AUSTRALIAN PRIMARY HEALTH CARE RESEARCH INSTITUTE

MODELS OF MENTAL HEALTH DELIVERY: EFFICACY, SUPPORT AND POLICY

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INTRODUCTION

Depression and anxiety are common mental disorders which are often managed in primary care and community settings, rather than in specialist services. The primary care sector in Australia is facing a number of challenges, which include concerns from many quarters that the quality of care for individuals with anxiety and depression does not meet standards for good, evidence-based practice, that there is poor access to services, with as many as 60 per cent of individuals with mental disorders not reaching professional help (Andrews, Hall, Teesson, & Henderson, 1999), that depression, although now recognised as a chronic condition with a remitting course, is treated in an episodic manner, and that, although enhanced care is associated with better outcomes it also comes at a higher cost (Gilbody, 2004). Finally, there may be too few practitioners to deliver care, even if it could be afforded. The big five - quality, access, continuity, cost and workforce are major issues.

Against this background, it is also clear that we know little about what approaches actually work in delivering evidence-based treatment. Although both antidepressant medication and cognitive behaviour therapy are effective therapies for depression, the models, processes or settings in which these therapies can best be delivered have been the subject of little systematic research. Consequently, the aim of the present evidence synthesis is to provide an overview of the effectiveness of the approaches to the delivery of mental health care and to indicate the circumstances in which different models might work.

Given the workforce and financial challenges, mental health delivery needs to be informed by outcomes for consumers which focus on such questions as whether the system improves their mental disorder and their quality of life. This information can inform services directly. There is no point investing money or training on interventions that do not deliver. Information on efficacy can also throw light on those delivery modes which offer promising returns in terms of access, cost and continuity. If the core components of mental health services that produce successful outcomes are identified, then all services could potentially be reconfigured to deliver these components. Given financial constraints and lack of workforce, the mental health sector needs to use resources innovatively, to develop new solutions to problems and to train existing and new workforces proactively.

The present document is organised around three areas. Chapter One describes the delivery of mental health and the evidence for the effectiveness of various approaches. General practice is recognised as an important setting for the delivery of mental health care, but a setting where costs are high, and drivers for reform are sluggish. Chapter Two focuses on issues of relevance to general practice, including whether practitioners are well placed to deliver anxiety and depression care, and where the gaps and potential areas of improvement are located. Chapter Three addresses the policy outcomes broadly and then specifically within the context of recent Council of Australian Governments (COAG) recommendations.

In short, this area of investigation is clearly complex. However, we believe the focus of the present review on the efficacy of various approaches to mental health delivery may contribute usefully to debate about mental health reform.

EFFECTIVE METHODS TO REDUCE ANXIETY AND DEPRESSION

There are a range of interventions and services targeting people with depression and anxiety in primary care.

Some services involve the recognition, detection and management of depression in general practice. A range of service arrangements, from single practitioner models to collaborative care models have been evaluated in this context, with an emphasis on improving the management of depression by general practitioners (see Gilbody, 2004). However, a broader range of community approaches is also employed in Australia, where services or interventions are directly provided to those with disorders in the community. Figure 1, summarises both general practice and broader community approaches within a prevention, early intervention, treatment and recovery/support framework. The framework provides a means of summarising and comparing interventions with similar goals, and comparable target groups. A number of health interventions are provided through telephone services or the Internet, or arise as part of school prevention programs.
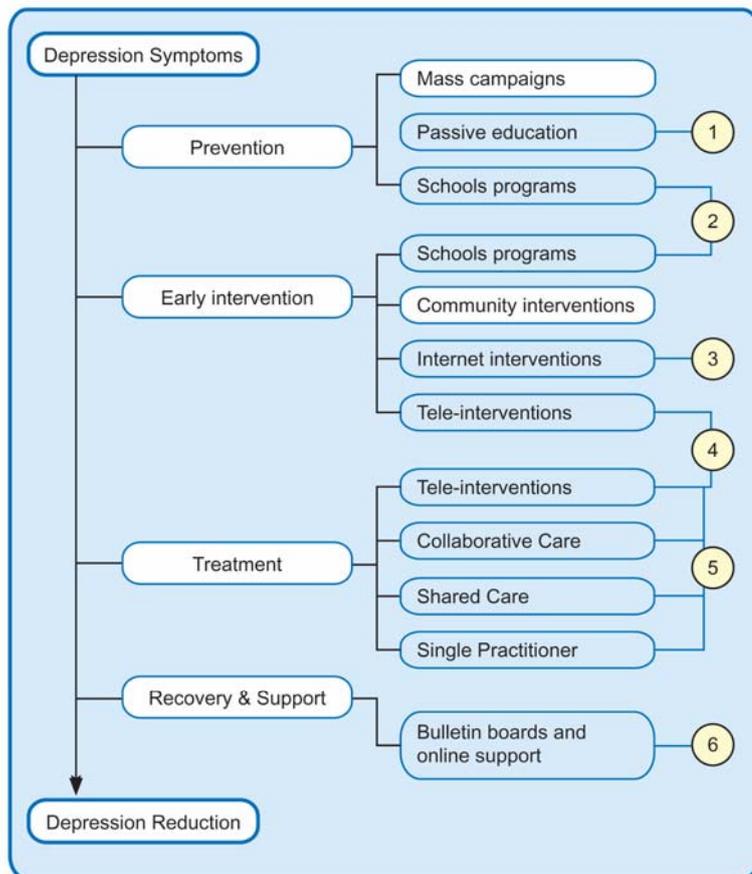
Figure 1. Framework for the reviews.

The material for the current review was drawn from six reviews of the literature. Three of these were new. The remaining three were based on previously conducted systematic reviews of the literature, supplemented with material derived from updated searches. These reviews are numbered 1-6 on the left hand side of Figure 1. The methodologies for each of the reviews differed to some degree as each area demanded different research terms. All research involved a systematic review of the research evidence (see Figure 2). Full descriptions of the reviews are available in the Appendices. These Appendices describe the outcomes for both depression and anxiety, but in the body of the report we focus on depression outcomes only.

The key outcome measure of the review is improvement in consumer depression, rather than the satisfaction of health care providers or other outcome measures, such as cost or consumer satisfaction, although we recognise that these considerations are also drivers of health care reform.
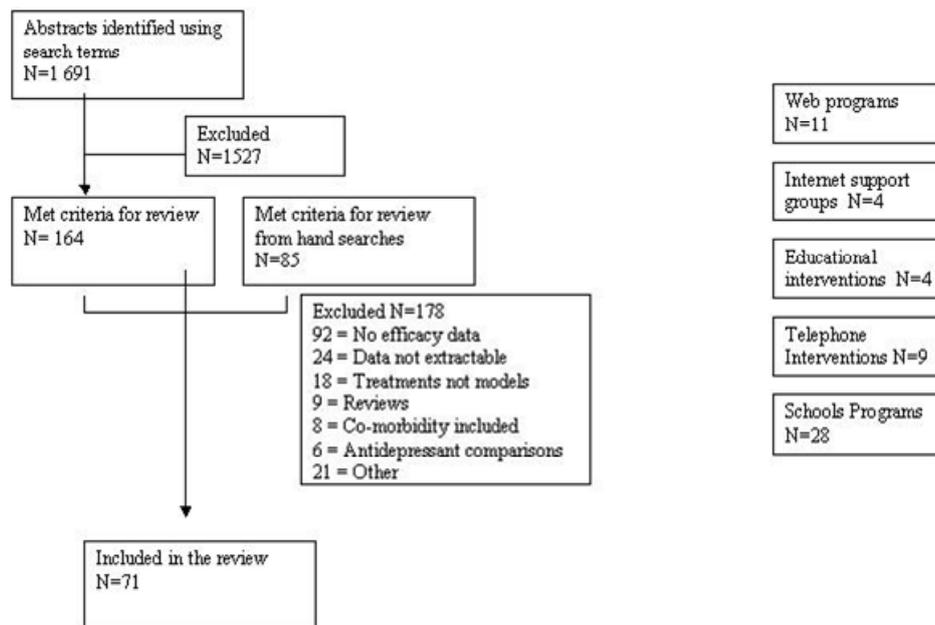
Figure 2. Flow diagram showing papers selected for review. The papers on the left of the diagram were identified through a search with the key search term of 'health delivery'. The reviews on the right used specific research terms to identify areas with a specialised focus.

No formal cost effectiveness analyses were undertaken, although the review draws on a recent research synthesis examining effectiveness (Gilbody, 2004). Because there have been suggestions that the use of information communication technology (ICT) and the Internet can improve service delivery and reduce costs, the review has an emphasis on Internet therapies and ICT solutions to health care delivery.

Much of the relevant research into general practice has been undertaken in the United States, and to some extent in the United Kingdom. There are limitations in extrapolating this literature to the Australian context. For this reason, an additional review was undertaken specifically of Australian programs for anxiety and depression, including programs focused on the Better Outcomes in Mental Health Care Initiative (BOiMHC).

Some research papers were included in more than one review. Due to time constraints, it was not feasible to review all types of interventions in the present review. For this reason, the current study does not review mass education campaigns such as the beyondblue initiative or similar programs, such as Defeat Depression conducted in the UK.

Passive Education Campaigns

Passive education programs provide pamphlets, posters, audio visual aids, lectures, or information on websites to people with the purpose of educating about treatments for depression or to increase adherence to medication regimes (Merritt, in press). These interventions are usually brief and inexpensive, and may have a role in preventing or intervening early in depression. Using Merritt's recent review as a starting point, we examined research studies directed at depression. Four papers, all of which described randomised controlled trials, were identified. The findings from this small number of trials were mixed, with half showing some change in mood and the others not. However, the outcomes from two successful interventions suggested that these interventions were likely to be more successful if they included personalisation (i.e., they were tailored for individual use) and if they involved telephone contact.

These interventions are inexpensive and possibly effective [Full report Appendix 1].

Schools Programs

Australia is a world leader in the development of prevention and early intervention schools programs. School programs have the potential to identify students with emotional problems early, and refer for additional assistance to school counsellors and to local general practitioners. There were 28 trials identifying the effectiveness of twelve school programs, nine of which targeted all students in schools (universal), two targeted students with symptoms of depression (indicated) or anxiety and one of which offered treatment to youth with depression (treatment). The single treatment program (Adolescent Coping with Depression Course) was methodologically weak, being a controlled trial with a small sample size of nine, and did not demonstrate a significant reduction in depression. Four indicated trials targeted depression, and of these, two were associated with significant reductions in depression. Seventeen trials were universal intervention trials, of which 10 targeted anxiety and all of which targeted depression. For depression, 10 of the 17 universal trials reported positive outcomes for depression (d = 0.21-0.78, n=6), while 7 did not. Teachers were found to be effective in the delivery of these programs. In short, approximately 80 per cent of targeted anxiety programs and 50 per cent of depression programs were associated with reductions in anxiety and depression symptoms. The programs with the strongest evidence for effectiveness were the FRIENDS program and RAP. We conclude that there

is clear support for the efficacy of these programs in the school environment.

These interventions are group based and can be conducted by teachers. Although there is no evidence to date in the Australian context, referral of those at high risk to counsellors or early stepped care programs may prevent escalation [Full Report Appendix 2].

Internet interventions

Along with the USA, Sweden and the Netherlands, Australia is also at the forefront in the development of web programs for mental health. The use of such interventions might form a partial solution to unmet need and low workforce. Five trials of four websites were located (ODIN, BluePages, MoodGYM and an unnamed site) which targeted depression using automated or semi-automated procedures. Three of the five trials showed positive outcomes. The website (ODIN) successfully reduced depression when users were sent reminder calls and emails, but not when reminders were not used. The other two successful sites (BluePages, MoodGYM) incorporated weekly telephone calls. We conclude that there is evidence that web interventions reduce depression particularly when tracking is incorporated.

Although initial set up costs are high, these interventions are inexpensive. The use of automated reminders needs to be investigated further. The potential for these interventions is large, given that they do not require therapist input, and may be tracked by non-healthcare professionals. Moreover, they may be useful as adjuncts, reducing the amount of face-to-face time required for therapy, and increasing the potential number of individuals who might be seen by health professionals [Full report Appendix 3].

Telephone interventions

The telephone has been used in a variety of services, either as an intervention in its own right or as one component of a larger collaborative service. The telephone can be used as a tool to deliver care management (tracking and monitoring), as a means to deliver an active talking therapy such as CBT, or as a way to improve adherence.

The efficacy of telephone therapy to treat depression has been evaluated in two studies. A pilot study conducted by Lynch, Tamburrino and Nagel (1997) found at post-test that the Beck Depression Inventory scores were significantly lower for the treatment than control group (p<.02). A follow-up study did not replicate the results of the pilot study (Lynch, Tamburrino, Nagel, & Smith, 2004).

A few studies have explored the use of telephone interventions as an adjunct to antidepressant treatment, usually in an attempt to promote adherence. In a study conducted by Tutty, Simon, & Ludman (2000), the treatment group received telephone therapy based on the trans-theoretical model of behavioural change and cognitive behavioural therapy (CBT). All participants received antidepressant medication. The results showed that mean follow-up scores on the Hopkins Symptom Checklist Depression Scale

were significantly lower in the treatment than control group (p=.03). The treatment group was also twice as likely to adhere to antidepressant medication across time (p=.12). Simon, Ludman, Tutty, Operskalski and Von Korff (2004) demonstrated that care management via the telephone when combined with cognitive behaviour therapy resulted in improved outcomes relative to a control group. Hunkeler et al. (2000) reported that nurse telecare as an adjunct to anti-depressant medication was effective, with effects maintained at follow up. Finally a study by Datto, Thompson, Horowitz, Disbot and Oslin (2003) reported that telephone delivered education and treatment options was associated with greater improvement than a control group with no treatment.

We conclude that the telephone is a useful tool in the delivery of health care. Its function as a stand alone intervention when combined with Problem Solving therapy is not established.

The pertinent questions which need answering now are whether telephone based therapy alone is effective when the content consists of CBT, whether care management alone is effective without concurrent medication, and whether CBT enhances the effect provided by care management alone. The closest study addressing the issue was that conducted by Simon et al. (2004). The study found a combined CBT and care management group showed better outcomes than care management alone. However, all participants were also receiving anti-depressant medication [Full report Appendix 4].

Main Review: General practice and community programs

General practice is often seen as the central arena for the management of mental health problems, although it is known that over 60 per cent of people with mental disorders do not seek help from general practice (or other healthcare settings). A large amount of research has been undertaken in primary care settings to determine which interventions and subcomponents hold promise for the delivery of better depression outcomes. Most research has been undertaken in USA, Canada, and to a lesser extent the UK. We identified three relevant trials from Australia.

Seven previous reviews of the general practice/primary area have been undertaken (Badamgarav et al., 2003; Gensichen et al., 2006; Gilbody, Whitty, Grimshaw, & Thomas, 2003; Gunn, Diggens, Hegarty, & Blashki, 2006; Neumeyer-Gromen, Lampert, Stark, & Kallischnigg, 2004; Tsai, Morton, Mangione, & Keeler, 2005; Weingarten et al., 2002). Our review was broader than these. The key search term "delivering care" captured a larger range of intervention studies including community based interventions, and newer studies.

Papers were classified as providing as a core component eight delivery modes, namely: training and feedback, care management, enhanced care, self-help in general practice, assistance from teams, team linkage, programs within clinics and Health Maintenance Organizations (HMOs), and programs in the community [see Appendix 5]. Primary analyses concerned delivery modes, delivery components and content of treatment.

Delivery modes

Six major findings emerged from the study.

