>State</b>				
NSW	11	25%		
SA	7	16%		
National	7	16%		
VIC	6	14%		
QLD	3	7%		
WA	2	4%		
ACT	1	2%		
TAS	1	2%		
Not specified	6	14%		
<b>Country</b>				
United Kingdom			32	50%
United States			28	44%
Australia			3	5%
Netherlands			1	2%
<b>Conditions</b>				
Unspecified mental illness	29	66%	3	5%
Mild/moderate depression and emotional disorders	11	25%	38	60%
Mild and severe depression			2	3%
Postnatal depression			2	3%
Severe depression, schizophrenia and chronic psychosis	4	9%	19	29%

## **CHARACTERISTICS OF SELECTED SYSTEMATIC REVIEWS**

Seventy-nine systematic reviews were initially retrieved. Data were extracted from 14 that met the selection criteria, which represented approximately 214 primary research studies. Most reviews included studies that used randomised controlled trials. Controlled before and after designs were included in two reviews and one included an interrupted time series design. One review included the results of qualitative based studies including methods such as questionnaires, interviews and cross sectional studies. Most reviews were completed between 2000 and 2007.

Studies within the reviews were located in a variety of settings including general practice, primary care clinics, community health centres, Veterans Affairs Mental Health Clinics, outpatient psychiatric clinics, nursing homes, primary health care and hospital outpatients.

The next section addresses Question 1 of the systematic review and maps the care practiced by generalists in Australia and the supports they receive.

## RESULTS

### QUESTION 1

What elements of care do generalist primary health care providers currently provide to people with mental health problems in Australia and what supports do they have in doing this?

### OUR SOURCES

The answer to this question is based on various sources:

Mental Health Services in Australia 2004-5 [156] provides a description of the full range of mental health services available. It draws heavily on research undertaken by BEACH [164] which examines patient encounters in general practice and their management and then extrapolates to estimate the pattern of GP provided mental health services in Australia. Much of our understanding of the role of the GP is therefore based on estimates which are self reported by GPs.

Telephone interviews held with policy advisers and managers at Commonwealth and State levels at the beginning of the systematic review to help shape the scope and focus. These initial consultations focused on identifying the generalist workforce and services, the roles they currently play, for what population groups and mental health conditions, who they work with, and to identify any differences between rural and urban contexts.

The grey literature, some of which is summarised in Appendix J, which describes services and developments in primary care mental health services in Australia.

Other information is drawn from data extracted from the Australian research studies identified in our search. Qualitative content analysis was carried out of the roles and activities undertaken by the providers in the studies included in the primary data set. This information provides a description of the configurations of care (providers, elements of care, supports and providers of support) provided in the Australian context that have been formally studied.

### WHO ARE THE GENERALIST PROVIDERS?

We have defined generalists above on page 7. In the Australian context we understand generalist to mean GPs, practice and other primary care nurses, non-clinical psychologists, social workers and counsellors and occupational therapists. While we regard mental health nurses, psychiatrists, and clinical psychologists as specialists, their role is relevant to our review where they provide supports to generalists or work in ongoing relationships with generalists.

### WHAT DO THEY PROVIDE IN THE AUSTRALIAN SYSTEM: ROLES VS ELEMENTS OF CARE?

Table 4 lists elements of care that are provided in the Australian health care system. Workforce shortages in regional, rural and remote areas mean that it is impossible to be definitive about who provides which elements of care (see Table 7). In rural and remote areas generalists care for a larger proportion of people with severe and persistent conditions with varying levels and types of specialist support (e.g. tele-psychiatry, visiting specialist programs etc).

**Table 4: Elements of care provided by primary care providers in Australia based on Grey Literature and Key Informants**

Element of Care	Sources and examples	Providers
Primary prevention	Beyond Blue Depression in the workplace program ( <a href="http://www.beyondblue.org.au">www.beyondblue.org.au</a> ) Mental Health First Aid ( <a href="http://www.mfha.com.au">www.mfha.com.au</a> )	Internet and trainers
Health promotion	Primary Mental Health and Early intervention Services[149] Primary Mental Health and Early Intervention Initiative[141]	Primary Mental Health Teams
Recognition, case finding	BEACH studies[164] Key informants	GP, Psychiatrists for severe conditions

Assessment/ care planning	Collaborative Service for Primary mental health care[148] Primary Mental Health and Early Intervention Initiative[141]	Psychiatrist, Primary Mental Health Teams
Patient education	Key informants	GPs, Psychologists, Mental Health Nurses, NGOs
Pharmacotherapy	BEACH studies[164]	GP
Psychological therapies	Access to Allied Health Services[154,150] Divisions of General Practice funding Allied Health workers and indigenous mental health workers [168,152] More Allied Health Services initiative. General practice and psychology partnerships[145]	GPs, Psychologists, Social Workers, Clinical psychologists
Ongoing management	Shared Care, Case management Collaborative Service for Primary Mental Health Care[148] Shared Care[140] Consultation Liaison (CLIPP model [148])	GPs, Psychiatrists, GPs and specialty Mental Health services
Physical care	Programs focusing on physical and mental health and wellbeing[152]	GPs, Primary Care Nurses
Referral	BEACH studies[164]	GPs

\*Acknowledgments are as referenced.

## GENERAL PRACTITIONER CARE

The AIHW publication Mental Health Services in Australia is based on estimates from BEACH studies of encounters in general practice [156]. It shows that the most common forms of management of mental health related problems in general practice are:

**Table 5: Management of mental health encounters in General Practice**

Action Taken	Percentage (%)
Medication prescribed, recommended or supplied	69.4
Clinical treatment	
-Counselling psychological	25.2
-Review, change, or administer medication	3.4
-Advice, education, observe, wait – psychological	3
-Other	11
Referral	10
-Referral to psychiatrist	2.3
-Referral to drug and alcohol professional	0.7
-Referral to psychologist	1.6
-Referral to mental health team	0.6
-Referral to counsellor	0.5
Pathology	8.2

This evidence suggests that GPs care for the majority of their mental health patients alone providing medication and psychological therapies and make referrals in about 10% of cases. This aggregate data cannot be applied to all settings since referral will depend on the availability of specialists and other generalist staff to whom to refer.

## GPS AND ALLIED HEALTH PROFESSIONALS

The Australian published studies are not a very good guide to the elements of care provided by generalists since they are overwhelming focussed on GPs. This is likely to result from publication bias and also from the particular search strategy adopted by this systematic review. There was some evidence in the Australian studies that generalists provide elements of care in combination with others and this is described in Table 6. Providers were grouped into 3 categories: GPs, mental health workers (mental health nurses, counsellors, social workers, psychologists and psychiatrists) and other primary care workers (primary care nurses and pharmacists). The majority of studies concerned unspecified mental illness or mild/moderate depression and emotional disorders. The majority of studies concerned GPs working alone or with the mental health professions but again this may be due to the paucity of Australian research, publication bias or the search strategy adopted in this study.



**Table 6: Combinations of providers and conditions in the published Australian studies**

	Mild/mod depression and emotional disorders N=11	Severe depression, schizophrenia and chronic psychosis N=4	Unspecified mental illness N=29
GPs only N=16	4	1	11
GPs + mental health workers N=9	3	2	4
GPs + other primary care workers N=2	2	0	0
Other primary care workers only N=3	1	0	2
Mental health workers only N=4	1	0	3
GP + mental health + primary care workers N=3	3	0	0
Mental health + other primary care workers N=1	0	0	1

## SUPPORTS

Three broad areas of supports are provided to generalist staff in the Australian health care system: consultation, education and government support. In the Australian studies these supports are largely provided to GPs by psychiatrists, Divisions of General Practice and Mental Health Services (see tables in Appendix K). Table 7 gives examples of supports provided to generalists in the Australian studies.

**Table 7: Examples of supports given to Australian generalist providers**

Type of support	Examples	Provided by
Consultation	Consultation liaison to GPs. Fortnightly visits to discuss assessment or management of patients. Telephone advice to GPs in urgent cases.	Psychiatrists Mental Health Services Clinical psychologists
Brief training	Up-skilling workshop. 2-hour training session for participating psychiatrists. GP information pack re new MBS scheme, including referral templates, and core materials re the MBS items.	Psychiatrists Mental Health Service Divisions of General Practice
Feedback	Immediate telephone feedback and written feedback within 14 days following mental health assessment. Discharge summaries given to GPs.	Psychiatrists
System development	GPs supplied with general information on MHS and access. Development of Linkage Unit. Directory of support services compiled and distributed to all GPs.	Mental Health Services Divisions of General Practice
Financial support	Series of item numbers allowed private psychiatrists to be remunerated for participating in expanded roles. Service Incentive Payment (SIP) for 3 step mental health process.	Commonwealth Government
Referral support	A memorandum of understanding addressing referral to local mental health services. Allocation of patients to psychologists/ counsellors. Organising and coordinating referrals from GP to psychiatrist.	Divisions of General Practice
Multidisciplinary meetings	Regular meetings between psychiatric services and GPs complemented with use of video conference. Multidisciplinary care planning meeting. GPs and psychiatrist moderator meet to discuss particular psychiatric issues.	Psychiatrists Mental Health Services
Program development	Mental health program Officer employed. Strategic planning for GP/Mental health service liaison.	Mental Health Services Divisions of General Practice
Education	Continuing Medical Education (CME) distance education course. Formal postgraduate mental health qualifications.	Various
Enhanced access to specialist care	Access to allied health for GPs.	Various
Peer support	Small group GP peer support: sharing knowledge, and skills, ongoing education and skills development and fostering self care.	GPs

## SUMMARY

In summary, there is a wide variety of services provided by generalists for people with mental health conditions. The elements of care follow the elements in the framework (see Figure 3) identified from the consultations, grey literature, Australian and international studies. This section has made no claims about the effectiveness of either elements or configurations of care since the quality of the studies will not support such conclusions.

In the next section we look at the primary data set of international studies of effectiveness, which allows us to draw conclusions about effectiveness but since almost all studies are from overseas the question of applicability of the findings in the Australian context is problematic.

## QUESTION 2

What elements of mental health care can be effectively undertaken by generalist primary health care providers, taking into account the range of patients, mental health problems (including co-morbidities) and health service context? When is this effective alone or with additional support from other providers or services?

This chapter provides evidence for the effectiveness of configurations of care provided by generalists alone and with support from other providers.

## CONFIGURATIONS OF CARE BY ELEMENT OF CARE

To provide a richer picture of the elements of care that can be undertaken effectively by generalist providers, we have incorporated provider type, supports, and the providers of support in the analysis. The evidence associated with each of these components was combined to provide information on the effectiveness of particular 'configurations of care'. Table 10 summarises the evidence about these configurations for each element of care. Tables documenting the analysis of individual components are provided in Appendix M.

Of the 64 primary studies, 50 measured health outcomes and 34 of these reported a significant positive health outcome. Service outcomes were measured in 52 studies and 31 reported a significant positive service outcome. Patient satisfaction was measured in 29 studies and 17 reported significant positive patient satisfaction outcomes. Economic outcomes were measured in 23 studies and seven of these reported a significant positive outcome.

**Table 10: Configurations of care by element of care**

Element of care	Configurations of care
Recognition and case finding (n=10)	<p>Recognition and case finding is usually the GP's role in the Australian system. Three of five studies showed GPs can achieve positive service outcomes[5,42,71] but only one of four studies found a significant improvement in health outcomes[42].</p> <p><i>Supports</i></p> <p>Brief training was associated with positive health outcomes in 4 out of 4 studies [42,34,19,58,57,59] and service outcomes in 4 of 6 studies [42,34,58,57,59,71]. Some evidence of value of consultation, feedback and supervision was reported in small number of studies[42,34,5].</p>
Initial assessment, home assessment and care planning (n=19)	<p>Assessment and care planning can be undertaken by primary care nurses with 3 of 3 studies finding positive health outcomes [58,57,59,37,53] and 3 of 4 studies finding positive service outcomes [53,12,58,57,59].</p> <p>Counsellors, social workers and non-clinical psychologists achieved positive health outcomes in 4 of 5 studies [70,31,69,56,38] and positive service outcomes in 3 of 5 studies [70,31,56,38].</p>

Element of care	Configurations of care
	<p><i>Supports</i></p> <p>Brief training was associated with positive health outcomes in 5 of 6 studies [38,37,53,56,58,57,59] and service outcomes in 7 of 8 studies [56,58,57,59,12,43,53,68,38]. Consultation support was associated with positive health outcomes in 3 of 6 studies [38,70,31,27] and positive service outcomes in 5 of 7 studies [1,38,70,31,27,68]. Feedback was associated with positive health outcomes in 4 of 6 studies [38,69,37,53] and positive service outcomes in 3 of 6 studies [53,1,38]. Multi-disciplinary meetings were associated with positive health and service outcomes in 2 of 3 studies [70,31,27]. Supervision was associated with positive service outcomes in 2 of 3 studies [21,56].</p>
Patient education (n=24)	<p>Patient education delivered by generalist providers was particularly effective in achieving health outcomes (16 of 22 studies [63,60,62,15,18,40,51,73,65,69,58,57,59,34,70,31,41,38,56,42,61]), service outcomes (15 of 19 studies [18,40,51,73,65,58,57,59,34,70,31,41,38,56,42,61,39,53,21,5,1]) and patient satisfaction outcomes (9 of 9 studies [18,40,51,73,65,41,38,34,70,31,61,49,21]). Four of six studies found an economic improvement associated with patient education when provided by counsellors, primary care nurses or others [72,18,40,51,73,65,58,57,59].</p> <p><i>Supports</i></p> <p>Strong association with positive health outcomes were found for brief training (9 of 10 studies [38,60,41,42,34,39,53,56,58,57,59]), consultation (7 of 9 studies [18,40,51,73,65,38,60,70,31,41,42]), feedback (8 of 10 studies [40,51,73,65,38,60,61,69,34,39,53]) and supervision (3 of 5 studies [18,34,56]). Strongly associated with service outcomes were brief training (8 of 10 studies [38,41,42,34,39,53,56,58,57,59]), consultation (7 of 8 studies [18,1,40,51,73,65,38,70,31,41,42]), feedback (8 of 9 studies [5,1,40,51,73,65,38,61,34,39,53]) and supervision (4 of 5 studies [18,34,21,56]). There was some evidence for multi-disciplinary meetings (health and service outcomes for 2 of 2 studies [18,70,31] and administrative support (2 of 2 studies found positive service outcomes [18,5]).</p>
Pharmacotherapy (n=21)	<p>Pharmacotherapy is largely the role of the GP and they were effective for in producing health outcomes (9 of 13 studies [60,55,6,58,57,59,70,31,41,38,42,40,51,73,65]), service outcomes (9 of 11 studies [58,57,59,40,51,73,65,70,31,41,38,42,5,1,71]), patient satisfaction (5 of 5 studies [40,51,73,65,6,41,38,70,31]) and economic outcomes (2 of 3 studies [58,57,59,40,51,73,65]). While other staff do not prescribe, there was limited evidence that they could assist in ensuring medication compliance and in the broader aspects of drug therapy. Health and service outcomes were found for mental health nurses (2 of 2 studies [39,70,31]), counsellors, social workers and non-clinical psychologists (2 of 2 studies [39,70,31]), and service outcomes were found for primary care nurses (2 studies [53,12]).</p> <p><i>Supports</i></p> <p>Strong associations with health outcomes were found for brief training (8 of 8 studies [60,38,41,42,39,53,55,58,57,59]), consultation (6 of 7 studies [40,51,73,65,60,38,70,31,41,42]) and feedback (6 of 8 studies [40,51,73,65,60,38,61,39,53]). Service outcomes were also strongly associated with brief training (8 of 9 studies [42,38,41,53,39,12,58,57,59,71]), consultation (6 of 7 studies [42,38,41,1,40,51,73,65,70,31]) and feedback (7 of 7 studies [53,39,1,40,51,73,65,38,5,61]).</p>
Psychological treatments (n=30)	<p>Psychological therapies were successful when delivered by each of the generalists although the content of therapies varied and included PST, CBT and related therapies. Most studies concerned counsellors, social workers and clinical psychologists and they were particularly effective in achieving health outcomes (13 of 15 studies [47,4,67,63,24,23,11,46,60,74,6,34,70,31,38,53,35]) although the evidence was borderline for service outcomes</p>

Element of care	Configurations of care
	<p>(5 of 10 studies [34,70,31,38,53,35]) and patient satisfaction outcomes (6 of 11 studies [49,11,46,74,6,34,70,31,38]).</p> <p>Hemmings[134], in a systematic review found that counselling was effective in primary care settings demonstrated by RCTs for specific interventions targeting defined patient groups, and this finding was supported by naturalistic studies although there was diversity in the type and quality of methods used.</p> <p><i>Supports</i></p> <p>A strong association was found between health outcomes and brief training (11 of 12 studies [38,60,34,53,4,35,44,55,54,19,58,57,59]), feedback (4 of 6 studies [38,60,34,53]) and supervision (4 of 5 studies [34,4,35,44]). Only four studies examined consultation and 3 of 3 studies found health outcomes [38,60,70,31]. Service outcomes were also measured for many of these supports though slightly less found positive outcomes (see Table B in Appendix M)</p>
Ongoing management (n=25)	<p>GPs, primary care nurses, counsellors, social workers and non-clinical psychologists were successful in achieving positive outcomes with 11 of 14 achieving health outcomes [69,19,18,58,57,59,37,38,41,70,31,9,10,39,53], 9 of 14 studies achieving service outcomes [18,58,57,59,38,41,70,31,9,10,39,53,36] and 6 of 7 achieved patient satisfaction outcomes [49,37,38,41,70,31,18]. There were two studies in which primary care nurses achieved economic outcomes [18,58,57,59]. Mental health nurses were less successful but achieved health outcomes in 2 of 5 studies [70,31,39] and service outcomes in 3 of 5 studies [70,31,39,68].</p> <p>Gensichen et al[130] in a systematic review found that care management had therapeutic effects for patients with major depression and that the effects were better sustained when case management was implemented over longer periods (6-12 months). There was little evidence to support the implementation of complex case management rather than standard case management.</p> <p><i>Supports</i></p> <p>All supports were strongly associated with health and service outcomes (see Table B in Appendix M).</p>
Physical care (n=3)	<p>There was insufficient evidence to assess generalist effectiveness in providing physical care</p> <p><i>Supports</i></p> <p>Largely single studies and insufficient evidence about supports.</p>
Referral (n=12)	<p>GPs were effective in referral achieving positive health outcomes in 5 of 8 studies [62,15,4,67,27,35] and service outcomes in 3 of 5 studies [27,35,1].</p> <p><i>Supports</i></p> <p>A small number of studies measured support for these elements. The strongest evidence was for an association between brief training and health outcomes (4 of 4 studies [34,35,4,19]), consultation and service outcomes (3 of 3 studies [1,27,40,51,73,65]), feedback and service outcomes (3 of 3 studies [34,40,51,73,65,1]), supervision and health outcomes (3 of 4 studies [34,35,4]).</p>

\*Acknowledgments are as referenced. Detailed descriptions of the studies summarised in this table are provided in Appendix L.

## PROVIDERS WORKING ALONE AND IN COMBINATION

Table 11 looks at the effectiveness of generalists providing care alone and in common combinations. Generalists (other than GPs) and mental health specialists working alone were associated with positive health and service outcomes. GPs working alone achieved no (0/4) positive health outcomes but these increased markedly when GPs worked with mental health workers (12/13 or 92%). This combination was associated with positive service (64%) and patient satisfaction (66%) but not economic outcomes. A small number of studies found positive outcomes from GPs working with other primary care workers. Ten interventions involved supports only.

**Table 11: Selected providers of elements of care by outcomes alone and in combination**

	Positive health outcome N=35	Positive service outcome N=31	Positive economic outcome N=7	Positive patient satisfaction outcome N=17
GPs only N=8	0 (4)* -	4 (7) 57%	0 (1) -	0 (1) -
Other primary care workers only N=10	5 (8) 63%	6 (10) 60%	1 (4) 25%	4 (4) 100%
Mental health workers only N=16	9 (13) 69%	6 (13) 46%	3 (8) 38%	6 (10) 60%
GPs + mental health workers N=15	12 (13) 92%	7 (11) 64%	1 (5) 20%	6 (9) 66%
GPs + other primary care workers N=3	3 (3) 100%	2(2) 100%	1 (1) 100%	0 (0) -
GP + mental health + primary care workers N=2	1 (2) 50%	1 (1) 100%	0 (0) -	0 (0) -

\*In brackets are the total number of studies that measured the particular outcome.

## GENERAL PRACTITIONERS

In 29 studies GPs were either working alone or in collaboration with others to deliver elements of care. Table 12 shows the elements of care and outcomes for GPs in the primary data set. GPs had a wide-ranging role providing all elements of care apart from assessment and care planning. Recognition and case finding was mostly undertaken by GPs and associated with service outcomes. GPs achieved positive outcomes for all categories in pharmacotherapy and were effective providers of patient education and psychological treatments.

