ERRATA

Page	Replace	With
p.5 line 15:	"six"	"seven"
p.29 top 2 lines:		Delete sentence
p.37 Section 3.3.1.2:	"Attitudes comprise effective, cognitive and behavioural components corresponding to the evaluation of knowledge of, and predisposition to, action in respect to the object of the attitude (Wagne, 1969)."	"Attitudes comprise 'affective, cognitive and behavioural components corresponding to the evaluation of knowledge of, and predisposition to, action in respect to the object of the attitude' (Wagner, 1969 p.2)."
p.65 6 lines from bottom:	"has that"	"that has"
p.99/100/383:	"Gange"	"Gagne"
p. 120 Second line from bottom:	"covanance"	"covariance"
p.141 line 12:	"time and recommendation"	"time and remuneration"
p.189 Table 10.1:	"13.61"	"68.88"
p.205 Table 10.7:	"34%	"37%"
	"169"	"138"
	"83"	"79"
p.252 First two lines of text:	"the 45 students enrolled in the course (Table 10.1)."	"the 35 students enrolled in the course (Table 9.1)."
p.265 line 9:	"preserver"	"persevere"
p.293 7 lines from bottom:	"(McLennan, 1998). Men had more"	"(McLennan, 1998). Whether men had more"
p.311 line 4:	"mange"	"manage"
p.396 Popham reference:	"Pretice Hall"	"Prentice Hall"

ADDENDUM

Page 40 last line:	Add before (Carney et al., 1999)

"information early in the consultation and conducts the first three minutes with less urgency, the rate of detection and diagnosis of mental illness in primary care can be improved (Goldberg et al., 1982; Goldberg et al., 1993). Doctors who have an empathetic interviewing style and ask questions about the patient's family, and problems at home, tend to detect mental illness more often (Marks, Goldberg, & Hillier, 1979). These doctors are usually older (Marks et al., 1979).

Carney et al. (1999) conducted a descriptive study using un-announced standardised patients acting the role of a 26-year-old patient with depression. Seventy seven primary care physicians participated. The study found that physicians who recognised depression asked twice as many questions about feeling and affect compared to those who did not."

p.44 Table 3.2	Replace this page with:

Table 3.2

Summary of the literature of adult patient risk factors associated with the recognition of mental illness

Author/s	Study design	Factors associated with the recognition of mental illness
(Marks et al., 1979)	Observational study of 2,098 interviews conducted by 55 general practitioners.	Being unemployed and being female were associated with an increased likelihood of detection of psychiatric illness.
(Freeling, Rao, Paykel, Sirling, & Burton, 1985)	Cross-sectional survey of 1099 patients aged 18-64 recruited from 62 GPs in the UK.	Patient characteristics associated with lack of recognition included: Patients did not look depressed. Patients did not believe they were depressed Patients experienced other feelings other than an exaggeration of misery.
(Coyne, Schwenk, & Fechner-Bates, 1995)	Descriptive study comparing family physician DSM-III-R diagnoses derived from the Structured Clinical Interview for DSM-III-R interview administered by a trained health professional; 1580 patients recruited from 50 family physicians in Michigan, USA.	Lack of demographic difference between the undetected and detected patients. 58.5% of patients were not detected if they suffered 'mild depression'. Patients who suffered depression but were not detected were about 37.5 years of age and more likely to have completed high school. Undetected patients rated themselves as less depressed, and having more energy, not feeling worn out or experiencing reduced sleep. They reported having less stress in their lives. Comorbid anxiety facilitated the detection of depression.
(McLennan, 1998)	The Australian 1997 National Survey of Mental Health and Wellbeing of Adults (SMHWB) surveyed 10,600 adults over the age of 18 years from 13,600 private dwellings.	Males were not recognised or treated.
(Britt et al., 1999)	An encounter-based study of problems managed in Australian general practice consultations	Females and patients aged 25 to 64 years with depression were likely to be treated.

Can continuing medical education in general practice psychiatry aid GPs to deal with common mental disorders? A study of the impact on doctors and their patients.

Louise McCall

GradDipClinEpi., BA., RN.

December, 2001

We should know more about the educational processes and outcomes that result from the new courses and programmes being developed in medical schools and postgraduate training.

(Wilkes & Bligh, 1999 p.1269)

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Abstract

Background

Studies in general practice settings suggest that about 25 percent of patients attending a general practitioner have a psychiatric disorder, most commonly depression and anxiety. This figure is higher than in the general community. Many of these patients appear to remain undetected by general practitioners (GPs) and relatively few are referred to mental health professionals.

The Australian National Mental Health Policy reinforces the important role provided by GPs in the mental health arena. A concern is the extensive body of literature which criticises GPs for their poor detection rates of mental illness. This is further compounded as patients detected and treated by their GP are often under-treated.

Through the review funded by the National Mental Health Strategy the Australian government has advocated for GPs to undertake a principal role in mental health care. The *Primary Care Psychiatry - The Last Frontier* outlined recommendations to assist Australian GPs detect and manage mental illness. These recommendations included continuing medical education. The University of Melbourne and Monash University collaborated to develop the Graduate Certificate in General Practice Psychiatry, a 42-week part time course delivered via distance education. This course, underpinned by adult learning theory, in particular 'andragogy', utilised experiential learning and reflective practice to facilitate learning. It sought to improve GPs' detection and management of common mental illness, predominantly depression and anxiety, by informing GP knowledge, attitudes and clinical practice. This study aimed to evaluate the impact of the course on doctor's knowledge, attitude and practices in relation to

patients with common mental disorders (predominantly depression and anxiety disorders), and on patient quality of life.

Method

A quasi-experimental, controlled before and after design was used.

The intervention group consisted of 14 GPs, enrolled in the course, who volunteered to participate and completed all data collection requirements. These GPs were matched on demographic variables with the 14 control GPs recruited from those who expressed interest in the course but did not enrol.

Impact of the Graduate Certificate in General Practice Psychiatry was measured quantitatively using a pre-post test of knowledge and attitudes and a pre-and post clinical audit. Change in doctors' knowledge of, and attitudes towards, depression and anxiety was determined via a questionnaire developed for the study and administered one week prior to the commencement of the course and in the last week of the course. The GPs in the intervention group were re-examined six months after they completed the course to determine if any changes were sustained over this time.

Patients aged 18 to 65 years of age who attended participating GPs during the second week of February 1999 (week 2) and again late September 1999 (week 30) were invited to complete the 28 item General Health Questionnaire (GHQ), MOS Short Form 36 (SF-36) and demographic profile whilst waiting to see their GP. They were also asked to complete and return a second SF-36 10 to 12 weeks later. Their consent for GP audit of their medical record and provision of anonymous summary data to the researcher was also sought.

Clinical practice, including recognition, was measured using an audit of medical records at week six and week 42. This was done on a stratified sample of 'probable cases' and 'non-cases' determined by the results of the General Health Questionnaire completed by patients. Comparison of patient questionnaires and clinical audit allowed the determination of a measurement of 'recognition of mental illness'. The clinical audit also surveyed clinical management decisions.

Differences between pre-and post measurement of knowledge, attitude and clinical practice were examined using t-tests and analysis of covariance (ANCOVA) for continual variables and Chi squared tests for categorical variables.

A qualitative phase was included to identify aspects of the course which were associated with change in knowledge, attitude or clinical behaviour. Semi-structured interviews were conducted, with six GPs, in the first two weeks of August 2000, eight months after completion of the Graduate Certificate in General Practice Psychiatry.

Results

The course had a positive impact on the intervention GPs overall knowledge post-course ($p < 0.01$) however this was not sustained 6 months later ($p = 0.12$), although the component of knowledge related to 'recognition' had improved ($p = 0.02$).

The Graduate Certificate in General Practice Psychiatry had no statistically significant impact on GP attitude post-course, however 6 months later the intervention GPs felt significantly more comfortable and confident in recognition and management of depression and anxiety than before the course ($p < 0.01$). GP attitudes about remuneration relating to the management of patients suffering these conditions did not alter.

The study showed evidence of change in the intervention GPs' documentation of some risk factors. However, there was no evidence that the Graduate Certificate in General Practice Psychiatry (GCGPP) affected change in the documentation of diagnoses, pharmacological and non-pharmacological therapy or referral for either recognised or unrecognised 'probable cases' after they had completed the course.

There was also little evidence to suggest that the course had an impact on the patients' wellbeing.

The qualitative data revealed five themes. The first theme, 'Professional development', was identified as the motivation for change. The GPs perceived they possessed inadequate knowledge, lack of confidence and insufficient skills in the context of a changing general practice environment. The second theme, 'Change in attitude and practice towards patients with depression and anxiety in general practice', revealed that the GPs' attitude towards their mentally ill patients improved as they were more comfortable with their knowledge about depression and anxiety. This resulted in increased confidence to recognise and manage their patients, which impacted on the doctor-patient relationship.

The third theme, 'Personal insight', demonstrated that the GPs perceived that they had increased insight into their own emotional issues and professional limitations, which resulted in them identifying and protecting their professional boundaries. The burden of managing patients suffering mental illness in general practice influenced their clinical practice.