- Studies where care management formed the key component of the intervention were associated with better outcomes than interventions not incorporating such management. Examples of these programs were those of Dietrich et al. (2004), who reported better outcomes with clinician care where staff provided telephone support under the guidance of a psychiatrist, and the study reported by Datto et al. (2003), where evidence-based telephone disease management was implemented. In another trial, Aubert et al. (2003) provided telephone call follow up along with educational mailings, with a focus on barriers to implementing care, and medication adherence. Typically these studies were called 'collaborative care'. Studies that combined both care management and enhanced care, were also successful.

- Enhanced care provided by health professionals or systematically implemented through computerised programs within the practice resulted in improved care. Examples of enhanced care include the programs of Tutty et al. (2000), Hunkeler et al. (2000), and Katon et al. (1996). These interventions involved providing counseling and behavioural treatment.

- Self-help programs were also found to be successful in general practice, when supervised by nurses (Richards et al., 2003) and when computerised (Proudfoot et al., 2004).

- Training, feedback and provision of information to general practitioners was not successful by itself. Linkage to teams and to pharmacist help did not bring additional benefit. For example, studies of pharmacist interventions to improve depression care outcomes were not successful [for example, Finley et al. (2003)].

- Community care interventions had positive outcomes. Examples include the use of interpersonal psychotherapy to improve depression in school based mental health clinics [see Mufson et al. (2004)] and psychiatric nurse delivered psychotherapy programs in schools (Puskar, Sereika, & Tusaie-Munford, 2003). Psychological interventions for depressed adults in the community were also promising [see Dowrick et al. (2000) and Brown, Elliott, Boardman, Ferns, & Morrison, (2004)].

These findings for the eight categories are shown graphically in Figure 3.
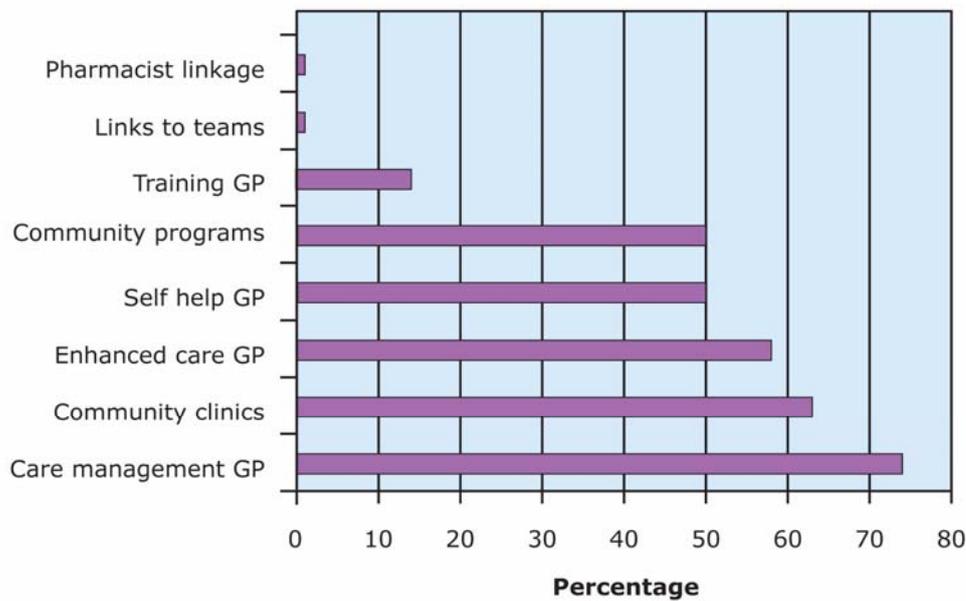
Figure 3: The percentage of papers reporting positive outcomes as a function of delivery mode. A positive outcome refers to improvement relative to a treatment as usual or control condition. Note that some delivery modes were associated with smaller number of outcome papers and are less reliable [see Appendix 5 for full analysis].

Components analysis.

Figure 4 describes the percentage of papers reporting positive outcomes as a function of components of care. These components have previously been used to rate the content of general practice delivery (Gilbody, 2004; Tsai et al., 2005; Weingarten et al., 2002). Figure 4 ranks the components in order of their capacity to 'mark' successful interventions, and as a function of the three systems of classification used (Gilbody, 2004; Tsai et al., 2005; Weingarten et al., 2002). A formal statistical analysis of these components was also undertaken [see Appendix 5]. There was one significant finding. Studies which involved a review of professional roles were associated with better outcomes (p=.03). There was a marginally significant effect for studies where steps were taken to improve continuity of care (p=.06). Review of professional roles involves shifting of roles among professionals and/or expanding a person's role to include new tasks. It often involves a greater involvement of non-health professionals in the delivery of care.

Pecentage of papers reporting positive outcomes as a function of component
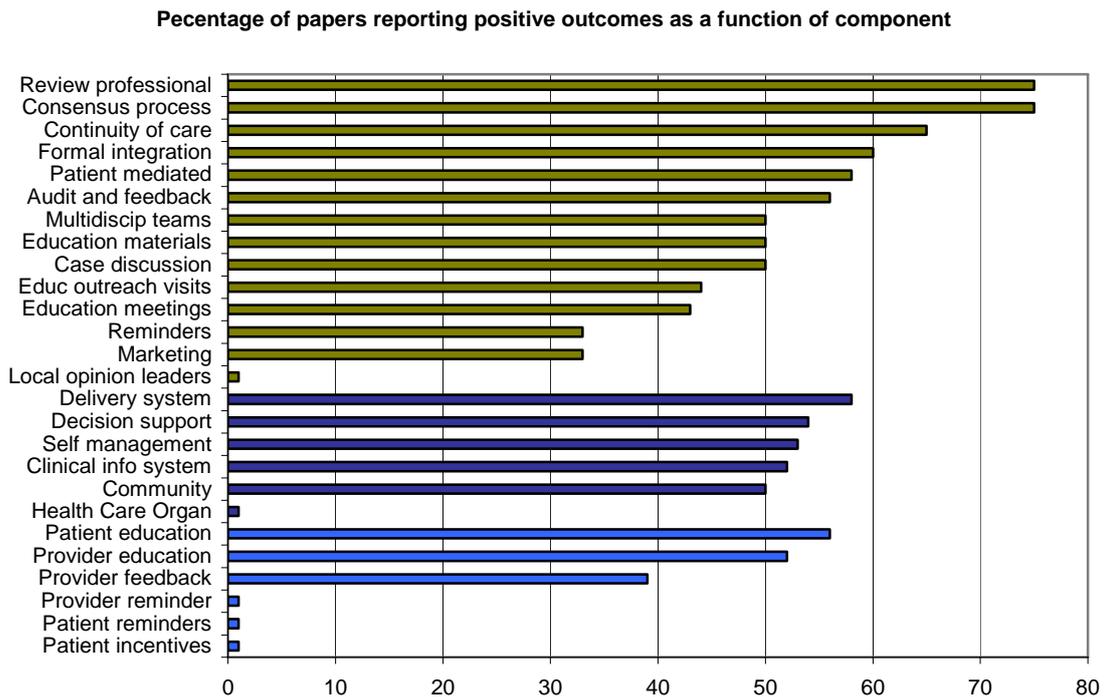
Figure 4: Percentage of studies reporting positive outcomes as a function of component. Green bars refer to components as described by Gilbody, (2004), dark blue bars to components described by Tsai et al. (2005), and light blue bars to components as described by Weingarten et al. (2002) [see Appendix 6].

Type of treatment

Finally, we noted that the type of treatment – antidepressant medication, CBT or a combination of the two – did not result in any difference in outcomes. This finding suggests that both forms of evidence based treatment are effective in primary care.

Cost effectiveness analysis within general practice

We collected literature on the cost effectiveness of the programs. However, our findings on this aspect were derived primarily from a cost effectiveness review undertaken by Gilbody (2004), who reviewed the literature up to 2004. Gilbody evaluated 11 full economic evaluations of mostly US studies using chronic disease management or collaborative care models, and employing cost effectiveness rather than cost utility measures. These studies universally found that costs were greater for the improved 'collaborative' services. These costs included additional expenses in delivering the intervention, more care visits, greater use of medication, and greater access to specialist and secondary care (see Gilbody, p. 10, 2004). "When considering primary care depression treatment costs alone, estimates ranged from $13 to $24 per depression free day".

The delivery of clinician materials, such as training or clinical practice guidelines, was identified as a cost-ineffective intervention, as these studies showed no clinical impact on improved management or the outcomes for depression (see p. 11).

Bulletin boards and support groups
Recovery and support are programs valued by consumers and likely to be important in the continuity of care. Their effectiveness has not been studied sufficiently to date [see Appendix 6].

Australian programs
This review attempted to investigate how effective Australian programs were in producing improved outcomes for depression [see Appendix 7]. Findings in the appendix report successful outcomes for schools programs, computer and Internet programs, and community programs, many of which already form a part of the summary of the reviews already reported above. We located 26 reports from the Better Outcomes in Mental Health Care (BOiMHC) initiative which provided uncontrolled, pre-post findings. All reports claimed the programs were positive with improved outcomes for patients. However, the quality of the reports was variable with methodological and analysis limitations. This may reflect Divisions capacity to undertake research and analysis as well as the availability of resources to independently evaluate these services to an adequate standard. Overall, the reports did not clearly indicate the number of people referred to the service, the number starting and completing the sessions, and the number returning to the GP practice for 'exit' interviews. Consequently, retention rates below are 'guestimates'.
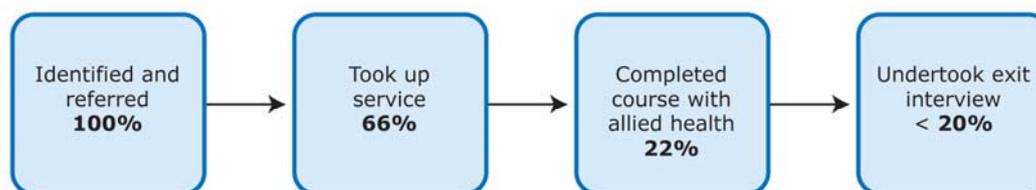
Figure 5. Completion rates for the Allied Health Program

Based on our reading of these reports, we estimate that approximately 33 per cent of those referred to allied health did not start the service. The rate of completion once the consumer entered the service was difficult to judge, but we estimate this to be approximately 33 per cent. Many consumers did not complete Step 3 of the program (the exit interview with the GP). Figure 5 summarises these impressions. Of the consumers who are referred from general practice, approximately 66 per cent take up the service, with only 22 per cent of the original 100 per cent completing a full course with an allied health provider and less than 20 per cent returning to the GP for the exit interview. As noted in the Table 1 in Appendix 7, some divisions had higher levels of reporting/ completion than others. This finding may be due to superior integration of services, or the use of selected datasets (e.g., the figures may refer to only those who started the service, compared to the number referred to the service).

At this stage, there is a lack of quality data on the effectiveness of the BOiMHC initiative, although most Divisions report that their programs are successful and result in improved outcomes for those who remain in

treatment, shown by a comparison of levels before and after the intervention.

Retention in the program is relatively low, although this needs to be assessed against appropriate benchmarks. At this stage, it is not impossible to determine whether low retention is due to consumer dissatisfaction with the service and the referral process, consumer perception that the return to the general practitioner is irrelevant, poor linkage between the allied health professional and general practice, lack of care management to facilitate adherence, consumer factors such as the additional consultation cost, improvement by consumers after a few sessions, indicating 'attainment' of desired outcomes, or consumer assessment that an exit interview is not needed. This needs to be investigated further. There is certainly a need to collect better quality outcome data.

Supporting General Practice

Most systems of mental health care delivery require the expertise of health professionals. This chapter examines the body of evidence which describes how equipped and supported professionals are in the delivery of mental health care and points to possible improvements that may lead to improved health outcomes.

The literature was coded with respect to (i) the available and desired practitioner support to deliver depression care; (ii) the barriers to delivering care; and (iii) the incentives or tools that might improve depression care delivery. The recommendations about the mechanisms to improve the delivery of mental health care were divided into two groups for coding: (a) the types of models recommended and (b) the tools adopted by practitioners.

The literature used in the review included a review of relevant papers identified by a specific search of standard databases [Appendix 8A] together with a broader search of Australian websites and Government and other policy documents. A total of 113 documents were retrieved. Most described Australian work. Only three documents (3 per cent) reported on data that arose from a quantitative study: They were reports of before and after intervention studies (for example, Malcolm, 2000; Meredith et al., 2000). The remaining documents provided discursive or descriptive information. The frequency of papers reporting themes is presented below.

Reference to model type
Table 1 shows the frequency with which papers investigated general practitioner and 'Allied Health Professionals' (AHPs) perceptions of how equipped and supported primary care professionals are to deliver mental health services. Perceptions were rated in terms of the area of 13 areas of support. The most commonly mentioned factor perceived to improve general practice delivery concerned increased communication between professionals, and the least common was improved links with and schools and other community organisations. There are clearly more reports of the perceptions from general practitioners than other health care practitioners.

Table 1: Number of Documents Reporting Primary Care Professionals Perceptions of Support Outcomes or Needs within the Primary Care Setting

Area of Support	General Practitioners	Allied Health Professionals
Increased communication between primary care professionals	38	27
Increased collaboration with other primary care professionals	33	21
Perceived better patient outcomes	26	2
Increased referral options	18	0
Increased confidence to deliver mental health interventions	18	3
Improved education & training	17	3
Greater understanding of the role of AHPs/GPs	8	7
More appropriate remuneration	4	4
Continued significant involvement in patient care	4	0
Increased access to tools	4	1
Improved links with Child and Adolescent Mental Health Services (CAHMS)	3	1
Improved links with schools	2	1
Improved links with other local community organisations	2	3

Incentives and barriers

Table 2 shows the number of reports concerning incentives and barriers general practitioners and allied health professionals experienced in the delivery of mental health care delivery. The most frequently mentioned barrier for reports about GPs was the burdensome paper work, while the most frequent barrier for health professionals was poor remuneration.

Table 2: Number of documents reporting Incentives and Barriers to the Delivery of Mental Health Services within the Primary Care Setting

Incentives for the delivery of mental health services	General Practitioners	Allied Health Professionals
Improved education & training	34	1
Improved remuneration	9	5
Reduced paperwork and red tape	7	11

Barriers preventing the delivery of mental health services		
Paperwork unduly burdensome	41	3
Time constraints	37	3
Lack of specific mental health education & training	23	3
Capped/limited services	10	0
Poor remuneration	0	4

Views about useful models

Table 3 shows the number of reports from policy, Senate, or literature sources which reported, recommended or described particular models in mental health delivery. The most frequently recommended model fell within the physician/medical system, and the least frequent in the self-help domain offered as a community resource, without professional involvement.

Table 3: Recommended Models for Delivery of Mental Health Services in Primary Care Reported from Various Sources

Model Sub-Category	Policy Documents	Senate Enquiry Submissions	Research Literature	Total
Physician based/medical 'systems'	12	17	25	54
Self-help materials as additions to care		15		15
Public education/community programs	13	1	0	14
Self-help offered as a community resource, without professional involvement	4	2	0	6
Other interventions	0	0	1	1

Table 4 shows the number of reports from policy, Senate, or literature sources indicating which tools should be provided to support the delivery of mental health services. The most commonly recommended tool was additional training (both for GPs and allied health professionals). The least recommended tool was patient recall procedures.