**Table 12: General practitioners, elements of care and outcomes**

	Health	Service	Economic	Patient satisfaction
Recognition and case finding (n=6)	1 (4)* 25%	3 (5) 60%	0 (0) -	0 (0) -
Assessment, care planning (n=1)	0 (0) -	1 (1) 100%	0 (0) -	0 (0) -
Patient education (n=5)	3 (4) 75%	3 (4) 75%	0 (0) -	1 (1) 100%
Pharmacotherapy (n=15)	9 (13) 69%	9 (12) 75%	2 (3) 67%	5 (5) 100%
Psychological treatment (n=6)	2 (5) 40%	3 (4) 75%	1 (1) 100%	0 (0) -
Ongoing management (n=6)	3 (5) 60%	3 (5) 60%	0 (2) 0%	1 (2) 50%
Physical care (n=2)	1 (2) 50%	1 (1) 100%	0 (0) -	0 (0) -
Referral (n=8)	5 (8) 63%	3 (5) 60%	0 (2) 0%	1 (4) 25%
All elements (n=29)	16 (23) 70%	15 (22) 68%	2 (7) 29%	6 (10) 60%

\*In brackets are the total number of studies that measured the particular outcome.

## PRIMARY CARE NURSES

In eleven studies primary care nurses were involved in providing one or more elements of care either as the sole provider or in collaboration with other providers. Table 13 shows the elements of care and outcomes for these nurses in the primary data set. While this table is based on a smaller number of studies it shows them as effective providers associated with positive health outcomes for assessment and the full range of elements of care. They were associated with effective service outcomes in all studies that measured those elements and with patient satisfaction in a smaller number of studies.

**Table 13: Primary care nurses, elements of care and outcomes**

	Health	Service	Economic	Patient satisfaction
Recognition and case finding (n=2)	1 (2)* 50%	0 (1) -	0 (0) -	0 (0) -
Assessment, care planning (n=4)	3 (3) 100%	2 (3) 67%	1 (1) 100%	1 (1) 100%
Patient education (n=3)	3 (3) 100%	3 (3) 100%	2 (2) 100%	1 (1) 100%
Pharmacotherapy (n=2)	1 (1) 100%	2 (2) 100%	0 (0) -	0 (0) -
Psychological treatment (n=5)	4 (4) 100%	2 (4) 50%	0 (2) -	1 (1) 100%
Ongoing management (n=7)	6 (7) 86%	4 (6) 67%	2 (2) 100%	2 (2) 100%
Physical care (n=1)	1 (1) 100%	1 (1) 100%	1 (1) 100%	1 (1) 100%
Referral (n=2)	1 (2) 50%	0 (1) -	0 (0) -	0 (0) -
All elements (n=11)	8 (9) 89%	6 (9) 67%	2 (4) 50%	3 (3) 100%

\*In brackets are the total number of studies that measured the particular outcome.

## COUNSELLORS, SOCIAL WORKERS AND PSYCHOLOGISTS

In nineteen studies counsellors, social workers, psychologists and other behavioural health specialists were working in a generalist role to provide elements of care either alone or in collaboration with others. Table 14 shows the elements of care and outcomes for counsellors, social workers non-clinical psychologists in the primary data set. While this group is largely engaged in providing psychological treatments it was successful in achieving health and other outcomes in assessment, patient education and ongoing management as well. There is a question mark over their service and economic outcomes. The evidence does not suggest that they save money or reduce demands on other elements of the health system but they are associated with high levels of patient satisfaction.

**Table 14: Counsellors, social workers, non-clinical psychologists, elements of care and outcomes**

	Health	Service	Economic	Patient satisfaction
Recognition and case finding (n=1)	0 (1)* -	0 (1) -	0 (0) -	1 (1) 100%
Assessment, care planning (n=5)	4 (5) 80%	3 (5) 60%	0 (1) -	3 (3) 100%
Patient education (n=9)	7 (8) 87%	5 (7) 71%	1 (2) 50%	4 (4) 100%
Pharmacotherapy (n=3)	2 (2) 100%	2 (2) 100%	1 (1) 100%	1 (1) 100%
Psychological treatment (n=16)	15 (16) 94%	5 (11) 45%	2 (8) 25%	6 (12) 50%
Ongoing management (n=4)	3 (4) 75%	3 (4) 75%	0 (0) -	3 (3) 100%
Referral (n=1)	1 (1) 100%	0 (1) -	0 (0) -	0 (0) -
All elements (n=19)	16 (18) 89%	7 (13) 68%	2 (6) 33%	6 (11) 52%

	89%	54%	33%	55%
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\*In brackets are the total number of studies that measured the particular outcome.

## PHARMACISTS

Two good quality studies looked at the impact on health and other outcomes of pharmacists involved in the management of depression in primary care [21, 16]. The first examined the impact of training pharmacists to deliver patient education, pharmacotherapy support and follow-up in a collaborative care model supervised by a psychiatrist [21].

The intervention produced greater drug adherence rates at six months ( $p=0.038$ ), and patient satisfaction was significantly higher in the collaborative care group ( $p<0.05$ ). There was no significant difference between intervention and control patients in clinical and functional outcomes and costs. The second Australian study assessed an intervention where rural community pharmacists were involved in the management of primary care patients with depression [16]. Intervention pharmacists were given video-conference training on the nature and management of depression by a psychiatrist, psychologist and general practitioner and asked to dispense medication with extra advice and support. While adherence was high and patient outcomes improved, there was no significant difference between intervention and control patients.

One study involved pharmacists working collaboratively with GPs for the care of patients with severe depression, resulting in increased rate of antidepressant use [1]. See above for details.

## MENTAL HEALTH NURSES

Mental health nurses are not generalists, but they are included in our analysis because they are the subject of an important Australian government policy initiative. In eight studies mental health nurses provided elements of care either alone or in collaboration with other providers. Table 15 shows the elements of care and outcomes for mental health nurses in the primary data set. This table is based on a small number of studies but there is evidence to support their effectiveness in patient education, pharmacotherapy, and psychological treatments. While there are questions about their role in assessment and care planning there are studies to support their effectiveness in ongoing management and physical treatment of those with mental health disorders.

**Table 15: Mental health nurses, elements of care and outcomes**

	Health	Service	Economic	Patient satisfaction
Recognition and case finding (n=1)	0 (1)* -	0 (1) -	0 (0) -	0 (0) -
Assessment, care planning (n=5)	1 (4) 25%	2 (4) 50%	0 (1) -	1 (3) 33%
Patient education (n=3)	2 (3) 66%	2 (2) 100%	0 (0) -	1 (1) 100%
Pharmacotherapy (n=2)	2 (2) 100%	2 (2) 100%	0 (0) -	1 (1) 100%
Psychological treatment (n=4)	2 (3) 67%	1 (2) 50%	0 (3) -	2 (2) 100%
Ongoing management (n=7)	2 (5) 40%	3 (5) 60%	0 (3) -	1 (3) 33%
Referral	0 (1) -	0 (0) -	0 (0) -	0 (0) -
All elements (n=8)	3 (7) 43%	3 (5) 60%	0 (3) -	2 (4) 50%

\*In brackets are the total number of studies that measured the particular outcome.



**Table 16: Summary table of configurations of care by provider**

Provider	Configurations of care
General Practitioners (n=29)	<p>GPs working alone in diagnosis and treatment had little impact on patient health outcomes but made some changes to clinical practice when provided with brief training [33,71,43].</p> <p>GPs working with other generalist providers showed greater success in terms of health, service and patient satisfaction outcomes. See the following sections for details.</p> <p>GPs working collaboratively with psychiatrists or clinical psychologists were able to significantly improve pharmacotherapy leading to improved health outcomes [40,51,73,65,41,62,15].</p> <p>Gilbody et al[131] in a systematic review concluded that collaborative care is effective in producing short term outcomes in depression, but the longer term outcomes remain inconclusive. Studies that included three elements of collaborative care including a case manager, primary care physician and access to specialist advice were more likely to be effective.</p> <p>Mitchell et al[136] in a systematic review found that formal liaison shows “modest benefit” in some chronic mental health conditions but inconsistent benefits for those with chronic complex conditions (schizophrenia).</p> <p>Very few studies examined GPs working with mental health nurses, pharmacists or mental health teams.</p>
Primary Care Nurses (n=11)	<p>Nurses working alone were able to deliver psychological therapies effectively to patients with depression and emotional disorders and provide structured assessments, patient education and physical care to patients with more severe mental health conditions. Two studies found significant improvements in mental health [9,10,19]; however improvements in treatment, patient satisfaction, and functional status were reported in a number of studies [54,18,2].</p> <p>Nurses working in collaboration with GPs resulted in improved treatment and improved symptoms for patients with depression [58,57,59,55].</p>
Counsellors, Social Workers, Psychologists (n=19)	<p>Most studies found counsellor, social worker or non-clinical psychologist interventions to be highly successful in terms of health and service outcomes. The greatest benefit of counsellor, social worker or non-clinical psychologist interventions were the significant improvements in patient satisfaction. In most studies costs appeared to be higher.</p> <p>While this group is largely engaged in providing psychological treatments it was successful in achieving health outcomes in assessment, patient education and ongoing management as well.</p> <p>GPs working with counsellors, social workers or non-clinical psychologists significantly improved the health outcomes of patients.[67,35,4,38,60,32,69,6]</p> <p>Gilbody et al[131] in a systematic review found that the review concluded that intensive interventions accompanied by interventions directed at patients such as nurse case management were more effective than less intensive initiatives.</p> <p>Bower and Roland[125] in a systematic review, found that there were short term benefits which could be attributed to counselling in primary care particularly in relation to prescribing patterns, medication use and referral to services (up to 4 months). Overall, evidence suggested that counselling services compared to usual GP care had little impact on health costs.</p>

Provider	Configurations of care
Mental Health Nurses (n=8)	Mental health nurses were involved in a range of interventions where they delivered assessment, treatment and ongoing management. Overall the interventions were successfully delivered, however only 3 of 7 studies found significant improvements health outcomes [44,70,31,39].
Pharmacists (n=3)	Enhancing the role of pharmacists in the care of patients with depression can improve the delivery of antidepressant treatment [1,21,16].

\*Acknowledgments are as referenced.

## SUMMARY

This section has reported the evidence of effective configurations of care provided in terms of elements and providers. It is based on the primary data set supported by evidence for selective systematic reviews and almost all the data is from the UK and US.

In the next section we look at the implications of effective elements of care for workforce arrangements.

## QUESTION 3

What are the implications of effective elements of care for workforce arrangements?

This section draws upon the findings summarised in Table 10 and described in Appendix M. Effective elements are described in the form of configurations of provider, element and supports and structured by element of care.

## RECOGNITION AND CASE FINDING

The GP plays a major role in recognition and case finding which is particularly important given the evidence about unmet need in the community [155]. There is little evidence of other generalists providing this element of care. There is some evidence that brief training, consultation and feedback are useful supports in this role. Opportunities and related workforce implications include:

- Increasing the substitution of generalists for other elements of care currently undertaken by GPs to release GP time for this role (see below)
- Developing roles for NGOs and welfare organisations such as Lifeline and others in recognition and case finding
- Providing training on the identification of mental health conditions and opportunities for consultation and feedback from specialist staff to improve case finding and identify unmet needs for care

## ASSESSMENT AND CARE PLANNING

Assessment and care planning can be provided effectively by primary care nurses, counsellors, social workers and psychologists. The evidence suggests that GPs may not provide this item effectively. Brief training, consultation and multi-disciplinary meetings are effective supports. These elements of care are not commonly provided by non-GP generalist staff in Australia. Possible approaches include:

- Broadening the role of non-GP generalist staff in assessment and care planning (with appropriate supports). This can provide a service and also free GPs up for other tasks, including case finding. This is particularly relevant in rural and remote areas where GPs and other generalist staff are in short supply
- Increasing the number and extending the roles of practice nurses. The development of practice based mental health workers such as those used in the UK program might be worthwhile.[49]

## PATIENT EDUCATION

Patient education is strongly related to health and service outcomes when provided by generalist staff and mental health nurses. It is particularly effective when supported by brief training, consultation and feedback. Patient education is helpful if it enables patients to contribute to their own recovery. In the Australian system it may be difficult for GPs to find time to provide this element of care. Possible strategies include:

- Developing the role of generalist staff in providing patient education
- Developing programs and resources to support brief education, and providing consultation and feedback to generalist staff who deliver patient education
- Evaluating web based education resources and assessing the ability of NGOs to deliver these with and without mentors, and the costs and acceptability to consumers of these forms of patient education. (See [165])

## PHARMACOTHERAPY

Pharmacotherapy is a key task of the GP in the Australian mental health care system and the evidence shows that GPs are effective providers when supported by brief training, consultation, feedback and/or supervision. Access to psychiatrists is difficult in some rural and remote areas and e-technologies might assist in providing such support. Possible developments include:

- Facilitating GP access to consultation, feedback and supervision from psychiatrists and perhaps pharmacists
- Providing evidence based updating and training in pharmacotherapy for GPs rather than the ad hoc product based training that is sometimes provided
- Developing GPs with a special interest in mental health, with a role of supporting other GPs
- Having primary health nurses and allied health staff support GPs in supporting medication adherence as part of ongoing mental health care

## PSYCHOLOGICAL THERAPIES

Psychological therapies can be provided effectively by generalist allied health staff, primary care and mental health nurses. Providers benefit from brief training, consultation, feedback and supervision. Opportunities include:

- Encouraging GPs to refer patients to allied health or specialist staff for psychological therapies rather than providing them themselves, releasing GP time for elements of care which they do effectively and where there is no effective substitute. This implies an extended role for primary care nurses, allied health staff and mental health nurses, and may require an increase in the number of mental health nurses

## ONGOING MANAGEMENT

Ongoing management for patients with severe conditions is effectively provided by primary care nurses. The evidence suggests that Allied health providers are as successful as GPs.

A stepped care approach is likely to be needed in which less intensive care is provided until it becomes clear that more intensive care is needed.

A broader role may be needed for primary care nurses and allied health staff if they are to manage care plans in accordance with mental health or care plans. This requires a wide range of supports are needed including brief training, consultation, feedback, supervision and multi-disciplinary meetings.

## PHYSICAL CARE

Physical care of those with mental health conditions was identified as a key issue in the consultations but there was no evidence about this element in the primary studies.

This implies additional complex work for GPs in addressing mental and physical care.

## REFERRAL

GPs were effective in referral and benefited from a range of supports most importantly brief training. This suggests:

- Increasing the provision of services to which GPs can refer patients, particularly those who require publicly funded or subsidised services, and particularly in areas of shortage
- Referral options will vary according to the supply of providers in particular locations. The shortage of specialists in rural and remote settings might imply that GPs refer to other generalists or to generalists with a special interest in mental health
- Increased referral by GPs requires good information systems concerning referral options, availability, and referral criteria

These findings must be understood in the light of the Australian mental health workforce discussed in the introduction and described in Appendix A.

GPs are in short supply in regional and rural areas and face high and increasing workloads in many areas. It follows that:

- Enabling GPs to focus on those activities where they are most effective and using referral and support mechanisms to provide other elements is an attractive option

Practice nurses are increasing in number and the number of practices with practice nurses is increasing but around 40% of practices do not have practice nurses.

- Developing the role of practice nurses to assist in providing elements of care may be an option for some practices providing appropriate supports can be provided

Allied health staff are better distributed and their numbers are growing, particularly psychologists.

- Continuing to build the role of generalist allied health staff in providing psychological therapies and perhaps developing that role to provide other elements of care warrants consideration

Psychiatrists and to a lesser extent clinical psychologists are highly concentrated in metropolitan settings.

- Specialists have a key role in providing elements of care for patients with severe conditions and in providing supports for GPs and other generalist providers. This is very challenging outside metropolitan settings

Mental health nurses, especially those with formal qualifications, are in short supply in regional and rural locations and there are limited opportunities for them to work in community settings

- In the short term mental health nurses are likely to be in short supply and given the numbers of people with acute conditions needing complex care in the community their numbers and skills will need to be increased

## SUMMARY

In summary, evidence from the primary studies has implications for workforce arrangements in Australia.

In the next section we will examine how these workforce implications relate to existing primary care and mental health initiatives.

## QUESTION 4

How does this relate to current workforce and other primary health care initiatives in Australia?

The key policies which address the workforce issues identified in this review are summarised in Table 15. These initiatives have developed over a number of years and are both complementary and in some cases overlapping in the sense that a particular service such as focussed psychological therapies might be provided under a range of programs or a new program such as Better Access might build on an existing initiative BOIMH but not replace it. The coverage of the policies is broad crossing disciplines, mental health conditions, stages in education and training and setting in which services are delivered.

**Table 15: What are the key current workforce and primary care initiatives in Australia?**

Workforce and primary care initiatives	Purpose of initiatives
Strengthening Medicare [SM] <a href="http://www.health.gov.au/strengtheningmedicare">http://www.health.gov.au/strengtheningmedicare</a>	<ul style="list-style-type: none"> <li>- Increase the number of medical graduates</li> <li>- Increase the number of GPs</li> <li>- Increase the number of doctors in workforce shortage areas</li> <li>- Provide placements for junior doctors in general practices in workforce shortage areas rural and remote settings</li> </ul>
Better Access to Psychiatrists, Psychologists and GPs (MBS) [Better Access] <a href="http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-betteraccess-1">www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-betteraccess-1</a>	<ul style="list-style-type: none"> <li>- Promote greater interaction between GPs, Psychiatrists and allied health staff</li> <li>- To give GPs greater scope to shape and direct the treatment of patients through the GP mental health plan.</li> <li>- Funds assessment and care planning by GPs</li> <li>- Funds assessment and psychological therapy by clinical psychologists for people with severe illness</li> <li>- Funds brief focussed psychological treatments by psychologists, social workers or occupational therapists for people with mild and moderate mental illness</li> <li>- Increases referral options for GPs including psychiatrists and allied health providers</li> <li>- Supports education and training for GPs</li> </ul>
Better Outcomes in Mental Health Care [Better Outcomes] <a href="http://www.health.gov.au/internet/wcms/publishing.nsf/Content/mental-boimhc">www.health.gov.au/internet/wcms/publishing.nsf/Content/mental-boimhc</a>	<ul style="list-style-type: none"> <li>- To provide better access to quality primary mental health services by providing better education and training for GPs and more support for them from allied health providers and psychiatrists</li> <li>- Funds assessment and care planning by GPs</li> <li>- Funds brief focussed psychological treatments by psychologists, social workers or occupational therapists for people with mild and moderate mental illness</li> <li>- Supports education and training for GPs</li> <li>- Increases referral options for GPs including psychiatrists and allied health providers</li> </ul>
More Allied Health Services [MAHS] <a href="http://www.health.gov.au/internet/wcms/publishing.nsf/content/health-pcd-programs-mahs">http://www.health.gov.au/internet/wcms/publishing.nsf/content/health-pcd-programs-mahs</a>	<ul style="list-style-type: none"> <li>- To improve the health of people in rural areas through improved linkages between general practice and allied health providers</li> <li>- Funds brief focussed psychological treatments by psychologists, social workers or occupational therapists for people with mild and moderate mental illness</li> <li>- Increases referral options for GPs to allied health providers</li> </ul>
Mental Health Services in Rural and Remote Areas Program [MHSRRAP] <a href="http://www.health.gov.au/internet/wcms/publishing.nsf/Content/mental-rural">http://www.health.gov.au/internet/wcms/publishing.nsf/Content/mental-rural</a>	<ul style="list-style-type: none"> <li>- Provide access to allied and nursing mental health services in rural and remote communities</li> <li>- Provide access to nursing and allied health services in rural and remote communities</li> </ul>
Nursing in General Practice Training and Support Initiative [NGP-TSI]	<ul style="list-style-type: none"> <li>- Supporting the recruitment, retention and effective use of practice nurses to maximise their contribution to quality and safe patient care</li> <li>- Relieve workforce pressure in general practice; improve the</li> </ul>

Workforce and primary care initiatives	Purpose of initiatives
<a href="http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-programs-nurse-training-support0509">http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-programs-nurse-training-support0509</a>	prevention and management of chronic disease; and improve access to, and the quality and integration of, patient care
Mental Health Nurse Incentive Program [MHNIP]  <a href="http://www.health.gov.au/internet/wcms/publishing.nsf/Content/coag-mental-prog-nurse">http://www.health.gov.au/internet/wcms/publishing.nsf/Content/coag-mental-prog-nurse</a>	<ul style="list-style-type: none"> <li>- To assist in the provision of coordinated care for people with severe mental disorders</li> <li>- To alleviate pressure on GPs and private psychiatrists</li> <li>- Nurses will provide periodic patient reviews, medication monitoring, information to patients on physical health care, and care planning and arranging access to care for patients with complex needs</li> <li>- 25% session fee loading in rural and remote Australia</li> <li>- Provides a mechanism to employ mental health nurses in primary care settings to provide a range of elements of care for people with severe mental health conditions</li> </ul>
Telephone Counselling, Self Help and Web-based Support Programs [Tele-Counsel]  <a href="http://www.healthconnect.gov.au/internet/budget/publishing.nsf/Content/4BD20C8F8EB6FA82CA257167001CF68C/\$File/hfact011.pdf">http://www.healthconnect.gov.au/internet/budget/publishing.nsf/Content/4BD20C8F8EB6FA82CA257167001CF68C/\$File/hfact011.pdf</a>	<ul style="list-style-type: none"> <li>- Provide increased funding to NGOs for telephone and web-based services and expanded on-line interactive tools for individuals with common mental disorders who do not currently receive treatment</li> <li>- May provide another treatment option for individuals presenting in primary health care settings with common mental disorders</li> </ul>
Additional education places, scholarships and clinical training in mental health [Additional MH Education]  <a href="http://www.health.gov.au/internet/mentalhealth/publishing.nsf/Content/additional-education-places-1">http://www.health.gov.au/internet/mentalhealth/publishing.nsf/Content/additional-education-places-1</a>	<ul style="list-style-type: none"> <li>- Will provide additional training places in mental health nursing, clinical psychology and supported by student scholarships</li> <li>- Will also place Psychiatry trainees in community settings to broaden their experience</li> <li>- Will contribute to workforce shortages in mental health nursing and allied health professions and may increase the number of psychiatrists practicing in the community</li> </ul>
Mental health in tertiary curricula [MHTC]  <a href="http://www.health.gov.au/internet/mentalhealth/publishing.nsf/Content/tertiary-curricula-1">http://www.health.gov.au/internet/mentalhealth/publishing.nsf/Content/tertiary-curricula-1</a>	<ul style="list-style-type: none"> <li>- Will strengthen the mental health components of undergraduate health training so that health graduates have further skills and knowledge in the assessment, management and referral of people with a mental illness</li> <li>- May increase the ability of generalist staff to provide a wider range of element of care</li> </ul>
Divisions of General Practice Program [DivGP]  <a href="http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-programs-divisions-index.htm">http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-programs-divisions-index.htm</a>	<ul style="list-style-type: none"> <li>- To assist general practices to provide services to the community and achieve improved health outcomes</li> </ul>
National Action Plan [NAP]  <a href="http://www.coag.gov.au/meetings/140706/docs/nap_mental_health.pdf">http://www.coag.gov.au/meetings/140706/docs/nap_mental_health.pdf</a>	<ul style="list-style-type: none"> <li>- The Plan provides a strategic framework that emphasises coordination and collaboration between government, private and non-government providers in order to deliver a more seamless and connected care system, so that people with mental illness are able to participate in the community.</li> </ul>

## WORKFORCE SUPPLY

GPs are central to mental health care in primary care settings working alone and in partnerships with other generalists and with specialists. Workforce shortages and the uneven distribution of GPs means that some have very heavy workloads. Within the Strengthening Medicare Initiative (SM) there are programs to increase the number of medical schools, medical graduates, GPs and to encourage doctors to take up positions in under doctored, rural and remote settings. These are major medium and long term investments which, it is hoped, will increase the supply and improve the distribution of GPs.