The fourth theme, 'Continuing medical education', demonstrated that all the GPs interviewed saw themselves as 'life long learners' as they were intending to pursue further professional education and skills acquisition. Two GPs indicated they were more active in facilitating education for their local colleagues.

The last theme, 'Qualities of the course that contributed to change', identified aspects of the course which the GPs perceived as having an important influence on change. Undertaking a structured tertiary course with content which was relevant for their profession was identified. Adult learning and teaching principles and peer interaction to overcome isolation was identified as an important contribution for change. The results indicated that learning was influenced by their motivation to participate. They attributed changing knowledge, the course to which in turn, contributed to changes in their attitude and insight about mental illness. These aspects influenced GP patient management according to the informants.

Discussion

Very few studies included in systematic reviews include CME conducted via distance education. In keeping with the literature on effective CME this course was multifaceted. It comprised nine distinct pedagical components including printed course material, audit, audio and videotapes, role-play, case discussions, reflective journal, teleconferences and weekend workshops and was underpinned by adult learning theory.

This research provides further, albeit limited, evidence that multifaceted CME programs can change doctor's knowledge and attitude and that change in knowledge and attitude may be sustained for six months after completion of a CME program. The GPs perceived that clinical practice changed, however this was not supported by the quantitative data.

Adult learning and teaching principles, constructivism and phenomenology were recognised as relevant for the practicing doctor and accordingly contributed to their learning.

Patient quality of life improved, although it is not possible to isolate the effects of CME from the multitude of confounding variables that could influence these outcomes.

There are several limitations of this study. A randomised controlled trial was not feasible, as students enrolled in the course by choice, making randomisation impossible. Furthermore these designs require large sample sizes to detect statistically significant differences between the groups. Both of these factors prohibit the use of the randomised controlled trial as an appropriate methodology to research in a naturalistic environment. Accordingly a quasi-experimental design was used.

Other education and training undertaken by the GPs may have influenced the results of this study, which could not be assessed. For example, the control GPs may have been susceptible to cross-contamination from participation in other CME programs aimed to enhance GP knowledge and practice of general practice psychiatry.

Change in knowledge and attitude is easy to affect using CME as there is a direct link with the program. Student's motivation for participation influences what and how they will learn. However change in clinical practice may take longer to occur as these involve changes in a combination of knowledge, attitude and skills, offset by external forces which influence behaviour change, and these may not be directly related to the CME program. Change in patient outcomes is more difficult to affect using CME.

Conclusion

This study provides further evidence that multifaceted CME programs can change doctors' knowledge and attitude and that change in these areas can be sustained for six months after completion of a CME program. Change in clinical practice is more difficult to affect as this involves altering knowledge, attitudes and skills whilst addressing barriers that influence the implementation of new practices.

Continuing medical education and the medical profession alone, cannot resolve the burden of mental illness on the individual nor the community. Educational programs

may lead to change in knowledge, attitudes and some practice. However, these may not be sufficient to change patient outcomes as the conditions they suffer are influenced by biological and environmental factors that cannot be remedied by a CME program in isolation.

Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other institution. To the best of my knowledge this thesis contains no material previously published or written by another person, except where due reference is made.

███████████████████

Louise McCall

Approved by the Monash University Standing Committee on Ethics in
Research on Humans:
Approval number 98/323.

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Thanks must firstly go to the general practitioners and patients who agreed to participate in this study as they gave freely of their time. I wish to make special mention of my appreciation to those patients who completed and returned the second SF-36 forms.

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Discussions with academic colleagues at the Department of General Practice, Monash University, assisted me clarify ideas, particularly when refining the research question. In particular conversations with Associate Professor Merilyn Liddell, and Doctors Grant

Glossary of Terms

CBT	Cognitive behavioural therapy
CES-D	Centre for Epidemiolgic Studies Depression Scale
CIDI	Composite International Diagnostic Interview
CIDI-PHC	Composite International Diagnostic Interview - Primary Health Care Version
CME	Continuing medical education
CT	Cognitive therapy
DAQ	Depression Attitude Questionnaire
DSM-III-R	Diagnostic and Statistical Manual of Mental Disorders, third edition (revised)
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, fourth edition
ECA	Epidemiologic Catchment Area
GAD	Generalised anxiety disorder
GHQ	General Health Questionnaire
GCGPP	Graduate Certificate in General Practice Psychiatry
GPs	General practitioners
HAD	Hospital Anxiety and Depression scale
ICD-10	International Classification of Diseases, version 10
MAD	Mixed anxiety-depression
MAOI	Monoamine oxidase inhibitors
MDE	Major depressive episode
MOS	Medical Outcomes Study
NCS	National Comorbidity Survey
OCD	Obsessive compulsive disorder
PTSD	Post-traumatic stress disorder
QOL	Quality of life
RACGP	Royal Australian College of General Practitioners

RANZCP	Royal Australian and New Zealand College of Psychiatrists
RCT	Randomised controlled trial
RCTs	Randomised controlled trials
RIMA	Reversible inhibitor of monoamine oxidase A
SARI	Serotonin-2 antagonist/reuptake inhibitor
SF-36	Short-form 36 questionnaire
SMHWB	Survey of Mental Health and Wellbeing
SNRI	Selective noradrenaline reuptake inhibitor
SSRI	Selective serotonin reuptake inhibitor
UK	United Kingdom
USA	United States of America
WHO	World Health Organisation

Chapter 1

Introduction and overview

1.1 Prevalence and burden of mental illness

Research suggests that approximately 20 percent of adults experience a mental illness in any one year (Rey, 1992). Mental illness is one of the most common problems of developed countries with morbidity and mortality increasing annually. The burden of psychiatric conditions has been heavily under-estimated (Murray & Lopez, 1996). The Australian Commonwealth and State Governments have designated mental health as one of the six National Health Priority Areas in recognition of its social and public health importance (McLennan, 1998).

General practitioners (GPs) are increasingly being expected to undertake more responsibility for the public health of Australia, resulting in competing medical demands. Mental health is one area in which this increased pressure on GPs has been felt. The BEACH study, an Australian encounter based study, found depression was reported as the 12th most common patient reason for encounter (1.4% of reasons) and anxiety was 26th on the list of 30 common patient reported reasons for encounter (0.8% of reasons) (Britt et al., 1999). This study also found that in the past 10 years depression has risen from being the 10th to the fourth most common problem managed in Australian general practice, and accounted for 2.4 percent of total problems managed (Britt et al., 1999). Anxiety rated 14th on the list of most frequently managed problems, which equated to 1.2 percent of all problems managed in general practice. In addition there has been deinstitutionalisation of patients with chronic mental illness, an increased expansion of community care of patients with serious and acute mental illness and an apparent shortage, or at least a 'maldistribution' of, trained psychiatrists (Australian Medical

Workforce Advisory Committee, 1999). In parallel with this has been a reduced attention to high prevalence disorders such s depression and anxiety.

Studies in general practice settings suggest that about 25 percent of patients attending a general practitioner have a psychiatric disorder, most commonly depression and anxiety (Harris et al., 1996; Parker, Holmes, & Manicavasagar, 1986; Robins & Regier, 1991a). This figure is higher than in the general community. Many of these disorders appear to remain undetected by GPs and relatively few patients are referred to mental health professionals (Goldberg, 1999).

1.2   The role of the general practitioner in mental health

GPs are the major providers of primary health care services in Australia, with in excess of 105 million consultations per year being undertaken (Department of Health and Aged Care, 2000). The average Australian visits a GP 5.7 times a year (AIHW 1999), which should provide sufficient opportunity for the detection of psychological problems.

The Australian National Mental Health Policy (Department of Health Housing and Community Services, 1992) has reported the important role of GPs in managing mental disorders. However, there is an extensive body of literature criticising GPs for their poor detection rates of mental illness (Goldberg & Blackwell, 1970; Sartorius et al., 1993; Shepherd, Cooper, Brown, & Kalton, 1966). Doctor, patient and health system factors have been suggested as contributors to the poor detection rates and lack of ongoing management of mental illness in general practice (Brody & Lerman, 1990). This is further compounded as patients detected and treated by their GP are often under-treated.

GPs can influence patient outcomes, including compliance and satisfaction (May, 1992; Millar & Goldberg, 1991; Wilson, Sullivan, Hussein, & Davey Smith, 1995) although

they may feel ill equipped to do so. Continuing medical education (CME) could potentially assist GPs improve their knowledge and skills to detect and manage depression and anxiety disorders.

1.3 Continuing medical education

In 1995 Phongsavan, Ward, Oldenburg and Gordon conducted a needs assessment with GPs in New South Wales to ascertain current mental health care practices and identify educational priorities and training preferences. They identified that GPs acknowledged their role in mental health and were interested in improving their counselling and diagnostic skills but barriers impeded their ability to do so. They concluded that education must address the GP's 'learning needs, the variety and frequency of mental health problems and structural constraints under which GPs work' (Phongsavan, Ward, Oldenburg, & Gordon, 1995 p.142).