Required tools

Table 4: Recommended Tools Required for the Delivery of Mental Health Services in Primary Care

Tool recommended	Policy	Senate Enquire Submissions	Research papers	Total
Assessment/Outcome tools	3	2	2	7
Patient recall procedures	1	1	0	2
Training for GPs	7	5	11	23
Training for AHPs	7	3	3	13
Training for mental health nurses	8	1	3	12
Practice guidelines/protocols	1	5	4	10
Tele-psychiatry	2	2	1	5
Access to mental health specialists	4	0	9	13
Use of online technologies	2	0	3	5
Clinical supervision	1	0	8	9

Qualitative analysis and summary

There has been much written on the topic of how equipped and supported health professionals are in primary care – but not without bias. Firstly there was very little quantitative information published. This lack of quantitative data can in part be explained by the exclusion criteria in our searching – for example we excluded any reference to hospital care or studies that did not mention depression or anxiety. However, only 3 per cent of the documents located reported on studies which used a quantitative approach, a finding that appears to suggest a lack of interest in quantifying primary care needs. Secondly, there was an imbalance in reporting on the issues of equipment and support for GPs compared to allied health professionals. The bulk of the literature reported on GP needs. This disparity in data volume reflects the dominance of general practitioner concerns in primary health care. Finally, most of the documents were discursive or employed qualitative methodology to investigate how equipped and supplied health professionals believed they were for the delivery of mental health care in primary care.

The most common theme investigated related to need for increased communication and collaboration between primary health professionals. Additionally, many GPs reported that they believed that mental health training had increased their confidence in delivering mental health interventions.

The majority of Access to Allied Psychological Services (ATAPs) documents report that GPs and AHPs are co-located in GP surgeries. Thus, it could be expected that there would be greater collaboration and communication between them. Additionally, the Department of Health and Ageing has stringent protocols regarding the provision of referral documentation and

feedback between the GP and AHPs. Whilst these are seen as onerous, at times, it is highly likely that they contribute to health professionals' reports of increased collaboration and communication. For example, many papers indicated increased discussion of treatment plans between GPs and ATPs in corridors and tea rooms. Another significant component of the ATAPs program has been the introduction of compulsory mental health training. Whilst some have found this burdensome, many GPs have valued the opportunity, reporting that the skills training and the three step program has led them to feel more confident in caring for patients with mental health conditions.

The second theme to emerge from the literature was the incentives and barriers to the provision of mental health care in primary care. The three incentives most endorsed were provision of education, improved remuneration, and reduction in paper work and red tape. The most reported barriers were the amount of paperwork and red tape, time constraints of working in general practice, and lack of access to specific mental health services.

The final theme to emerge in the literature was the recommended use of tools by health professionals in primary care. The most common tools were training and supervision for GPs, nurses and other allied health workers, processes for specific access to specialist mental health care, and the use of information technologies. Surprisingly the least common tool was the use of recall measures. This is surprising, given the apparent utility of "tracking consumers" in our review of web-based measures to improve mental health care in the community.

Limitations

The limitations of the present review need to be clearly articulated. The collection of studies reviewed was necessarily determined by the search terms and strategy we employed: only anxiety and depression were examined, there was an emphasis on the BOiMHC initiative, and a marked emphasis on the role of general practitioners. There is a necessary imprecision in searching and extracting information from the grey literature. For example, submissions to the Senate Select committee were often long, and poorly indexed.

Conclusion

Although health professionals believe that training, and the provision of clinical practice guidelines are important tools to support the delivery of their care, the research evidence indicates that GP training (alone) is a relatively ineffective strategy of itself to deliver consumer outcomes. Conversely, some of the resources that were less accessible to GPs and AHPs such as access to specialists, or the use of Internet and computer technologies have been found to be effective in primary care. Health professionals also endorse the importance of communication and links to other health professionals and to mental health services. If connected to health practices (as the majority of systems are), and not linked peripherally to outside services or to pharmacists, there is evidence from the review that they will be effective in delivering consumer outcomes.

IMPLICATIONS FOR POLICY

There is clear evidence from our review that *there is potential to improve depression outcomes using a range of delivery modes.*
Here we briefly summarise the key findings of the review, list the policy implications of the review and consider the findings in the context of the current national mental health reforms.

WHAT SERVICES WORK FOR DEPRESSION

A number of approaches 'work' in reducing depression in the community. Successful community interventions include direct approaches to the community through schools programs, the Internet and school -based clinics. Within general practice, the core components of effective practice are care management and enhanced care. These appear to be deliverable through a variety of mechanisms, including supervised mental health nurse delivered case management and guided self-help within general practice.

Some approaches are not successful. These include training, feedback and the provision of clinical practice guidelines alone to general practitioners, the linking of services to mental health teams without the proper infrastructure for follow-up and the use of the services of health professionals such as pharmacists.

The barriers and incentives perceived by the primary care workforce to facilitate the delivery of mental health interventions are not likely to deliver outcomes. General practitioners believe that training, and the provision of clinical practice guidelines are needed tools to support the delivery of their care, while the research evidence indicates that GP training alone is a relatively ineffective strategy to support consumer outcomes[1].

Care management was identified as a core component of effective care in general practice settings. In Australia, this component of care may not be optimised. Through the BOiMHC initiative, the shared care between GPs and AHPs has involved a structured care plan delivered by the GP, delivery of focused psychological strategies by an AHP, and review by the GP at a point in the cycle of care. Within Australia, the BOiMHC Access to Psychological Services program is associated with reported good outcomes but a high drop out rate, the cause(s) of which are not well understood. It may be that a 'clinical manager' is needed to monitor and follow-up proactively all consumers using the service if best outcomes are to be achieved.

Many of the successful interventions focus on the importance of the patient or consumer as playing an active role in treatment or early intervention. Self-help, and guided self-help, computerised and Internet programs are

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[1] Nonetheless, GPs do report that provision of training and access to guidelines increases their confidence to deliver mental health care. There may be indirect outcomes of the training. Our review did not address specifically whether the provision of education/training enhances other components**.**

effective. Consumer education is associated with more positive outcomes than clinician education.

IMPLICATIONS OF THESE FINDINGS FOR MENTAL HEALTH CARE DELIVERY

The review findings suggest that mental health care in Australia could be improved by changing the current service components and priorities in a number of ways as follows.

Support and enhance management within the community by:

- Placing more emphasis on community-based programs, particularly those supported by an evidence-base
- Developing treatment clinics associated with schools
- Placing more emphasis on empowering consumers in the management of their own mental health
- Providing more tools for consumers to manage their own mental health

Improve management within General Practice by:

- Reconfiguring systems of general practice for enhanced care: One model may be that GPs assess, provide medication if preferred, and refer to other providers: either GPs who provide enhanced care; or psychologists, nurses, mental health workers, or IT systems who/which provide evidence-based treatment.
- Reconfiguring general practice to provide improved care management and coordination through care teams, with distinct roles for each member of the team, including possible roles for co-ordinators or expert managers.
- Introducing Information technology systems to enhance continuity of service.
- Using Divisions of General Practice to manage the change within general practice.
- De-emphasising programs with little efficacy for improving consumer outcomes such as training, provision of clinical practice guidelines to general practitioners.
- Providing care management to first episode cases and at the time of early intervention.

Overcome workforce shortages and access issues by making use of alternative available workforces by:

- Using current services such as Kids Help Line, counselling services and Lifeline telephone counsellors proactively.
- Integrating evidence-based approaches into these services.
- Training pharmacists and other health professionals in care management and behavioural health management.

Ensure that programs delivering mental health outcomes are evaluated. Outcomes should include efficacy, patient satisfaction, cost effectiveness, and access.

- Ensure that future policy and service implementation is informed by the evidence-base by:
- Support systematic reviews of the evidence
- Establish a mechanism for implementing programs of demonstrated effectiveness and cost effectiveness

IMPLICATIONS OF THE REVIEW FOR CURRENT MENTAL HEALTH PLANS

The Council of Australian Government (COAG) recently endorsed the *National Action Plan on Mental Health 2006-2011* (NAPMH) and the federal government has committed $1.9 billion over 5 years to the plan. Together, the COAG agenda and the areas of Australian Government investment are the most relevant context in which to apply the implications of the current review. The following table marries the five COAG priority areas for mental health with relevant measures from the Federal Budget:

COAG priority area	Federal Government Budget commitment or existing program
Promotion, prevention and early intervention	- MindMatters - Expanding suicide prevention programs ($62.4 million) - National Youth Mental Health Foundation ($54 million) - New early intervention services for parents, children and young people ($28.1 million)
Integrating and improving the care system	- Better Outcomes in Mental Health Care - Improved access to psychiatrists, psychologists and GPs through the Medicare Benefits Schedule ($538 million) - Mental health nurses ($11.6 million) - Mental health services in rural and remote areas ($51.7 million) - Funding for telephone counselling, self-help and web-based support services ($56.9 million) - New personal helpers and mentors ($284.8 million)

Participation in the community and employment including accommodation	
Coordinating care	
Increasing workforce capacity	

How does the review fit with COAG reforms?

Early prevention and intervention with an emphasis on young people.
The COAG NAPMH puts appropriate emphasis on early intervention and the provision of services for mental health disorders, including investing in early intervention, counselling services, and primary care.

The efficacy data from the present review supports this investment in early intervention. There is ample evidence that schools-based programs already target early symptoms, and that a number of brand programs are evidence-based. Evidence from our broader review supports the use of psychiatric nurses in schools to provide early treatment. The extent to which schools are supported by accessible referral pathways, access to treatment options and primary care teams needs to be considered. Initiatives within schools may need to be enhanced, especially since young people report seeking help from school counsellors in preference to general practitioners. It is also clear that these school-based programs must be based on cognitive behavioural therapy, psychoeducation or problem solving strategies. There is commitment to the MindMatters program in the current budget. In contrast to a number of other school programs, MindMatters lacks an established evidence-base. However it could be used as a platform to implement the content of other programs with established efficacy directed at early intervention and treatment, rather than as it is currently structured as a training resource for teachers and students. The evaluation of the effect of the program on student mental health outcomes is a high priority.

Integrating and improving the care system

The National Action Plan for Mental Health also aims to improve the care system with better co-ordination of care. *"An effective, integrated care system has several parts working together: Psychiatrists in the community and primary health sector of GPs, psychologists, mental health nurses, and other allied health workers that provide clinical services to people with mild to moderate and severe mental health illness...".* The plan recognises the need to focus on two specific policy directions: to resource adequately health and community support services to meet the level of need; and to develop ways of coordinating and linking the range of care that is provided across the continuum of primary, acute and community services. The NAPMH proposes a range of initiatives to provide this linkage and integration. One of these is an initiative to ensure coordinated care for people with severe mental illness through the provision of clinical providers and community co-coordinators, the latter being "*responsible for ensuring the person is connected to the non-clinical services they need, for example accommodation, employment, education or rehabilitation*". (p. 5).

New funding for GP-coordinated care plans under the Medicare Benefits Schedule, the placement of mental health nurses in general practices and private psychiatry rooms to assist with clinical care coordination, and the support for community-based personal helpers and mentors linked to clinical providers to assist social recovery and relapse prevention is commendable. However, based on our review, new funding directed to mental health nurses should stipulate or define the role and the range of acceptable practice configurations that will allow for the provision of both care management and enhanced care. Similarly, although access to mental health professionals in rural and remote services may improve care, the present review points to the importance of care management as a component of these initiatives.

The plan does not support the establishment of effective, practical and affordable models for providing *clinical care management* in primary care for people with first episode depressive disorders. The implication of the findings from our review is that such care managers are routinely needed as part of early intervention programs. The evidence suggests that good quality care management in general practice for those with diagnosed depression is associated with better outcomes.

The NAPMH provides additional funding for NGOs to deliver telephone counselling, crisis intervention and web-based support programs. Funding for telephone counselling, self-help and web-based support programs should be evidence based, and as such may need to be delivered by new organizations or services rather than by those that traditionally deliver services to mental health consumers. The pertinent questions which need answered by appropriate research studies now are whether telephone based therapy alone is effective when the content consists of cognitive behaviour therapy, whether care management alone is effective without concurrent medication, and whether cognitive behaviour therapy enhances the effect provided by care management alone. New services should be informed by the results of this research.

Areas not addressed by the NAPMH

The health system in Australia and other leading countries will change radically over the next 20 years driven by smaller workforce per head of population, dwindling tax dollars and changes in health technology and health communication. Leading health experts predict that the health system in 2020 will have changed radically in a number of areas (Coiera, 2004).

A number of predictions, grouped according to content focus are listed below. The first, articulated by Coiera (2004) is that consumers will be empowered and encouraged to take responsibility for their health. The consumer will "participate actively in maintaining good health and managing ill health" (Coiera, 2004, p. 1197). Self-help will provide another tier of treatment. Chat groups will expand to provide support structures and consumers will be empowered to treat themselves through automated software which will deliver outcomes.

The second predicted change is in the role of the clinician (Coiera, 2004). Clinicians will be instructors and guides rather than knowledge repositories. Doctors and patients, doctor and doctors and doctors and other services will be better connected through improved technologies. The burden of health care on clinicians will be relieved somewhat by automated software which will deliver outcomes, and health care that is available 24/7.

It is also anticipated that prevention programs will become core business.

Many of these predicted developments are already present in Australia's health care system. There are stand alone automated web therapies which already deliver self-help directly to the community 24/7. Similarly, guided computerised self-help packages with established efficacy in general practice settings currently exist. Virtual support groups support consumer recovery.

The NAPMH does not have an explicit consumer focus. This may be a weakness given that a consumer-empowered models may well prove a key to addressing the big five issues articulated at the beginning of the report- Quality, Access, Continuity, Cost and Workforce.

In a recent review of the future of health systems Ferguson and Frydman, (2004, p. 1149) noted:

> *"Something akin to a major system upgrade in our thinking is needed, a new cultural operating system for health care in which e-patients can be recognised as a valuable new type of renewable resource – managing much of their own care, providing care for others, helping professionals improve the quality of their services, and participating in collaborations between patients and professionals. Given the recognition and support they deserve these new medical colleagues may help us find sustainable solutions to the seemingly intractable problems that now plague all modern systems."*

An empowered consumer is likely to improve the quality of health care services for depression, address work force problems, reduce costs and improve continuity. However, this will not be possible without the development of aids directed at the needs of the consumer. These may include the development of consumer-controlled tools to:

- allow consumers to access, assess and evaluate high (evidence-based) quality website information;
- allow individuals to screen their own mental health and other health;
- encourage prevention and motivate help seeking or early treatment. These will include risk assessment instruments to be used by the general public which are developed from mathematical models of epidemiological data;
- destigmatise health issues where barriers to help seeking are predominant;
- directly impact health behaviours such as physical activity web interventions, cognitive behaviour therapy and interpersonal therapy interventions; and
- facilitate chronic disease management including care management.

CONCLUSIONS

The present review began by listing the challenges facing the mental health sector in the treatment of depression. The big five challenges were - Quality, Access, Continuity, Cost and Workforce. Our review aimed to provide an overview of the effectiveness of different approaches to the delivery of depression care and indicate the circumstances in which different models might work. We identified the range of settings in which care can successfully be delivered. Although general practice models, and the views of GPs in managing depression dominate the literature, there are a range of other models for delivering depression in primary care. Care management and enhanced care were identified as crucial elements in the delivery of mental health care for depression and accordingly need to be at the forefront in the design of new service models.