GPs are not the only providers facing workforce shortages. The Additional Education places, Scholarships and Clinical Training in Mental Health initiative (Additional MH Education) is designed to create additional training places for specialists namely, mental health nurses and clinical psychologists and to provide scholarships to enable them to train. It will create community placements for psychiatry trainees to increase their exposure to and perhaps their willingness to work in community settings.

## WORKFORCE ROLES

The review findings suggest that it might be appropriate for GPs to focus on those elements of care which they have been found to provide most effectively which other generalists cannot provide and to make more use of referral options for elements of care that can also be provided by others. GPs are effective case finders, providers of pharmacotherapy and referrals, and play a central role in the mental health system which cannot readily be shared with other generalists. The Better Access program provides opportunities for greater interaction with psychiatrists who can support them in this role. The initiative also provides professional education and training opportunities. The recent Mental Health Nursing Incentive Program (MHNIP) promises help with the care of patients who have severe conditions and includes monitoring medication adherence but the shortages of mental health nurses suggests that this will take some time to materialise in some communities.

The Better Outcomes in Mental Health (BOIMH), Better Access to Psychiatrists, Psychologists and GPs (Better Access), the More Allied Health Services (MAHS), and the Mental Health Services in Rural and Remote Areas Program (MHSRRAP) all, in different ways, aim to improve the availability of generalist allied health providers to provide psychological therapies for patients with mild and moderate conditions. They vary in their organisation and funding and the latter two initiatives focus on rural communities. These programs have been successful in increasing access to therapies which are strongly supported in this review. The Better Outcomes program has provision for GPs to be trained and to provide focussed psychological therapies themselves but this may be an expensive option in the light of the review which finds that other generalists including counsellors can provide this element effectively.

The Better Access program provides access to clinical psychologists and psychiatrists for assessment and psychological therapy for people with severe mental illness and provides further referral options which are important given the skewed distribution of these specialist providers. The Better Outcomes initiative provides access to a psychiatrist support service from which GPs can get advice in 24 hours about an aspect of patient management.

The Better Access program is designed to support the overall continuing role of GPs in caring for patients with ongoing health conditions, to enable them to shape and direct the treatment of patients through the GP mental health plan. This review found that care planning could be effectively provided by other generalists and there might be scope to include other generalists in this role, perhaps through the use of team care arrangements as in the chronic disease Medicare items.

The number of practice nurses is growing encouraged by the Nursing in General Practice Training and Support Initiative (MGP-TSI) and this review suggests that practice nurses might be involved in assessment and care planning, providing some psychological therapies such as problems solving therapy and perhaps involvement in ongoing management of people with mild and moderate conditions provided that they receive appropriate supports and supervision.



Such support and supervision might be provided through Divisions of General Practice (Div-GP) or by other generalists, through peer supervision networks or perhaps by extending the BOIMH or Better Access programs.

The review found that patient education was particularly effective in achieving outcomes when provided by generalists. Psycho education is provided for in Better Access and Better Outcomes programs and mental health nurses will be able to provide information on physical care under the MHNIP initiative. Another source of patient education for some patients may be the web. The Telephone Counselling, Self Help and Web-based Support Programs initiative (Tele-counsel) provides increased funding to NGOs for telephone and web-based services and expanded on-line interactive tools for individuals with common mental disorders who do not currently receive treatment.

Ongoing management is important for some patients with serious mental health conditions and the National Action Plan (NAP) envisages that these patients will have clinical coordinators and “mentors and helpers” to coordinate non-clinical care. Such coordination is expensive and most people with mental health conditions do not require it. The Tolkien II (2006) report recommends a “stepped care” approach to care in which less intensive care is provided until it is clear that more intensive care is required. The Mental Health Nurse Incentive Program (MHNIP) anticipates that mental health nurses will assist in the provision of coordinated care for people with severe mental disorders.

### **WORKFORCE CAPABILITY**

Extending the role of generalists has implications for education and training at basic/undergraduate and at vocational levels. The Mental Health in Tertiary Curricula Program (MHTC) addresses basic training and is designed to increase mental health literacy and skills in assessment, management and referral for generalist providers but the outcomes are likely to be medium term at best.

The Better Access and Better Outcomes initiatives provide opportunities for the education and training of providers and Divisions also provide training for GPs, practice nurses and allied health staff in some instances.

### **INCREASING REFERRAL OPTIONS**

Increased referral by generalists and specialists requires good knowledge of referral options, availability and referral criteria. Hordacre et al (2007) reported pronounced increases in the number of Divisions providing shared care programs in mental health. It may be that Divisions can provide this information to facilitate referral through the DivGP initiative.

### **SUMMARY**

The initiatives described above and in Table 15 demonstrate that there are structures and mechanisms to address many of the workforce issues arising from this review. Some are relatively recent (e.g. Better Access) and others will take some time to come to fruition. Others will depend on imponderables such as the willingness of the workforce to work in non-metropolitan settings and areas of workforce shortage.

The final chapter reviews some of the limitations of the review and identifies some options for policy and practice in primary mental health care.



## DISCUSSION

In a context of high need and high unmet need for mental health care, generalist and specialist workforce shortages, a shift towards community settings for care and a political consensus supporting mental health service improvement as demonstrated by the National Mental Health Strategy and the National Action Plan generalist providers are an essential part of the mental health system.

Generalists are important because they are in contact with a large population and see many presenting conditions. They are ideally situated to recognise mental health problems and act as a conduit to other parts of the health care system. Generalists are present in most communities in some form while specialists are often located in larger centres. We took our definition of generalism from the work of McDonald (2005) and included providers who work in community settings, and may act as first point of care and referral gateway to other providers, who provide holistic care to patients across episodes and over time, and who may coordinate care for patients receiving care from multiple providers. We included GPs, practice nurses, and allied health providers including counsellors, psychologists, social workers, and health visitors. We defined psychiatrists, mental health nurses and clinical psychologists as specialists on the grounds that they usually operate as a referral service. Studies including specialists were included in the study if they provided care in partnership with generalists in primary care or community settings.

We developed a framework of configurations of care from our analysis of the selected papers since it was apparent that generalists provided elements of care alone or with others, for particular conditions, and received supports such as training and feedback or supervision from others which were intended to assist them in providing effective care. It was the combination or configuration of elements that was or was not associated with effective outcomes which we took from the peer reviewed papers and categorised as health, service, patient satisfaction or economic outcomes. This encouraged us to think comprehensively about services and manpower and not to restrict our thinking to single providers. We hope that this will be of value to those considering the development of primary care based mental health services as well as those with an interest in workforce issues.

Our key informants rightly pointed us to the National Action Plan which recognises that some of those with severe disorders require non-health elements of care such as education, accommodation and employment assistance we have categorised as elements of care from non-health providers. They are included in our analytical framework for completeness but were outside the scope of the review.

In presenting our findings we have shown the number of studies with particular outcomes as a proportion of the number of studies that measured that outcome and indicated the quality of the study as independently assessed. Findings from systematic reviews are included in our tables showing the effectiveness of configurations of providers in achieving outcomes in particular interventions.

## KEY FINDINGS

GPs were more effective in achieving health and service outcomes when they work closely with other generalists or with mental health workers. Such “teamwork” could be supported through team care arrangements or other mechanisms.

The Australian studies, consultations and grey literature which provided the information for the first question showed that Australian generalist providers provide a range of elements of care ranging from prevention and mental health promotion to referral. GPs report that one in 10 consultations results in a referral and two-thirds of encounters result in a medication being prescribed, recommended or supplied. GPs provided a wide range of elements of care but other generalists usually provided one or two elements only. For instance, practice nurses provided physical care and psychologists provided psychological therapies.

Key informants pointed to the importance of prevention and health promotion strategies although they did not appear in our studies.

One instance of providers working in combination was the BOIMH program where GPs provided referral and pharmacotherapy and psychologists provided brief psychological therapies. This approach has been extended in the Better Access program in which specialists are included and Psychiatrists can refer to Psychologists so developing the possibilities for collaborative working. This model provides a mechanism to fund collaborative care and it remains to be seen how it is adopted by generalists and specialists.

Generalists receive a wide range of supports to assist them provide this care from Psychiatrists, Divisions of General Practice, local mental health services and the Australian Government in the form of finance support through Medicare items and incentive payments. The availability of these supports vary by location and we are not aware of any information about the coverage and quality of such supports,

We were unable to make any assessment of the effectiveness of these configurations of care due to the design of the Australian studies.

The findings from the primary data set of largely UK and US studies showed that GPs provided a wide range of elements of care working alone and in partnership with other generalists and specialists. There was evidence that they performed many of these roles effectively achieving health and service outcomes. They were effective case finders, providers of pharmacotherapy and referrers, and played a unique role in the mental health system.

There was evidence from the international studies that other generalists including primary care nurses, counsellors, psychologists and social workers can effectively provide a wider range of elements of care than is common in Australia including assessment and care planning, patient education, and ongoing management.

The review concluded that it might be appropriate for GPs to focus on those elements of care where they are most effective and refer to other generalists and specialists where they can be equally effective. This implies working in combination with other providers, not simply abrogating tasks. Such referral may require support in the form of information about referral options, availability and referral criteria.

If other generalist providers are to provide a wider range of elements of care in combination with GPs, of supports will need to be provided including training, consultation, feedback and supervision.

### **AUSTRALIAN WORKFORCE AND POLICY INITIATIVES**

A review of the main workforce and primary care initiatives found a range of structures and funding mechanisms designed to address generalist and specialist workforce shortages, inequitable distribution of the workforce, to encourage referral to generalists and specialists, and to enable supports to be provided to generalists by specialists and generalists. There were longer term strategies to increase workforce supply of and to increase the mental health literacy of generalist providers and initiatives to provide referral; opportunities, education and training are being provided more immediately.

We cannot say if the raft of initiatives is sufficient to bridge the gap between the capacity of the current workforce and the needs and unmet needs of those with high and low prevalence conditions since the success of existing strategies depends not least on the willingness of providers to live and work in metropolitan, regional and rural locations. There are specific strategies which have been tailored to rural settings which are flexible and permit service development building on local resources and capabilities.

## POLICY OPTIONS

Based on the material in this review, the following are areas which might be considered for further development.

### RECOGNITION AND CASE FINDING

Provide basic and continuing training to generalist providers on the identification of mental health conditions and provide opportunities for feedback and consultation with specialist providers to improve case finding and identify unmet needs for care through initiatives such as MHTC, the Divisions program, Better Access and BOIMH.

Develop new roles for NGOs and welfare organisations such as Lifeline and others in recognition and case finding. This would also require training and support for the organisations, and access to appropriate referral networks.

### ASSESSMENT AND CARE PLANNING

Encourage the use of initiatives such as MAHS, BOIMH, Better Access and NGPSI and examine the scope for broadening the role of non-GP generalist staff in assessment and care planning and so free up GP time for other tasks including case finding.

### PATIENT EDUCATION

Develop the role of nurses within general practices, psychologists and social workers in the provision of patient education making the most of provisions in Better Access, BOIMH, MAHS and MHSRRAP.

Develop programs and resources to support brief education, and provide consultation and feedback for generalist staff who deliver patient education making the most of Divisions program, BOIMH and Better Access.

Evaluate web based education resources and assess the ability of NGOs to deliver these with and without mentors, and the costs and acceptability to consumers of these forms of patient education using the Tele-Counsel initiative (See [165]).

### PHARMACOTHERAPY

Facilitate GP access to consultation, feedback and supervision from psychiatrists and perhaps pharmacists making use of Home Medicine Review.

Provide systematic evidence based updating and training in pharmacotherapy for GPs through Divisions program.

Encourage GPs with a special interest in mental health to supporting other GPs in association with Divisions of General Practice.

Train primary health nurses and allied health staff support GPs to support patient adherence to medication as part of ongoing mental health care.

### PSYCHOLOGICAL THERAPIES

Encourage GPs to refer patients to allied health or specialist staff for psychological therapies rather than providing them themselves, releasing GP time for elements of care which they do effectively and where there is no effective substitute. This implies an extended role for primary care nurses, allied health staff or mental health nurses, and may require an increase the demand for mental health nurses.

### ONGOING MANAGEMENT

Consider supporting a stepped care approach for patients with complex and severe conditions in which less intensive care is provided until it becomes clear that more intensive care is needed.

Develop a broader role for nurses within general practices and allied health staff if they assist in ongoing patient management in accordance with mental health plans. This requires a wide range of supports are needed including brief training, consultation, feedback, supervision and multi-disciplinary meetings.

## **REFERRAL**

Continue to encourage the provision of services to which GPs can refer patients, particularly those who require publicly funded or subsidised services, and those in areas of workforce shortage.

Consider encouraging refer to other generalists or to generalists with a special interest in mental health in areas of workforce shortage, rural and remote settings

Encourage Divisions to develop systems which provide up to date information on referral options, availability, and referral criteria.

## **TEAM WORKING**

Encourage GPs to work more closely with other generalist and specialist staff making the most of provisions in BOIMH, Better Access, MAHS and the MHSRRAP initiatives. Such "teamwork" could be supported through team care arrangements or other mechanisms.

## **LIMITATIONS OF THE EVIDENCE**

This review is based on a small number of the best quality empirical studies from around the world. The studies come from international journals and have been subject to peer review as well as independent quality assessment and from the perspective of researchers represent the best available evidence.

Our strict inclusion criteria meant that the primary studies were almost all from the UK and the US and so their applicability in the Australian context must be treated with caution. Only three Australian studies were included in the primary data set used to answer Question 2 and it follows that more quality research needs to be conducted in Australian primary care settings if the suggestions in this review are to be better founded. As an example we found no studies of indigenous interventions which is a disappointing omission in an Australian study.

Many of the international studies were conducted with short follow up periods, often only months, and so the sustainability of interventions and outcomes is hard to assess. While the reasons for this are easily identified and include the complexity of controlled trials, the challenges of conducting such studies in primary health care settings and the difficulties of following up patients over extended periods, the resulting research provides a less than ideal platform on which to build policy.

The Australian studies consisted almost entirely of service descriptions, surveys and grey literature which were used to describe the pattern of care in Australia in answer to question 1.

The economic evaluations within the review are hard to compare for a number of reasons. They range from extensive economic evaluations which include a wide variety of costs over and extended period to studies that included only a small proportion of provider costs only, often those that were easiest to measure. It follows that an intervention which is rated as economically sound when a small range of costs are considered may be thought unsound when a wider range of costs are included and evidence becomes apparent about cost-shifting or a reduction in provider costs and an increase in consumer costs. We have drawn implications from the economic outcomes only where there are a large number of studies painting a similar picture.

Nonetheless, despite these reservations, the papers selected were generally of good or high quality as independently assessed and form the basis of our analysis.

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## APPENDICES

### APPENDIX A: AUSTRALIAN WORKFORCE STATISTICS

Profession	Numbers	Distribution	Role/workload	Comments
General Practitioners	36,300  178.6 per 100,000 [AIHW 2007], with significant urban/rural/remote distribution differences	4180 per 100,000 in major cities  1157 per 100,000 in inner regional areas  107 per 100,000 in remote areas [AIHW 2005]	10.2 million GP encounters for mental health related problems (BEACH estimate 2003-4)  505 encounters per 1000 are for mental health related problems which account for 10.8% of all GP encounters	1% decline in numbers, 2000-2005.  82% of all mental health related prescriptions made to PBS are by GPs.  Divisions of General Practice provide wide range of training and other supports.
Practice nurses	4,924, with some urban/rural/remote distribution differences, but not the same differences as for GPs, psychologists  82% work part time (AGPN 2006)	PNs work in 57% of general practices  1122 per 100,000 in major cities  1102 per 100,000 in regional areas  1164 per 100,000 in remote areas [AIHW 2007]	Practice nurses have limited role in mental health in Australia and work mainly in chronic disease management.	Numbers up 23% since 2003  Number of practices with PNs up 17% since 2003.  Their roles are influenced by factors such as the practice population, nurses' qualifications, practice structure, professional standards and national incentives and programs.
Psychologists	13,900  58 per 100,000 [AIHW 2007]  The APS reports 1944 members of the college of clinical psychologists in August 2007.	5.93 per 10,000 in major cities  3.44 per 10,000 in regional  0.83 per 10,000 in remote  20.5% work in rural (Roufeil and Lipzker 2007)	Non clinical and clinical psychologists are able to claim MBS items and BOiMH, and MAHS fees but at different rates of remuneration.	Numbers up 50.5% since 2000.  Funded for psychological treatments such as CBT under BOiMH, MAHS, and recently MBS
Mental health nurses	14,123  68 per 100,000,, with significant urban/rural/remote distribution differences  5.7% of all nurses [AIHW 2007]	69 per 100,000 major cities  74 per 100,000 inner regional  38 per 100,000 outer regional  20 per 100,000 remote [AIHW 2007]		29.3% have completed a mental health course of more than six months.  AHWAC (2003) attributed difficulties in recruitment and retention to: lack of awareness and negative views of the mental health sector; shortcomings in education programs (e.g. removal of direct entry psychiatric nursing programs); workplace issues (pay and working conditions); regulation/ accreditation difficulties; and the lack of ease and affordability of re-entry (including access to relevant training programs).
Psychiatrists	3,151	22 per 100,000 in major cities	Psychiatrists provided 98.6 Medicare funded services	Number of Medicare funded services provided by private

Profession	Numbers	Distribution	Role/workload	Comments
	17 per 100,000, with significant urban/rural/remote distribution differences 23.5% trainees [AIHW 2007]	9 per 100,000 in regional  3 per 100,000 rural/remote [AIHW 2007]	per 1000 population in 2005-6 compared with 110.3 per 1000 in 2000-1.	psychiatrists are falling.
Others include: Psychiatric Social Workers, Occupational Therapists, Aboriginal mental health workers, Non-psychiatrist medical practitioners in mental health services				

## APPENDIX B: KEY PRIMARY HEALTH CARE AND WORKFORCE POLICIES

### **The mental health strategies**

The first strategy in 1992 (158) focussed on reducing stand alone psychiatric hospitals and mainstreaming care for those with serious and low prevalence mental illness in community and general hospitals with new residential accommodation.

The second strategy in 1998 (159) included high prevalence conditions and added a focus on mental health promotion and prevention. It addressed integration between private psychiatrists, GPs, NGOs, general health sector and emergency services.

Third plan 2003-8 (160) built on previous strategies and aimed to promote the mental health of the community, prevent where possible the development of mental disorder, reduce the impact of mental disorder on individuals, families and the community, and assure the rights of people with a mental disorder.