In an effort to partially address the major problems caused by lack of adequate psychiatric services, the Australian National Mental Health Strategy funded a 'review and appraisal of GPs' roles in mental health provision and service linkages with specialist mental health services as a basis for making recommendations on the education and training for general practitioners' (A report of the Joint Consultative Committee in Psychiatry, 1997 p.4). A Joint Consultative Committee in Psychiatry of the Royal Australian College of General Practitioners (RACGP) and the Royal Australian and New Zealand College of Psychiatrists (RANZCP) conducted this review. The report entitled *Primary Care Psychiatry - The Last Frontier* (A report of the Joint Consultative Committee in Psychiatry, 1997) addressed training needs at undergraduate, vocational and professional levels and made a specific recommendation regarding continuing medical education for general practitioners:

2.6.4   *There should be made available nationally standardised educational programs for general practitioners with a special interest in drug and alcohol related disorders and/or mental health. (For example those intending to undertake extensive shared care with people currently being managed by the public specialised mental health services. (p.xvi).*

As a consequence of these recommendations specific action was suggested in the report viz:

> *That the RACGP, the universities, ACRRM and the relevant special interest bodies develop broad frameworks for courses for general practitioners intending to work at a higher level in mental health. (p.xvi).*

Continuing education is an essential feature of many professions and is especially important in medicine where practitioners, who already have substantial knowledge and experience, must maintain their knowledge and skills in the rapidly changing world of medical developments.

Whilst not being undertaken specifically in general practice, evidence from systematic reviews of the effectiveness of CME suggests that short, didactic and single faceted interventions are relatively ineffective in changing behaviour. On the other hand multifaceted interventions are the most effective (Davis et al., 1999; Davis, Thomson, Oxman, & Haynes, 1995). One systematic review found that 'almost two thirds of the interventions displayed an improvement in at least one major outcome measure: 70 percent demonstrated a change in physician performance, and 48 percent of interventions aimed at health care outcomes produced a positive change' (Davis et al., 1995 p.700).

Evaluating the effectiveness of education interventions is important to funders, educators and participants alike. Evaluation is defined by Scriven (1967) as judging the worth or merit of something. 'Evaluation research' is a term used in the literature to denote any

evaluation that employs a rigorous social science research methodology, as opposed to evaluations conducted using other methods such as descriptive studies (Worthen, Sanders, & Fitzpatrick, 1997). The term *'evaluation'* is used in this thesis to refer to all evaluations, regardless of their methodology.

1.4 The present study

On the basis of the above, and in particular in response to the Australian National Mental Health Strategy Project report: *Primary Care Psychiatry - The Last Frontier* (1997), Monash University's Department of General Practice in association with the Department of Psychological Medicine at Monash University and the University of Melbourne's Department of Psychiatry and Department of Public Health and Community Medicine developed a 12-month part-time distance education Graduate Certificate in General Practice Psychiatry (GCGPP) which commenced in 1998.

This study sought to evaluate those components of the course dealing with common mental disorders, predominantly depression and anxiety, and their management. It had six aims and these were:

1.   To examine whether the GCGPP was associated with:

- a change in knowledge of, and attitudes towards the common mental disorders (predominantly depression and anxiety)
- a change in recognition and diagnosis of the common mental disorders (depression and anxiety)
- a change in the documentation of risk factors for the common mental disorders (predominantly depression and anxiety)
- a change in GP management of the common mental disorders (predominantly depression and anxiety)

- improved outcomes for patients suffering these disorders.

2. To examine whether change in GP knowledge and attitude was sustained.
3. To explore what aspects of the course were associated with change in knowledge, attitude or clinical behaviour.

Evaluation of the GCGPP was important, not only to assess the effectiveness of the course in this population of GPs, but also contributing to the knowledge of general effectiveness of similar courses in similar situations.

1.5   Thesis outline

Before the study is described this thesis begins with a definition of depression and anxiety disorders, the most common mental disorders in the community and in general practice, and explores the literature on the prevalence and burden of these conditions, and their treatment and patient outcomes (Chapter 2). Chapter 3 extends this to an examination of depression and anxiety disorders in primary care, including prevalence, barriers to recognition and interventions. Chapter 4 defines and explores CME, particularly adult learning theories applicable to GPs undertaking postgraduate education. Evidence of the effectiveness of CME in effecting change, and in particular in enhancing doctors' recognition and management of patients with depression and anxiety disorders is also examined. The GCGPP, the course being studied, is detailed in Chapter 5.

Chapter 6 outlines the aims and objectives of the study and Chapter 7 details the methodology. Instrument development is described in Chapter 8. Chapters 9 details the characteristics of the GP and patient samples, Chapter 10 explores the quantitative data related to change in GP knowledge, attitude and practice and Chapter 11 summarises the evidence related to change in patients. Chapter 12 deals with the analysis of qualitative data.

1.6   Summary

GPs are increasingly expected to detect and manage patients suffering common mental disorders, predominantly depression and anxiety, although they lack the knowledge and skills to do so. The report of the Joint Consultative Committee in Psychiatry identifies CME as one strategy to help overcome these problems. However evidence of the effectiveness of CME is not altogether clear. This study was undertaken, using a quasi-experimental, pre-post-test design, to explore the impact of the GCGPP on doctors' knowledge, attitude and practices in relation to patients with common mental disorders (predominantly depression and anxiety disorders), and on patient quality of life and to determine some of those aspects of the course that influenced change.

Chapter 2

Depression and anxiety disorders

As previously outlined, the GCGPP was designed to assist GPs in the detection and management of patients suffering common mental disorders. The course curriculum focused on high prevalence conditions including depression and anxiety disorders. In this chapter depression and anxiety disorders are defined, and the epidemiological literature on prevalence, burden, treatment and patient outcomes is reviewed. This is not meant to be a comprehensive review of the subject, but to be sufficient to provide a basis for the conduct of the research.

2.1   Prevalence

This section will summarise the results of three large and influential epidemiological studies – two from North America, and one from Australia.

The Epidemiological Catchment Area (ECA) study interviewed over 18,500 adults (over 18 years of age) from institutional and non-institutional settings, across five communities in the USA. This study found that 32 percent of American adults had experienced one or more psychiatric conditions at some time in their life (Robins & Regier, 1991b). Nearly half (47.2%) of those meeting lifetime criteria for major depression also met the criteria for a comorbid anxiety disorder (Robins & Regier, 1991b). Women had higher life time prevalence rates of major depression (8.7%) and a higher 12-month prevalence for generalised anxiety disorders (4.95%) than men while men were found to have high rates of alcohol abuse and antisocial personality (Robins & Regier, 1991b).

The USA National Comorbidity Survey (NCS) study included more than 8,000 non-institutionalised people (aged 15 years and over). This study found that the most common

psychiatric disorders were major depressive episode, alcohol dependence, social phobia, and simple phobia. More than 17 percent of respondents had a history of a major depressive episode in their lifetime (12% for men, 22% for women) and more than 10 percent had had an episode in the last 12 months (see Table 2.1) (Kessler et al., 1994). Results of the NCS study also indicated that 24.9 percent of respondents had a lifetime prevalence, and 17.2 percent a 12-month prevalence, for any anxiety disorder. The average age of onset was 15 years and the conditions tended to follow a chronic course (Kessler, Foster, Saunders, & Stang, 1995). This USA study also identified that 71 percent of lifetime disorders were comorbid in those aged between 15 and 54 years (Kessler et al., 1994).

The Australian 1997 National Survey of Mental Health and Wellbeing of Adults (SMHWB) surveyed 10,600 adults over the age of 18 years from 13,600 private dwellings. Almost one in five of those surveyed (18%) met criteria for a mental disorder at some time during the preceding 12 months of the survey (McLennan, 1998). There was a high prevalence (27%) of mental illness among young adults aged 18 to 24 years. Men and women had similar prevalence rates of mental disorders overall, although women over 35 years of age were at more risk of anxiety disorders than men (12% compared to 7%). Men had more substance abuse disorders than women. The results are similar to findings in the American studies. The highest rate of anxiety disorders (16%) was observed in women aged 45 to 54 years (in contrast to men, whose prevalence for these disorders varied little with age and declined after age 55). Unemployed women were also found to have high rates of anxiety disorders (20%), and five percent of people suffered depression with the prevalence higher in females (6.8%) (McLennan, 1998).

The SMHWB also investigated comorbidity and found that nearly one in three of those who had an anxiety disorder also had a depressive disorder, while one in five also had a substance abuse disorder. Of those who had anxiety disorders, 8.7 percent also

experienced combined depression and substance use problems, although this group represents less than one percent of the Australian adult population (McLennan, 1998). Women were found to have anxiety and affective disorders in combination (22%), whereas men were more likely to have anxiety and substance abuse disorders (13%). Fifty one percent of women suffering anxiety disorders reported physical conditions compared to 47 percent of males (McLennan, 1998).

The results of the ECA, NCS and SMHWB 12-month prevalence rates for depression and the most common anxiety disorders are found in Table 2.1.