The 2006-2011 COAG NAPMH identifies the importance of early intervention and integration. Our synthesis of the research provides evidence that can inform two aspects of the plan. First, we believe there should be a strong emphasis on articulating how both enhanced care and care management are incorporated in all models of care, including early intervention. The expansion of the workforce to include practice nurses and other clinicians in general practice settings for severe mental illness is commendable. However, care management needs to be expanded. It may not require the skills of a health professional and enhanced care may not require face-to-face treatment. As noted by (Gilbody, 2004) it is important to recognise that improved care management can be achieved successfully without huge costs.

> *"Araya et al., conducted a trial of collaborative care in urban Santiago, Chile using non-medical support workers who coordinated care, offered group education and monitored drug compliance and treatment progress. The low cost intervention was acceptable to patients and was associated with major improvements in outcome at six months."* (p. 7).

Technological solutions which enable tracking and generate health records are another solution to coordinated care that requires support. For continuity, paper records are second best. Last, but not least, we believe that there needs to be a greater focus on the empowered consumer, since self-help is one possible solution to the easing workforce, access, continuity and quality issues.

LIMITATIONS

There are limitations to the present review.

- The framework offered in Figure 1 has been simplified.
- The main review excluded delivery systems in primary care that did not involve randomised controlled trials or controlled trials with relevant controls.
- The methodologies for each of the supplementary reviews differed to some degree from each other and the main review as each area demanded different search terms. For example, the schools based programs were restricted to Australian programs only, and data from the schools programs, the Internet programs and the passive education interventions examined randomised controlled trials exclusively, while the other reviews examined both randomised controlled trials and controlled trials. There may have been differences in the severity of depression experienced by participants in various delivery settings.
- The reviews did not include evidence concerning mass public community education programs, workplace or other community programs. Only programs identified by the search strategy ("Delivery of health care" as a MeSH term) combined with previously used papers from seven recent reviews were included in the main review, and this excluded relevant research papers. Papers conducted in outpatient clinics by specialists were also excluded.
- Further work is needed concerning the cost effectiveness of the delivery systems;
- The identification of care management and enhanced care as key elements may reflect their inclusion in studies of higher quality rather than reflect their key role in producing outcomes. That is, although care management and enhanced care were associated with improved outcomes, one possibility is that this is due to their inclusion in larger, better interventions. That is, these characteristics may be markers for a good intervention rather than causal agents in the intervention.
- The present review focussed on efficacy outcomes. Provider satisfaction is an important element that has not been studied here.
- Although comorbidity is a major problem in practice, much of the evidence relates to conditions that do not involve comorbidity. Further analysis of the literature is required to identify the characteristics of potentially useful models of delivery that cater for comorbidity.

SUMMARY AND RECOMMENDATIONS

APPENDIX 1

Passive Education Interventions; Systematic Review [based on Merritt, Oxford University, submitted for Publication]

Definition

Passive education programs were defined by (Merritt, in press) as programs delivering to individuals pamphlets, posters, audio-visual aids, lectures, Internet material, and software with the aim of educating the recipient about treatments or of increasing adherence to treatments. The programs could be delivered in primary care or secondary care settings, within universities or community centres or other public venues. They could be mailed, delivered via face-to-face lectures or accessed via the Internet. They did not include bibliotherapy or education that formed a broader multifactor intervention.

> AIMS OF THE REVIEW
> The aim was to assess whether individuals with mood disorders benefit from the delivery of educational materials, such as leaflets or brochures compared to no intervention or treatment as usual.

Method

Merritt's review provided the starting point for our review. It focused on passive education programs designed to influence behaviour and mood in individuals diagnosed with a mood disorder as defined by ICD-10. From the papers identified by Merritt, we imposed the additional constraints that the papers report anxiety and/or depression outcomes and that they be concerned with unipolar depression and not bipolar disorder.

Merritt extracted potentially relevant randomised controlled trials, controlled clinical trials or controlled before and after studies from a search of the electronic data bases EMBASE, MEDLINE, CINAHL, and PsycINFO (accessed through OVID) and AMED, Sociofile, ERIC, CENTRAL and BIDS (accessed through OxLIP http://www.bodley.ox.ac.uk/oxlip/index.html). This yielded 1505 abstracts.

Only seven of these studies met Merritt's criteria from potentially relevant citations. Of these, we excluded a further three for the purposes of our review. Two were excluded because there was no depression outcome and one because the participants were diagnosed with bipolar disorder.

Results

Four papers satisfied criteria. All were randomised controlled trials. Two reported positive outcomes (Atherton-Naji, Hamilton, Riddle, & Naji, 2001; Christensen, Griffiths, & Jorm, 2004). The first study mailed personalized leaflets to patients treated for depression in a general practice setting and included a six month follow up period. The second was an Internet-based depression information intervention (BluePages) combined with weekly telephone tracking in a community setting. Two did not report significant outcomes (Jorm et al., 2003; Mundt, Clarke, D., Brenneman, & Griest, 2001). In one intervention (Jorm et al., 2003) an information booklet was

mailed in a community setting, and in the other, (Mundt et al., 2001), leaflets were mailed to patients treated for depression in a general practice setting.

SUMMARY OF FINDINGS

At this stage, there is limited information about the effectiveness of passive education for improving mental health conditions. The findings from two successful interventions suggest that education interventions are potentially more effective if they include either tailoring or personalisation, or involve telephone tracking.

APPENDIX 2

Australian School-Based Prevention and Early Intervention Programs for Anxiety and Depression; Systematic Review [Extract from Neil and Christensen, submitted for Publication]

Definitions

AIMS OF THE REVIEW
- An audit of Australian programs
- A review of efficacy and effectiveness
- A summary about which programs are potentially useful in combating depression and anxiety in children and adolescents

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Methodology

A systematic search of the published literature was conducted, with the key search terms "school-based OR school*", "depression OR anxiety", and "Australia*" entered into the Cochrane, PsychInfo and PubMed databases. Programs were included if they addressed symptoms of anxiety or depression, or increased student resilience through the development of positive coping skills. Only programs developed in Australia and overseas programs that had been trialled in Australia were included in the review. No other restrictions were placed on program inclusion, as the main aim of this review was to identify all evidence-based school programs.

A search of the PARC database of Resources for Primary Mental Healthcare was also undertaken using the search terms "school setting" and "youth". This search was conducted to identify unpublished research studies. Once programs were identified, additional materials were obtained from program websites, reference lists and authors. The authors of each program were contacted via email and invited to provide unpublished outcome data to be included in the review.

Where data were available and extractable, estimates of effect size were calculated using Cohen's d (Cohen, 1988). Cohen's d was calculated by subtracting the mean intervention score from the mean control score, and dividing the result by the pooled standard deviation. All available effect sizes are provided for those trials reporting positive outcomes.

Results

Overall, 28 efficacy and effectiveness trials were identified in this review, pertaining to 12 Australian prevention or early intervention programs. Nine of these programs were universal programs, two were indicated and one was a treatment program. Based on the published descriptions of each program, Australian prevention and early intervention programs tend to be based on Cognitive Behaviour Therapy (CBT), Interpersonal Therapy (IPT) or psychoeducation. Those programs based on CBT tended to focus on the development of problem solving and social skills, cognitive restructuring, relaxation, and assertiveness, while the few programs based on IPT

focused on improving social networks, role transitions, perspective taking and conflict resolution.

Table 1 presents a brief description of each program listed in alphabetical order and its associated efficacy and effectiveness trials. Three of the programs identified in the review (beyondblue schools program, Best Of Coping program and MindMatters) have not yet released outcome data on measures of anxiety and depression. Thus, the overall effectiveness of these programs cannot yet be determined. Of the other programs, most had been evaluated more than once [for example Adolescents Coping with Emotions (ACE- 3 trials); Aussie Optimism (3 trials); Best of Coping (4 trials); FRIENDS (7 trials); MoodGYM (2 trials); Problem Solving for Life (PSFL- 2 trials) and Resourceful Adolescent Program (RAP- 4 trials)].

The single *treatment* program (Adolescent Coping with Depression Course) was methodologically weak, being a controlled trial with a small sample size of nine, and did not demonstrate a significant reduction in depression. Of the six indicated trials, five targeted anxiety, with four of these associated with either short term or long-term reductions in anxiety symptoms. Two of the four positive trials allowed effect sizes to be extracted and the range was 0.20 to 0.57 (d = 0.20-0.57, n=2). Four indicated trials targeted depression, and of these, two were associated with significant reductions in depression. Seventeen trials were universal intervention trials, of which 10 targeted anxiety and all of which targeted depression. Of those targeting anxiety, 6 trials, all evaluating the FRIENDS program, reported lower anxiety immediately or at follow-up (d = 0.20-0.64, n=4). Four trials of four other programs failed to find significant reductions. For depression, 10 of the 17 universal trials reported positive outcomes for depression (d = 0.21-0.78, n=6), while 7 did not.

Four other main findings are relevant. There was a tendency for programs found to be initially not successful, to show improvements at follow-up. Twenty-one of the studies examined follow-up data, and of these 14 were effective. The follow-up period ranged from 4 months to 4 years, with most trials only collecting follow-up data at one time point (6 or 12 months). Seven of the 8 trials that reported a 6-month follow-up period were successful (d = 0.24-0.78, n=4), while 6 of the 11 studies that reported a 12-month or more follow-up period were effective (d = 0.21-0.63, n=4). The programs with the strongest evidence for effectiveness were the FRIENDS program and RAP. The FRIENDS program, which includes booster sessions at 1 and 3 months after the conclusion of the program, accounted for four of the six successful 12-month follow-up trials. Only two trials (Barrett, Farrell, Ollendick, & Dadds, 2006; Roberts, Kane, Bishop, Matthews, & Thompson, 2004) reported effectiveness for anxiety past 24 months. These were the FRIENDS (36 months) and Aussie Optimism (30 months) programs.

Findings did not vary systematically as a function of the methodological quality of the trial, at least with respect to universal outcomes. If universal randomised controlled trials (RCTs) alone are considered, 50 per cent of trials targeting depression and 57 per cent of trials targeting anxiety were associated with positive outcomes. In terms of indicated RCT trials, 75 per

cent of trials for anxiety found positive effects, while none of the indicated RCTs for depression reported symptom reduction.

Program effectiveness also did not appear to be affected by the type of program instructor. Six of the 9 universal teacher-led trials were successful in reducing symptoms of anxiety or depression, a rate that was comparable to the rate achieved by researcher-led trials where 6 of the 8 were effective.

Only one trial (Penn Prevention Program- Australian version) had an attention control group, consisting of group activities that focused on an environmental problem important to the local community, and this study did not find an effect on anxiety or depression. The remaining trials either had a wait-list control, in which control participants completed the program at the conclusion of the study, or a control group that did not participate in the intervention. Participants in these control groups tended to complete 'usual' classes during the trial period. Such activity might be considered equivalent to an attention control condition, depending on the exact demand characteristics or type of material presented.

Discussion

SUMMARY OF FINDINGS
- A large proportion of Australian-based indicated prevention programs reported positive outcomes either immediately or at follow-up. The size of the effects varied from small effects (0.20) to moderate to large (0.78). Approximately 80 per cent of targeted anxiety programs and 50 per cent of depression programs were associated with reductions in anxiety and depression symptoms. Universal program rates were similar, with improvements associated with 60 per cent for anxiety and 58 per cent for depression.
- Program effectiveness persisted for at least 6 months for a number of programs.
- Programs such as FRIENDS, which included booster sessions, reported positive outcomes at 12 months. Although the size of the effects, and the quality of the trials were variable, these findings provide strong support for mental health prevention programs. Both indicated and universal approaches would appear to produce short to mid term small to moderate reductions in anxiety and depression in schools.

Table 1: Australian School-Based Prevention and Early Intervention Programs For Anxiety and Depression

Program	Description	Trial	Trial Design *	Wait-list Control
Adolescent Coping with Depression Course (CWD-A) (Australian Version)	Adapted from the CWD-A course, this 16 session program aims to teach coping skills to depressed adolescents.	(Ralph & Nicholson, 1995)	CT	Yes
Adolescents Coping with Emotions (ACE)	Targeted at high-risk adolescents (13-16 years), this program aims to strengthen resilience and positive coping by teaching cognitive-behavioural and interpersonal skills. This program is presented in small groups over an 8-week period.	(Hannan, Rapee, & Hudson, 2005) - Pre Ace	NCG	-
		(Kowalenko et al., 2002) - Females only	CT	Yes
		(Sheffield et al., 2006)	RCT	No
Aussie Optimism (See also Penn Prevention Program)	Based on the Penn Prevention program, this cognitive behavioural intervention aims to reduce the incidence of depression and anxiety by improving young people's (11-13 years) optimistic thinking and life skills.	(Quayle, Dziurawiec, Roberts, Kane, & Ebsworthy, 2001) - 8 sessions. Females only	RCT	Yes
		(Roberts, Kane, Bishop, Matthews et al., 2004; Roberts, Kane, Thomson, Bishop, & Hart, 2003) - 12 sessions	RCT	No
		(Roberts, Kane, Bishop, Cross et al., 2004)	RCT	Yes
Best of Coping (BOC)	This secondary student coping program is based on the 18 areas of coping identified by the Adolescent Coping Scale, and includes cognitive-behavioural skills instruction. The program consists of 10 weekly sessions.	(Cotta, Frydenberg, & Poole, 2000)	CT	Yes
		(Bugalski & Frydenberg, 2000)	NCG	-
		(Luscombe-Smith, Frydenberg, & Poole, 2003)	NCG	-
		(D'Anastasi & Frydenberg, 2005)	RCT	Yes
beyondblue Schools Project	This universal intervention aims to reduce the incidence of adolescent depression by increasing individual and social environmental protective factors within school communities.	No evaluation studies available	-	-

Cool Kids Program: School Version	An 8-session Cognitive Behaviour Therapy program aimed at helping young people (7-16 yrs) overcome anxiety. The program also includes 2 parent information sessions.	(Misfud & Rapee, 2005)	RCT	Yes
FRIENDS (Previously Coping Koala)	This universal cognitive behavioural program aims to prevent anxiety and depression in children and youth by building emotional resilience and teaching important life skills. The program consists of 10 weekly sessions and 2 booster sessions, which are presented 1 and 3 months after the completion of the initial program.	(Dadds et al., 1999; Dadds, Spence, Holland, Barrett, & Laurens, 1997)	RCT	No
		(Lowry-Webster, Barrett, & Dadds, 2001; Lowry-Webster, Barrett, & Lock, 2003) - Teacher-led	RCT	No
		(Barrett & Turner, 2001) -Teacher & Psychologist	RCT	No
		(Barrett, Sonderegger, & Sonderegger, 2001) -Migrant students	CT	No
		(Barrett, Sonderegger, & Xenos, 2003) - Migrant students	CT	No
		(Barrett et al., 2006; Lock & Barrett, 2003)	RCT	Yes
		(Barrett, Lock, & Farrell, 2005)	RCT	No
MindMatters	A universal intervention designed to promote mental health and wellbeing in secondary students. This program endorses a "whole school approach" to mental health promotion, through the provision of professional development training for teachers and educational resources for students.	No evaluation studies available	-	-
MindMatters Plus	As an extension to MindMatters, this program aims to help secondary schools further support students who are exhibiting high mental health and wellbeing needs. This support is provided through educational initiatives and mental health promotion and early intervention programs.	No evaluation studies available	-	-

MindMatters GP	This initiative aims to help schools develop better referral networks and pathways for secondary students with high mental health and wellbeing needs.	No evaluation studies available	-	-
MoodGYM	An internet-based program designed to reduce symptoms of anxiety and depression. This self-paced program consists of 5 interactive modules, which are based on CBT.	(O'Kearney, Gibson, Christensen, & Griffiths, 2006) -Males only. Teacher-led	CT	No
		(Kang, 2006) - Females only. Teacher-led	CT	No
Penn Prevention Program (Australia) (See also Aussie Optimism)	Based on the Penn Prevention program, this universal cognitive behavioural intervention aims to reduce the incidence of depression and anxiety by improving young people's (11-13 years) optimistic thinking and life skills.	(Pattison & Lynd-Stevenson, 2001)	RCT	No
Problem Solving For Life (PSFL)	This universal program aims to teach students optimistic thinking, and positive problem-solving orientation, through cognitive restructuring and problem-solving skills training. The program consists of 8 self-contained sessions.	(Spence, Sheffield, & Donovan, 2003, 2005) - Teacher-led	RCT	No
		(Sheffield et al., 2006) -Teacher-led	RCT	No
Resourceful Adolescent Program (RAP)	Based on cognitive behaviour therapy and interpersonal therapy, this universal program aims to increase resilience and assist adolescents in developing a positive self-esteem. This program is conducted in groups of up to 15 students (12-16 years) and consists of 11 weekly sessions.	(Shochet et al., 2001)	CT	No
		(Harnett & Dadds, 2004) - Teacher-led	CT	No
		(Shochet, Montague, & Dadds, 2005) - Teacher vs. Psychologist	CT	No
		Manuscript in process; (Shochet & Ham, 2004) - Teacher-led	RCT	No

*RCT = Randomised Controlled Trial, CT = Controlled Trial, NCG = No control group.
†U = Universal, I = Indicated, T = Treatment

APPENDIX 3

Internet interventions for Depression and Anxiety; Systematic Review [based on Griffiths & Christensen, (2006)]

Definition

Internet interventions are websites which provide either mental health educational information or psychotherapeutic instruction and which are designed to improve mental health literacy and/or mental health symptoms in individuals with anxiety and depression. They often provide instruction in cognitive behaviour therapy and may or may not include contact with a therapist or a lay interviewer.