### **National Health Workforce Strategic Framework**

The National Health Workforce Strategic Framework (161) set out the following goals for the health workforce:

- National self-sufficiency within global market
- Workforce distribution that optimises access and meets needs of all Australians
- Workplace environments in which people want to work
- An appropriately skilled and competent workforce
- The optimal use of available skills and workforce adaptability
- A health workforce policy and planning regime that is informed by the best available evidence and linked to the broader health system, and collaborative pursuit of the objectives of the framework by all stakeholders
- Evolutionary change towards these goals

### **Commonwealth policy response – National Action Plan for Mental Health**

Better outcomes in Mental Health. The COAG package announced on 5 April 2006 promised \$1.9 billion over 5 years to mental health services. This included a National Action Plan (166) with the following objectives:

- To reduce the prevalence and severity of mental illness
- To reduce the prevalence of risk factors that lead to mental illness and prevent long term recovery
- To increase the proportion of people with an emerging/established mental illness able to access the right care and community services at right time with particular focus on early intervention
- To Increase the ability of people with a mental illness to participate in the community – employment, education and training, stable accommodation



These objectives were supported by a series of spending pledges:

- Integrating and improving the care system (\$1,196.9million)
- Better access to Psychiatrists, Psychologists and GPs through MBS (\$538M)
- New funding for mental health nurses in private psychiatry, general practice and other locations for people with serious mental illness to receive better coordination of services, home visiting, medication management, and better links to other health professionals (191.6m)
- Mental health services in rural and remote areas through allied mental health professionals such as psychologists, social workers, Occupational Therapists and Mental Health Nurses and through Divisions or Aboriginal Primary Health Centres(51.7m)
- Increasing workforce capacity (\$129.9m)
- Additional education and clinical training in mental health MHN and psychology training places, increasing mental health competencies in the clinical curriculum (\$103.5m)
- Developing the mental health component in the tertiary curricula through grants to universities for nurse and allied health training (\$5.6.m)
- Improving the capacity of health workers in indigenous communities (\$20.8m), including five scholarships and 10 new positions in indigenous communities

### **Benefits for rural areas (171)**

The Productivity Commission proposed a new health workforce improvement agency that would lead to better accreditation arrangements, wider scopes of practice and more multi-disciplinary care, reinforcing existing rural innovation. It recommended extending MBS coverage to a wider range of providers which would improve access in rural settings. Providing greater MBS incentives to delegate less complex tasks to other providers might improve rural access. Also the mainstream health system might learn from the training arrangements and use of telemedicine in remote locations.

APPENDIX C: CHANGES TO THE RESEARCH QUESTIONS

Original 30/8/06	Revised 30/11/06	Revised 13/3/07	Revised 5/4/07	Final version
1. What roles do generalist primary health care providers currently play in provision of care to people with mental health problems in Australia?	No change	No change	No change	What elements of care do generalist primary health care providers currently provide to people with mental health problems in Australia and what supports do they have in doing this?
2. What elements of mental health care are best undertaken by generalist primary health care service providers, taking account of the range of patients and mental health problems (including co-morbidities)? When should this be alone or in shared care relationships with specialist providers?	What elements of mental health care are best undertaken by generalist primary health care service providers, taking account of the range of patients and mental health problems (including co-morbidities) and health service context? When should this be alone or in collaboration with specialist providers?	What elements of mental health care can be undertaken by generalist primary health care providers, taking account of the range of patients and mental health problems (including co-morbidities) and health service context? When should this be alone or in association with other providers?	What elements of mental health care can be effectively undertaken by generalist primary health care providers, taking into account the range of patients and mental health problems (including co-morbidities) and health service context? - When is this effective alone or with additional support from other providers or services?	What elements of mental health care can be effectively undertaken by generalist primary health care providers, taking into account the range of patients and mental health problems (including co-morbidities) and health service context? - When is this effective alone or with additional support from other providers or services?
3. What are the workforce implications of different arrangements supported by the evidence?	No change	No change	What are the implications (of effective elements) for workforce arrangements (linkage, structure, education, funding etc.)?	What are the implications (of effective elements) for workforce arrangements (linkage, structure, education, funding etc.)?
4. How does this relate to current workforce and other primary health care initiatives in Australia?	No change	No change	No change	How does this relate to current workforce and other primary health care initiatives in Australia?

## APPENDIX D: SEARCH STRATEGIES

### Medline, EMBASE and PsycINFO

1. Generalist\$.mp.
2. Generalism.mp.
3. (General adj (practi\$ or physician\$)).mp.
4. (Family adj (practi\$ or physician\$ or doctor\$)).mp.
5. (Primary adj (care or medic\$ or health or practi\$)).mp.
6. (Community adj (health or medic\$ or nurs\$)).mp.
7. (Community based adj (clinic\$ or nurs\$ or health or medic\$)).mp.
8. or/1-7
9. mental\$.mp.
10. depress\$.mp.
11. anxiet\$.mp.
12. psycho\$.ti,ab.
13. Psychology, Social/ or Psychology, Applied/ or Psychology, Medical/ or Psychology, Industrial/ or Psychology, Clinical/ or Child Psychology/ or Psychology/ or Schizophrenic Psychology/ or Adolescent Psychology/ or Psychology, Educational/ or Self Psychology/ or Psychology, Comparative/ or Psychology, Experimental/ or Stress, Psychological/
14. psychiatr\$.mp.
15. emotional health.mp.
16. affective disorder\$.mp.
17. neurasthenia.mp.
18. dual\$ diagnos\$.mp.
19. (co morbid\$ or comorbid\$).mp.
20. suicid\$.mp.
21. bipolar.mp.
22. self harm.mp.
23. schizophren\$.mp.
24. or/9-23
25. trial\$.mp.
26. (study or studies).mp.
27. ((singl\$ or doubl\$) adj blind\$).mp.
28. random\$.mp.
29. evaluat\$.mp.
30. (followup or follow up).mp.
31. comparative stud\$.mp.
32. time series.mp.
33. time interrupted.mp.
34. appraisal\$.mp.

35. cohort\$.mp.
36. (before adj2 after).mp.
37. case control.mp.
38. cost effective\$.mp.
39. or/25-38
40. role\$.mp.
41. workforce\$.mp.
42. skill\$.mp.
43. task\$.mp.
44. occupation\$.mp.
45. (profession or professions).mp.
46. substitut\$.mp.
47. delegat\$.mp.
48. shared care.mp.
49. consultation liaison.mp.
50. mental health intervention\$.mp.
51. or/40-50
52. 8 and 24 and 39 and 51
53. limit 52 to (english language and yr="1995 - 2007")

**CINAHL/ Sociological Abstracts**

((primary health) or (primary medical) or (primary care) or (general practi\*) or generalist or generalism or (family practi\*) or (family physician\*) or (family doctor\*) or (community health) or (community medic\*) or (community nurs\*) or (community based health) or (community based clinic\*) or (community based nurs\*) or (community based medic\*)) and (mental\* or depress\* or anxiet\* or suicid\* or (self harm) or bipolar or psycho\* or psychiatr\* or schizophreni\* or (affective disorder\*) or neurasthenia or (dual\* diagnos\*) or (co morbid\*) or comorbid\*) and (role\* or workforce or skill\* or task\* or occupations or occupation or profession or professions or substitution or delegat\* or (shared care) or (consultation liaison) or (mental health intervention)) and (trial\* or study or studies or (single blind\*) or (double blind\*) or random\* or evaluat\* or (follow up) or followup or longitudinal or (cross section\*) or (time series) or cohort or (cost effective\*) or (case control) or (interrupted time) or apprais\*)

**APAIS and AMI**

(MH,MHJ,MHI,AB,TI=(Generalist\* or generalism or (General ! (practi\* or physician\*) or (Family ! (practi\* or physician\* or doctor\*)) or (Primary ! (care or medic\* or health)) or (Community ! (health or medic\* or nurs\*)) or (Community based ! (clinic\* or nurs\* or health or medic\*)))) and (MH\_PHRASE="Psychology" or MH\_PHRASE="Child Psychology" or MH\_PHRASE="Psychology, Clinical" or MH\_PHRASE="Schizophrenic Psychology" or MH\_PHRASE="Psychology, Medical" or MH\_PHRASE="Adolescent Psychology" or (MH,MHJ,MHI,AB,TI=(Mental\* or Depress\* or Anxiety or Psychotic or Psychosis or psychoses or psychosocial or Psychiatr\* or bipolar or schizophreni\* or suicid\* or (self harm) or (Emotional health) or (Affective disorder\*) or Neurasthenia or (dual diagnos\*) or (comorbid\*) or (co morbid\*)))) and (MH,MHJ,MHI,TI,AB=(evaluat\* or study or studies or trial\* or random\* or intervention or ((single or double) ! blind\*) or (follow up) or followup or assess\* or apprais\* or pilot or test or examine or pilot or validation or compare\* or cohort\* or (before after) or (case control) or (time series) or (time interrupted) or longitudinal or (cross section\*)))) and (MH,MHJ,MHI,TI,AB=(Role\* or Workforce\* or Skill\* or Task\* or Occupation or occupations or

Profession or professions or Substitution\* or Delegation\* or (consultation liaison) or (shared care) or (mental health intervention))) and (PY = 1995-2006)

## APPENDIX E: REASONS FOR EXCLUSION

Substance abuse will be excluded except where it is a dual diagnosis. The reason being that it involves different patterns of care from mental health.

Child and adolescent mental health conditions and specialist child and adolescent mental health services will be excluded because they deal with a different set of issues, and the latter are specialist services.

Dementia will be excluded except where it is in combination with another mental illness e.g. dementia and depression. It's a different kind of role for GPs. More about aged care services. Different set of services. More of a relationship with ACAT than the mental health team.

Community mental health services including community mental health nurses will be excluded where there are no explicit links with PHC.

'Gateway' workers in England (as work in specialised mental health services and aim to improve integration between the acute sector and specialised mental health services

Issues associated with, but not in themselves, mental health issues will be excluded e.g. domestic violence, smoking, community development.

Counselling for non-mental health issues such as lifestyle change will be excluded.

Disabilities such as intellectual disability, learning difficulties, developmental disabilities will be excluded as they are not illnesses as such and do not require the same patterns of treatment as mental illness.

Where the intervention is an innovative role for practitioners, these will be excluded if they are disconnected from PHC i.e. their only partnership is with other specialists. However, if they remain with or closely connected to PHC they will be included.

Carers, both paid and unpaid will be excluded apart from where there is an explicit link with PHC systems.

Financial counsellors will be included/excluded depending on who they work with and what system they are a part of i.e. working within PHC or not.

Outpatient MH will be excluded unless they are connected to PHC. Rural outpatient care is most probably in and urban outpatient care is probably out.

Home based care will be excluded/included depending on who (generalist/specialist) is delivering care, or who they are working with, or within what system. Must be PHC.

Things that require a different set of skills or a specific set of skills such as Detoxification and alcohol prevention/early intervention related initiatives are out.

## APPENDIX F: CONSULTATION QUESTIONS

### Phase 1: Telephone interview questions

1. What practitioners do you regard as generalist?
2. What services do you regard as generalist?
3. What are generalist roles: prevention, recognition etc through to ongoing care
4. For whom: population sub groups
5. Conditions: high prevalence, low prevalence, both
6. With whom: other generalists, specialists, others
7. Are there major gaps in the availability of PMHC providers?
8. Opinions/comments on: qualifications/competencies required of generalist providers, supervision/supports required, boundaries of generalist role, training/competencies, obstacles to primary health care workers enhancing their contribution to mental health care

### Phase 2: Electronic consultation questions

1. Framework

Is our framework useful for understanding primary mental health care“?

Does the framework cover areas that will help reflection on workforce issues?

Is there anything missing?

Can the framework be better specified?

2. Major results

Are there other results from the framework used that you'd like to see presented?

3. Evidence gaps

Are the gaps in the evidence clear,

(eg no evidence for well established practices; no evidence re emerging technologies; no evidence re major client needs)?

4. Policy implications

Are there clear policy implications from the findings that fit within the Australian health system context

5. Workforce implications

Are there any workforce implications which follow from the information provided above?

### Phase 3: Face to face consultation with Australian Government Department of Health and Ageing Staff

A face to face consultation was held in early September 2007 in Canberra. Participants were presented with a short project summary including the rationale, method and key results. Discussions took place on the implications of the findings for existing and developing policy and processes. The findings of this consultation have been incorporated throughout the report ranging from the rationale and interpretive framework to the implications for policy and workforce.

## APPENDIX G: QUALITY ASSESSMENT TOOL

### QUALITY ASSESSMENT TOOL FOR QUANTITATIVE STUDIES

Ref ID: \_\_\_\_\_

Author: \_\_\_\_\_

Year: \_\_\_\_\_

Reviewer: \_\_\_\_\_

#### COMPONENT RATINGS

#### A) SELECTION BIAS

(Q1) Are the individuals selected to participate in the study likely to be representative of the target population?

Very Likely      Somewhat Likely      Not Likely

(Q2) What percentage of selected individuals agreed to participate?

80 - 100% Agreement      60 - 79% Agreement      Less than 60% Agreement      Not Reported      Not Applicable

Rate this section (see dictionary)	Strong	Moderate	Weak
------------------------------------	--------	----------	------

#### B) ALLOCATION BIAS

Indicate the study design

RCT (go to i)      Quasi-Experimental (go to C)      Case-control, Before/After study, No control group, or Other: \_\_\_\_\_ (Score Weak and go to C)

(i) Is the method of random allocation stated?      Yes      No

(ii) If the method of random allocation is stated is it appropriate?      Yes      No

(iii) Was the method of random allocation reported as concealed?      Yes      No

Rate this section (see dictionary)	Strong	Moderate	Weak
------------------------------------	--------	----------	------

#### C) CONFOUNDERS

(Q1) Prior to the intervention were there between group differences for important confounders reported in the paper?

Yes      No      Can't Tell      Not Applicable (Score Weak and go to D)

Please refer to your Review Group list of confounders.

Relevant Confounders reported in the study:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(Q2) If there were differences between groups for important confounders, were they adequately managed in the analysis?

Yes      No      Not Applicable

(Q3) Were there important confounders not reported in the paper?

Yes      No

Relevant Confounders NOT reported in the study:

\_\_\_\_\_



Rate this section (see dictionary)	Strong	Moderate	Weak
------------------------------------	--------	----------	------

*Note: Many studies report the results of multiple data collection tools. If you are interested in only one outcome of interest, measured by one tool, at one point in time, rate the components (validity and reliability of tool, blinding, withdrawals and drop-outs) based on that one tool. If you are collecting multiple outcomes of interest, scored by multiple tools (e.g. self-report AND assessor interview, SF-36 AND made-up questionnaire), at multiple points in time (e.g. 6-month follow-up AND 20-year follow-up) copy components of the EPHP tool so that each data collection tool of interest is scored.*

## D) BLINDING

(Q1) Was (were) the outcome assessor(s) blinded to the intervention or exposure status of participants?

Yes                      No                      Not Reported                      Not Applicable

Rate this section (see dictionary)	Strong	Weak	Not Applicable
------------------------------------	--------	------	----------------

## E) DATA COLLECTION METHODS

(Q1) Were data collection tools shown or are they known to be valid?

Yes                      No

(Q2) Were data collection tools shown or are they known to be reliable?

Yes                      No

Rate this section (see dictionary)	Strong	Moderate	Weak
------------------------------------	--------	----------	------

## F) WITHDRAWALS AND DROP-OUTS

(Q1) Indicate the percentage of participants completing the study. (If the percentage differs by groups, record the lowest).

80 -100%              60 - 79%              Less than 60%              Not Reported              Not Applicable

Rate this section (see dictionary)	Strong	Moderate	Weak	Not Applicable
------------------------------------	--------	----------	------	----------------

## G) ANALYSIS

(Q1) Is there a sample size calculation or power calculation?

Yes                      Partially                      No

(Q2) Is there a statistically significant difference between groups?

Yes                      No                      Not Reported

(Q3) Are the statistical methods appropriate?

Yes                      No                      Not Reported

(Q4a) Indicate the unit of allocation (circle one)

Community      Organization/  
Institution      Group      Provider      Client

(Q4b) Indicate the unit of analysis (circle one)

Community      Organization/  
Institution      Group      Provider      Client

(Q4c) If 4a and 4b are different, was the cluster analysis done?

Yes No Not Applicable

(Q5) Is the analysis performed by intervention allocation status (i.e. intention to treat) rather than the actual intervention received?

Yes No Can't Tell

**H) INTERVENTION INTEGRITY**

(Q1) What percentage of participants received the allocated intervention or exposure of interest?

80 -100% 60 - 79% Less than 60% Not Reported Not Applicable

(Q2) Was the consistency of the intervention measured?

Yes No Not reported Not Applicable

(Q3) Is it likely that subjects received an unintended intervention (contamination or cointervention) that may influence the results?

Yes No Can't tell

**SUMMARY OF COMPONENT RATINGS**

Please transcribe the information from the gray boxes on pages 1-3 onto this page.

**A SELECTION BIAS**

Rate this section (see dictionary)	Strong	Moderate	Weak
------------------------------------	--------	----------	------

**B STUDY DESIGN**

Rate this section (see dictionary)	Strong	Moderate	Weak
------------------------------------	--------	----------	------

**C CONFOUNDERS**

Rate this section (see dictionary)	Strong	Moderate	Weak
------------------------------------	--------	----------	------

**D BLINDING**

Rate this section (see dictionary)	Strong	Weak	Not Applicable
------------------------------------	--------	------	----------------

**E DATA COLLECTION METHODS**

Rate this section (see dictionary)	Strong	Moderate	Weak
------------------------------------	--------	----------	------

**F WITHDRAWALS AND DROPOUTS**

Rate this section (see dictionary)	Strong	Moderate	Weak	Not Applicable
------------------------------------	--------	----------	------	----------------

**G ANALYSIS**

Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**H INTERVENTION INTEGRITY**  
Comments

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**WITH BOTH REVIEWERS DISCUSSING THE RATINGS:**

Is there a discrepancy between the two reviewers with respect to the component ratings?  
No    Yes

If yes, indicate the reason for the discrepancy

- |           |  |   |
|-----------|--|---|
| 1         | 2  | 3   |
| Oversight | Differences in<br>Interpretation of Criteria | Differences in<br>Interpretation of Study |

## APPENDIX H: COMPONENTS OF THE FRAMEWORK

Component	Description
Elements of care	<ul style="list-style-type: none"> <li>• <b>Recognition and case finding</b></li> <li>• <b>Initial assessment, care planning</b></li> <li>• <b>Treatment</b> (6 sub categories): patient education; pharmacotherapy; psychological; other; ongoing management; physical care</li> <li>• <b>Referral</b> to other providers/services</li> </ul>
Supports	<ul style="list-style-type: none"> <li>• <b>Brief training:</b> Refers to training that is unspecified and of short duration, provision of written resources/ training materials and EBG</li> <li>• <b>Education:</b> longer training – post grad certificate/accredited course</li> <li>• <b>Consultation/ liaison:</b> Includes consultation advice, support and liaison from specialist providers to PC providers on specific patient referrals, management, treatment options/ changes, and also general advice and support. This can include face:face, telephone, written and a mixture of both</li> <li>• <b>Feedback:</b> Includes feedback from specialist providers to PC providers following specialist assessment on progress, recommendations.</li> <li>• <b>Supervision:</b> This includes formal and regular professional usually clinical supervision, support, mentoring and individual training</li> <li>• <b>Multidisciplinary team meetings:</b> Includes multidisciplinary team meetings that involve both primary care and specialist mental health providers</li> <li>• <b>Administration</b></li> <li>• <b>System development/support:</b> Includes developing and supporting systems for shared/collaborative care, eg registers, directories etc</li> <li>• <b>Program development:</b> Specifically re shared care program</li> <li>• <b>Decision support</b></li> <li>• <b>Communication:</b> patient held records</li> </ul>

## APPENDIX I: CATEGORIES AND CODING

### **Mental health conditions**

A typology of mental health conditions was developed to reflect the scope and purpose of the review and the information available in the studies. This typology was reviewed in the consultations. The following categories were used:

Mild to moderate depression, anxiety and other emotional disorders (including panic disorder)

Severe depression, schizophrenia and chronic psychosis (including bipolar disorder).

Postnatal depression

Minor and severe depression (where both levels were included in the same study)

Unspecified mental illness (where severity or condition was not specified)

### **Providers of health care and supports**

Providers were defined based on their profession. Teams and unspecified individual providers were separated into primary care, mental health or both if information was available e.g. a care manager from the mental health service would be assigned to the unspecified (mental health) category. The following list of providers was used:

- General practitioners
- Primary care nurses (practice nurses, primary care nurses, community health nurses etc.)
- Specialist mental health nurses (community mental health nurses, clinical nurse specialists, health visitors etc.)
- Clinical psychologists
- Counsellors, social workers, therapists, non-clinical psychologists
- Psychiatrists
- Pharmacists
- Other allied health
- Team (Primary care)
- Team (mental Health)
- Team (primary care and mental health)
- Unspecified (primary care)
- Unspecified (mental health)
- Unspecified
- Researchers.

## Elements of care

The categorisation of elements of care used in this review was adapted from the Whitlock et al (2002) 5A's organisational construct for clinical counselling, and developed in an iterative way during the searching and data extraction phases. The following list formed the typology of elements of care:

- Recognition and case finding
- Initial assessment, home assessment and care planning
- Treatment (patient education)
- Treatment (pharmacotherapy)
- Treatment (psychological)
- Treatment (other)
- Treatment (ongoing care management)
- Treatment (physical care)
- Referral

## Supports

A typology was developed from details given in the primary data set, compared with Australian studies and supplemented with supports that did not feature in the higher order studies. They were categorised as follows:

- Brief training (Refers to training that is unspecified, short or between 2 hours – 5 days max. Training also includes provision of written resources, including training materials and guidelines)
- Education (Specifically refers to university certificate training)
- Consultation/ liaison (Includes consultation advice, support and liaison, management, treatment options/ changes, and also general advice and support. This can include face to face, telephone, written and a mixture of both)
- Feedback (Includes feedback from one provider to another following specialist assessment on progress and/or recommendations, and also includes feedback from audits)
- Supervision (Formal and regular professional usually clinical supervision, support, mentoring and individual training)
- Multidisciplinary team meetings (Includes multidisciplinary team meetings that involve both primary care and specialist providers)
- System development/support (Includes developing and supporting systems for shared/ collaborative care, eg registers, directories etc)
- Program development (Specifically re shared care program)
- Communication (Patient held records)
- Administration
- Decision support

## Outcomes

Data was extracted on the health, service, economic and patient satisfaction outcomes of the studies. These outcomes were assessed to identify positive, statistically significant outcomes. These formed the basis of the analysis of effectiveness for Question 2.