Table 2.1

12-month prevalence of depressive and anxiety disorders (Kessler et al., 1994; McLennan, 1998; Robins & Regier, 1991b)

Disorder	NCS %	ECA %	SMHWB %
Major depressive episode	10.3	5.0	5.1
Dysthymia	2.5	5.4	1.1
Any anxiety disorder	17.2	12.6	9.7
Panic disorder	2.3	1.3	1.3
Simple/specific phobia	8.8	10.9	NA
Generalised anxiety disorder	3.1	3.6	3.1
Social phobia	7.9	1.5	2.7
Obsessive compulsive disorder	1.6	2.1	0.4
Agoraphobia without panic disorder	2.8	4.2	1.1

NA= data not available

2.2   Depression

Depression can refer to a number of clinical entities (Goldberg, 1988), based on severity and clinical course, including major depression, dysthymia, adjustment disorder with depressed mood, or depression secondary to a medical disorder (Goldberg, 1995b). Normal depression includes sadness and normal grief reactions. These differ from pathological depression, which include adjustment disorders and major depressive episode. Although there are several classification systems in use, the *Diagnostic and*

Statistical Manual of Mental Disorders, fourth edition (DSM-IV) is used here to define major depressive episode, dysthymia and adjustment disorders.

2.2.1   Major depressive episode

The DSM-IV defines major depressive episode (MDE) as a 'period of two or more weeks in which there is a persistent and pervasive depressed mood or the loss of interest or pleasure in nearly all activities' (American Psychiatric Association, 1994 p.320). The individual must also experience at last three or four additional symptoms lasting for at least two weeks. These may include: changes in appetite or weight, sleep and psychomotor activity; decreased energy; feelings of worthlessness or guilt; difficulty thinking or concentrating, or making decisions; or recurrent thoughts of death or suicidal ideation, plans or attempts (American Psychiatric Association, 1994). As well as symptoms of depressive disorder, to consider MDE there must be accompanying distress or impaired social, occupational or other important area of functioning (American Psychiatric Association, 1994).

Major depression is a remitting and relapsing condition (Keller, 1994).

2.2.2   Dysthymia

This condition refers to a low-grade chronic depression. The DSM-IV definition of dysthymic disorder is 'chronically depressed mood that occurs for most of the day more days than not for at least 2 years' (p.345).

The sufferer will also experience at least two of the following symptoms: poor appetite or over eating; insomnia or hypersomnia; low energy or fatigue; low self-esteem; poor concentration or difficulty making decisions; and feelings of hopelessness (American Psychiatric Association, 1994).

Despite being considered of lower intensity than major depression, dysthymia produces significant disability because of its chronic and persistent course (Keller, 1994).

2.2.3   Adjustment disorder with depressed mood

Adjustment disorder relates to 'clinically significant emotional or behavioural symptoms in response to an identifiable psychosocial stressor or stressors' (American Psychiatric Association, 1994 p.623). Symptoms (in this case, depression) develop within three months after the onset of the stressor. Distress is determined by the clinician to be in 'excess of what would be expected given the nature of the stressor, or by significant impairment in social or occupational (academic) functioning' (American Psychiatric Association, 1994 p.623).

Stressors may be a single event or multiple. They may be recurrent or continuous. Distress usually resolves within six months of cessation of a single stressor but may persist longer where the stress is chronic or recurring (American Psychiatric Association, 1994).

2.3   Anxiety

Anxiety is an affect with both a psychological and a physical component. Generally this is an unpleasant emotional state accompanied by physiological arousal and the cognitive elements of apprehension, and a sense of impending disaster.

2.3.1   Natural versus pathological anxiety

Anxiety is a universal experience. People differ in their ability to cope with feelings of anxiety and the situations that cause these feelings. At times it may be considered natural and positive, preparing a person for anticipated dangers (Bloch & Singh, 1994). At

other times it may exceed normal limits in intensity, duration and appropriateness to the stimulus or event and cause distress and disability. Anxiety may present as fearfulness, behaviour marked by restlessness and avoidance of situations, insomnia, excessive preoccupation with thoughts about insecurity, and a range of somatic symptoms which can include muscular tension, hyperventilation which may lead to paraesthesia and faintness, and symptoms of overactivity of the nervous system. The concept that anxiety and associated arousal may have a positive effect in small amounts, but cause disability when excessive is presented graphically in the Yerkes-Dodson curve (Figure 2.1).
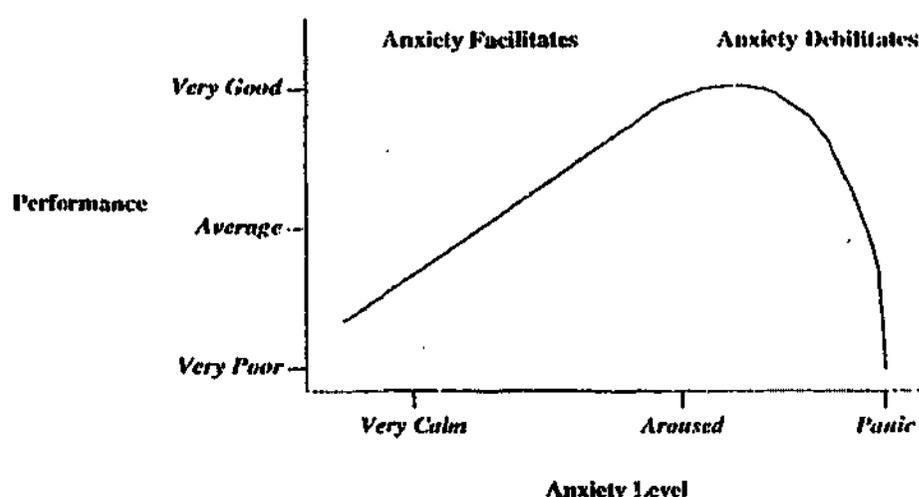
Figure 2.1
Yerkes-Dodson effect (Andrews, Stewart, Morris-Yates, Holt, & Henderson, 1990 p.146)

Anxiety may occur as a feature of other psychiatric or medical conditions. As previously described, depression and anxiety may present as comorbid conditions (Bloch & Singh, 1994; McLennan, 1998). Studies have shown that comorbidity with depression is common in anxiety in patients presenting to primary care facilities (Fifer et al., 1994; Schulberg et al., 1995; Shear, Sculberg, & Madonia, 1994).

Symptoms of anxiety are often found in association with mood disorders, somatoform disorders (a history of multiple physical complaints), and substance abuse disorders.

While everyone experiences anxiety, problems occur when anxiety levels rise unrelated to any stimuli or are prolonged or exaggerated when a stimulus is present, or cause undue distress or disability. This is termed 'pathological anxiety'.

2.3.2   State versus trait anxiety

Another distinction made is between state and trait anxiety. State anxiety is anxiety in the present, occuring perhaps in a specific situation but not present all the time. Trait anxiety is almost always present, implying it is a personality trait. People with high levels of trait anxiety will be more likely to experience severe episodic anxiety as well, and are also more prone to depression than others. State anxiety is characterised by feelings of apprehension and tension in response to circumstances often perceived as threatening or dangerous. It is accompanied by activation of the autonomic nervous system (Spielberger, 1966). Ellen, Norman & Burrows (1997) classifies this response in cognitive, somatic and psychological terms, as described in Table 2.2.

Table 2.2

Signs and symptoms of anxiety (Ellen et al., 1997)

Cognitive	
Fear of dying or going mad	
Decreased attention and concentration	

Somatic	
Cardiovascular:	palpitations, chest pain, tachycardia, flushing
Respiratory:	hyperventilation, shortness of breath
Neurological:	dizziness, headache, paraesthesia, vertigo
Gastrointestinal:	choking, dry mouth, nausea, vomiting, diarrhoea
Musculoskeletal:	muscle ache and tension, restlessness

Psychological
Derealisation, depersonalisation, speeding or slowing of thoughts, distractibility, irritability, insomnia, vivid dreams

Some people experience chronic low grade anxiety, and this is sometimes known as trait anxiety. The result is chronic arousal and hypervigilance as well as recurring signs

and symptoms described in Table 2.2. At some point (see Figure 2.1), both state and trait anxiety may increase in severity and warrant consideration as a 'disorder'.

2.4   Anxiety disorders

These are a group of conditions characterised by the presence of excessive and/or persistent anxiety levels. Clinical problems with anxiety occur when the level of anxiety seems unrelated to any threat, or is excessive in reaction to the seriousness of the threat, or causes distress or disability. DSM -IV definitions have been used focusing on panic disorder, generalised anxiety disorder and adjustment disorder, as these are more prevalent and thus most relevant to general practice.

2.4.1   Panic disorder

A panic attack is a discrete period in which there is the sudden onset of intense apprehension, fearfulness, or terror, associated with feelings of impending doom (American Psychiatric Association, 1994). It is accompanied by autonomic arousal and physical symptoms similar to those of a heart attack (Gelder M, Gath D, & Mayou R, 1991). Panic disorder is a syndrome in which people experience panic attacks, occuring spontaneously and with some regularity. As these attacks are unpredictable, they often lead to persisting low grade anxiety (anxiety about haveing a panic attack) and avoidance of going into public places where one might not feel safe (for fear of having a panic attack). Panic attacks also occur in other anxiety disorders, such as phobias and post traumatic stress disorder.