Aims

> AIMS OF THE REVIEW
> - To review the efficacy or effectiveness of websites delivering mental health literacy or therapy on the Internet.

Method

Griffiths & Christensen, (2006) completed a review of RCTs of mental health related internet interventions which included studies up to 2004. Using the same research methodology, we updated the review to May 2006, but restricted interventions to those reporting depression and anxiety conditions and outcomes.

Study selection criteria

The databases of PubMed, PsycInfo and Cochrane Register Randomised Controlled Trials were searched for the period prior to May 2006 using the key terms 'Internet OR web'. The searches on PubMed were limited to randomised controlled trials for PubMed and to empirical studies for PsycInfo. Criteria for inclusion of a study in this review of online self-help interventions were that it (i) involved a self-help website for a condition treated by clinical psychologists; (ii) tested the efficacy of a self-help psychoeducational or skills training intervention; (iii) employed a randomised controlled trial design; and (iv) incorporated a control group that was not subjected to an active treatment intervention. Only peer reviewed published articles were included in the analysis. Dissertation and published poster abstracts were excluded.

Results

Depression

Five interventions were identified for depression from 4 research studies. The interventions were Christensen, Griffiths and Jorm (2004) (BluePages, a psychoeducation site which also included tracking by a lay interviewer); Christensen, Griffiths and Groves (2004), (MoodGYM, a cognitive behaviour therapy site which also included tracking by a lay interviewer); Clarke et al. (2005), (ODIN, a cognitive behaviour therapy program with tracking); Clarke et al. (2001) (ODIN, a cognitive therapy program without tracking); and Patten (2003) (a cognitive behaviour therapy program without

tracking). Three of the five interventions were successful (Christensen, Griffiths, & Jorm, 2004; Christensen, Griffiths, & Groves, 2004; Clarke et al. 2005). The two Christensen et al. (2004) interventions targeted those with symptoms (an indicated intervention), while the Clarke et al. (2005) intervention included both a universal intervention and a treatment intervention.

Anxiety

Several groups have reported that web-based cognitive behavioural therapy sites can be effective in modifying anxiety or cognitions associated with anxiety but only one of these employed an intention-to-treat-design (Carlbring, Westling, Ljungstrand, Ekselius, & Andersson, 2001). Positive results reported for panic disorder (Carlbring et al., 2001; Klein & Richards, 2001), and post-traumatic stress (Lange et al., 2003; Lange, van de Ven, Schrieken, & Emmelkamp, 2001). One study reported improved cognitions associated with anxiety but no reduction in anxiety relative to control (Kenardy, McCaffery, & Rosa, 2003) (Online Anxiety Prevention Program). Most of the interventions involved some form of online monitoring or tracking. It may be significant that the only intervention which did not include therapist contact or tracking, did not successfully reduce anxiety symptoms.

Conclusion

SUMMARY OF FINDINGS
- The evidence suggests that Internet interventions are effective for reducing depression and anxiety symptoms. Interventions which include a monitoring or tracking function may be more likely to yield positive outcomes.
- The use of such interventions might form a partial solution to unmet need. There are insufficient mental health professionals trained in the delivery of cognitive behavioural therapy to provide treatment for every person who could benefit from such services. Internet interventions may provide a solution to this problem, particularly if used in the context of a stepped care model. For example, Barlow, Ellard, Hainsworth, Jones, & Fisher, (2005) have advocated the used of a staged approach in which people suffering from less severe mental disorders or those on a waiting list receive computerised or Internet self-help programs in the first instance. As health costs escalate, the demand for cost effective Internet solutions is likely to expand, leading to a rapid growth in the development and evaluation of these programs.
- Programs found to be effective were MoodGYM, BluePages, Interapy, ODIN and Panic Online. Three of these programs are Australian.

[Parts of this review have previously been published in Griffiths & Christensen, (2006).]

APPENDIX 4

A review of tele-interventions for anxiety and depression. A systematic review.

This review is an update of a previously published review paper on teleinterventions (Leach & Christensen, 2006).

Definition

The present study included interventions which used the telephone to treat depression and anxiety. The telephone may have been used as an adjunct to therapy or as therapy alone.

AIMS OF THE REVIEW
- To review the efficacy or effectiveness of tele-interventions for anxiety and depression

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Method

A literature search of the databases PubMed, PsycINFO and Google Scholar was conducted using the keywords "telephone counselling", "telephone-administered therapy", "telephone treatment" and "telephone intervention". The resulting reference lists were examined to obtain additional relevant articles. Studies were excluded if they did not directly target mental illness, used videoconferencing or telephone accessed computer systems, compared two telephone interventions without a suitable control group, or were classified as a case or group study. The original review included papers between 1995 and 2005. An additional search was undertaken for papers published from 2005 to May 2006. No additional papers were located. Inclusion criteria for this review were: telephone-based interventions targeting depression or anxiety, telephone-based intervention in comparison to a control or face-to-face method, randomised controlled trials, convenience sample trials, and studies using pre- and post-scores. Exclusion criteria were Studies evaluating teletherapy with visual aids (videoconferencing, Internet tools) studies evaluating telephone-accessed computer systems, studies evaluating assessment tools delivered via the telephone, studies where the target behaviour was not clearly related to mental illness (e.g. smoking cessation), studies of specific population groups (e.g. depression post medical procedures), group therapy studies and case studies.

Results

6 studies were identified in relation to depression and 3 in relation to anxiety disorders.

1. Depression

The efficacy of telephone interventions to treat depression has been evaluated in several studies. A pilot study conducted by Lynch et al., (1997), outlined the development and evaluation of a telephone-based intervention for mild depression. The treatment group received telephone therapy sessions based on Nezu's problem-solving approach, whilst a control group received no therapy. The results showed that scores on the Hamilton Rating Scale decreased significantly from pre- to post-trial for the

treatment group only (p<.05). At post-trial, the Beck Depression Inventory scores were significantly lower for the treatment than control group (p<.02).

A follow-up study did not replicate the results of the pilot study (Lynch et al., 2004). This later study found that the Hamilton scores improved for all participants (P<.001), with no significant differences between the control and problem-solving interventions (P>.86). The authors suggested that the small sample size (n=31) contributed to the lack of difference between groups, and that mild depression may generally decrease without intervention.

A few studies have explored the use of telephone interventions as an adjunct to antidepressant treatment. In a study conducted by Tutty et al. (2000), the treatment group received telephone therapy based on the trans-theoretical model of behavioural change and cognitive behavioural therapy (CBT). All participants received antidepressant medication. The results showed that mean follow-up scores on the Hopkins Symptom Checklist Depression Scale were significantly lower in the treatment than control group (p=.03). The treatment group was also twice as likely to adhere to antidepressant medication across time (p=.12).

Simon et al. (2004) conducted a follow-up study using two intervention groups. The first group received care management via the telephone and the second received care management plus CBT via the telephone. A control group received no therapy. All participants were prescribed antidepressants. Compared with the control group, those receiving CBT had significantly lower Hopkins checklist scores (p=.02), and a significantly higher proportion of participants stated that they were 'much improved' and 'very satisfied' with the treatment. More participants receiving care management reported being 'much improved' and 'very satisfied' than the control group, but there was no difference in mean depression scores.

The use of nurse telecare and peer support as an adjunct to antidepressant medication was examined by Hunkeler et al. (2000). Participants receiving telecare experienced a 50 per cent improvement on the Hamilton Scale significantly more often than participants in the control group (p=.01). These differences were maintained at six months follow-up. The addition of unstructured peer support to telecare did not improve primary outcomes.

A final study conducted by Datto et al. (2003) explored the effectiveness of telephone therapy for depression using a disease management programme. This programme provided education about depression while symptoms, adherence and side effects were monitored. This study found that an intervention group who received education and treatment options via the telephone, showed significantly more improvement on the Centre for Epidemiologic Depression Scale from pre- to post-trial than a control group receiving no treatment (p=.04).

2. Anxiety disorders

There were two studies that evaluated the efficacy of telephone interventions for obsessive-compulsive disorder (OCD). The results of both studies suggest that telephone therapy is effective and well tolerated. A study conducted by Taylor et al. (2003) involved two open trials. The first consisted of a 12 week waiting period, followed by 12 weeks of telephone-administered CBT. The second trial involved 12 weeks of CBT without the initial delay. The results showed that OCD symptom scores did not change during the waiting period. Scores on most measures of OCD declined significantly from pre- to post-treatment for both trials. These gains were maintained at 12 week follow-up.

A smaller trial (n=4) conducted by Lovell, Fullalove, Garvey, & Brooker, (2000) administered behavioural therapy over the telephone. This pilot study included an initial face-to-face session, where the concepts of exposure and response prevention were explained and weekly targets identified. This was followed by eight telephone therapy sessions. A relapse plan was devised during a concluding face-to-face session. The results showed that three out of the four participants made substantial improvement. However no statistical information was provided.

Little is known about the efficacy of telephone-based treatment for panic attacks and panic disorder. A study evaluating exposure-based behavioural therapy randomly assigned participants to either telephone therapy or a control group (Swinson, Fergus, Cox, & Wickwire, 1995). The therapy sessions explored topics such as exposure-therapy, long-term goals and diary keeping. The results showed that the participants receiving telephone therapy improved significantly more on most of the outcome measures, including the Fear Questionnaire avoidance ratings (P<.01), fear ratings (P<.01) and the Anxiety Sensitivity Index (P<.01). These gains were maintained at three and six month follow-up.

Conclusion

> SUMMARY OF FINDINGS
>
> - Outcomes from the review suggest that telephone based interventions can be effective in reducing symptoms of depression, and anxiety.
> - Elements of effective telephone therapy appear to be clearly structured therapy sessions and homework tasks
> - The studies have small sample sizes, high drop out rates and the methodologies vary greatly. These methodological weaknesses prevent firm conclusions from being drawn
> - Further research is necessary using large scale randomised controlled trials.

APPENDIX 5

The effect of delivery modes in primary care and general practice

Background

There are currently seven meta-analyses of primary care interventions for depression. Five of these focus on disease management models (Badamgarav et al., 2003; Gilbody, 2004; Neumeyer-Gromen et al., 2004; Tsai et al., 2005; Weingarten et al., 2002), with two reviews (Badamgarav et al., 2003; Weingarten et al., 2002) based on the same research studies. Two deal with more specific issues: the effect of a para professional compared to a professional (den Boer, Wiersma, Russo, & van den Bosch, 2005) and the use of case management models in mental health (Gensichen et al., 2006).

Research findings from these reviews identified the usefulness of a variety of enhancements in primary care to improve patient outcomes (Weingarten et al., 2002). These enhancements were generally associated with small effects [effect size average of .33 (Badamgarav et al., 2003)]. There is some agreement that passive provider education or distribution of clinical practice guidelines "have minimal effect on care of depression" (Gilbody, 2004, p. 3149) and that complex interventions were likely to be effective which employed nurse case management, integration with secondary care providers, and telephone medication interventions delivered by trained counsellors. Neumeyer-Gromen et al. (2004) reported positive outcomes for disease management approaches, although longer term outcomes were not established, and an explanation of which components were effective could not be determined. Tsai et al. (2005) in a broader study across a variety of disorders, highlighted the importance of delivery system design (consisting of care management roles, team practice, care co-ordination, follow-up proactive, planned visit, and visit system change), and self management support as components associated with better outcomes. Data were not reported separately for depression. More recently, Gensichen et al. (2006) reported para professionals were able to deliver chronic disease management as readily as professionals, with an overall effect size of .4. Den Boer et al. (2005) reported good outcomes for programs using care management.

The present review adds to the research literature in three ways. It includes (a) a larger number of studies, including more recently published papers; it takes a broader perspective, (b) including interventions (identified in our research strategy) which exist in parallel to general practice, such as pharmacy interventions, interventions provided by professionals in the community, and interventions delivered by community mental health clinics. In addition, (c) the review examines delivery modes taking into account the nature of the control group that is used as a comparison. Any review needs to seriously consider the comparison to which the program is evaluated as this will influence the size of any effect.

Definition

The present review examines all interventions identified using the terms "Delivery of health care" as a MeSH term with "depression" and "trial" in Pubmed, plus an extensive search of previously published meta-analyses, and searches in PubMed, Cochrane, PsychInfo data bases using the terms Depression AND Collaborative care OR Stepped care OR one of the following terms: Chronic disease management; Self guided; Shared care; Integration; Specialist referral; Self care; Adjunctive care; Self management; Managed care; Telephone intervention; Referral; Consultation-liaison; Telecounselling; Self-help; Psychoeducation; and Brief intervention.

AIMS OF THE REVIEW

- To determine which interventions hold promise for the delivery of health outcomes for depression in primary care and general practice
- Using new and previously developed classification systems, determine which components of treatment contribute to improvement in a broader sample
- Provide examples of best practice from the international literature.

Methodology

Literature Review

The final search which forms the basis of the present review was conducted in PubMed using "Delivery of health care" as a MeSH term with "depression" and "trial" (undertaken in October 2005). This produced a result of 1,691 papers of which 164 were identified from the abstract description as potential papers for inclusion. An additional 85 papers found in the preliminary searches or in previous research lists of reviews (and which were not captured by the final search strategy) were added to the review at this stage. A number of papers reported the same experimental study trial. The paper with the longest follow up period was selected for inclusion. If the search strategy captured cost-effectiveness but not efficacy data, the report of the efficacy trial was located and substituted for the original cost effectiveness paper. Figure 1 describes the flow chart for inclusion. 71 studies were identified, with a total of 93 comparisons (one study could examine more than one comparison).