## APPENDIX J: GREY LITERATURE

### **General Practice and Psychiatry Partnerships (GPAPP): independent evaluation of the Metropolitan, Provincial and Remote Pilot Projects (King R et al., 2003)**

Three year evaluation of 3 models that were piloted in metro, provincial and rural areas for long term mental illness (predominantly depression/and or anxiety; also substance abuse, organic, personality disorders)

#### *1. Transfer to GP care*

No evidence of adverse impact on mental state or level of disability compared with patients assigned to continuing Mental Health Service care with delayed transfer.

#### *2. Consultation-liaison:*

GPs reached similar diagnoses to psychiatrists, but under diagnosis of organic, somatoform and substance use.

At 6/12 CL patients were significantly improved but no difference between patients who had a psychiatrist consultation vs usual GP care.

Variable improvements in links between GPs and MHS.

Improved coordination and scheduling of CL service in 2nd year, with more patients seen and psychiatrists' time better used.

Educational impact of psychiatrists variable (knowledge/skill acquisition vs referral).

#### *3. GP education*

A high level of activity in providing training to GPs in basic Mental Health Up-skilling and the use of CBT for depression.

GPs reported greater use of CBT techniques, but rarely provided full std course of Treatment (so unclear if training will have positive clinical impact).

#### *Discussion*

Consultation Liaison model not sustainable without additional resources. Resources applied to a part GP that is not a high priority for public sector and no basis for indirect/direct cost recovery. Patient transfer model is potentially more sustainable, especially for patients no longer requiring specialist services. Concerns about the high rate of attrition (nearly 25%) of patients transferred under GPAPP. Nearly half of these had significant clinical relapse and were judged to be no longer suitable for GP care. Others were simply lost to follow up and the outcome for these patients remains unknown. These results contrast strongly with those reported in the Melbourne CLIPP project.

### **Primary Mental Health and Early Intervention Services (Mental Health Branch and Victorian Government Department of Human Services, 2000)**

PMHTs in Victoria use a partnership approach to address identified gaps in service delivery, enhance links between primary care and specialist services and improve service delivery for people with high prevalence disorders. Core activities include:

- Professional education (formal and informal training)
- Consultation and liaison to CHS and GPs (psychiatric assessment and mgt advice)
- Direct treatment provision (through time ltd joint case work approaches)

The focus is the PHC sector, with the expectation that the majority of the clinical, liaison, consultative and educative work will be carried out in PHC settings through community based public facilities or on an outreach basis. Each PMHT will be 3-5 FTEs.

The program is being reviewed in light of Commonwealth initiatives.

### **Evaluation of the Primary Mental Health and Early Intervention Initiative** (Hurworth and Shrimpton 2005)

This initiative is a significant State-wide reform in Victoria aimed at improving health of people with high prevalence illnesses such as depression and anxiety. In accordance with their brief. Most effort has been directed towards providing services for General Practitioners. This has involved:

- Primary consultation
- Secondary consultation
- Education and training

Typical activities have included: conducting patient assessments; carrying out short term treatment; discussing patients informally; telephone consultations; holding education sessions and running workshops. Services for other primary care providers have been similar to those for GPs. However, the delivery and amount of services has varied due to differing needs, contexts, and Team 'roll-out' strategies.

While acknowledging the difficulties in attribution, from the data collected for this evaluation it appears that the PMHEII has had a positive impact on GPs, including:

- new layer of service provision
- enhanced skills and improved mental health literacy
- changes in practice (e.g. working with patients that previously would have been referred)
- greater confidence (and feeling less stressed) when managing patients with mental health issues
- improved patient outcomes.

Some PMHTs are working to integrate services with primary care providers. For example this has been through: co-delivery of education and training modules; running joint group therapy sessions with local community health services; sitting on committees of local providers and chairing working parties to monitor local needs.

Barriers when attempting to engage GPs have included:

- Pressure of time for the GP, e.g. having limited time to sit in on assessments
- A GP preference for the PMHT to take over responsibility for mental health patients
- Difficulties engaging GPs in formal education and training
- A lack of interest in mental health care by a proportion of GPs
- Lack of interest from GPs who work in high socio-economic status areas, i.e. patients can be referred to private providers.

Some GPs also reported that they have few patients with mental health issues, have no work space for the PMHT, and need a quicker response than the PMHT are able to provide. An additional issue for most Teams has been that other mental health programs (such as Commonwealth-funded programs) have been offered to GPs simultaneously.

Other outcomes attributed to the PMHEII include: increased client access to services; care located in community settings; and access to a wider range of treatment methods. Counsellors have better access to up-to-date knowledge; professional supervision and insights into clinical aspects of service provision. Agencies reported better opportunities for networking with other services and better coordination of services.

Evaluating the Access to Allied Psychological Services Component of the Better Outcomes in Mental Health Care Program *Fifth and ninth Evaluation Reports* (Pirkis et al., 2005) (Naccarella et al., 2006)



## *Background*

There have been nine interim evaluation reports between 2003 and 2006. In addition to being a general evaluation, specific reports have focused on identifying the models of service delivery, the benefits and barriers, consumer outcomes, and associations with access; and demand management issues. The 5th report is focused on the profile of service delivery models and access. It involved a survey of DGP and routinely-collected data on the numbers of consumers accessing the projects.

## *Projects/elements/models*

One hundred and eight Access to Allied Psychological Services projects have been funded under the Better Outcomes in Mental Health Care program since July 2001. These projects, run by Divisions of General Practice, enable GPs to refer consumers to allied health professionals for 6+ sessions of evidence-based care with the option of a further six sessions after review by the GP. The projects are operating under a range of different service delivery models.

There is considerable variability in the models of service delivery being implemented:

In 76%, allied health professionals are retained under contractual arrangements; in 28% through direct employment; and in 7% by other means

In 63%, allied health professionals provide services from GPs' rooms; in 63% they do so from their own rooms; and in 42% they do so from some other location

In 27%, voucher systems are used; in 24% brokerage systems are used; in 25% register systems are used; and in 51% direct referral systems are used.

Many projects have modified their models over time and have developed 'combination' models, and/or 'mixing and matching' across dimensions.

All models appear to be performing equally well in terms of enabling consumers to receive free (or low cost), evidence-based mental health care.

## **Summary of ATAPs services** (<http://www.parc.net.au/alliedhealthabout.html>)

The services that can be provided by the allied health professional will be the same as the focused psychological strategies that can be provided by GPs through the initiative, but may also include Narrative Therapy for pilots with indigenous communities. The services are deliverable in up to 6 time-limited sessions, with an option for up to a further 6 sessions following a mental health review by the referring GP.

## **Establishing a collaborative service model for primary mental health care** (Meadows, 1998)

### *The model includes*

- visits by a MHS psychiatrist to GP practices for a single consultation with selected patients, with feedback and advice to the GP, who retains responsibility for the patient's care;
- shared care between mental health services and GPs facilitated by a liaison case manager who oversees the handover and transfer of patients from mental health services to GPs;
- a case manager, located at the mental health service, who monitors patients, provides case tracking and continuity;
- review of patients, six monthly to yearly, by a MHS psychiatrist at the GP's surgery

A patient registration and tracking system maintained by area mental health service staff supports the GP in maintaining continuity of care and provides information about satisfaction and other quality assurance. As part of this tracking system, an administrator maintains an electronic diary of due dates for review of each patient. Clinical staff then review patients three-monthly by telephone contact with the patient and by checking the GP's case notes for continued contact. Management plans usually also recommend that psychiatrists review patients every 6-12 months.

## **General Practitioners Caring For The Long Term Mentally Ill: Is Shared Care Quality Care?** (Meadows, undated) <http://www.phcris.org.au/elib/render.php?params=1792>

Consultation Liaison in Primary Care Psychiatry (CLIPP), program with General Practitioners of the Northwest Melbourne Division of general practice.

### *Aims*

1. Develop psychiatric liaison attachments to general practices involving collaboration and consultation and provide accessible specialist consultation for patients in general practice, predominantly with affective, anxiety and other high-prevalence disorders, as well as develop a collaborative network between mental health services and the general health sector.
2. Transfer of selected long-term clients of the Area Mental Health Service, (predominantly with schizophrenia or related disorders), into GP shared care and maintain them as far as possible and desirable within this service context. This process involves intensive input from an Area Mental Health Service psychiatric nurse, builds on the linkages developed through provision of the liaison service.

### *Results*

CLIPP consumers scored lower severity scores for the clinical status measures than those in continuing care within the AMHS setting. Consumers have a lower proportion of perceived need than the AMHS group for all categories. There was a substantial decrease in perceived need over time for all categories of consumers in CLIPP, except for medication where perceived need increases.

This study effectively excludes the possibility that there is a long-term progressive decline in clinical status associated with continuing management within this model. The researchers report that it is reassuring that carer burden appears to be declining with time. These results effectively exclude the possibility that there is a continuing loss of function and of symptomatic status occurring in long-term GP shared care within this model.

## **Models of Shared Care and their Effectiveness** (PARC, undated)

*Traditional Model:* Referral of consumers by GPs to specialist psychiatrists (SP) who will then provide most aspects of the consumers' mental health care.

*Consultation Liaison Model:* Regular consultative activities between GPs and specialist mental health workers such as mental health teams which may or may not include a specialist psychiatrist. The specialist mental health team members may provide some direct clinical services with the main aim of providing guidance to the GP.

*Attached Mental Health Professional:* Mental health workers working within primary care settings but employed by, and thus being ultimately accountable to tertiary and secondary care service sectors.

*Liaison Model or Link Worker:* A designated position is established to assist GPs with communication and access to mental health services for their consumers, as well as advice on clinical matters. This liaison officer may be a mental health worker, psychiatry registrar or specialist psychiatrist or general practitioner.

*Liaison-attachment Model or Shifted Outpatients Clinic:* Visiting psychiatrists or psychologists consult within clinics held in primary care settings such as general practices. In this situation, the consumer's GP would not be involved in the consultation.

**Comorbidity in general practice:** The provision of care for people with coexisting mental health problems and substance use by general practitioners (McCabe and Holmwood, 2001)

This project attempted to better define the role of the GP, and to develop some consensus regarding approaches to co-morbidity that GPs could reasonably adopt, given the structural constraints of practice. The project eventually derived a set of "principles of reasonable best practice" that might guide future research and educational endeavours.

These were derived from consultations with GPs, with consumers and carers, with mental health and substance use advocacy groups, and with specialists from the mental health and addiction fields. While the absolute numbers of those consulted has not been large (overall probably 100+ people) the project attempted to obtain the views of this broad spread of stakeholders through direct consultation, focus groups and two surveys.

General practitioners encounter people with coexisting mental health problems and substance use very frequently. The spectrum of co-morbidity disability seen by these primary health care providers is much broader than that seen in the specialty services which generally treat only the most severely affected and disabled patients. People with co-morbidity present in general practice in non-specific ways and their problems are often not clearly defined, but this is the nature of primary care.

Principles were identified for the assessment, diagnosis, management and referral of patients with coexisting mental health and substance use problems in the general practice setting. [http://www.parc.net.au/Comorbidityreportrevised2002\\_part\\_3.pdf](http://www.parc.net.au/Comorbidityreportrevised2002_part_3.pdf)

**Mental Health Programs in Remote Divisions of General Practice** (Osman, E., V. Wade, V. et al. 2004)

Semi-structured telephone interviews were conducted with 12 of the most remote DGPs. Findings were then checked by the informants, and validated by interviews with the Development and Liaison Officers (DLOs) of the National Primary Mental Health Care Network (NPMHCN).

### *Issues*

Mental health workforce was the most critical factor for a successful Divisional mental health program. Issues noted for GPs were high turnover, working in a time poor environment making it hard to access professional support and training in mental health, and the increasing percentage of doctors with overseas training.

The psychiatry workforce is even more of a problem in remote areas than the GP workforce, with access to psychiatrists often not adequate, and the relationship with visiting psychiatrists, where this existed, varying from excellent to problematic. Direct personal networking with psychiatrists was highly valued.

Divisions of General Practice have been able to source funding for allied mental health workers from a number of sources, and this has been very well received. As well as being able to provide more services to the community, this is seen as contributing to GP retention. Some innovations in these remote areas are Divisions moving to a primary health care model with even greater use of allied health services, and the incorporation of traditional indigenous healers in the allied health delivery model.

The non-clinical workforce of Divisional mental health program coordinators also have high turnover, as the Divisions respond to changed funding environments, so the mental health programs often have continuity gaps, and relationships with their member GPs and other services in the region need to be rebuilt.

### *Activities/programs*

In addition to s programs directly labelled as mental health, they include mental health content in areas such as men's health, youth health and suicide prevention. Drug and alcohol co-morbidity with mental health problems has not been dealt with well by existing services, and Divisions see this as a major focus for improvement. Programs combining physical and mental health issues, and focusing on well being are common.

Implementation issues of the Divisional programs included working with State Mental Health Services, shared care and peer support, education and training, and resource development, funding issues, sustainability, program evaluation and issues around the Better Outcomes in Mental Health Care Initiative. It was sometimes hard for Divisions to make programs with a broad wellness orientation "speak the language" of mental health for funding and reporting purposes.

All the remote Divisions have taken specific steps to address Indigenous issues. These include setting up new services to very remote communities, cultural awareness and competency training, referral pathways to mainstream programs, and Memoranda of Understanding with Indigenous Health Services.

**GPs and Psychiatrists Working Together. Literature Review** (Jackson-Bowers, E. and I. Wilson 2004)

Australian models of GP and mental health service collaboration, consultation liaison and shared care include:

PARC Mental Health Shared Care in Australia 2001 study

The Newcastle projects

Consultation Liaison in Primary Care Psychiatry (CLIPP)

General Practice and Psychiatry Partnerships Project (GPAPP)

Other projects at the intersection of general practice and mental health services:

GP Liaison positions

Case conferencing pre 2000

Case conferencing using EPC items post November 2000

Telephone advice from MHS Psychiatrists

Telepsychiatry has generally been used where there are large distances between patient and therapist, particularly between rural and urban centres. A review of telepsychiatry services in 2001 (Lessing and Blignault 2001) indicated 25 separate programs around Australia

### *Professional issues*

Issues of professional scope and control between GPs and psychiatrists were a subtle theme in the review.

### *Organisation, administration, relationships*

The PARC Shared Care in Australia 2001 study (Holmwood et al 2001) found that collaborative shared care between mental health services and GPs required a great deal of trust building and that this was accomplished through ongoing relationship building, shared educational events, placements and becoming familiar with each others ways of working, regional meetings and social events. Administrative difficulties have also caused problems within projects. Staff turnover causes much lost momentum, lost relationships, and lost project knowledge. Communication protocols to facilitate referrals and discharge summaries and process agreements need to be put in place and continually reinforced.

### *Sustainability*

Projects set up to bridge the gap between GPs and mental health services or GPs and private psychiatrists provide funding in addition to that available through Medicare or State mental health service funding. This has enabled structures such as consultation liaison or case discussion to occur for which there is currently no channel for remuneration of the parties involved. It has also enabled the extension of the scope of mental health services to encompass shared care of patients who they would not otherwise regard as core customers.

### **Major issues facing primary care mental health in Australia** (Holmwood 2001)

Given high prevalence of mental disorders, GPs have a key role in the management of people with mental disorders. They are generally accessible and there is no stigma associated with attending for health care. The main debate centres on just what the key role of the general practitioner is and how to promote it. In addition, given the current GP workforce issues, the capacity to further expand their role further without substantial systemic changes that might enable such an expansion is extremely limited.

However, despite these limitations, the role for the GP could still be quite extensive, and focus on Initial assessment and negotiation of management plan with the patient, prescribing, psycho-education, early intervention in alcohol and other drug use, perhaps structured problem solving and some behavioural interventions. Early referral to more specific therapies such as groups, computer based therapies and self help books based on evidence would be the average GP's role as well.

However more intensive 1:1 cognitive behavioural therapy and interpersonal therapy is realistically best delivered by other mental health professionals.

*Alternative models include:*

Low cost high volume models

Groups

Computer-based software

Self-help books with professional assistance

People with high levels of disability, people unable to use computers and those with lower literacy may have difficulty with these modalities, and require:

Intermediate cost and volume models

Use of specifically trained nurses in general practice

**Mental health shared care in Australia 2001** (Holmwood et al. 2001)

There has been a growing interest in activity of DGP in collaborative mental health care. Approximately 70 Divisions were involved in mental health related activities. Of these 56 were involved in collaborative activities with specialty mental health services. Approximately one third of the 56 (18) had well-developed shared care arrangements. Almost all others are involved in collaborative problem solving activities and to a lesser extent, service integration, planning and case conferencing, development of care pathways and protocols, communication tools and consultation liaison services. Both mental health workers and GPs are being used as key liaison staff for these collaborative activities. Evaluation is becoming more elaborate but consumer outcome measures are not being used extensively.

*Levels of engagement:*

Level 1 Discussions between Divisions and relevant mental health services. Workforce and service planning and recruiting.

Level 2. Active problem solving. Development of protocols, tools for Communication, clinical pathways, emergency plans, etc

Level 3 Structured Shared Care Programs

There are still extensive barriers to collaborative activities despite the considerable activities implemented over the past decade. Trust and respect need to be developed between GPs and mental health service staff. This takes time and staff continuity and programs need to be adequately funded over a long time frame. Most programs have yet to reach a level of systemic change where they are no longer dependent on specific initiative funding.

Consultation liaison activities, education programs, case conferences and other face-to-face activities serve to enhance relationship development and should be promoted, especially in the early stages of shared care programs.

**General Practitioners' peer support needs in managing consumer's mental health problems: A literature review and needs analysis** (Jackson-Bowers, E. and C. Holmwood 2002)

Looks at current arrangements for peer support/supervision in Australia in a number of professions which undertake psychotherapy. A number of different models and issues are examined. The need for peer support/supervision for GPs undertaking psychotherapy is also assessed and an argument is made for its necessity.

There is no specific framework for the provision of peer support for GPs involved in mental health related work; however there are many activities across the Divisions operating under various descriptors that are trying to address this need for peer support.

These include peer support groups, case conferencing, Balint groups, various education and training activities and in some instances distance based activities such as tele-conferencing and videoconferencing. Details of what is happening in each state are sketchy and incomplete; however a collation of the information provided indicates that nearly all groups are led by a psychiatrist and the vast majority focus on case discussion. Case discussion type groups outnumber Balint Groups 2:1.

Peer support is a concept with multiple elements and multiple names. It is most commonly referred to in the literature as supervision however the term 'supervision' is not meant to imply a managerial model of overseeing a junior practitioner by a more senior practitioner. One useful way of conceptualising peer support is based on its aims. One model that has considerable currency sees the aim of peer support as having three elements, Normative, Formative, and Restorative. These dimensions are often pictured as overlapping, and, in practice, peer support can contain elements of all dimensions.

Normative	This function focuses on ensuring that the general performance of the clinician is "normal" compared with peers. Its purpose is to reliably ensure that standards are maintained.
Formative	The formative dimension of peer support involves an emphasis on professional development and education.
Restorative	Involves emotional support and consideration of the stresses and interpersonal tensions

### **ARC Webpage: Peer Support (<http://www.parc.net.au/toolkitpeersupport.htm>)**

The Better Outcomes in Mental Health program is being developed as a result of the 2001 Federal Budget commitment to general practice and mental health. The program will institute a system whereby general practitioners with adequate skills will be paid to provide specialised therapies for people with mental disorders requiring counselling or psychotherapy. In line with this initiative Incentive Funding, which is part of the Primary Mental Health Care Initiative of the Department of Health and Ageing has recently been allocated to the provision of peer support programs to support these general practitioners.

#### *Dimensions of Peer Support*

Supervision, mentoring or peer support for psychiatrists, psychotherapists, psychologists and counsellors is a well-established tradition that has undergone considerable theoretical development in other disciplines. The concept is now gaining currency in general practice underpinned by an increasing emphasis on continuous quality improvement. There has been an increasing recognition that quality improvement must involve the promotion of openness and transparency within organisations and systems. This openness does not apportion blame and assumes that health professionals are human and therefore inevitably make mistakes. The crux of the approach from a quality perspective is that participants continually search for ways to make improvements in processes and systems, which support their work. Participants learn from their mistakes and from problems they are facing. Supervision supports the work of therapists in a number of ways. One model that has considerable currency sees supervision as having three purposes: Normative, Formative, and Restorative.



## **Models of primary health care psychotherapy and counselling** (Jackson-Bowers, E., C. Holmwood, et al. 2002)

This literature review looks at psychotherapy and counselling services in primary health care provided by persons from the Allied Health Professions. The report makes a number of recommendations regarding location of the service, fundholding and employment, practitioner support, reporting and confidentiality.