2.4.2   Generalised anxiety disorder

Generalised anxiety disorder (GAD) is characterised by persistent and excessive anxiety and worry about every day activities and problems (American Psychiatric Association,

1994). Sufferers are constantly worried over trivial matters, being fearful, and anticipating the worst. It is a pathological form of trait anxiety. Unlike other anxiety disorders, people with GAD do not typically avoid situations as a result of their anxiety (Bloch & Singh, 1994).

2.4.3 Adjustment disorder with anxious mood

Adjustment disorder is characterised by 'clinically significant emotional or behavioural symptoms in response to an identified psychosocial stressor' (American Psychiatric Association, 1994 p.623). Symptoms of adjustment disorder with anxious mood feature 'nervousness, worry or jitteriness and develop within three months after the onset of the stressor' (American Psychiatric Association, 1994 p.624). As previously detailed in 'Adjustment disorder with depressed mood' (see section 2.2.3) an adjustment disorder is expected to recover within a few months of cessation of the stressor.

2.4.4 Phobias

Phobia literally means 'fear of...'. Three categories of phobias are defined in the DSM-IV. Specific phobia is characterised by significant anxiety resulting from exposure to a feared object or situation (p.393). Social phobia is clinically significant anxiety provoked by exposure to social or performance situations (p.393). Agoraphobia is a fear of 'being in places or situations from which escape might be difficult or in which help may not be available in the event of having a panic attack or panic-like symptoms' (p.396). These phobias often result in secondary avoidance of the feared situation.

2.4.5 Other anxiety disorders

Obsessive-compulsive disorder (OCD) is characterised by obsessions (which cause marked anxiety or distress) and/or compulsions which serve to neutralise the anxiety

(American Psychiatric Association, 1994). Sufferers of OCD are plagued by persistent, unwelcome thoughts or images, or by the urgent need to engage in certain rituals.

Post-traumatic stress disorder (PTSD) is a debilitating condition that follows a terrifying event such as kidnapping, serious accidents such as car or train wrecks, natural disasters such as floods or earthquakes, violent attacks such as rape, or torture, or being held captive. This disorder is characterised by the re-experiencing of the specific traumatic event accompanied by symptoms of increased arousal and avoidance of stimuli associated with the trauma (American Psychiatric Association, 1994). Not every traumatised person develops full-blown PTSD, or experiences PTSD at all. PTSD is diagnosed only if the symptoms last more than one month.

Other anxiety disorders have been classified in the DSM-IV. However they are uncommon and not relevant to this study.

2.5   Coexisting depression and anxiety disorders

Epidemiological studies conducted since 1980 have consistently demonstrated, on the basis of standardised diagnostic assessments, that there is a substantial overlap between different types of anxiety and depressive disorders. Anxiety disorders have high rates of comorbidity with depression (Sherbourne, Jackson, Meridth, Camp, & Well, 1996; Wittchen & Essau, 1993) and anxiety is a common symptom (affecting 90%) of all depressed patients (Kaplan & Saddock, 1998). Traditionally in these cases anxiety has been understood as part of the depressive illness, although there is now debate on whether they should be considered as coincidental anxiety and depression states (Andrews et al., 1990; Tyrer, 1989) or as separate mixed anxiety and depression (American Psychiatric Association, 1994). The current literature discusses this issue primarily within the concept of comorbidity and there are controversies about the existence of a separate disorder of mixed anxiety-depression (MAD) (Wittchen & Essau, 1993). Regardless of the way

comorbidity is conceptualised, Australian epidemiological evidence shows that almost 40 percent of people with depression also have another disorders (anxiety disorder and substance abuse) and vice versa (McLennan, 1998).

2.6   The burden of depression and anxiety disorders

The economic and personal costs of mental illness are major social and public health issues (McLennan, 1998 p.1).

The Global Burden of Disease study confirmed that the burden of psychiatric conditions had been underestimated for many years (Murray & Lopez, 1996). Of the 10 leading causes of disability worldwide in 1990, measured in years lived with a disability, five were psychiatric conditions including major depression, alcohol use, bipolar disorder, schizophrenia and OCD. Unipolar major depression affected a reported 50.8 million people and accounted for 10.7 percent of the world's disability. A reported 10 million people disabled by OCD accounted for 2.2 percent of the world's disability in 1990. These figures were highest in the world's established market economies.

By the year 2020 depression will account for the second highest global burden of disease (Murray & Lopez, 1996). The disability engendered by depressive disorders alone outweighs that associated with chronic physical disorders such as diabetes mellitus, arthritis, angina pectoris or back problems (Wells et al., 1989).

While psychiatric conditions are directly responsible for approximately one percent of deaths, they account for more than 11 percent of disease burden worldwide (Murray & Lopez, 1996). For women aged between 15 and 44, suicide is second only to tuberculosis as a cause of death. It is anticipated that approximately 20 percent of all suicides are anxiety disorder related (Murray & Lopez, 1996). Lifetime rates of suicide attempts for people with major depression are 7.9 percent, and when combined with anxiety disorders

increases to 19.5 percent (Johnson, Weissman, & Klerman, 1990). This is disturbing as people suffering anxiety disorders (and not depression) infrequently express thoughts of ending their lives (Noyes, 1991). This is of clinical importance as those at risk must be identified and managed appropriately to reduce the number of suicides and suicide attempts.

Studies have shown that psychiatric disorders have substantial personal costs, in terms of functioning and quality of life, for the individuals who experience them and also for their families (Wells et al., 1989; Wohlfarth, van der Brink, Ormel, Koeter, & Oldehinkel, 1993).

The direct and indirect costs of anxiety and depression both to the health care system and the community is immense (Montaro, 1994). The direct cost of treating depression in Australia is estimated to be more than $500 million per year (Australian Institute of Health and Welfare, 1998).

Nearly 30 percent of those suffering panic disorder in the ECA study had contact with the general medical system for emotional, alcohol or drug related problems in the previous six months. Sufferers of anxiety disorders, particularly panic, were more likely to use emergency room facilities (3.5%), general practitioners (29%) and specialist mental health services (33%) (Leon, Portera & Weissman, 1995). Similar results were found in Australia where 28 percent of people with anxiety used services for mental health problems (McLennan, 1998).

Furthermore, anxiety disorders are often only diagnosed after physical diseases have been excluded – following expensive laboratory investigations, imaging and specialist referrals

Financial dependence is higher in sufferers of anxiety disorders, particularly for males with panic (25%), phobias (13%) or OCD (18%). These people are more likely to be chronically unemployed (for more than five years) and receiving social security or disability benefits (Leon, Portera, & Weissman, 1995).

Patients suffering anxiety-depression have high levels of severity and disability, including significant social and vocational impairment (Roy-Byrne, 1996; Weiller, Bisserbe, Maier, & Lecrubier, 1998), high medical care utilisation (Roy-Byrne, 1996; Simon, Ormel, VonKorff, & Barlow, 1995), a tendency to somatise their distress (Weiller et al., 1998), and are at increased risk for more severe psychiatric disorders when stressed (Katon & Roy-Byrne, 1991).

The results of the SMHWB study also found that people suffering a combination of mental disorders (65%) were higher users of health care services compared to those suffering from anxiety disorders alone (28%). In the 12 month period during 1996 and 1997, GPs saw 29 percent of these people while 34 percent sought help from various others, such as psychiatrists, psychologists, other mental or health professionals. The corollary of this is that 62 percent did not seek any help from health services (McLennan, 1998). This raises another issue - of public health beliefs and attitudes - which is not going to be addressed here. However, GPs can have an impact on the burden of anxiety disorders and depression in the community if these disorders are detected and managed appropriately. The social, psychological and financial burden of these disorders may therefore be substantially diminished.

2.7   Management of depression and anxiety disorders

There is no 'gold standard' treatment for depression and anxiety disorders in Australian general practice. At present there are no official evidence-based treatment guidelines for the management of adults, aged 18 to 65 years, suffering anxiety disorders or

depression in primary care. However, Khunti (1998) identified five 'must do' criteria and two 'should do' criteria to assist GPs managing depression. These include:

'Must do' criteria

- *the records show that the diagnosis of depression is correct*
- *the records show that at diagnosis the patient has been assessed for risk of suicide.*
- *patients with 'major depression' are treated with antidepressants and/or cognitive therapy.*
- *antidepressants must be prescribed at therapeutic doses.*
- *drug treatment must be continued for at least four months after the episode of depression has resolved (p.30).*

'Should do'

- *after commencement of treatment, the patient should be reviewed within three weeks, and the risk of suicide re-assessed.*
- *patients who have responded fully in the acute phase of treatment are seen at least once every month during the maintenance of treatment (p.30).*

Although anxiety disorders may have some specific treatment options, or combinations of therapies, many treatment options are common to various disorders. The summary of management options for depression and anxiety disorders presented here is based on a literature review of general practice refereed journals. Psychiatrists frequently author the articles.