The present review concerns 84 of the 93 comparisons. Included in this review were those comparisons where the active enhancement intervention was compared to a control group of treatment as usual or waitlist control. The current review excluded comparisons that were not controlled (pre-post only), or studies where the comparison was to another active treatment.

Classification of delivery orientation

Table 1 describes the categories we used to describe delivery orientation. A total of 8 categories were developed, based on our knowledge of the literature, the type of papers that were located using "Delivery of Health Care", the multifaceted nature of many interventions, and the need to simplify the description of delivery modes. The core aim of the intervention as described by the author of the paper was used to assist in the final classification of papers. A number of studies were coded as using two or more of the interventions.

Four categories of intervention were identified for to describe the interventions introduced *within* general practice. These were:

A. training and feedback. Directed at general practitioners these enhancements were usually provided by the researchers/ implementers to general practitioners to improve their skills, and included provider education, the provision of feedback to improve diagnosis and the issue of clinical practice guidelines;

B. providing assistance within the general practice so that care management of patients is provided. This was achieved variously in the papers through the provision of tracking and monitoring by nurses, the provision (and implementation) of procedures designed to encourage adherence to medication or treatment, the use of practice managers to keep patients in care;

C. enhancements or extensions to general practice care which involved use of specialists, such as psychiatrists, or the referral of the patient to health professionals attached to the practice, or to the direct provision of enhanced therapy such as problem solving or cognitive behaviour therapy within the practice;

D. the provision of self-help materials or computer guided programs within the practice to improve efficacy.

A second class of interventions involved linking general practice patients to *outside agencies*, teams or volunteer organizations. These included:

E. The provision of assistance from teams external to the practice such as mental health teams; or

F. The linking of the patient to professionals (other than doctors in the community); including pharmacists, and the use of community based single practitioners.

A third class of intervention described mental health assistance in the community. We identified two types:

G. Programs that occur in health maintenance organizations, or school/ community clinics; and

H. Programs in the community or in smaller facilities within the community, such as educational training programs or programs in residential facilities.

Classification of intervention components

In addition to the broad delivery modes identified above, we used the classification components outlined in Table 3 which have previously been used in review of general practice, taking the terms and descriptors from the relevant research articles (Gilbody, 2004; Tsai et al., 2005; Weingarten et al., 2002).

Extraction of data

A standard coding sheet was developed, and three coders (two per paper) coded the following variables: country, type of control group, comorbidity, type of intervention (Promotion, prevention, early intervention, treatment, recovery), study design (RCT, CCT), setting (family practice, community), recruitment procedures, time period of the intervention, Treatment content (antidepressants, CBT, etc), job description of the individual undertaking the intervention (GP, Allied Health), age of participants, gender, ethnicity, whether consumers were involved in the design, conduct or interpretation of the study.

Outcomes

The primary outcome variable was the key depression variable used in the trial. Rating was made of whether there was significant change on that variable relative to the control group. The length of time to final post intervention follow-up was also recorded.

Quality Ratings

The quality of research papers was rated according to the Cochrane Effective Practice and Organisational Care (EPOC) Group's criteria. Ratings were made of masking of allocation, blinding, withdrawals, and performance bias.

Results

Delivery outcomes

Table 1 describes the percentage of studies which were associated with improved outcomes for patients relative to controls for each of the delivery modes. Data suggest that the provision of training and feedback to general practitioners, including training in assessment, identification and the use of clinical practice guidelines results in improved outcomes in only 25 per cent of studies. In comparison, the provision of care management is associated with a 75 per cent outcome success, a rate that is greater than the provision of specialist or enhanced therapy within the practice (54 per cent of studies yielded positive effects). Self-help materials in general practice were associated with 50 per cent success rate. Links to mental health teams (0 per cent) and the use of pharmacists in the community (0 per cent) were uniformly unsuccessful. Community programs and educational interventions were associated with effects more than 50 per cent of the time. A full listing of the studies and their classification is provided at the end of the paper.

Table 1: Practice Orientation: Percentage of Comparisons Yielding Improved Outcomes

Practice orientation	Number	Positive outcomes	Percentage	Study Numbers
A Provider Education	7	1	14	
A + B per cent	4	1	25	
B Care Management	16	12	74	
B + C	8	5	67	
C Specialist or enhanced therapy	12	7	58	
D Self-Help	6	3	50	
E Links to teams	2	0	0	
F Pharmacist help	4	0	0	
G Community mental health	11	7	63	
H Community settings and educational groups	6	3	50	
Other	-	-	-	-
Total	80			

Note: These comparisons involved waitlist. Studies coded as both A and B often used care management procedures that failed to be implemented – i.e., the methods were explained but not implemented.

These data were examined formally in a logistic regression analysis. This analysis allows the researcher to determine whether these differences in outcome are significant. Because of small cells, the analysis did no include Links to teams, or Pharmacist Help, and excluded the combined categories. This left a total of 58 comparisons. The reference category against which these delivery modes were compared was category 1 (education and training). Interventions providing care management were significantly more likely to result in a successful outcome (p=.018) relative to all other interventions combined. To determine whether these findings persisted *within* general practice, the analysis was repeated with only delivery modes A-D included. The logistic regression analysis indicated that care management was more successful than other interventions in improving depression outcomes (p=.051, n=41).

Categorical Variables Codings

		Frequency	Parameter coding				
			(1)	(2)	(3)	(4)	(5)
Exclusion criteria	education and training	7	.000	.000	.000	.000	.000
	care management	16	1.000	.000	.000	.000	.000
	enhanced care	12	.000	1.000	.000	.000	.000
	self-help in GP	6	.000	.000	1.000	.000	.000
	community mental health	11	.000	.000	.000	1.000	.000
	community setting and educational grps	6	.000	.000	.000	.000	1.000

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	Overalltype			6.091	5	.297	
	Overalltype(1)	2.890	1.225	5.569	1	.018	18.000
	Overalltype(2)	2.128	1.229	3.001	1	.083	8.400
	Overalltype(3)	1.792	1.354	1.751	1	.186	6.000
	Overalltype(4)	2.351	1.249	3.545	1	.060	10.500
	Overalltype(5)	1.792	1.354	1.751	1	.186	6.000
	Constant	-1.792	1.080	2.752	1	.097	.167

Key Treatment

Each intervention was assessed to describe the key treatment element included in the analysis. Most treatments included either antidepressants or cognitive behaviour therapy, but many interventions did not stipulate the type of treatment used.

Table 2: Key Treatment Element

Key Treatment	Number	Number with positive outcome	Percentage
Antidepressants	19	11	58 per cent
CBT and/or CT	8	5	62 per cent
Combined antidepressants and CBT	8	5	62 per cent
Psycho-education	3	2	66 per cent
None	15	5	35 per cent
Other	27	13	46 per cent
Total	80	43	

A formal analysis using logistic regression failed to identify any significant differences between outcomes as a function of key intervention type. There was no overall significant difference and no contrast significant differences.

Components of treatment

Table 3 below outlines outcomes of the comparisons as a function of the components that were identified in the intervention.

Table 3: Number of Studies Producing a Good Outcome as a Function of the Number Providing the Component.

Component	N positive outcome/ N with component.	Percentage	P value (one tailed)
(Weingarten et al., 2002)			
Provider education	26/50	52	.52
Provider feedback	9/23	39	.12
Provider reminder	0/3	0	.11
Patient education	29/52	56	.19
Patient reminders	0/1	0	.49
Patient incentives	0/2	0	.23
(Tsai et al., 2005)			
Delivery system	14/24	58	.28
Self management	23/43	53	.42
Decision support	21/39	54	.41
Clinical info system	12/23	52	.56
Community resources	2/4	50	.67
Health Care Organ	0/1	0	.49
(Gilbody, 2004)			
Education materials	11/22	50	.54
Education meetings	15/35	43	.14
Education outreach visits	4/9	44	.47
Consensus process	3/4	75	.32
Local opinion leaders	0/1	0	.488
Patient mediated	18/31	58	.23
Audit and feedback	9/16	56	.43
Marketing	1/3	33	.48
Reminders	3/9	33	.48
Review professional roles	12/16	75	.03*
Multidisciplinary teams	2/4	50	.67
Formal integration	3/5	60	.52
Continuity of care	17/26	65	.06*
Case discussion	4/8	50	.62

Each component was analysed for significance using the chi-square statistic. There was one significant finding. Studies which were rated as requiring the review of professional roles were associated with better outcomes (p=.03). There was a marginally significant effect for continuity of care (p=.07).

Discussion

SUMMARY OF FINDINGS

- A range of interventions in general practice and primary care are associated with improved outcomes. Evidence suggests that provider feedback and training is less effective than other interventions and that interventions that involve care management, including tracking and follow-up are likely to significantly result in better outcomes. Both self-help in primary care and the provisions of specialists or enhanced therapies improves outcomes above usual care.
- Key treatment content does not appear to be crucial, as long as it is evidence-based.
- Following Tsai, the revision of professional roles is associated with better outcome.
- Linkage to community mental health teams or to pharmacists for medication or coaching is not effective.

The results of the present study are consistent with earlier research work.

Additional comments.
Many of these interventions involve telephone interventions as a form of telephone care management or tracking (Aubert et al., 2003; Datto et al., 2003; Dietrich et al., 2004; Lynch et al., 1997; Simon et al., 2004; Tutty et al., 2000). Telephone interventions were more effective if they also included CBT psychotherapy over the line (Simon et al., 2004). Some were not effective (Lynch et al., 2004). Nevertheless, the use of case management by telephone warrants further research.

The reason that some programs incorporating aspects of care management or additional enhancement are unsuccessful may be related to the failure of implementation. The care management person may not follow protocol (i.e. a mental health clinical nurse specialist, disagreed with diagnosis, and did not implement treatment) (Swindle et al., 2003) or because the physicians do not refer patient to a new quality improvement team/system (Solberg et al., 2001).

The longer term effects of these interventions are yet to be examined systematically. Collaborative care effects may not persist over 19 months, despite demonstrated effectiveness at four and 7 months (Lin et al., 1999). There may be differences between severe and moderate cases (Katon et al., 2002).

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APPENDIX 6

Internet Support Groups

Definition

Chat rooms, bulletin boards, listserves and news groups were defined as Internet support groups (ISGs) for the purposes of this review. Chat groups involve individuals talking to each other synchronously online, to exchange views, information or to seek or provide emotional support. Bulletin boards enable individuals to exchange information and provide and receive emotional support by posting one message at a time (asynchronously) on an electronic board on the web. Listserves and newsgroups involve communication to groups through email. ISGs may be monitored by a moderator charged with ensuring that chatroom and board posts adhere to rules designed to facilitate the groups.

AIMS OF THE REVIEW

- To review the efficacy or effectiveness of online bulletin boards, chat groups or news groups in reducing the symptoms of depression.

Method

The databases of PubMed, PsyInfo and Cochrane Register Controlled Trials were searched for the period prior to December 2005 using over 200 key terms. The reference list of a systematic review by Eysenbach, Powell, Englesakis, Rizo and Stern (2004) of online support groups all medical illnesses was also searched for potential papers.

Criteria for inclusion of a study in the current review were that the intervention (i) involved peer to peer interaction; (ii) involved the use of online electronic support group/peer support (eg. Listserves, bulletin boards, chat rooms, news groups; (iii) employed a randomised controlled trial design; and (iv) involved depression outcomes. Papers were included if they involved a randomised controlled trial design, controlled trials or pre-test post-test interventions. Only peer reviewed published articles were included in the analysis. Dissertation and published poster abstracts were excluded. Articles were excluded if they concerned participants with physical comorbidity, if there was multi-component confounding (in some cases one arm of a controlled trial could be retained if that arm had unconfounded pre-post data) and if the papers were not in English.

Results

9381 abstracts were identified, of which three met the study criteria. One additional paper was identified from Eysenbach's review, making a total of four papers examined in this review. Houston, Cooper and Ford (2002) examined a sample of 103 spontaneous visitors with depression to depression ISGs. A comparison was made between depression scores obtained during the first two months of use and depression scores obtained at 12 months. It is unclear whether there was a significant improvement in depression over this time period. However, controlling for initial levels of

depression, ISG members who used the ISG more frequently showed the greatest improvement in depression levels.

Two studies examined depression scores in carers looking after individuals with serious physical illnesses [carers of heart recipients, (Andersson et al., 2005); parents of children with cancer, (Bragadottir, 2004)]. In the first study (n=49) of a professionally moderated bulletin board, depression scores of the carers did not change after 10 weeks. However, the ISG was not focused on depression. In the second study, also with a professional moderator, depression did improve over a 4 month period despite the fact that the group did not focus on depression. Finally Shaw and Gant (2002), using a pre-post design (including a mid point observation) reported that structured dyad chat sessions on pre-set topics for students enrolled in an "internet communication" experiment resulted in improved depression outcomes.

Conclusion

SUMMARY OF FINDINGS

- There is insufficient evidence investigating the effectiveness of online support groups for depression
- More research is required using naturalistic settings with individuals who have depression.

APPENDIX 7

Australia's Programs for Depression and Anxiety: A Review of the Grey Literature

Aims of the Review

The aim of this review is to summarise data on the *efficacy of* anxiety and depression programs using reports identified from searches of databases and websites. The search strategy for the 'grey' literature was formulated to locate documents and reports on Australian projects, targeting interventions concerned with the reduction of depression and anxiety in primary mental health care. In some cases, reports were considered for inclusion if they provided outcome data on help-seeking behaviour.

AIMS OF THE REVIEW

- Describe activities in Australia undertaken to reduce depression and anxiety in primary care
- Identify programs that are effective in reducing anxiety and depression

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Search Databases

The search for Australian programs used a variety of databases and websites. These included the Primary Mental Health Care Australian Resource Centre (PARC) database, and the Primary Health Care Research and Information Service (PHCRIS) database. Other sources included the GP& Conference Search and additional websites which included Vic Health, Australian Infant Child and Family Mental Health Association, Auseinet; Mental Health Council of Australia; Australian Clearing House for Youth Studies (ACYS), National Youth Research Scheme (NYARS), GPEP (General Practice Evaluation Program); Australian Institute of Health and Welfare Website; and the Australian Divisions of General Practice; Rural Doctors Association of Australia, Australian Psychological Society, Australian Medical Association, Royal Australian and New Zealand College of Psychiatrists, The Royal Australian College Of General Practitioners, the Department of Health and Aging, and beyondblue, the national depression initiative. Academic websites (particularly universities with PMHC units as part of their medical and psychiatry schools e.g. Adelaide, Monash, University of Western Australia, Flinders, Centre for Mental Health Research) were also included. The submissions of the Senate Select Committee into Mental Health were searched, with the aim of identifying any projects not captured by other databases or websites. In particular, interventions described as promising on pages 19-25 of the first report were examined in detail, and followed up through the examination of relevant submissions.
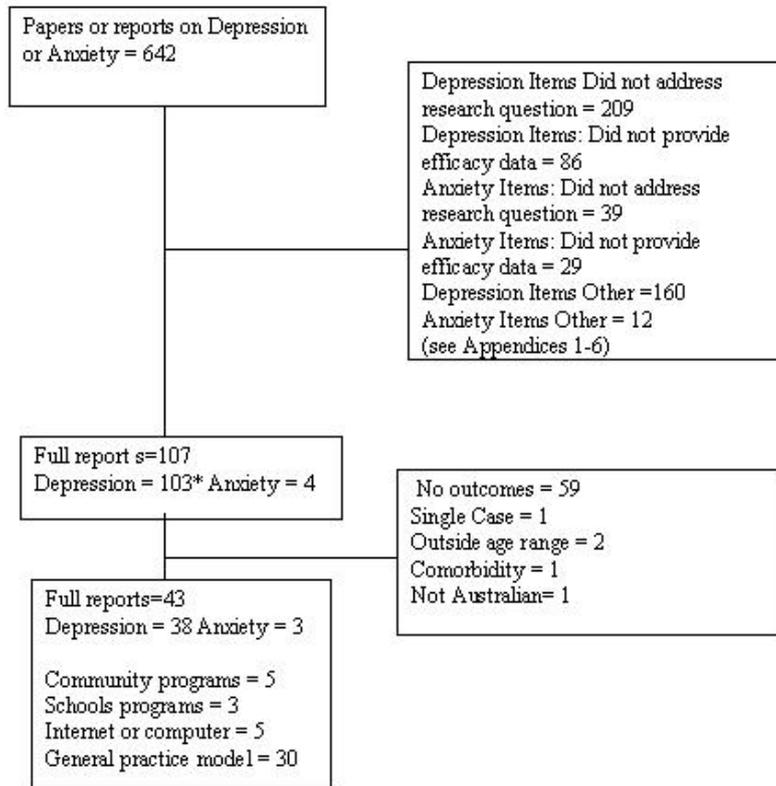
Search Strategy

Material was searched first from PARC and PHCRIS databases using the predefined terms previously employed in the systematic review. The main requirements for listing papers were that they contained efficacy data and were published between 1995-2006

For the website searches, the terms 'depression' or 'anxiety' were used to identify relevant material.