Tension continues regarding whether the mental health practitioner should be located in mental health services or in Divisions/general practices. If they are located in mental health services then links with these services are facilitated.

These links support the workers and facilitate a coordinated approach to care, however links with and responsiveness to GPs may be more tenuous. Lines of responsibility need to be clear so that the worker attends to the agenda of the Division and GPs rather than that of the mental health service. This model provides opportunities for creating better links between mental health services and GPs.

Settings within general practice favour informal liaison between workers and GPs at the risk of reducing links with mental health services. This provides a less threatening and less stigmatising setting for consumers and creates opportunities for early intervention. Many Divisions have located practitioners either in the Division's premises or in community health care settings with success.

Reporting, referral and confidentiality issues are prominent in the literature. A tension exists between the well-established ethic of confidentiality of counselling and the need for sharing of information within general practice. A further prominent theme in the literature is the need for counsellor supervision.

## **Partners in Prevention: Mental Health and General Practice** (O'Hanlon et al. 2004)

### *Mental health promotion*

Mental health promotion is any action taken to maximise mental health and wellbeing in populations and individuals. Activities can occur equally with people showing no signs of illness as those with a long standing illness.

### *Prevention*

Prevention refers to interventions that occur before the onset of a disorder, in order to prevent its development. Prevention activities can occur with everyone regardless of their level of risk, or with groups or individuals who are considered to be at increased risk of developing mental health problems or disorders.

### *Early intervention*

Early interventions specifically target individuals displaying early signs and symptoms of a mental health problem or disorder, or those experiencing a first episode of a mental disorder. Interventions occur early in the course of a disorder in order to minimise disruptions to other areas of a person's life (eg school, work or relationships). The majority of Divisions are involved in at least some type of promotion (81.7% of Divisions), prevention (87.1%) or early intervention (91.5%) activity. Forty nine (69%) of the Divisions were involved in all three types of activities. Divisions were involved in a broad range of specific mental health PPEI programs, including MindMatters, Triple P and other programs supported under the *Better Outcomes for Mental Health Care Initiative*. Most of the work in mental health PPEI is centered around education programs for GPs (not surprisingly, given this is part of the core business of Divisions), and also through community and school liaison. Divisions were involved in mental health promotion activities such as education about mental health promotion, increasing mental health literacy, reducing stigma and promoting quality of life. Prevention of mental illness activities included education about risk and protective factors, encouraging help seeking behaviour, and to a lesser extent, involvement in suicide prevention programs and parenting programs.

Most of the Divisions facilitate education for GPs on early recognition and early treatment of anxiety and depression (over 70% of the Divisions) as well as a range of other disorders including psychotic disorders, drug and alcohol problems and suicidal behaviour (50% of the Divisions). About one in five of the Divisions is involved in early intervention through brief interventions and practice support.

Most of the Divisions (88.7%) work with other health professionals (both specialist mental health professionals and health professionals in the community and public health arena). And over half of the health professionals were reported to be involved in mental health PPEI activities. Over half of the Divisions were involved in Shared Care programs and all of the rural Divisions were involved in the More Allied Health Services (MAHS) program.

Over 80% of both the Shared Care and the MAHS programs reported in the survey were considered to have mental health PPEI aspects. Few differences were identified between the urban and rural Divisions.

Participants in the GP focus groups put forward recommendations for progressing the mental health PPEI and general practice agenda. A range of themes emerged, including: increased funding and remuneration; sustainability; education and training; evidence-based information; tailored resources; improved access to allied health care; consumer involvement; liaison with GPs; and support of existing structures.



## APPENDIX K: SUPPORTS IN THE AUSTRALIAN STUDIES

**Table A: Supports and who they are provided by**

	Psychiatrists N=13	Mental health service N=9	Division of general practice N=6	Clinical Psychologists N=2	Counsellors, social workers, etc N=2	Specialist mental health nurses N=2	Other/ Not specified N=13
Consultation N=19	9	5	1	2	1	2	4
Brief training N=15	3	4	3	0	1	0	7
Feedback N=7	3	1	0	1	0	1	1
System development N=7	0	5	2	0	0	0	1
Financial support N=4	0	0	0	0	0	0	4
Referral support N=4	0	1	3	0	0	0	0
Multidisciplinary meetings N=3	2	1	0	0	0	0	2
Program development N=4	0	1	3	0	0	0	0
Education N=2	0	0	0	0	0	0	2
Enhanced access to specialist care N=1	0	0	0	0	0	0	1
Supervision N=1	1	0	0	0	0	0	0
Peer support N=1	0	0	0	0	0	0	1
Other N=1	0	1	0	0	0	0	0

**Table B: Supports and who they are provided to**

	General practitioners N=31	Primary care nurses N=3	Psychiatrists N=2	Pharmacists N=1
Consultation N=19	19	1	0	0
Brief training N=15	14	2	1	1
Feedback N=7	7	0	0	0
System development N=7	7	0	0	0
Financial support N=4	3	0	1	0
Referral support N=4	4	0	0	0
Multidisciplinary meetings N=3	3	0	0	0
Program development N=4	4	0	0	0
Education N=2	2	0	0	0
Enhanced access to specialist care N=1	1	0	0	0
Supervision N=1	1	1	0	0
Peer support N=1	1	0	0	0
Other N=1	1	0	0	0

## APPENDIX L: DESCRIPTION OF INCLUDED STUDIES

Author	Study type	Conditions	Outcomes	Quality
Adler et al 2004 [1]	RCT	Severe depression and/or dysthymia	<u>Service outcomes:</u> 6 month antidepressant use rates for intervention patients exceeded controls (P=0.03). The intervention was effective in improving antidepressant use rates for patients not on antidepressants at enrolment (p=0.001).	Score 2.3. Poor quality scores for selection bias and blinding. Otherwise high scores for all other components.
Appleby et al 2003 [2]	Before and after	Postnatal depression	<u>Service outcomes:</u> Increased activity in mental health assessment by 8% (CI 2 to 14%), symptom recording by 7%, (CI 2 to 12%), and treatment by 11%, (7 to 15%), while referrals decreased by 4% (CI 0 to 7%)	Score 2.3. Poor quality scores for study design and data collection methods. Otherwise high scores for all other components.
Badger et al 1996 [3]	Before and after	Depression	<u>Service outcomes:</u> Significant increase in application of assessment and intervention (p=0.001)	Score 2.7. Poor quality score for study design component. Otherwise high scores for all other components.
Baker et al 1998 [4]	Before and after	Mild to moderate anxiety/depression	<u>Health outcomes:</u> Significantly greater decrease in number of symptoms (p<0.0000001).	Score 2.2. Poor quality score for study design, withdrawals and dropouts. Good quality score for selection bias. High scores for all other components.
Bashir et al 2000 [5]	Before and after	Psychiatric illness	<u>Service outcomes:</u> Significant difference in recognition of mental illness between intervention and control group (P=0.046)	Score 1.8. Poor quality score for selection bias, study design and blinding. Good quality scores for withdrawals and drop outs. High scores for all other components.
Bedi et al 2000 [6]	RCT	Major depression	<u>Health outcomes:</u> By the 8-week follow-up visit, the depression had resolved the majority of patients (69%). Equivalent positive outcome. <u>Patient satisfaction:</u> Both groups were highly satisfied with treatment. Equivalent outcome.	Score 2.2. Poor quality scores for selection bias, blinding. Good quality scores for study design. High scores for all other components.
Beeber and Charlie 1998 [7]	Before and after	Depression	No significant positive outcomes.	Score 2.7.
Bindman et al 2001 [8]	Comparative	Severe mental illness	No significant positive outcomes.	Score 2.5.
Blanchard et al 1995,[9] Blanchard et al 1999 [10]	RCT	Depression	<u>Health outcomes:</u> There was a significant difference in depression scores between intervention and control groups (p=0.05); and also for those classified using the Geriatric Mental State instrument (p=0.008). However there was a marked differential effect with the study PC nurse demonstrating greatest improvement among old cases; interaction p=0.008. Those without incapacity (ie, in moving around the home environment) improved more than those who are incapacitated (p=0.04). <u>Service Outcomes:</u> In the intervention group 70% of suggested treatments were carried out during the long term follow up period. Only 41% were carried out in the control group.	[9]: Score 2.8. Good quality scores for study design. High scores for all other components.  [10]: Score 1.7. Poor quality scores for study design, blinding, withdrawals and dropouts. Good quality scores for selection bias and confounding. High quality scores for data collection.

## AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

Bower et al 2000,[11] King et al 2000[46], Ward et al 2000[74]	RCT	Depression and anxiety	<p><u>Health outcomes:</u> At 4 months, both NDC and CBT significantly reduced depression symptoms (mean 12.9 [SD 9.3] and 14.3 [10.8] than those randomised to usual GP care (18.3[12.4]. No significant difference at 12 months.</p> <p><u>Economic outcomes:</u> No differences in direct or indirect costs between the three treatments were observed at either 4 or 12 months.</p> <p><u>Patient satisfaction:</u> At 4 months, patients in both psychological therapy groups were more satisfied with their treatment than those in the usual GP care group (p=0.001). At 12 months, the difference was significant between NDC and GP care only (p = 0.03)</p>	<p>[11]: Score 2.0. Poor quality scores for blinding. Good quality scores for selection bias, confounding, data collection, withdrawals and dropouts. High quality score for study design.</p> <p>[46]: Score 2.5. Poor quality scores for blinding. Good quality scores for selection bias. High scores for all other components.</p> <p>[74]: Score 2.3. Poor quality scores for blinding. Good quality scores for selection bias, withdrawals and dropouts. High scores for all other components.</p>
Burns et al 1998 [12]	RCT	Schizophrenia	<p><u>Service Outcomes:</u> No significant differences between control and intervention groups re process of care, other than a higher rate of hospital admissions in the control group (P&lt; 0.01)</p>	<p>Score 2.3.</p> <p>Poor quality scores for blinding. Good quality scores for selection bias, withdrawals and dropouts. High scores for all other components.</p>
Byng et al 2004 [13]	RCT	Long term mental illness (chronic psychosis, ongoing and significantly disabling neuroses)	<p><u>Health outcomes:</u> Intervention patients had fewer psychiatric relapses than control patients (P=0.02)</p> <p><u>Service outcomes:</u> While services improved significantly for intervention practices (P=0.003). There were no differences in documented processes of care.</p>	<p>Score 2.8.</p> <p>Good quality scores for study design. High scores for all other components.</p>
Carr et al 1997[14]	RCT	Psychiatric disorders	No significant positive outcomes.	Score 1.8.
Crockett et al 2006 [16]	RCT	Depression	No significant positive outcomes.	Score 2.3.
Dowrick et al 1995 [17]	RCT	Depression	No significant positive outcomes.	Score 2.3.
Druss et al 2001 [18]	RCT	Serious mental disorders	<p><u>Health outcome:</u> Patients in integrated care clinics had a significantly greater improvement in physical health (P&lt;0.001). No significant differences in mental health symptoms.</p> <p><u>Service outcome:</u> Patients treated in the integrated care clinics were significantly more likely to have made a primary care visit (P=0.006). They were significantly more likely to have received preventive measures (no specific p value).</p> <p><u>Cost effectiveness:</u> No significant differences in total health care costs. Equivalent outcome.</p> <p><u>Patient satisfaction:</u> Significantly more satisfied with overall care (p=0.005).</p>	<p>Score 2.5.</p> <p>Poor quality scores for blinding. Good quality scores for withdrawals and dropouts. High scores for all other components.</p>

## AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

Elliott et al 2001 [19]	Before and after	Postnatal depression	<u>Health outcomes:</u> Significant reduction in depressive symptoms at 6 months postnatal (p=0.0001).	Score 2.0.  Poor quality scores for study design and blinding. Good quality scores for confounding, withdrawals and drop outs. High scores for all other components.
Emmanuel et al 2002 [20]	RCT	Mental illness	<u>Health outcomes:</u> After 6 months self rated social function was significantly improved in the enhanced liaison service (p=0.05).	Score 2.8.  Good quality score for selection bias. High scores for all other components.
Finley et al 2003 [21]	RCT	Moderate depression	<u>Service outcome:</u> Significantly greater drug adherence at 6 months (p=0.038). <u>Patient satisfaction:</u> Patients in the intervention group had a much greater degree of overall satisfaction (p=<0.05).	Score 2.3.  Poor quality scores for selection bias, withdrawals and drop outs. High scores for all other components.
Fitzpatrick et al 2004 [22]	Cohort	Severe mental illness	<u>Health outcomes:</u> Patients with a higher level of shared care reported increased social functioning (p=0.001) and decreased depression (p=0.01) <u>Patient satisfaction:</u> Patients with a higher level of shared care reported greater satisfaction with services (p=0.004)	Score 2.0.  Poor quality scores for selection bias, study design and blinding. High scores for all other components.
Friedli et al 1997,[24] Friedli et al 2000 [23]	RCT	Emotional problems	<u>Health outcome:</u> Equivalent health outcome. Both groups improved significantly (no p value given)	Score 2.7 (both studies).  Poor quality scores for blinding (both studies). High scores for all other components (both studies).
Gask et al 1998 [26]	Before and after	Depression	<u>Service outcome:</u> Significant improvements in doctors' use of negotiation (p=0.04), and in problem solving (p<0.03) and planning activities (p=0.02).	Score 2.2.  Poor quality scores for selection bias and blinding. Good quality scores for withdrawals and drop outs. High scores for all other components.
Gask et al 2004 [25]	RCT	Depression	No significant positive outcomes.	Score 2.5.
Gater et al 1997[27]	RCT	Chronic schizophrenia	<u>Health outcomes:</u> Patients in the primary care group had fewer unmet needs (P<0.001), including under activity, neurotic symptoms, behaviour difficulties, and deficiencies in daily living skills. <u>Patient satisfaction:</u> Patients were more likely to have received the service they wanted, to be prepared to recommend the service to a friend, and to return to the service if necessary. <u>Service outcome:</u> Four years after the team was established, it met a greater proportion of needs for underactivity (P<0.03), daily living skills (P<0.01), use of public amenities (P<0.03) and managing finances (P<0.05).	Score 2.7  Poor quality scores for blinding. High scores for all other components

## AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

Gerrity et al 1999 [28]	RCT	Depression	<u>Service outcomes:</u> For one patient actor more intervention GPs asked about at least five criteria for major depression (P=0.006), discussed the possibility of depression (P=0.049), scheduled a return visit within two weeks (P=0.004) and scored higher than control GPs on the Patient Satisfaction scale(P=0.014).	Score 2.8.  Good quality scores for selection bias. High scores for all other components.
Goldberg et al 1996[29]	RCT	anxiety or depression	<u>Patient satisfaction</u> Community patients were significantly more satisfied with the service on nine separate aspects of satisfaction: these included being less distressed by the initial wait, more satisfied with continuity of care, and feeling better informed about their symptoms, the cause of their problems, the prognosis and self-help techniques. <u>Service outcomes</u> Non urgent cases were seen more quickly in the community (P<0.01). The CMHS offered fewer changes of staff that had no therapeutic advantage to the patient (P<0.05). Patients were more likely to be visited at home (P<0.01) <u>Costs:</u> CMHS patients incurred substantially lower health service costs and the additional costs of the CMHS were more than offset by fewer demands being made on other aspects of care.	Score 1.7.  Poor quality scores for selection bias, study design, withdrawals and drop outs. Good quality scores for confounding, data collection methods.
Gournay and Brooking 1995[30]	RCT	Non-psychotic mental health conditions	No significant positive outcomes.	Score 2.7.
Harvey et al 1998[32]	RCT	Minor mental health problems	No significant positive outcomes.	Score 2.2.
Heatley et al 2005[33]	RCT	Panic disorder	<u>Service outcomes:</u> There was a highly significant difference in ability to assess and plan management (p<0.001), between the group who had received training in the group, whose training was still to occur. For both groups, significant changes were achieved over the course of training Group1: p=0.001 and Group 2: p=0.01) and 2.5 year follow-up, these changes in scores were maintained. The overall use of CB interventions increased significantly following training (p<0.05).	Score 2.8.  Good quality scores for confounding. High scores for all other components.
Hedrick et al 2003[34]	RCT	Major depression and /or dysthymia	<u>Health outcomes:</u> When compared with a consultation liaison intervention the collaborative care intervention was significantly more successful at improving depression symptomatology at 3 months (p<0.025), but no difference at 9 months. <u>Service outcomes:</u> The intervention increased the proportion of patients receiving prescriptions (p<0.0001) and cognitive behavioural therapy (22% collaborative care vs 0% consultation liaison). <u>Patient satisfaction:</u> Patient satisfaction in both groups was equally high.	Score 2.8.  Good quality scores for selection bias. High scores for all other components.

## AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

Hemmings 1997[35]	RCT	Anxiety and depression	<p><u>Service outcomes:</u> Average number of counselling sessions was 5.7 (range 0-14). 82 (60%) completed treatment at time patient and counsellor agreed to terminate. 53% of referrals to counsellors came from only three of the 15 GPs. GPs with counsellors were less likely to refer out to mental health services (P=0.00)</p> <p><u>Health outcomes:</u> Both treatment groups improved significantly on symptoms inventory. By 4 months, the routine treatment group had significantly higher number of positive life events (p=0.00)</p>	<p>Score 2.2.</p> <p>Poor quality scores for blinding, withdrawals and dropouts. Good quality scores for selection bias. High scores for all other components.</p>
Hilty et al 2006[36]	Before and after	Mood and anxiety disorders	<p><u>Service outcomes:</u> Cited reasons for tele-psychiatry referrals were to establish a diagnosis (26.4%); assist with new treatment plan (24.9). Over time, PCPs were significantly more likely to want help with new treatment plans (32.8%) and to want less help diagnosis (21.9%). Among the first 200 consultations, only 47.4% of the medication dosages for depressive and anxiety disorders were adequate, according to guidelines. Among the second 200 consultations dosing adequacy improved to 63.6% (P&lt;0.001)</p>	<p>Score 2.7.</p> <p>Poor quality score for study design. High scores for all other components.</p>
Hunkeler et al 2000[37]	RCT	Depression	<p><u>Health outcomes:</u> Telehealth patients with or without peer support or an experienced 50% improvement on the Hamilton Depression Rating scale at six weeks (P=.01) and six months (P=.003) and on the Beck Depression Index at six months (P=.05), and greater quantitative reduction in symptom scores on the Hamilton scale at six months(P=.006). Telehealth care improved mental functioning at six weeks (P=.004) , but this was not significant at six months. Adding peer support to telehealth care did not improve the primary outcomes.</p> <p><u>Patient satisfaction:</u> Telehealth care improved treatment satisfaction at 6 weeks (P=0.004) and six months (P=0.001).</p>	<p>Score 2.5.</p> <p>Poor quality score for blinding. Good quality score for selection bias. High scores for all other components.</p>
Katon et al 1996[38]	RCT	Depression	<p><u>Health outcomes:</u> Intervention patients with major depression demonstrated a significantly greater decrease in depression severity over time compared with usual care patients on all 4 outcome analyses. Intervention patients with minor depression were found to have a significant decrease over time in depression severity on only 1 of 4 study outcome analyses compared with usual care patients.</p> <p><u>Patient satisfaction:</u> At 4 months, significantly more intervention patients than usual care patients rated the quality of care they received for depression as good to excellent (major depression p&lt;0.009 and minor depression p=0.003) At 4-month follow-up, no significant differences were seen between intervention and usual care patients with major or minor depression on their rating of the antidepressant medication as helping somewhat to a great deal.</p>	<p>Score 2.7.</p> <p>Good quality scores for selection bias, withdrawals and dropouts. High scores for all other components.</p>

## AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

			<p><b>Service outcomes:</b> Significantly more intervention patients than usual care patients with major depression adhered to medication for 25 days or more in the last 1-month period at 4 months (<math>p=0.02</math>) but not significant at 7 months (<math>p=0.07</math>). Significantly more intervention patients than usual care patients with minor depression adhered to medication for 25 days or more in the last 1-month period at 4 months (<math>p=0.01</math>) and at 7 months (<math>p=0.04</math>)</p>	
Katon et al 1999[40], Lin et al 2000[51], Walker et al 2000[73], Simon et al 2001[65]	RCT	Depression	<p><b>Health outcomes:</b> Decrease in severity of depressive symptoms during the first 3 months (<math>p=0.001</math>) and more likely to have fully recovered at 3 (<math>p=0.01</math>) and 6 months (<math>p=0.05</math>). Less interference in their family, work and social activities than usual care patients (<math>p=0.025</math>). Among those with less severe depression, intervention patients showed significantly improved outcomes over time (<math>p&lt;0.002</math>), however, this difference was not present for the more severely depressed groups. Mean number of depression-free days was 87.7 (95% CI= 76.6–96.7) for the collaborative care group and 70.9 (95% CI=60.8–81.3) for the usual care group. After adjustment for patient age, sex, baseline depression score, and Chronic Disease Score, the incremental number of depression-free days attributable to the collaborative care intervention was significantly greater than zero (<math>p=0.02</math>).</p> <p><b>Patient satisfaction:</b> Intervention patients were more likely to rate the quality of care they received for depression as good to excellent (<math>p=0.04</math>)</p> <p><b>Service outcomes:</b> Greater adherence to adequate dosage of medication for 90 days or more (<math>p&lt;0.0001</math>) and at twice the dosage of the guideline lower range (<math>p=0.002</math>).</p> <p><b>Economic outcomes:</b> The depression treatment costs were approximately \$340 greater for the collaborative care group. Bootstrap re-sampling found a greater than 98% probability that collaborative care would lead to both increased cost and increased effectiveness.</p>	<p>[40]: Score 2.8. Good quality scores for selection bias. High scores for all other components.</p> <p>[51]: Score 2.5. Good quality scores for selection bias, study design, withdrawals and drop out. High scores for all other components.</p> <p>[73]: Score 2.7. Good quality scores for selection bias, withdrawals and dropouts. High scores for all other components.</p> <p>[65]: Score 2.7. Good quality scores for selection bias, withdrawals and dropouts. High scores for all other components.</p>
Katon et al 2001[39]	RCT	Major depression or dysthymia	<p><b>Health outcomes:</b> There was evidence of change in average SCL-20 scores over time (<math>P =0.02</math>), with a modest but sustained intervention effect (<math>P =0.04</math>).</p> <p><b>Service outcomes:</b> Intervention patients were significantly more likely to refill antidepressant medication prescriptions than UC patients (<math>P&lt;0.001</math>) and were more likely to receive adequate dosage of antidepressant treatment compared with UC patients (<math>P&lt;0.001</math>). UC patients made significantly more primary care visits for reasons other than depression (<math>p=0.02</math>), and made fewer primary care visits for depression (<math>p=0.05</math>).</p>	<p>Score 2.8.</p> <p>Good quality scores for selection bias. High scores for all other components.</p>

## AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

Katon et al 1995[41]	RCT	Major and minor depression	<p><u>Health outcomes:</u> Intervention patients with major depression were more likely to show 50% or more improvement on the Symptom Checklist-90 Depressive Symptom Scale compared with controls (P&lt;0.01) and demonstrated a significantly greater decrease in depression severity over time compared with controls (P&lt;.004).</p> <p><u>Patient satisfaction:</u> Intervention patients with major depression were more likely to rate the quality of the care they received as good to excellent (P&lt;0.03), and more likely to rate antidepressant medications as helping somewhat to a great deal (P&lt;0.01).</p> <p><u>Service outcomes:</u> The intervention group had greater adherence than controls to adequate dosage of antidepressant medication for 90 days or more for both those with major depression (P&lt;0.01) and those with minor depression (P&lt;0.001).</p>	<p>Score 2.8.</p> <p>Good quality scores for selection bias. High scores for all other components</p>
Katzelnick et al 2000[42]	RCT	Depression	<p><u>Health outcomes:</u> Improvements in Ham-D scores were significantly greater in the intervention group at 6 weeks (p=0.04), 3 months (p=0.02), 6 months (p&lt;0.001), and 12 months (P&lt;0.001). At 12 months intervention patients were more improved than usual care patients on the mental health, social functioning and general health perceptions scales of the SF-20 (p&lt;0.05 for all).</p> <p><u>Service outcomes:</u> Intervention patients more likely to receive at least 1 or 2 antidepressant prescriptions (p&lt;0.001) and more than 3 prescriptions (p&lt;0.001) than usual care patients. Intervention patients made significantly more outpatient visits than usual care patients (p=0.02).</p>	<p>Score 3.0.</p> <p>High scores for all quality components.</p>
Kendrick et al 1995[43]	RCT	Long term mental illness	<p><u>Service outcomes:</u> Changes in treatment with neuroleptic drugs and referrals to community psychiatric nurses were significantly more frequent in the intervention group (p&lt;0.01 for neuroleptic drugs and p&lt;0.05 for referrals).</p>	<p>Score 2.3.</p> <p>Poor quality scores for selection bias and blinding. High scores for all other components.</p>
Kendrick et al 2005[44]	RCT	Common mental disorders	<p><u>Health outcomes:</u> All three groups of patients were greatly improved by the 8-week follow-up. No significant differences were found between the groups.</p> <p><u>Patient satisfaction:</u> Greater satisfaction with treatment (p=0.001 for Generic and p=0.000 for PST).</p>	<p>Score 2.3.</p> <p>Poor quality scores for selection bias, withdrawals and dropouts. High scores for all other components</p>
King et al 2002[45]	RCT	Depression	<p>No significant positive outcomes.</p>	<p>Score 2.2.</p>
Lang et al 2006[47]	RCT	Depression and anxiety conditions	<p><u>Health outcomes:</u> Significantly greater decrease in Anxiety scores for the intervention group at 3 months (p =0.02), Depression scores at 3 months (p &lt;0.001) and at 6 months (p&lt;0.001). A significantly greater increase in the MCS score for the intervention group as compared with the treatment as usual group at 3 months and (p=0.001) and 6 months (p=0.006).</p>	<p>Score 2.5.</p> <p>Poor quality scores for blinding. Good quality scores for selection bias. High scores for all other components.</p>



## AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

Lester et al 2003[48]	RCT	Schizophrenia	No significant positive outcomes.	Score 3.0.
Lester et al 2007[49]	RCT	Common mental health problems	<u>Patient satisfaction:</u> Patients in intervention practices had a higher mean level of general satisfaction (P=0.023).	Score 2.2.  Poor quality scores for selection bias and blinding. Good quality scores for withdrawals and dropouts. High scores for all other components.
Lin et al 2001[50]	Before and after	Depression	No significant positive outcomes.	Score 2.7.
McCall et al 2004[52]	Before and after	Depression and anxiety	No significant positive outcomes.	Score 2.5.
Miranda et al 2003[53]	RCT	Depression	<u>Health outcomes:</u> At 6 months, QI patients were less likely than controls to meet criteria for probable depressive disorder (p=0.001), with a similar pattern at 12 months (p=0.005). <u>Service outcomes:</u> QI patients were more likely than controls to receive counselling or use antidepressants at an appropriate dosage (p<0.001), with a similar pattern at 12 months (p=0.006).	Quality checks not performed on this study.
Mynors-Wallis et al 1997[54]	RCT	Emotional disorders	<u>Health outcomes:</u> Lower average number of disability days at 8 weeks (P=0.07) and at 26 weeks (P=0.04). The total number of sick days off work lower in the intervention group (P=0.054). <u>Patient satisfaction:</u> Of the intervention patients 91% described the treatment as helpful or very helpful compared with 62% of the usual care patients. Similarly 91% of intervention patients would recommend it to a friend in contrast to 62% of usual care patients.	Score 2.8.  Good quality scores for confounding. High scores for all other components.
Mynors-Wallis et al 2000[55]	RCT	Major depression	<u>Health outcomes:</u> All four groups improved during treatment. There were no significant differences between the four treatment groups.	Score 2.7.  Good quality scores for confounding, withdrawals and dropouts. High scores for all other components.
Oslin et al 2003[56]	RCT	Depression and/or at-risk drinking	<u>Health outcomes:</u> Patients receiving telephone disease management had a significantly greater improvement in depression severity than those receiving usual care (p=0.048). <u>Service outcomes:</u> Overall, 41.3% of patients assigned to TDM accessed behavioural health care compared with 9.8% of usual care patients (P=0.001).	Score 2.2.  Poor quality scores for selection bias and blinding. Good quality scores for withdrawals and drop outs. High scores for all other components.
Rost et al 2001[58], Rost et al 2002[57], Rost et al 2005[59]	RCT	Major depression	<u>Health outcomes and patient satisfaction:</u> In patients beginning a new treatment episode, the intervention significantly improved depression symptoms (p=0.04). No effect on recently treated patients. Enhanced care significantly increased remission (p=0.02), emotional role functioning (p=0.002) and physical role functioning (p=0.005) over the 2 years and significantly increased the number of days free of depression impairment for 2 years when compared with usual care (P<0.01).	[57] and [59]: Score 2.7. Good quality scores for selection bias, withdrawals and drop outs. High scores for all other components.  [58]: Score 3.0. High score on all components of the

## AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

			<p><u>Service outcomes:</u> Intervention significantly increased any pharmacotherapy (<math>p=0.0001</math>), and guideline concordant pharmacotherapy (<math>p=0.0003</math>) in patients beginning a new treatment episode. Increase guideline concordant psychotherapy in recently treated patients (<math>p=0.05</math>). Also significantly increased patients use of counselling at 6 months (<math>p&lt;0.0001</math>) and 12 months (<math>p&lt;0.01</math>) but not at 18 and 24 months.</p> <p><u>Economic outcomes:</u> The incremental cost-effectiveness ratio for enhanced care ranged from \$9,592 to \$14,306 per quality-adjusted life-year (QALY). The number of incremental days free of depression impairment increased between the first year and the second year (<math>p&lt;0.001</math>) while incremental health plan costs decreased significantly (<math>p&lt;0.001</math>).</p>	quality check.
Roy-Byrne et al 2005[60]	RCT	Panic disorder	<p><u>Health outcomes:</u> The intervention resulted in sustained and gradually increasing improvement relative to treatment as usual, with significantly higher rates at all points of both the proportion of subjects remitted (3 months, 20% vs 12%; 12 months, 29% vs 16%) and responding (3 months, 46% vs 27%; 12 months, 63% vs 38%) and significantly greater improvements in World Health Organisation Disability Scale (all points) and short form 12 mental health functioning (3 and 6 months) scores.</p>	<p>Score 2.7.</p> <p>Good quality scores for selection bias, withdrawals and drop outs. High scores for all other components.</p>
Roy-Byrne et al 2001[61]	RCT	Panic disorder	<p><u>Health outcomes:</u> Intervention patients scored lower on PDSS at 6 months (<math>p=0.003</math>), the ASI at 3 months (<math>p=0.002</math>), 6 months (<math>p&lt;0.001</math>) and 12 months (<math>p=0.035</math>). lower on CES-D at 3 months (<math>p=0.002</math>), 6 months (<math>p=0.005</math>), 9 months (<math>p=0.036</math>) and 12 months (<math>p=0.02</math>). For the SF-36 role functioning, greater improvements at 12 months (<math>p=0.015</math>).</p> <p><u>Patient satisfaction:</u> At 6 and 12 months more intervention than UC patients were satisfied or very satisfied with the quality of care they received (<math>P&lt;0.001</math> and <math>p&lt;0.039</math>).</p> <p><u>Service outcomes:</u> Patient in intervention more likely to receive adequate type of medication at 3 months (<math>p&lt;0.05</math>), adequate dose/duration (<math>p&lt;0.05</math>) and more likely to adhere to this medication at 3 and 6 months (<math>p&lt;0.05</math>).</p>	<p>Score 2.7.</p> <p>Good quality scores for selection bias, withdrawals and drop outs. High scores for all other components.</p>
Schulberg et al 1996[62], Coulehan et al 1997 [15]	RCT	Major depressive disorder (MDD)	<p><u>Health outcomes:</u> Severity of depressive symptoms was reduced more rapidly and more effectively among patients randomised to pharmacotherapy or psychotherapy than among patients assigned to a physician's usual care. Among treatment completers, approximately 70% of patients participating in the full pharmacotherapy or psychotherapy protocol but only 20% of usual care patients were judged as recovered at 8 months.</p>	<p>[62]: Score 2.5. Poor quality scores for withdrawals and drop outs. Good quality scores for selection bias. High scores for all other components.</p> <p>[15]: Score 2.5. Poor quality scores for withdrawals and drop outs. Good quality scores for selection bias. High scores for all other components.</p>

## AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

Scott et al 1997[63]	RCT	Major depression	<u>Health outcomes:</u> At the end of the acute phase, significantly more subjects ( $p < 0.05$ ) met recovery criteria in the intervention group. Between-group differences in BDI scores and HRSD scores reaching significance at 7 weeks ( $P=0.05$ ) and 58 weeks ( $P=0.01$ ), respectively.	Score 2.2.  Poor quality scores for selection bias and blinding. Good quality scores for withdrawals and dropouts. High scores for all other components.
Sharma et al 2001[64]	Comparative	Unspecified mental health conditions	No significant positive outcomes.	Score 1.7.
Simon et al 2000[66]	RCT	Depression	<u>Health outcomes:</u> Depression score at follow up was significantly lower in the intervention group ( $P = 0.008$ ). The intervention group had a significantly higher probability of showing a 50% decrease in depression scores on the symptom checklist (OR 2.22, 1.31 to 3.75), and a significantly lower probability of persistent major depression at follow up (0.45, 0.24 to 0.86). <u>Economic outcomes:</u> Analyses that excluded the single outlier showed no difference in costs for total health services among the three groups. <u>Service outcomes:</u> Patients receiving feedback plus care management had a higher probability of receiving at least moderate doses of antidepressants (OR1.99, 1.23 - 3.22).	Score 2.8.  Good quality scores for selection bias. High scores for all other components.
Simpson et al 2000[67]	RCT	Depression or combined depression and anxiety	<u>Health outcomes:</u> Overall significant improvement depression scores over time but no difference between groups. Fewer experimental group patients were still 'cases' at 12 months ( $p=0.01$ ).	Score 2.8.  Good quality score for withdrawals and dropouts. High scores for all other components.
Swindle et al 2003[68]	RCT	Depression	<u>Service outcomes:</u> Intervention patients were more likely to have a diagnosis of depression in the chart ( $p=0.007$ ) and be referred to a psychiatry or mental health clinic ( $p=0.034$ ).	Score 2.5.  Poor quality scores for blinding. Good quality scores for selection bias. High scores for all other components.
Tutty et al 2000[69]	Before and after	Major depression	<u>Health outcomes:</u> Mean follow-up symptom checklist scores were significantly lower in the telephone counselling group than in the control group ( $P=0.03$ ).	Score 2.3.  Poor quality scores for blinding. Good quality scores for selection bias and study design. High scores for all other components.
Unutzer et al 2002[70], Harpole et al 2005[31]	RCT	Late-life depression/dysthymia and chronic comorbid medical illnesses	<u>Health outcomes:</u> more intervention patients had a 50% or greater reduction in depressive symptoms from baseline compared with usual care patients ( $P<0.001$ ). Intervention patients had lower severity ( $P<0.001$ ), less functional impairment ( $P<0.001$ ) and greater quality of life ( $P<0.001$ ) than usual care patients. <u>Patient satisfaction:</u> Intervention patients were more satisfied with depression care ( $P<0.001$ ). <u>Service outcomes:</u> Intervention patients experienced greater rates of treatment ( $P<0.001$ ) than usual care patients.	[70]: Score 3.0. High score on all components of the quality check.  [31]: Score 2.7. Good quality scores for selection bias and study design. High scores for all other components.

## AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

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Van Os et al 2004 [71]	Before and after	Depression	<u>Service outcomes:</u> Significant pre to post test improvements were found for prescription antidepressants ( $p < 0.05$ ), adequate dosage and duration of antidepressant treatment ( $p < 0.01$ ), communicative skillfulness ( $p < 0.01$ ), and communicative skillfulness and adequate antidepressant treatment ( $p < 0.01$ ).	Quality checks not performed on this study.
Von Korff et al 1998[72]	RCT	Depression	<u>Economic outcomes:</u> Increased treatment costs. Cost per patient successfully treated was lower in intervention than control patients (major depression only).	Quality checks not performed on this study.
Yuen et al 1996[75]	Comparative	Mental health (not a specific condition)	No significant positive outcomes.	Score 2.5.

## APPENDIX M: ANALYSES OF COMPONENTS OF THE CONFIGURATIONS OF CARE

**Table A: Elements of care and types of providers with significant outcomes**

	Health	Service	Economic	Patient satisfaction
<b>Recognition and case finding</b>				
General practitioners (n=6)	1 (4) 25%	3 (5) 60%	0 (0) -	0 (0) -
Primary care nurses (n=2)	1 (2) 50%	0 (1) -	0 (0) -	0 (0) -
Counsellors, social workers, non-clinical psychologists (n=1)	0 (1) -	0 (1) -	0 (0) -	1 (1) 100%
Mental health nurses (n=1)	0 (1) -	0 (0) -	0 (0) -	0 (0) -
Other (n=2)	2 (2) 100%	2 (2) 100%	1 (1) 100%	1 (1) 100%
Total (n=10)	4 (8) 50%	5 (9) 56%	1 (1) 100%	2 (2) 100%
<b>Assessment and care planning</b>				
General practitioners (n=1)	0 (0) -	1 (1) 100%	0 (0) -	0 (0) -
Primary care nurses (n=4)	3 (3) 100%	3 (4) 75%	1 (1) 100%	1 (1) 100%
Counsellors, social workers non-clinical psychologists (n=5)	4 (5) 80%	3 (5) 60%	0 (1) -	3 (3) 100%
Mental health nurses (n=5)	1 (4) 25%	2 (4) 50%	0 (2) -	1 (3) 33%
Other (n=4)	1 (4) 25%	4 (4) 100%	1 (3) 33%	3 (3) 100%
Total (n=19)	8 (15) 53%	12 (18) 67%	2 (7) 29%	7 (9) 78%
<b>Patient education n=24</b>				
General practitioners (n=5)	3 (4) 75%	3 (4) 75%	0 (0) -	1 (1) 100%
Primary care nurses (n=3)	3 (3) 100%	3 (3) 100%	2 (2) 100%	1 (1) 100%
Counsellors, social workers, non-clinical psychologists (n=9)	7(8) 87%	5 (7) 71%	1 (2) 50%	4 (4) 100%
Mental health nurses (n=3)	2 (3) 66%	2 (2) 100%	0 (0) -	1 (1) 100%
Other (n=6)	2 (5) 40%	4 (5) 80%	2 (3) 67%	3 (3) 100%
Total (n=24)	16 (22) 73%	15 (19) 79%	4 (6) 67%	9 (9) 100%
<b>Pharmacotherapy n=20</b>				
General practitioners (n=15)	9 (13) 69%	9 (11) 82%	2 (3) 67%	5 (5) 100%
Primary care nurses (n=2)	1 (1) 100%	2 (2) 100%	0 (0) -	0 (0) -
Counsellors, social workers non-clinical psychologists (n=2)	2 (2) 100%	2 (2) 100%	0 (0) -	1 (1) 100%
Mental health nurses (n=2)	2 (2) 100%	2 (2) 100%	0 (0) -	1 (1) 100%
Other (n=2)	1 (2) 50%	2 (2) 100%	0 (1) -	2 (2) 100%
Total (n=20)	12 (17) 71%	14 (17) 82%	3 (5) 60%	7 (7) 100%
<b>Psychological therapies n=30</b>				
General practitioners (n=5)	3 (5) 60%	3 (4) 75%	1 (1) 100%	0 (0) -
Primary care nurses (n=5)	3 (3) 100%	1 (2) 50%	0 (1) -	1 (1) 100%
Counsellors, social workers non-clinical psychologists (n=16)	13 (15) 87%	5 (10) 50%	2 (5) 40%	6 (11) 55%
Mental health nurses (n=4)	3 (4) 75%	2 (4) 50%	0 (4) -	2 (2) 100%
Total (n=30)	20 (26) 77%	10 (19) 53%	3 (11) 27%	8 (13) 62%

<b>Ongoing management</b>				
General practitioners (n=6)	3 (5) 60%	3 (5) 60%	0 (2) -	1 (2) 50%
Primary care nurses (n=7)	5 (6) 83%	4 (5) 80%	2 (2) 100%	2 (2) 100%
Counsellors, social workers non-clinical psychologists (n=4)	3 (4) 75%	3 (4) 75%	0 (0) -	3 (3) 100%
Mental health nurses (n=6)	2 (5) 40%	3 (5) 60%	0 (3) -	1 (3) 33%
Other (n=6)	4 (6) 67%	6 (6) 100%	1 (3) 33%	5 (5) 100%
Total (n=25)	15 (23) 65%	16 (23) 70%	3 (10) 30%	11 (14) 79%
<b>Physical care</b>				
General practitioners (n=2)	1 (2) 50%	1 (1) 100%	0 (0) -	0 (0) -
Primary care nurses (n=1)	1 (1) 100%	1 (1) 100%	1 (1) 100%	1 (1) 100%
Total (n=3)	2 (3) 67%	2 (2) 100%	1 (1) 100%	1 (1) 100%
<b>Referral n=12</b>				
General practitioners (n=8)	5 (8) 63%	3 (5) 60%	0 (1) -	1 (3) 33%
Primary care nurses (n=2)	0 (2) -	0 (0) -	0 (0) -	0 (0) -
Counsellors, social workers non-clinical psychologists (n=1)	0 (1) -	0 (1) -	0 (0) -	1 (1) 100%
Other (n=2)	2 (2) 100%	2 (2) 100%	1 (1) 100%	2 (2) 100%
Total (n=12)	8 (12) 67%	5 (9) 56%	1 (3) 33%	4 (7) 57%

Table B: Elements of care and supports with significant health/service outcomes

	Brief training N=31	Consultation N=20	Feedback N=15	Supervision N=8	Multidisciplinary meetings N=4	Administration N=3
<b>Recognition and case finding</b>						
Health outcomes	4 (4) 100%	1 (2) 50%	1 (2) 50%	1 (2) 50%	0 (0) -	0 (1) -
Service outcomes	4 (6) 66%	1 (2) 50%	2 (2) 100%	1 (2) 50%	0 (0) -	1 (1) 100%
<b>Assessment and care planning</b>						
Health outcomes	5 (6) 83%	3 (6) 50%	4 (6) 66%	1 (3) 33%	2 (3) 66%	0 (0) -
Service outcomes	7 (8) 87%	5 (7) 71%	3 (6) 50%	2 (3) 66%	2 (3) 66%	0 (0) -
<b>Patient education</b>						
Health outcomes	9 (10) 90%	7 (9) 78%	8 (10) 80%	3 (5) 60%	2 (2) 100%	1 (2) 50%
Service outcomes	8 (10) 80%	7 (8) 87%	8 (9) 89%	4 (5) 80%	2 (2) 100%	2 (2) 100%
<b>Pharmacotherapy</b>						
Health outcomes	8 (8) 100%	6 (7) 86%	6 (8) 75%	0 (1) -	1 (1) 100%	0 (1) -
Service outcomes	8 (9) 89%	6 (7) 86%	7 (7) 100%	1 (1) 100%	1 (1) 100%	1 (1) 100%
<b>Psychological therapies</b>						
Health outcomes	11 (12) 92%	3 (3) 100%	4 (6) 67%	4 (5) 80%	1 (1) 100%	0 (1) -
Service outcomes	7 (10) 70%	2 (3) 66%	4 (5) 80%	3 (5) 60%	1 (1) 100%	1 (1) 100%
<b>Ongoing management</b>						
Health outcomes	8 (10) 80%	6 (9) 66%	8 (10) 80%	2 (4) 50%	3 (4) 75%	1 (1) 100%
Service outcomes	8 (11) 73%	9 (10) 90%	8 (11) 73%	3 (4) 75%	3 (4) 75%	2 (2) 100%
<b>Referral</b>						
Health outcomes	4 (4) 100%	2 (4) 50%	2 (3) 66%	3 (4) 75%	1 (1) 100%	0 (0) -
Service outcomes	2 (4) 50%	3 (3) 100%	3 (3) 100%	2 (4) 50%	1 (1) 100%	0 (0) -

APPENDIX N: SUPPORTS AND WHO PROVIDES THEM

	Brief training N=31	Consultation N=20	Feedback N=15	Supervision N=8	Multidisciplinary meetings N=4	Administration N=3	System development N=2	Education N=2	Program development N=1	Communi- cation N=1	Decision support N=1
Psychiatrists N=18	4	12	4	4	1	0	0	0	0	0	0
Counsellors, social workers, etc N=11	6	1	3	2	0	0	1	0	0	0	0
General practitioners N=5	3	1	0	1	1	0	0	0	0	0	0
Specialist mental health nurses N=6	2	3	1	1	0	0	0	0	0	0	0
Clinical Psychologists N=3	2	0	0	1	0	0	0	0	0	0	0
Primary care nurses N=2	0	0	2	0	0	1	0	0	0	0	0
Other/ Not specified N=37	24	9	6	1	3	2	1	2	1	1	1



## APPENDIX O: CONFIGURATIONS OF CARE BY PROVIDER-DETAILS

(\*Acknowledgments are as referenced.)