2.7.1   Diagnosis

In order to treat any condition a diagnosis should be made although GPs frequently treat emotional distress and mental illness symptomatically. Callahan (1998) found

that 19 percent of patients reported significant emotional distress during the previous four weeks and 18 percent of these patients received a 'billing diagnosis' of depression or anxiety. In order to detect these conditions a complete physical and psychological history should be taken, and underlying physical illness should be diagnosed by conducting appropriate investigations. The severity and disability of the anxiety disorder or depression should also be determined, as should secondary complications such as substance abuse or other social or relationship problems. Suicide risk should also be assessed (Khunti et al., 1998).

2.7.2   Reassurance, education and explanation

Reassurance should be given that symptoms do not indicate that the person will die or 'go mad', together with education about what the disorder is, how symptoms are produced and treatment options (Bloch & Singh, 1994). It is important that the person suffering the physical symptoms of depression and/or anxiety disorders understand that these are not a sign of a serious physical condition.

2.7.3   Behavioural therapies

2.7.3.1   Relaxation therapy, stress management

Relaxation therapy can be beneficial in the management of depression and anxiety disorders as it teaches people how to recognise tension, whether this be muscular, emotional or psychological, and to cope with this in daily situations.

Controlled breathing can benefit sufferers of anxiety disorders as it may provide them with a sense of control over their symptoms, particularly hyperventilation. Controlled breathing can be taught, focusing on reducing the rate (10 breath/min) and avoiding shallow breathing (Bloch & Singh, 1994).

Many patients can obtain rapid, short-term relief of anxiety through the use of simple, meditative techniques (Gruber, 1977). Five techniques have been identified that can be taught by family practitioners. These include physical self-support, attending to unpleasant feelings, listening to thoughts, listening to sounds, and paying attention to one's breathing. These techniques are 'easy to learn, innocuous, and well accepted by most patients' (Gruber, 1977 p.641).

2.7.3.2 Assertiveness and social skills training

In some instances assertiveness or social skills training may be helpful. Rehearsal and role-playing are forms of modelling where the patient performs the actions they want to learn, while the therapist watches and corrects them. In role-playing the therapist and patient may exchange parts. Providing positive reinforcement to the patient displaying appropriate behaviour is essential to the success of these modes of therapy. These techniques may be useful for people who may not be able to communicate their thoughts, feelings and needs very well.

2.7.3.3 Systematic desensitisation

Systematic desensitisation such as in-vivo exposure may be necessary to overcome avoidance behaviour. The patient and therapist construct a hierarchy of feared situations, and the patient is encouraged to confront them in a graded way (Moorey, 1996). Real life exposure is more effective rather than imagined episodes (Emmelkamp & Wessels, 1975). A therapist on a one-to-one situation or in a group setting may be used to undertake this.

2.7.4   Psychotherapy and counselling

There are various forms of psychotherapy, although they all have some common goals. Frank (1979) identified three of these including 'enabling a person to satisfy their legitimate needs for affection, recognition and sense of mastery through helping them to correct the mal-adaptive attitudes, emotions and behaviour that impede the attainment of such satisfaction' (p.5). In all forms of psychotherapy a therapist attempts to assist the patient overcome their emotional problems through talking and listening.

Psychotherapy with or without pharmacotherapy is effective in the treatment of depression (Kaplan & Saddock, 1998).

2.7.4.1   Problem solving

Structured problem solving builds on the ideas that patients, previously helpless and unable to solve their difficulties, could learn ways of approaching problems that would enable them to become more effective and eventually function 'as their own therapist' (D'Zurilla & Goldfried, 1971). There are several steps involved in this problem solving approach which include identifying the issue, looking at possible solutions, evaluating these and choosing the best alternative, implementing this and reviewing the outcome (Egan, 1998).

2.7.4.2   Cognitive therapy

The purpose of Cognitive Therapy (CT) is to make patients aware of their thoughts, and reasoning, and to develop new ways of thinking, adjusting and practicing these. Traditionally goals are defined and procedures established at the outset. Cognitive restructuring is one aspect of CT which can be used to identify and confront negative thought patterns that lead to depression and anxiety attacks, and to change these in

order to develop a rational thought pattern (Andrews, Crino, Lampe, Hunt, & Page, 1997).

2.7.4.3   Interpersonal and other therapies

Interpersonal therapy is a structured therapy that focuses particularly on the interpersonal issues associated with life crises, such as grief, role transition and relationship disputes (Klerman, Weissman, Rouasville, & Schevon, 1984). Other forms of psychotherapy include psychodynamic and anxiety provoking therapy. This last group of therapies is not frequently practiced by GPs and is the domain of psychiatrist and specialist psychotherapists. Short-term interpersonal therapy has been shown to be effective in the treatment of depression (Elkin et al., 1989) and has been adapted for primary care settings (Weissman & Klerman, 1993).

2.7.5   **Pharmacological treatment**

Drug treatment is often prescribed for those suffering more severe disorders, usually in combination with education, reassurance and psychotherapy. Drug selection should take into consideration the side effects profile to promote patient compliance (Goldberg, 1995b), and any other medication that the patient is taking as these may cause drug interactions (Kaplan & Saddock, 1998).

Major depression and some anxiety disorders such as panic, PTSD and OCD can be treated with a number of antidepressant drugs most commonly tricyclics (such as imipramine), or serotonin reuptake inhibitors (SSRIs). However monoamine oxidase inhibitors (MAOIs) may also be used. The latter class of drugs have dietary restrictions, because of major drug interactions, thus foods containing tyramine such as vegemite and cheese must be avoided (Kaplan & Saddock, 1998). Newer MAOIs such as

moclobemide do not have such problems and may be used for the treatment of anxiety disorders.

Benzodiazepines have been found useful for GAD, panic and PTSD. These drug are quick to act and have anxiolytic functions, however there is some debate as to whether they are habit forming (Michelini, Cassano, Frare, & Perugi, 1996). Thus they should be used with caution. There is also evidence that benzodiazepines may also improve depressive symptoms of comorbid anxiety conditions, although they are not considered appropriate for the long term treatment of depression (Kuzcl, 1996).

Beta-blockers such as propranolol are useful in the treatment of autonomic symptoms (tachycardia, tremor) of anxiety disorders.

It is vital that patients are treated with adequate doses of drugs and that maintenance therapy is continued for appropriate timeframes to prevent or minimise recurrence or relapse of these conditions. The research shows that many patients are treated with subtherapeutic doses, and for insufficient periods (Katon et al., 1997).

2.7.6   Electro convulsive therapy

Electro convulsive therapy (ECT) is used for severely depressed patients who do not respond to other forms of therapy. Specialist referral to a psychiatrist is necessary to enable patients to access this therapy.

2.7.7   Referral

Referral to a psychiatrist may be indicated when the diagnosis is unclear, the depression or anxiety disorder is severe, there is a high suicide risk, complications are either causing or exacerbating the problem, there is comorbidity, previous treatment has been difficult,

or when the general practice treatment has failed to improve the condition (Ellen et al., 1997).

2.8   Summary

Depression and anxiety disorders are highly prevalent, chronic conditions that impose significant costs on the individual and society. However, an important finding in the Australian (SMHWB) study was that many (45.1%) people with depression and the majority with anxiety (79.4%) are not being treated, and that majority of those that are (56.3%) receive their treatment from GPs (McLennan, 1998). The next chapter explores the subject of depression and anxiety pertaining to its presentations and management in primary care.

Chapter 3

Depression and anxiety disorders in primary care

Depressive disorder is the single most common psychiatric condition both in the community and in the GP's surgery (Goldberg & Bridges, 1985). The 12-month prevalence of MDE and dysthymia has been estimated to be 12 percent and the prevalence of anxiety disorders has been estimated to be 17 percent in primary care (Kessler et al., 1994; McLennan, 1998; Robins, Helzer, Croughan, & Ratcliff, 1981). Most episodes of depression and anxiety the - 'common mental disorders' - are contained and managed in primary care (Shepherd et al., 1966), yet less than half of these episodes are identified in the consultation (Goldberg & Huxley, 1992). This chapter reviews the literature on prevalence, barriers to recognition, and interventions in primary care.

3.1   Prevalence

Tiemans, Ormel, and Simon, (1996) conducted a study in six primary care practices in The Netherlands. One thousand, two hundred and seventy one (1271), consecutive adult patients aged 18 to 65 years, completed a screening instrument for depression and anxiety, the twelve-item General Health Questionnaire (GHQ) (Goldberg & Williams, 1991) while waiting to see the doctor. A stratified sample of 340 were given a structured diagnostic interview using the Composite International Diagnostic Interview (CIDI) (World Health Organisation, 1990). The point prevalence of having at least one definite *International Classification of Diseases, version 10 (ICD-10)* mental disorder was approximately 20 percent. Depressive disorders were the most prevalent (15%) and anxiety disorders accounted for approximately 10 percent. These results are similar to the community based prevalence studies outlined in Chapter 2.