The flowchart describes the identification of the final 43 reports

Flowchart of papers or reports identified from Australian databases and websites

Papers or reports on Depression or Anxiety = 642

Depression Items Did not address research question = 209
Depression Items: Did not provide efficacy data = 86
Anxiety Items: Did not address research question = 39
Anxiety Items: Did not provide efficacy data = 29
Depression Items Other =160
Anxiety Items Other = 12
(see Appendices 1-6)

Full report s=107
Depression = 103* Anxiety = 4

No outcomes = 59
Single Case = 1
Outside age range = 2
Comorbidity = 1
Not Australian= 1

Full reports=43
Depression = 38 Anxiety = 3

Community programs = 5
Schools programs = 3
Internet or computer = 5
General practice model = 30

*Includes reports with mixed samples

Studies

A total of 642 papers were identified. Many did not address the research question (Depression = 209; Anxiety=39) while a substantial proportion did not provide efficacy data (Depression = 86; Anxiety = 29). See Appendix 1-8 for breakdown of excluded papers). Of these, 107 papers met criteria. Two researchers (HC and AG) examined these papers in detail. Of these, 59 were excluded because they failed to report efficacy data, or because they examined only one case (n=1), were outside the age range of the review (n=2), examined comorbidity rather than anxiety or depression (n=1), and reported data from overseas (n=1). The remaining 43 projects form the basis for the current review. These papers are displayed in Table 1, classified into the categories Schools Programs; Community Programs, Internet and Computer Programs and General Practice Models.

BOX 1 provides a brief overview of the type of programs which were *excluded*. Although many of the reports described new programs or models of mental health care, most programs failed to provide outcome data on the effect of the project on those who received the services or programs. Some were at the preliminary stages of data collection. Many of these

projects were designed to improve the delivery of depression treatment to patients via training and education programs targeting general practitioners. Most did not provide any data on patient outcomes.

BOX 1: Overview of Grey Literature Program Types.

- <u>General Practitioner Education Initiatives</u> aimed at providing training for general practitioners. These included, for example, the dissemination of "Guidelines for Depression in Young People". This was a strong divisional activity as indicated by numerous entries for this activity. Others in this category were programs designed to up skill GPs including educational programs for parenting (Triple P Program).
- <u>GP Materials for Consumers</u> which included brochures, booklets, Internet sites and videos for use by GPs with patients with anxiety and depression. These were often produced with the assistance of pharmaceutical companies, the World Health Organisation, or NGOs such as Sane. Examples of work that were included in this literature were those produced by Gavin Andrews and CRUFAD, Ian Hickie and the Sphere program, Centre for Mental Health Research, including MoodGYM and the booklet: *Help for Depression: What works (and what doesn't).* Other products mentioned included *Me Depressed, Don't Make Me Laugh?* Mindstreet, Creating Girl X, or Proudfoot's Beating the Blues. There were also projects aimed at producing decision supports for the support of anxiety.
- <u>GP Networking Initiatives</u> and or peer support.
- <u>Models of collaborative care</u>, or psychiatrist referral or referral to allied health professionals were included. These include the Access to Allied Health and the Better Outcomes in Mental Health Care Initiatives. There were summary papers including the use of psychologists in general practice. There were other models presented such as GP and PHC conference.
- <u>Models of care using Internet programs</u> for patients including Panic Online, and Climate Modules.
- <u>Descriptions of a variety of schools</u> programs including ACE, the beyondblue Schools Research Initiative, and MindMatters Programs. A variety of <u>extension programs</u> including MindMatters GP were also mentioned.
- A variety of programs outside the scope of the present review exploring <u>comorbidity</u> such as Your Mental Health And Alcohol: Managing the mix.
- A variety of <u>Antenatal programs</u> also outside the scope of the present review which mentioned Shared AnteNatal Care Program, and other programs involving PND Screening
- Programs reporting outcomes from <u>Media and Media Reporting</u>
- A range of research projects designed to reduce depression across <u>a range of settings,</u> and usually conducted by researchers and funded by Vic Health, including older Australians (Almeida); screening youth (Sanci); assisting in refuge settings (Schwarz), looking after individuals in emergency departments (Joubert); scoping of mental health to ethnic minorities (Minas); or assisting families through the RAP program.
- Some programs interested in <u>physical activity</u> such as the UPLIFT program.

Results

Residential Care and Community Programs

Five programs were identified in this section. These included three community based projects, and two based in residential care facilities. The community based projects involved providing education programs or specific mental health programs to members of the community. Mental Health First Aid Training involves training members of the public in mental health literacy. Using a randomised controlled trial, Kitchener and Jorm, (2004) reported that the program both improved mental health treatments and reduced depression symptoms. A small project examined the effect of a walking program on depression outcomes. Using a program called *Get Up and Go: Walking away from Depression* (Norton, 2006) the researchers reported that 14 of 19 who maintained participation over at least three months significantly reduced depression scores, as measured by the Zung Depression Scale. Finally the South East Anxiety Disorder Project (Dugdale, 1999) was designed to provide anxiety support services for anxiety disorder sufferers through a nine week management program. Researchers reported that "Qualitative and quantitative measures showed that participants attending the anxiety management course benefited greatly." (p. 5 and see p. 53). The project used a pre-post research design. Two programs were directed at older Australians and involved either screening or early intervention in residential settings. The aim of the first program (Llewellyn-Jones, 1996) was to provide depression care to those living in nursing homes through early identification, and through efforts to share care – having mental health workers, GPs and psychiatrists working together. Significant differences were observed on the Geriatric Depression Scale between those given the shared care intervention and those not. The study had a relatively weak design given than the two groups were not examined simultaneously. A second study of older Australians was also identified. Kotynia-English, McGowan and Almeida (2005) examined the effect of a screening procedure as a means of improving mental health outcomes for individuals entering residential care facilities. Screening and early referral to a psycho-geriatric service did not improve mental health outcomes.

Schools Programs

There were three programs located (Dadds, Seinen, Roth, & Harnett, 2000; Hazell, Vincent, Greenhalgh, Robson, & O 'Neill, 2005; Kowalenko et al., 2005). The first described the ACE program. Kowalenko et al. (2005) used a short-term wait list control trial to evaluate the intervention. Outcomes for depressive symptoms were significantly better in the intervention group. This finding was interpreted as providing evidence for indicated prevention programs in Schools. The second paper was the eighth interim report (2004-2005) evaluating the MindMatters program. The report states that "the effects of the adoption of MindMatters on students vary, but may include a greater willingness to discuss mental health issues and increased helpseeking behaviour" (p. 6). Although there are no direct results for improvement in mental health symptoms available from the report, the next report (currently with the Australian Government) is expected to include outcomes on the health of students. A final study reported a secondary analysis of the effects of various coping programs on anxiety for adolescents. Although not strictly "school programs", Dadds et al. (2000)

reports positive outcomes for specific anxiety prevention programs in adolescence.

Internet Programs
Three Internet programs reporting a reduction in depression and anxiety symptoms were included. These were MoodGYM (Christensen, Griffiths, & Korten, 2002), BluePages (Christensen, Griffiths, & Jorm, 2004), and Panic Online (Klein, Richards, & Austin, 2006). All used RCTs and established effects above control groups. Two other projects reported are not as well known. The aim of a project [Rural carers online: a feasibility study (Dow & Black, 2006)] was a pilot study to investigate the feasibility of undertaking a larger randomised controlled trial to determine the effectiveness of an information technology intervention in reducing depression symptoms and social isolation in older carers. This was a single intervention of 14 individuals. A significant reduction in depression was reported, but the trial was uncontrolled, and based on a small number of participants. Finally, (Mitchell, Howell, Turnbull, & Murphy, 2005) reported on the used of computer assisted group therapy in a general practice in Adelaide.

Programs in General Practice

Most programs in this category were evaluations of the BOiMHCI, and, in particular, evaluations of the Access to Allied Health Services component of the initiative.

One study published in the MJA in 2004 (Vines et al., 2004), described a study of patients provided with 6 sessions of focused psychological therapies. They were compared to other clinic attendees who were not selected for anxiety and depression problems. Psychologists were provided within the doctor's surgery. Data indicate an improvement in the outcomes of patients on anxiety and depression measures. The design is weak because the comparison group is not comparable (i.e., there was no random allocation to treatment and control conditions), and improvement may be expected over time.

Pirkis provides a series of Interim reports of the AAHS component of the BOiMHCI (Pirkis, 2003-2005).

Interim Report 1: Dec 2003 reports the following outcomes from the findings of 15 pilot interventions. "Very few of the local evaluations were able to systematically assess clinical outcomes for consumers in terms of improvements on standardised measures. However, those that did demonstrated a significant reduction in psychological distress, depression, and anxiety over 6 sessions of therapy, as evidenced by scores on consumer self-rating instruments such as Kessler 10, the Beck Depression Inventory (see p. 11).

Interim Report 2: July 2004: This report is based on data from the 15 pilots and 14 supplementary projects. No additional data provided on outcomes for consumers.

<u>Interim Report 3: Feb 2005</u> arose as a result of an evaluation of the service delivery models (see p. 6 of the report Table 1). The report aimed to develop an in depth picture of the advantages and disadvantages of the different types of models. This was achieved through an evaluation forum. No additional data provided on outcomes for consumers.

<u>Interim Report 4: April 2005</u> synthesizes information from the Round 1 and 2 of the project initiatives and includes 40 additional projects. This report provides little data on outcomes but notes " Where these instruments have been used, they have demonstrated significant reductions in psychological distress, depression and anxiety over the six sessions of therapy" (p. 28).

<u>Interim Report 5: June 2005</u> examined the frequency with which different models have operated over the three funding rounds using survey methodology.

<u>Interim Report 6: November 2005</u> provided data on 1,047 before and after pairs of scores have been calculated as change scores. 88 per cent of these change scores indicate that patients got better, 5 per cent they remained the same and in 7 per cent they got worse. These data are provided by fewer than 5 per cent of consumers, and some were counted twice.

<u>Interim Report 7: March 2006</u> examines differences between urban and rural practices of the model. The health outcomes for consumers do not appear to differ as a function of location.

In addition to the overall review of the programs by Pirkis (2003-2005), a number of specific reports from various geographical areas were identified in our searches. Two are described in a little detail below (Oerlemans, 2004; Tyson, Roufeil, & Kiernan, 2004). Table 1 provides summaries of an additional 26 evaluation reports from other divisions that provided patient outcome data. These focus on the evaluation of Access to Allied Health Services, as part of the BOiMHCI.

Tyson et al. (2004) investigated four models to deliver the pilot service: A visiting Division-employed psychologist (to GPs surgeries); Voucher system for Private Psychologist; Clinical Psychology Registrar in the practice and referral for Post Natal Depression. Because of data collection problems, no comparisons could be made of the different models. However, pre-post data suggested that there were reductions in depression and anxiety. Major methodological problems (lack of control group) limit this evaluation. The preferred model based on the qualitative data was the psychologist resident in the practice.

Michael Oerlemans (Oerlemans, 2004) for the Bendigo Health Care Group described a program which introduced psychiatric nurses or mental health workers into general practices in the Bendigo and Murray Plains areas. The outcome data from participants was not based on pre-post tests, but there was strong agreement that the therapy improved function, and 61 per cent said they were very willing to offer treatment to friends (see p. 33 of report). The weak design (no control group) and poor outcome measures (i.e. retrospective ratings of improvement) limit conclusions from the study.

Table 1: Divisional Reports of Access to Allied Health: Reports are included which provide data on pre-post outcomes or estimates of improvement

N	Study number and Name	Area	N (providing data as a function of referral). *	Outcome Measure	Improvement
1	Lockwood, (2003)	Freemantle	6/179	Self report of improvement	100 per cent reported improvement
2	Bancroft, (2005)	Perth and Hills	144/395	Self report of improvement	90 per cent reported improvement
3	Hirning, (2004)	Brisbane	?/188	GAF, K10	Scores on K10 decreased from 32 to 20.
4	Capricornia Divison of General Practice, (2004)	Capricornia	14 /350	Self report?	Improved?
5	Osborne Division of General Practice, (2004)	South Fremantle	37/142?	K10	Scores dropped from 28.4 to 16.0
6	Mornington Division of General Practice, (2004)	Mornington Peninsula	52/172	DASS	Significant (t-test) improvement
7	Chiller, (2004)	Ballarat and District	37/124?	Self report coping?	Improvement
8	Hunter Division of General Practice, (2004)	Hunter Urban Division	11/165	K10	73 per cent reported improvement
9	Merton, (2005)	Blue Mountains	132/727	K10	32.8 at pretest. Post test data not summarised
10	Zwar, (2005)	Southern Highlands	47/69	K10 DASS	30.87 to 21.4
11	Murrumbidgee Division of General Practice, (2004)	Murrumbidge	33/149	DASS	Improvement
12	Alexander, (2004)	Armidale	49/110	DASS, GHQ	Improvement
13	Hare, (2005)	Illawarra and Shoalhaven	75/250	DASS	Improvement
14	Sutherland Division of General Practice, (2004)	Southerland	16/33	DASS	Improvement
15	Central Highlands Division of General Practice, (2004)	Central Highlands	19/70	Self report	Some report improvement
16	East Gippsland Division of General Practice, (2005)	East Gippsland	20/268	Self report	95 per cent report improvement
17	Williams, (2005)	North East Victoria	345 (for BASIS and 510 HoNOS /(759 + 816)	BASIS32 HoNOS	Improvement
18	Bilato, (2005)	Top End Division	36?/75	BDI, BAI	Evidence for

		of General Practice			improvement for Depression and Anxiety
19	Burgess, (2004)	Adelaide North Eastern	22/68	DASS WHO QoL	Significant improvement
20	Border Division of General Practice, (2004); Williams, (2005)	Border	?	BASIS32 HoNOS	Improvement
21	Greenhill, (2005)	Logan	43/127	K10	Significant improvement
22	Westgate Division of General Practice, (2003)	Westgate	?/80	BDI	Improvement
23	Aberdeen, (2004)	Sunshine Coast	52/436	K10; GAF	32.2 to 22.6. Mean drop
24	Anderson, (2004)	Whitehorse	?/110	Self report	Improvement
25	McGuiness, (2004)	ACT	21?/248	Variety	Improvement
26	Southern Tasmania Division of General Practice, (2004)	Southern Tasmania	124	HoNOS	74 per cent improvement

Findings from the 26 reports outlined above are universally positive, with most participants reporting improvements across the sessions of psychological therapy. However, most reports did not clearly indicate the number of people referred to the service, the number starting and completing the sessions, and the number returning to the GP practice for 'exit' interviews.