### GPs as sole provider of elements of care

In eight studies GPs were the only providers of care in an intervention for patients with mental health conditions. Six of these studies concerned mild to moderate depression and emotional disorders. Four of the six studies reported no significant positive outcome. Two reported significant service outcomes. In the first high quality study GPs were providing psychological treatment (CBT) to patients with panic disorder,[33] and were given brief training and clinical supervision to support them in this role. Service outcomes included significantly increased use of CBT ( $p < 0.05$ ), and better ability to assess and plan management than those who had not received training ( $p = < 0.001$ ). In the second study[71] GPs received training in diagnosis and management of depression, which was found to improve prescriptions of antidepressants ( $p = < 0.05$ ), adequate dosage and duration of antidepressant treatment ( $p = < 0.01$ ), and communicative skilfulness of GPs ( $p = < 0.01$ ).

For the interventions that reported no significant positive outcomes, three involved training GPs to improve diagnosis and/or treatment of depression [45,50,25] and one involved disclosure of unrecognised cases of depression to general practitioners.[17] Each of these studies was assessed as of good or high quality.

GPs were operating as the sole provider of care to patients with major depression, schizophrenia or psychosis in two studies. In the first study, which was assessed as low quality, the GPs provided a range of elements of care[5] while the second study, assessed as good quality, focussed specifically on structured assessment of patients.[43] In both studies GPs were provided with support. In the first a non-specialist mental health facilitator conducted an audit of the recognition of mental illness by GPs and fed the results back to GPs, provided written depression management guidelines and organised workshops and other training initiatives. In the second study GPs were trained in the use of a structured assessment schedule. Both studies reported significantly improved service outcomes. The first study[5] reported improved recognition of mental illness in the intervention group and the second study[43] found changes in treatment with neuroleptic drugs ( $p < 0.01$ ) and more frequent referrals to community psychiatric nurses ( $p < 0.05$ ).

### GPs providing elements of care in collaboration with other providers

- *GPs and counsellors, social workers or psychologists.*

Eight studies examined GPs working in collaboration with counsellors, social workers or psychologists to provide care for patients with mental health conditions.

Six addressed mild to moderate depression and emotional disorders [67,35,4,38,60,32]. All studies had counsellors providing psychological treatment, however in one the role of the counsellor was described in more detail and included patient education, assessment, and monitoring of adherence.[38] The elements provided by GPs were either referral to the counsellors[35,4,67] or pharmacotherapy[38,60,32].

Five of the six studies reported significant improvements in health outcomes[67,35,4,38,60]. Of the four that measured service outcomes, two reported significant improvements [35,38]. Four studies measured patient satisfaction and one high quality study reported a significant improvement[38].

One study[32] which was assessed as good quality, measured health, economic and service outcomes and found that generic counselling provided by accredited or diploma level counsellors working with GPs in the practice setting had no significant effect. One reason for this trialling may be that the median number of sessions per patient was three and not the intended six sessions.

Two good quality studies addressed the care of patients with major depression by GPs and counsellors [69,6]. The first involved telephone counselling and medication monitoring program for adults starting antidepressant treatment for major depression in primary care [69]. Counsellors delivered the intervention while GPs provided follow-up. At three months post intervention, depression symptoms were significantly reduced in the intervention group ( $p=0.03$ ). One study[6] found that antidepressant treatment by GPs was as effective as counselling sessions by experienced counsellors in resolving depression and reducing symptoms at the eight-week follow-up visit. Both groups were highly satisfied with treatment.

- *GPs and primary care nurses*

Two studies concerned GPs working with primary care nurses in the care of patients with depression. In the first high quality study [58,57,59] the practice nurse saw patients before they saw the GP, provided care management, follow-up and monitoring of patients. GPs provided pharmacotherapy or psychological treatments. GPs and nurses received brief training to improve the detection and management of major depression. Significant health, economic and service outcomes were reported including improved depression symptoms at six months in patients beginning a new treatment episode ( $p=0.04$ ), more guideline concordant pharmacotherapy in patients beginning a new treatment episode ( $p=0.0003$ ), more guideline concordant psychotherapy in recently treated patients ( $p=0.05$ ) and cost-effectiveness at 2 years after the intervention.

The second study which was also of high quality[55] compared problem solving therapy (PST) alone delivered by GPs or practice nurses, with PST and pharmaceutical treatment delivered by both GPs and practice nurses, and pharmaceutical treatment alone delivered by the GP. While the health of all patients improved, there were no significant differences between the arms.

- *GPs and psychiatrists or clinical psychologists*

Two high quality studies examined GPs and psychiatrists working together to care for patients with mild to moderate depression and other emotional disorders[36,40,51,73,65]. In the first study [36] GPs provided care management and psychiatrists provided tele-psychiatry consultations. Significant improvements were recorded in adherence to recommended medication doses for patients with depressive and anxiety disorders. The second study [40,51,73,65] involved enhanced patient education and increased frequency of visits by a psychiatrist working with the primary care physician to improve pharmacologic treatment. The psychiatrist reviewed monthly pharmacy data to monitor the patient's adherence, provided referrals to support groups, and supported the GP through consultation and feedback. The GP was responsible for prescriptions and overall management of pharmacotherapy. Intervention patients showed greater improvement in symptoms in the first 3 months ( $p=0.001$ ), were more satisfied with care ( $P=0.04$ ), and more likely to receive an adequate dose of antidepressants ( $P<0.0001$ ).

One high quality study addressed the care of patients with minor or severe depression.[41] The study found that a collaborative care approach where patients alternated between visits to the GP and the Psychiatrist, with ongoing monitoring of adherence to pharmacotherapy by the Psychiatrist, patients were significantly more likely to receive an adequate dosage of antidepressants ( $p<0.01$ ). The intervention significantly improved depressive symptoms ( $p<0.004$ ) and patient satisfaction ( $p=0.03$ ) in patients with major depression but not for those with minor depression.

Two studies addressed severe depression, schizophrenia and/or chronic psychosis.[14,62,15] One study assessed as of low quality[14] assessed the effectiveness of a consultation-liaison model designed to improve the knowledge and practices of GPs in caring for patients with psychiatric disorders. Although intervention GPs were highly satisfied with the consultation-liaison service and preferred it over other possible referral agencies, there was no change in GP knowledge or practice. The second high quality study[62,15] supplemented the GP care to patients with major depression with interpersonal psychotherapy delivered by either a psychiatrist or clinical psychologist.

Severity of depressive symptoms was reduced more quickly and more effectively among intervention patients and approximately 70% of patients participated in the full pharmacotherapy or psychotherapy protocol but only 20% of usual care patients were judged as recovered at eight months.

- *GPs and mental health nurses*

One high quality study [7] used a collaborative model in which a Psychiatric Mental Health Advanced Practice Nurse (PMH-APN) was available on site to assist GPs to recognise women with depressive symptoms and to provide intervention. GPs and practice nurses were involved in identification of patients, referral to the PMH-APN and ongoing care after the intervention. No significant outcomes were reported.

In another study, nurses (or psychologists) were trained as Depression Clinical Specialists and provided to older depressed patients for assessment, various forms of treatment, relapse prevention plan development and follow up.[70,31] GPs were responsible for prescriptions and a multidisciplinary team provided support. Key positive outcomes for this high quality study included greater rates of treatment ( $p < 0.001$ ), lower depression severity ( $p < 0.001$ ), and greater satisfaction with care ( $p < 0.001$ ).

- *GPs and pharmacists*

One good quality study [1] involved a pharmacist working collaboratively with the GP for the care of patients with severe depression. The pharmacists took a medication history, assisted with the medication regime, monitoring, patient education, and social support. Changes in health outcomes were not evident, but the rate of antidepressant use in intervention patients increased significantly more than controls ( $p = 0.03$ ).

- *GPs and other providers*

Three studies looked at GPs and others caring for patients with mental health conditions.

In a high quality study[42] GPs worked collaboratively with treatment coordinators to provide diagnosis, patient education, pharmacotherapy and monitoring of depressed high utilisers. GPs were provided with two hours standardised training, and consultation support by a psychiatrist and the treatment coordinators as needed. The impact of was a significantly greater improvement in the intervention than the control group for antidepressant treatment ( $p < 0.001$ ), decreased depression severity ( $p < 0.001$ ) and improved general health status ( $p < 0.05$ ).

In one study[53] intervention practices were offered one of two quality improvement programs that trained local experts to educate clinicians; nurses to educate, assess, and follow-up patients; and psychotherapists to conduct CBT. GPs formulated treatment plans based on the assessments conducted by practice nurses. The study patients were more likely to receive treatment ( $p = 0.006$ ) and less likely to have depression at 12 months ( $p = 0.005$ ).

Another high quality study compared the efficacy of a multidisciplinary community mental health team based in primary care to a hospital psychiatric unit in the care of patients with chronic schizophrenia.[27] Home assessments, care management and coordination, follow-up and rehabilitation plan development were provided by an appropriate member of the mental health team and GPs provided referrals. Patients in the primary care group had fewer unmet needs ( $P < 0.001$ ), including under activity, neurotic symptoms, behaviour difficulties, and deficiencies in daily living skills. Patients were more likely to have received the service they wanted, to be prepared to recommend the service to a friend, and to return to the service if necessary. Four years after the team was established, it met a greater proportion of needs for underactivity ( $P < 0.03$ ), daily living skills ( $P < 0.01$ ), use of public amenities ( $P < 0.03$ ) and managing finances ( $P < 0.05$ ). This study was unusual in reporting a four year follow up.

In a high quality study[34] a collaborative care team consisting of a clinical psychologist, a psychiatrist, social workers and psychology technician worked closely with primary care providers to deliver care for patients with major depression and/or dysthymia.

The team provided diagnosis and treatment including pharmacotherapy, cognitive behavioural therapy delivered by a psychologist or social worker, patient education, and patient support/progress evaluation delivered by a social worker. Communication with the primary care provider was facilitated electronic progress notes, an alert function and co-signature. The team psychiatrist contacted the primary care physician by telephone when necessary. The collaborative care intervention was significantly more successful at improving depression symptomatology at three months ( $p < 0.025$ ), but there was no difference at nine months. The intervention increased the proportion of patients receiving prescriptions ( $p < 0.0001$ ) and cognitive behavioural therapy (22% collaborative care vs 0% consultation liaison). Patient satisfaction in both groups was equally high.

### **Primary care nurses were the sole providers of elements of care**

In six studies primary care nurses were the sole providers of care, most with some formal support, for patients with a range of mental health conditions. Two addressed depression and emotional disorders [54,9,10], two addressed more severe mental health conditions [18,12] and two addressed postnatal depression [19,2].

Another high quality study[54] assessed problem-solving treatment (PST) for emotional disorders given by community nurses in primary care. Nurses were trained in the techniques of PST by a Clinical Nurse Specialist in behavioural psychotherapy before undertaking the intervention. While there was no difference in clinical outcome between intervention and usual care patients, intervention patients had fewer disability days ( $p = 0.04$ ) and fewer days off work ( $p = 0.054$ ). While costs were greater this was more than offset by savings in the cost of days off work. One study[9,10] showed that an intervention where nurses implemented care plans, which may include pharmacological, psychological, physical or social actions, was successful in improving depression scores ( $p = 0.05$ ). The first paper was assessed as high quality and the second as low.

One good quality study [12] looked at the effect of teaching practice nurses to carry out structured assessments of patients with schizophrenia receiving depot antipsychotic injections. The intervention did not show any significant difference in process of care between intervention and control patients but there was a significantly higher rate of hospital admissions in the control group ( $p < 0.01$ ). In a high quality study [18] generalist nurse case manager provided patient education and liaison with mental health care providers while a nurse practitioner provided basic medical care. The nurses were located in an integrated care mental health clinic for patients with serious psychiatric illness and a GP provided supervision and consultation support. Patients in the integrated care clinic had a significantly greater improvement in physical health ( $p < 0.001$ ) and were significantly more satisfied with overall care ( $p = 0.005$ ). They were more likely to have made a primary care visit ( $P = 0.006$ ) and were significantly more likely to have received preventive measures (no specific  $p$  value). This model was no more costly than usual care.

Two studies assessed the impact of training time on the care given by health visitors to patients with postnatal depression in primary care.[19,2] In the first good quality study health visitors were given 5 days training by the research team to promote evidence-based practice. Health visitors provided assessment, non-directive counselling, review and referral when needed for women postnatal depression. While clinical practice after the intervention varied significantly, there was a significant reduction in depressive symptoms at 6 months postnatal in 9 of the 11 groups of health visitors trained (ranging from  $p = 0.0001$  to  $p = 0.05$ ).[19] The second good quality study[2] looked at changes in clinical care after providing two days brief training to health visitors and found that health visitors carried out more assessments, symptom recording and treatment for women with postnatal depression without spending more time with the women or increasing the costs of care (see Appendix K for details).

### **Primary care nurses working with volunteers**

In a high quality study[37] primary care nurses and volunteers worked collaboratively to provide telehealth care and peer-support for patients with depression. At 6 months patients who received telehealth by nurses, with or without peer support, had decreased depressive symptoms ( $p = 0.006$ ) and improved satisfaction ( $p = 0.001$ ).

**Counsellors, social workers and non-clinical psychologists as sole provider**

In seven studies counsellors, social workers or psychologists were the only providers in the intervention. Four studies addressed mild to moderate depression and emotional disorders [24,23,11,74,46,49,56], one examined mild to severe depression and anxiety[47] and two addressed severe mental health conditions.[39,63]

The roles of accredited counsellors, behavioural health specialists and psychologists in the five studies addressing mild to moderate depression and emotional disorders included psychological therapies (all studies), assessment, treatment planning and patient education [49,56], onward referral to voluntary sector and self-help and ongoing care management.[49] The 3-arm randomised controlled trial[11,46,74] looked at clinical and cost effectiveness of two general practice based psychological therapies (non-directive counselling by accredited counsellors and cognitive behaviour therapy by psychologists). Both psychological treatments were found to be a cost-effective method of reducing depressive symptoms in the short term, but the comparative benefits were relatively circumscribed and did not endure over the long term. At four months, both providers were significantly more effective in reducing depression symptoms than usual GP care ( $p=0.008$ ), however the difference was not evident at 12 months. At 4 months, patients in both psychological therapy groups were more satisfied with their treatment than those in the usual GP care group ( $p=0.001$ ). At 12 months, the difference was significant between non-directive counselling and GP care only ( $p=0.03$ ). The additional costs of providing psychological therapy were recouped from savings in primary care visits, psychotropic medication and specialist mental health treatments.

Two high quality studies[23,24] assessed the effectiveness of non-directive counselling delivered by accredited counsellors in the general practice and found little difference between the counsellor intervention and usual GP care in clinical severity of symptoms or service outcomes, however patients treated by counsellors were more satisfied with their care than those receiving GP care (45.6 [SD 9.4] vs 37.1 [11.2]). In terms of total costs, use of a counsellor was significantly more costly after three months than usual GP care ( $p=0.007$ ), but there was a trend for the counselling group to become less expensive compared to usual routine care in the following six months ( $p=0.063$ ). Similar findings were reported in the good quality study[49] where primary care mental health workers delivered a comprehensive array of elements of care. When compared with usual general practice care, the intervention did not produce any significant differences in health and service outcomes but improvements in patient satisfaction were significant ( $p=0.023$ ). Costs tended to be higher for the primary care mental health worker group however the study lacked adequate power to detect significant differences in costs. The fourth good quality study[56] was designed to explore the efficacy of a telephone-based disease management program for the acute management of depression and/or at-risk drinking. Behavioural health specialists made regular telephone contact with patients to assist in assessment, education, support, and treatment planning. Behavioural health specialists received training from the research team and supervision by a psychiatrist. Intervention patients had a significantly greater improvement in depression severity than those receiving usual care ( $p=0.048$ ) and were more likely to access behavioural health care ( $p<0.001$ ).

Two studies addressed major depression. A good quality study[63] found that brief cognitive therapy (BCT), delivered by qualified and supervised psychotherapists as an adjunct to treatment as usual for people with major depression in primary care, resulted in significantly greater rate of recovery ( $p=0.05$ ) and reduction in the severity of depression at 52 weeks ( $p=0.01$ ). Another high quality study[39] trialled a relapse prevention intervention for patients with major depression delivered by a psychologist, social worker or psychiatric nurse (trained as depression prevention specialists). The program was a low-intensity intervention that included enhanced patient education, 2 visits with the depression specialists, three to four telephone calls, and symptom monitoring over the 12-month period. It resulted in significantly improved adherence to antidepressant medication ( $p<0.001$ ) and depression outcomes ( $p=0.04$ ) when compared with usual primary care. However, the rate of relapse was not affected by the program.



### **Mental health nurses as sole provider of elements of care**

Mental health nurses were the only providers of elements of care in four studies [8,30,44,68]. Psychiatric nurses were also involved as key providers of care in another study[39] (See section on counsellors, social workers and psychologists above).

Three studies looked at mild to moderate depression and emotional disorders. The first was a high quality economic evaluation of community psychiatric nurses working in primary care settings.[30] No significant improvements in health outcomes or cost savings were found. The second was a good quality 3 armed randomised trial comparing community mental health nurses providing problem solving treatment and community mental health nurses providing generic counselling with usual general practitioner care.[44] While the measured health outcomes improved significantly for all patients there was no significant difference between the groups. Neither of the mental health nurse intervention were cost effective when compared to GP care, however greater patient satisfaction was reported for both the generic counselling ( $p=0.001$ ) and problem solving treatment groups ( $p=0.000$ ). The third high quality study examined the effectiveness of integrating specialist care delivered by a mental health clinical nurse specialist into generalist care for veterans with depression [68] and found little effect on the health of patients, patient satisfaction or the costs of care, however, intervention patients were more likely to have a recorded diagnosis of depression ( $p=0.007$ ) and be referred to a mental health clinic ( $p=0.034$ ).

One high quality comparative study examined the impact of a link worker service designed to improve collaboration between primary and secondary services for patients with severe mental illness in primary care [8]. The service allocated community psychiatric nurses from the community mental health team to each of the practices in that area to work as a 'link worker'. Nurses provided assessment, treatment and ongoing care management. The study found no impact on admission rates to hospital or costs.

### **Mental health nurses working in collaboration with other providers**

Mental health nurses worked collaboratively with GPs or other providers in three studies. The studies reporting on mental health nurses working with GPs [7,70,31] are described above.

One study involved mental health nurses working collaboratively with psychiatrists as part of a multidisciplinary team in close association with five primary care practices to provide care for patients with a range of mental health conditions.[64] The study quality was rated as poor and showed no significant improvement in the outcome measures for health, patient satisfaction or service changes.