That individuals with these and other mental disorders present for treatment at primary care facilities and are frequently not recognised.

3.2   Recognition

Recognition of patients with mental disorders is central to the management of these conditions and primary care providers consider this to be their responsibility (Shear & Schulberg, 1995).

Evidence from several studies showing that GPs do not detect many patients with psychiatric disorders is reviewed here. Goldberg and Bridges (1987) conducted a study comparing the evaluation of GPs against the 28-item GHQ in the detection of psychiatric disorder in primary care patients. Consecutive attenders were asked to complete the GHQ prior to seeing the doctor. The GPs were asked to complete an 'encounter form' for those patients presenting with a 'new' illness, defined as 'any complaint for which help had not been sought in the previous 12 months' (Goldberg & Bridges, 1987 p.15).

The encounter form asked the doctor to rate the patient on combinations of physical and psychological illness. A clinical interview (used as the 'gold standard') of a stratified sample of 283 patients, drawn from a sample of 590 consecutive new presentations seen in general practices in the Manchester area of the UK, found that 'GPs had fewer false positives than the questionnaire, but were much more likely to miss psychiatric cases' (Goldberg & Bridges, 1987 p.15).

Another study explored the prevalence of different anxiety disorders in 3765 patients across five European primary care settings (Weiller et al., 1998). The 12-item GHQ was given to consecutive attenders aged between 18 and 65 years. A stratified sample was interviewed one week later using the CIDI. Anxiety-related problems were reported as the main reason for contact by approximately five percent of patients. Of these 77.8

percent were identified by the CIDI as having psychiatric conditions, including GAD (22.2%) and other conditions (36.8%), primarily depression (Weiller et al., 1998). This study affirmed the gender difference pertaining to anxiety disorders found in the community prevalence studies outlined previously.

Tiemens, VonKorff, and Lin, (1999b) conducted a study using two stratified random samples of primary care patients in Seattle, USA (N = 373) and Groningen, The Netherlands (N = 340) to determine the recognition of depressive illness and the differentiating levels of disagreement between a primary care physician's diagnosis and a standardized research diagnosis. This was done using the Composite International Diagnostic Interview - Primary Health Care Version (CIDI-PHC). Three levels of disagreement between physician and CIDI diagnosis were distinguished:

- complete disagreement about the presence of psychiatric symptoms
- disagreement over severity of recognised psychological illness
- disagreement over the specific psychiatric diagnosis among those given a diagnosis (misdiagnosed or given another CIDI diagnosis).

All three levels of disagreement were common. Only 27 percent of the false-negative cases were due to complete disagreement (true false-negatives), and 55 percent of the false-positives were due to complete disagreement (true false-positives). Complete disagreement in depressive diagnoses between the primary care physician and the research interview is not as frequent as indicated by an undifferentiated false-negative/ false-positive analysis (Tiemens et al., 1999b).

This evidence raises the question 'Can screening for psychiatric disorders improve recognition?' There have been a variety of assessment instruments for administration in routine care. These include pre-formatted diagnostic screening interviews, which require training, for example the Diagnostic Interview Schedule (Robins, Helzer, Ratcliff,

& Seyfried, 1982), the CIDI, the Structured Clinical Interview (Spitzer et al., 1994), or the computerised Symptom Driven Diagnostic System for Primary Care (Olfson, Leon, & Broadhead, 1995). These have not yet received acceptance in the routine work of primary care physicians due to poor utility.

However, screening questionnaires and rating scales should be attractive for primary care because they do not require specific training with regard to administration and analysis, are less time-consuming and are inexpensive for the clinician (Wittchen & Boyer, 1998). A number of scales have been developed and evaluated in primary care. The most widely used, best evaluated and most efficient scale for determining 'caseness' is the GHQ (Goldberg & Williams, 1991), available in versions of variable lengths. Among the more syndrome-specific screening instruments, the Hospital Anxiety and Depression Scale (HAD) (Zigmond & Snaith, 1983) and the Beck Depression Inventory (BDI) (Beck, Ward, & Mendelson, 1961) are among the most frequently cited. Other instruments that have been studied in primary care include the Zung Self-rating Anxiety and Depression Scale (Zung, 1965); and the PRIME-MD (Spitzer et al., 1994).

Smith (1998) explored whether use of the 30-item GHQ is a practical means of increasing identification of 'new' episodes of emotional distress among patients consulting their GP. A randomised controlled trial (RCT) was carried out in a Scottish town practice. In the waiting room, 1912 patients aged over 14 years and consulting over a 10-month period attempted to complete the GHQ. The 'clinical judgement' group posted the questionnaire into a box then attended the doctor as normal. The 'screened' group presented the questionnaire to the doctor. After the consultation the doctor completed an assessment questionnaire.

A total of 1382 eligible patients were included. The clinical judgement group (59.7% patients) and the screened group (40.3%) were compared. The percentage of patients scoring greater than or equal to 9 on the GHQ was 21.5 percent and 21.0 percent

respectively. The doctors' diagnoses of distress were highest in the screened group (13.9%) compared to the clinical judgement group (8.1%). It is interesting to note that access to the 'greater than 9' scores in the screened/detected group was associated with identifying more distressed patients, but with no significant difference in the level of intervention offered. Thus those patients whose distress would have usually gone unrecognised were treated similarly to those whose distress was evident to the doctor in the clinical judgement/detected group. The' level of agreement' between the doctors' diagnoses of distress and the questionnaires scoring high on the GHQ rose from 19% in the clinical judgement group to 35% in the screened group (Smith, 1998).

This study confirms the findings of several other studies conducted over the past two decades that screening tests for depression and anxiety improve GP recognition of patients with these disorders (Freeling 1985; Harris et al., 1996; Hoeper 1984).

Despite the potential advantages of screening instruments, most are not user friendly and seldom used routinely in Australian general practice as the current funding structure is prohibitive (Mant, 1999).

3.2.1 Does improved recognition lead to improved patient outcomes?

The literature on whether recognition of mental illness results in improved patient outcomes is conflicting. Studies investigating the clinical impact of non-recognition found that patients with unrecognised depression were less severely ill and less functionally impaired (Coyne et al., 1995; Tiemans et al., 1996). Goldberg (1998) also researched whether patients whose depression is recognised by a doctor have more favourable outcomes than those whose depression is unrecognised. He found that unrecognised patients generally had better outcomes although almost half of them (48%) were still 'cases' after 12 months (Goldberg et al., 1998). Both Johnstone and Goldberg

(1976a) and Zung et al. (1983) found that feedback on depression screening scores led to improved patient outcomes. A previous study found no clear association between physician recognition and improved outcomes (Ormel, Koeter, van den Brink, & van de Willige, 1991).

Mathias et al. (1994) conducted a RCT in a health maintenance organisation in Colorado. Twenty three physicians were randomised into the intervention of control group. All patients completed a three-step screening process to determine patient eligibility for inclusion into this study: a waiting room screen for elevated levels of anxiety, medical record review and base line screen to confirm anxiety levels.

The physician intervention had two components including an explanation of the psychometric instruments and their interpretation, the patient profile, to review results for several patients and to provide educational materials on the management of anxiety. These GPs were also provided with the telephone number of the study team physician who could answer further questions. The physicians were also provided with reports summarising the anxiety symptom levels and functioning status of their patients enrolled in the study.

Patients were assigned to a study group based on the randomisation of their physicians. They were followed for change in outcome measures during the five-month study period. Five hundred and seventy three (573) patients who had unrecognised and untreated anxiety were identified from approximately 8000 patients who completed the waiting room screening questionnaire. Patient outcomes were measured as changes in global anxiety scores, functioning and well-being, and patients' reports of global improvements. The findings indicated that reporting patient symptom and functioning status to the physicians did not significantly change patient outcomes. This study found that improvement in outcomes were more closely associated with the patient's severity of psychological distress (Mathias et al. 1994).

Dowrick and Buchan (1996) conducted a prospective 12-month study including a RCT of the effects of disclosure, with data on depressions status and clinical management collected by questionnaire and interview. This study was conducted in two group practices in north Liverpool. Data on 1099 patients, aged 16 to 64 were collected using the Beck Depression Inventory (Beck et al., 1961). The GPs completed an encounter sheet documenting whether they considered the patient was not depressed, probably depressed or definitely depressed. The doctors were blind to the Beck Depression Inventory scores at this stage. Postal inventories were sent to the 116 unrecognised patients at six and 12 months. Disclosure of a random 45 percent of depression scores were provided to GPs for subjects whose depression was undetected. The study concluded that disclosure did not improve prognosis at six and 12 months and that treatment of depression in primary care has little influence on the 'course of a condition whose major determinant may lie outside the reach of the medical profession' (Dowrick & Buchan, 1996 p.1274). Dowrick and Buchanan (1996) feel that several issues including patient characteristics, the disease, and treatment barriers affect depression.