Estimates of the number completing each aspect of the program are provided in the body of the report. The reasons for these rates of completion are not well understood.

Discussion
Usefulness of the grey literature
Searches of the grey literature are helpful for a number of reasons: they can identify the scope on going activity in mental health in Australia, reveal important work that has not been published, and identify work that is not well known to the research or policy community. Papers may also be identified that might meet the criteria for inclusion in the systematic review of RCTs. The grey literature might also identify programs that have been well disseminated.

The present study clearly indicates that a large amount of activity in mental health occurs in Australia across a range of areas (see Box 1). However, almost all of this literature does not report on the mental health outcomes for patients/consumers of the various policy initiatives, workforce programs, schools programs, general practice models or community systems which are there to improve the mental health of Australians.

From a set of 642 items we were only able to find 43 papers which provided any comment about the effect of the programs on the participants. Some of these papers were published, but others were not. Our standard for reporting a model or an intervention had positive outcomes was very low. No control groups were required. The report, including a secondary report, was simply required to report that significant drops in anxiety or depression symptoms (or sometimes an increase in help seeking behaviour) were observed.

Most commentators would agree that that unpublished literature, or literature sourced indirectly is useful as a supplement to a standard review, or that it provides a broader picture of how programs are received, and how improvement come about. It might also provide information about unintended consequences. A major problem is the lack of standardization and quality control in the type of literature that is collected. This lack of focus on patient outcomes is not an evaluation problem per se, but perhaps reflects a more serious disregard for patient outcomes. This is not to say that implementation and process issues are not important, but the balance is far more towards these issues than patient outcomes.

Limitations in the search strategy

Despite the exhaustive search undertaken to identify all programs in Australia, it is clear that many projects were not identified. For example, only three schools programs were identified (with outcome data) despite the large number of trials identified in a systematic search (see Appendix 2). The grey literature is 'selective'. Moreover, many programs were found in the literature, but the literature did not report outcome data, even though such data may exist. Examples include Sphere program, and many programs currently conducted by beyondblue.

SUMMARY AND CONCLUSION

- A large amount of activity in mental health occurs in Australia across a range of areas.
- Only 5 per cent of this literature reports on the mental health outcomes for those who receive the services. The focus is this literature is on implementation processes and outcomes for providers.
- Programs associated with change in depression and anxiety include schools programs, community interventions, computer and Internet programs and the provision of allied health services in general practice.
- Already established programs supported by RCTs do not get reported in the grey literature, suggesting poor dissemination.
- Evaluation of mental health outcomes is not standardised and there is poor quality control.

APPENDIX 8

A review of perceptions of the supports needed, incentives and likely usefulness of various models of general practice.

The evidence for this chapter was structured around five major models of delivery: (i) physician/medical based models; (ii) models relying on the use of self-help materials; (iii) help accessed directly from community resources with direct professional/ paraprofessional involvement; (iv) self-help accessed or offered at a community level without direct management by a professional, public or community education programs; and (v) other. Within each category, we coded for: (i) the available and desired practitioner support to deliver care, (ii) the barriers faced in delivering care and (iii) the incentives or tools that might help. The recommendations about the mechanisms to improve the delivery of mental health care were divided into two groups for coding: (a) the types of models recommended and (b) the tools adopted by practitioners.

The literature used in the review included a listed of documents used to frame the search terms and a specific search [Appendix 8A]. To gather formally published literature searches were made of the 'grey literature' including relevant websites [Appendix 8B]. In addition, the Australian Senate Mental Health Inquiry web site for submissions from Better Outcomes in Mental Health Care Advisory Board Members was searched for submissions meeting the previously documented research terms. Finally, a request was made to the Department of Health and Ageing for copies of Allied to Access Health project evaluation reports completed by the Divisions involved in the Better Outcomes in Mental Health Psychological Services initiative.

Literature search
Figure 6 provides a summary of how the documents were retrieved. A search of the black literature identified 1691 documents, and the grey literature identified 617 documents. A total of 113 documents were retrieved. Most documents described Australian work. Only three documents (3 per cent) reported on data that arose from a quantitative study: They were reports of before and after intervention studies (Meredith et al., 2000). The remaining documents provided discursive or descriptive information.
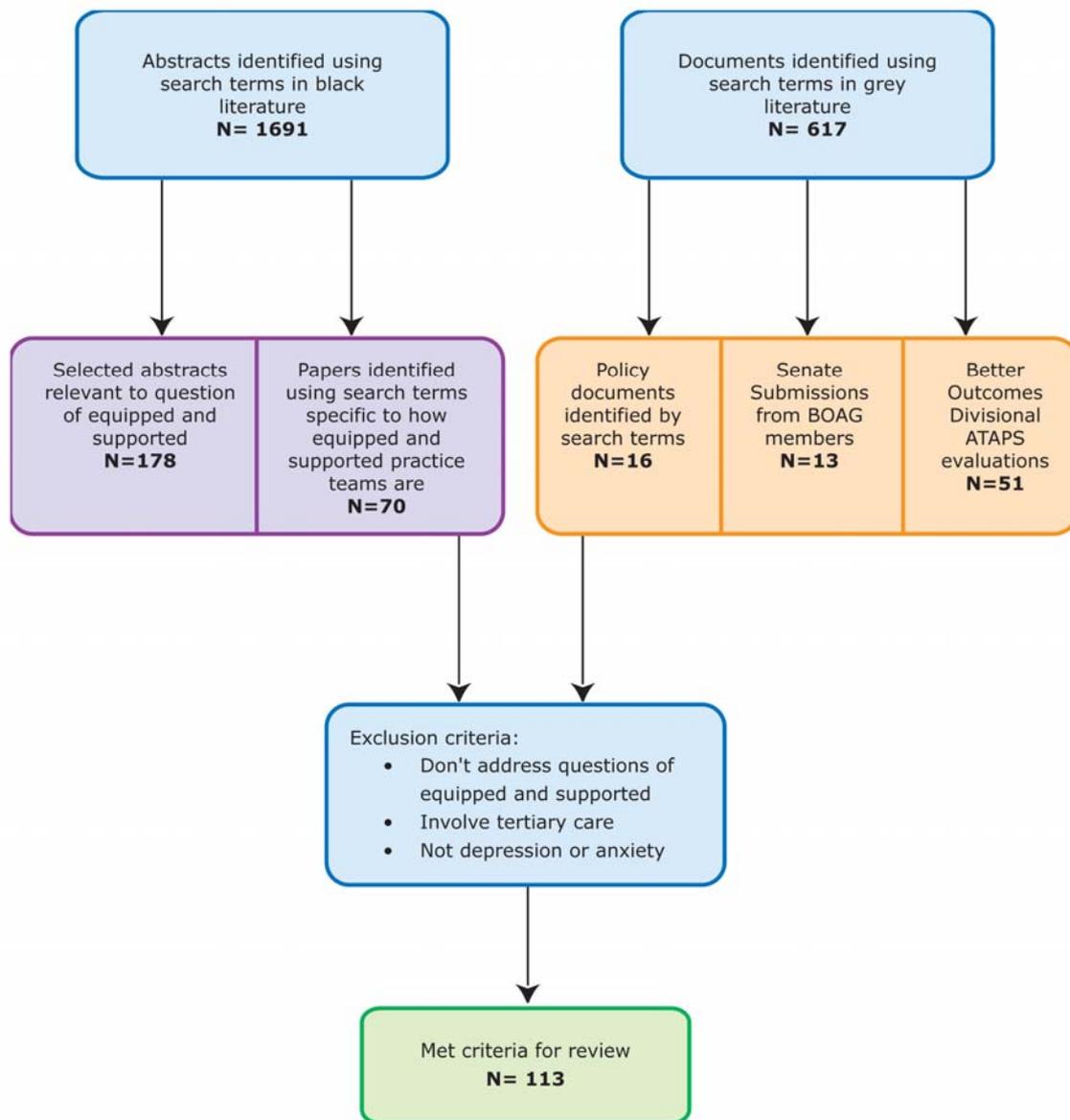
```
┌─────────────────────────┐        ┌─────────────────────────┐
│  Abstracts identified    │        │  Documents identified    │
│  using search terms in   │        │  using search terms in   │
│  black literature        │        │  grey literature         │
│  N= 1691                 │        │  N= 617                  │
└─────────────────────────┘        └─────────────────────────┘
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Figure 6. Flow chart of documents included in review for question 5

Reference to model type

On the basis of their reference to specific models and/or of their making recommendations about the types of models that should be adopted, reviewed documents were initially grouped into four categories: 41 per cent of documents made reference to specific models listed under the coding strategy, but did not recommend the adoption of any specific model(s), 16 per cent made recommendations about the adoption of a specific model(s) but did not make any initial reference to models, 24 per cent referred to existing models and recommended adoption of a specific model(s), and 17 per cent of documents failed to make any reference to specific models.

Among those documents that did refer to models, very few made clear links between specific models and their research findings or discussions on

issues about how supported and/or equipped practitioners were to deliver mental health services. Essentially, only the evaluation reports of ATAPS programs [the access to Allied Health Services component of the Better Outcomes in Mental Health Care Initiative (n=51, 45 per cent of all documents reviewed) through Divisions of General Practice made this link explicit. For example, the majority of the reports indicated that both GPs and allied health professionals believed that the introduction of the ATAPS model had significantly improved the levels of communication and collaboration between them (Alexander, 2004; Anderson, 2004; Bancroft, 2005; Central Highlands Division of General Practice, 2004; Dunbar, McNamara, & Reid, 2005; East Gippsland Division of General Practice, 2005; Greenhill, 2005; Hare, 2005; Hirning, 2004; Hunter Division of General Practice, 2004; Kohn, Morley, Pirkis, Blaski, & Burgess, 2005; Merton, 2005; B. Morley, Kohn, Perkis, Blaski, & Burgess, 2004; B Morley, Kohn, Pirkis, Blaski, & Burgess, 2005; Mornington Division of General Practice, 2004; Northern Territory Rehabilitation Service Pty Ltd, 2004; Pirkis, Blaski, Headey, Morley, & Kohn, 2003; Pirkis, Morley, Kohn, Blaski, & Burgess, 2005; Sutherland Division of General Practice, 2004; Tyson et al., 2004; Westgate Division of General Practice, 2003; Williams, 2005; Zwar, 2005).

Data from the review Tables 1-4 are reported pages 15-18 in the main report.

Summary of Findings

How equipped and supported are general practitioners, general practice teams and community mental health teams to deliver mental health care?

The review of this question found three key gaps:
1. There was a small volume of published quantitative data.
2. Much of what was published was discursive or descriptive with a haphazard reference to models.
3. There was an imbalance in the volume of published literature with a greater focus on GP needs, and much less on the needs of allied health professionals.

The literature provided three recommendations for improving how equipped and supported GPs and other allied health professionals were in primary care:

1. An increase in communication and collaboration between GPs and other health professionals.
2. The desire from GPs to have more mental health training so as to increase their confidence in delivering mental health care.
3. An increase in the use of tools by health professionals in the provision of mental health care – tools particularly for training, access to specialist services, and information technologies.

Appendix 8A: **Search terms used regarding how supported and equipped practitioners felt to deliver mental health services**

Search Strategy: Black Literature		
Stage	Data Base Used	Search Terms
Search 1 and 2	PubMed	Depression AND Chronic disease management; Self guided; Shared care; Integration; Specialist referral; Self care; Adjunctive care; Self management; Managed care; Telephone intervention; Referral; Consultation-liaison; Telecounselling; Self-help; Psychoeducation; Brief intervention
Search 3	PubMed	Depression AND • Mental Health Care • Delivery of mental health care • Physicians, Family • Education, Continuing • Attitude to health personnel • General Practitioners
Search 4	PubMed	Depression AND • Community health aides • Attitude to health personnel • Delivery of health care • Mental health
Search 5	Google	• Relevant commonwealth and state and non-government organisation policy documents

Appendix 8B: Databases searched for Grey Literature

Website Searched: Grey Literature	Search Terms
• Australian Infant Child and Family Mental Health Association • Australian Research Alliance for Children and Youth (ARACY) • Australian Network of Promotion, Prevention and Early Intervention (Auseinet) • General Practice Evaluation Program (GPEP) • Mental Health Council of Australia • National Youth Affairs Research Scheme (NYARS) • Primary Health Care Research and Information Service (PHC RIS) • Primary Mental Health Care Australian Resource Centre • Vic Health	As CMHR searches 1 and 2

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GLOSSARY

Collaborative Care – Collaborative care involves the re-engineering of care to a greater level of collaboration between the primary care physician, the patient and the specialist, by introducing support workers such as case managers; actively following up treatment; providing ready access to specialist support through joint consultation and follow up; enabling decision support through practice guidelines, treatment algorithms and computerised pharmacy records; patient education and collaboration (Gilbody, 2004).

Stepped Care - Stepped care involves offering different intensity of care according to disease severity and response to treatment. The least restrictive intervention is offered in the first instance, before "stepping up" to more intensive interventions if patients fail to improve. It offers a method of improving access and maximizing the efficiency with which interventions are given when health care resources are limited. In the case of depression, self-help might be offered before case management and drug treatment, prior to offering structured cognitive behaviour therapy (Gilbody, 2004).

CBT: Cognitive Behaviour Therapy - Cognitive behaviour therapy is a kind of psychotherapy used to treat depression, anxiety disorders, phobias, and other forms of mental disorder. It involves recognising distorted thinking and learning to replace it with more realistic substitute ideas (en.wikipedia.org/wiki/Cognitive_behavioural_therapy).

Chronic Disease Model – These systems are usually defined as the use of evidence-based guidelines, consumer self-help, education and provider education, accompanied by screening (see for example, Neumeyer-Gromen et al., 2004).

Efficacy - In general, efficacy is the ability to produce an effect, usually a specifically desired effect. For example, an efficacious vaccine has the ability to prevent or cure a specific illness. In medicine a distinction is often drawn between 'efficacy' and 'effectiveness'. Whereas efficacy may be shown in clinical trials, effectiveness is demonstrated in practice. The concept of 'self-efficacy' is an important one in the self-management of chronic diseases (en.wikipedia.org/wiki/Efficacy).

Effectiveness - is the extent to which a specific intervention, when used under ordinary circumstances, does what it is intended to do. Clinical trials that assess effectiveness are sometimes called management trials (www.va.gov/vatap/glossary.htm)

Primary Care - Primary Care is the first care a patient receives. It is often a family physician, although patients also may receive Primary Care from a nurse, a paramedic, or other types of health-care providers, depending on the situation. Managed care systems try to resolve as many health problems as possible at this level.
(www.insurance.wa.gov/consumers/glossary.asp).

Passive education programs - Passive education programs provide pamphlets, posters, audio visual aids, lectures, or information on websites to people with the purpose of educating about treatments for depression or to increase adherence to medication regimes (Merritt, in press).

Bibliotherapy - The use of a self-help book to treat a disorder.

Tele-interventions - Interventions which use the telephone to treat depression and anxiety. The telephone may be used as an adjunct to therapy or as therapy alone.