There were several methodological flaws with this study. Firstly the results were based on a small sample size. Follow-up took place at six and 12 months and patients may well have recovered and relapsed in this time frame. To overcome this problem, initial follow-up should have occurred between six and 12 weeks.

While the study did confirm that inadequate treatment was offered to patients suffering depression, it did not explore issues of patient compliance with their prescribed treatment. Furthermore, there was no information about those patients who did not respond or were lost to follow-up and the severity of their depression may have contributed to the low response rate and the study findings.

Longitudinal data from the WHO Psychological Problems in General Health Care study were also used to examine the relationship between recognition and outcomes among

depressed primary care patients (Simon et al., 1999). A representative sample of primary care patients at 15 sites completed a baseline assessment including the CIDI and the 28-item GHQ. The GHQ was readministered after three months, and the GHQ and CIDI were readministered after 12 months. Fifty five percent of patients were recognised as having some psychological disorder. Of 948 patients with major depression at the baseline assessment, 42 percent were recognised by the primary care physician and given an appropriate diagnosis. Recognised patients were more severely ill and more disabled at baseline and had a decrease in GHQ score at the three month assessment according to the CIDI interview (Simon et al., 1999). At 12 months, recognised and unrecognised groups did not differ in GHQ score or change in diagnostic status from baseline. Results were consistent across study sites (Simon et al., 1999). This result may be attributable to ineffective treatment or that illness resolves spontaneously in the short term.

In summary, screening tests have been shown to improve recognition rates. However, screening appears to have little impact on the management of mental health problems and only limited effects on health outcomes. Simple measures like screening alone may not improve the recognition of depression and anxiety disorders in general practice. It is clear from the evidence above that many patients presenting with severe emotional distress and depression remain undetected by their GP. Those who are recognised tend to be the severely distressed. The reasons underlying failure to detect existing mental illness in presenting patients are addressed in the following section.

3.3   Barriers to recognition

The reasons for poor recognition of the many cases of anxiety and depression in primary care are complex and are poorly understood, despite several studies and reviews on this issue (Brody & Lerman, 1990; Goldberg, 1995a; Montaro, 1994; Paykel & Priest, 1992;

Piterman, Blashki, & Liaw, 1997). For the purposes of this literature review, the barriers to recognition have been classified into doctor, patient, disease and system-related.

3.3.1 Doctor-related barriers

GPs on the whole indicate that they are willing to treat psychological disorders (A report of the Joint Consultative Committee in Psychiatry, 1997). Despite this, a number of possible barriers to recognition exist. These include lack of knowledge, particular attitudes about psychiatric illness, perceptions of the role of GPs in patient management, level of GP interest in people and psychosocial issues, inadequate detection and management skills.

3.3.1.1 Knowledge

A small literature indicates that primary care physicians have inadequate knowledge to detect and manage patients suffering mental illness.

Thirty nine primary health care workers (18 doctors, 15 nurses and six health educators) were interviewed in the Esteli Region of Nicaragua to determine their knowledge and attitudes to mental health in the primary care setting in order to assess training needs and develop an education program (Byng, 1993). This survey contained 10 open-ended questions that explored knowledge and work in the field of mental health care. The instrument was specifically designed to assess GP knowledge about pharmacological therapy and referral, the role of the GP, and their attitudes towards anxiety and depression.

The results show that those surveyed were aware of the gaps in knowledge and wanted training, as evidenced by the doctors' claim that they did not have enough knowledge for daily clinical use. They also identified that the physical presentation of mental disorders led to a failure to recognise psychiatric illness as the cause of the problem.

The doctors also raised concerns that drugs, which were in very short supply, were being inappropriately prescribed (Byng, 1993).

Similarly an educational needs assessment conducted on Australian GPs identified that more training was required in the areas of diagnostic and counselling skills, with emphasis on crisis, family, individual and marital counselling together with strategies to prevent general practitioner burn-out (Phongsavan et al., 1995). This is not surprising given that GPs receive 150 hours of tuition and complete 150 hours of practical attachment in psychiatry during their undergraduate course (Andrews, 1995). Phongsavan's study (1995) concluded that GPs were interested in improving their mental health counselling and diagnostic skills but that barriers remained.

3.3.1.2   Attitudes

Attitudes comprise effective, cognitive and behavioural components corresponding to the evaluation of knowledge of, and predisposition to, action in respect to the object of the attitude (Wagne, 1969). Attitudes lead to a particular types of behaviour given the situation and other constraints make the behaviour appropriate. Attitude has been defined by Ajzen and Fibein (1980) as 'a system of beliefs, feelings and action intentions' (p.19). Attitude, equally with knowledge, is important in determining behaviour.

Doctor attitude is important as their attitudes towards patients with depression and anxiety disorder can influence detection as shown in the following review of literature.

A study by Brodaty, Andrews and Kehoe (1982) aimed to determine why GPs fail to recognise psychiatric illness in many patients. In 1976 18 GPs in Sydney, covering various socioeconomic areas, were invited to participate in a study where they had to complete an attitude questionnaire. One year later they had to complete the questionnaire again and have a psychiatrist observe consecutive patient consultations. The

questionnaire of 'attitude to psychiatric patients', 'attitude to mental health', 'psychogenic illness score' and 'psychosomatic score' seem reasonable themes given the aim of the study. Higher attitude scores indicated greater psychological mindedness. They found that the attributes of the doctors may be important, although there were no relationships between the GPs' results to the attitudinal questionnaire scores, demographic details, duration of consultation or the presenting problem, and the ability to detect a psychiatric illness.

In another study, conducted by Armstrong, Bird, Fry and Armstrong (1992), 121 GPs and 10 psychiatrists working in a single health district completed a questionnaire on their perceptions of the prevalence of psychological problems among patients consulting in general practice. GPs and psychiatrists agreed that up to 20 percent of consulting patients were likely to be clinically depressed; they also agreed on the most appropriate management, although GPs tended to be more conservative than psychiatrists who tended to advise on making use of hospital services. GPs, however, believed nonspecific psychological problems to be significantly less common than did psychiatrists. This expectation may help explain the reported failure of GPs to diagnose all psychological problems identified by formal validated psychiatric instruments.

Main, Lutz, Barrett, Matthew and Miller (1993) found that clinicians' attitudes, beliefs and training and their perceptions of the importance and frequency of depression in patient populations is independent of the prevalence of this condition in their practice.

Results showed clinicians who were satisfied treating patients with depression were more likely to view depression as an important primary care problem. In addition, clinicians were more likely to feel satisfied if their self-efficacy for diagnosing, treating and managing depression was high. Training was found to have an impact on clinician attitude as those who had a higher sense of self-efficacy were more likely to address issues of depression (Main et al., 1993). This translated into how clinicians felt about

their patients. Those doctors who felt burdened and uncomfortable dealing with depression were more likely to believe their patients felt uncomfortable as well (Main et al., 1993). To date there have been no studies to explore whether attitude actually reflects, or predicts, GP recognition of depressed patients or those suffering anxiety disorders.

However, this study highlights the crucial role of education and training in addressing problems of recognition or depression in primary care, although it does not address anxiety disorders.

Howe (1996b) examined factors in the doctor, patient, and context of the consultation that may influence whether or not a general practitioner identified psychological distress in a patient. The GPs' own perceptions of the influence on their performance as detectors of psychological distress were examined for 19 GPs in Sheffield in the UK using semi-structured interviews. Two questions were asked 'Some of the literature suggests that GPs miss quite a few patients who are psychologically distressed when they consult. What do you think about that?' and 'Why do you think GPs might miss or fail to diagnose these patients?' (p.129).

The GPs interviewed all agreed with the literature suggesting that GPs fail to detect psychological distress in some patients. Reasons given for this included doctor, patient and other factors such as GP attitude and previous experience and consultation behaviour, including how the doctor felt at the time, how the patient behaved and time constraints. Unlike previous study findings the data from this study highlighted GPs' sense of the difference between possessing the necessary skills and employing them in daily practice, rather than not possessing the necessary skills to detect these conditions.

Holmwood (1998) identified that 'many mental disorders are self-limiting and require no specific intervention' (p.716), which may be another barrier to the detection of mental

illness in general, practice. Even if detected, treatment efficacy is not clear (Holmwood, 1998). Therefore doctors may not think that treatment is effective.

The effect of GP attitude in treatment of depressed patients was highlighted by the study of Ross, Moffat, McConnachie, Gordon and Wilson (1999). Using a modified version of the Depression Attitude Questionnaire (DAQ), they found that pessimistic GPs in the Greater Glasgow Health Board, were less willing to be actively involved in the treatment of depression, were less likely to discuss a non-physical cause of symptoms or explore social factors in moderately severe cases.

Dowrick, Gask, Dixon, and Usherwood (2000) used several instruments, including the DAQ to explore if GPs' confidence in identifying depression predicts their ability to identify depression in their patients. The authors found no relationship between GP's ability to identify cases of depression and the 'identification of depression' component of the DAQ.

These studies show that the GPs' attitude towards the common disorders, specifically depression and anxiety influence not only recognition of patients with these conditions, but also their treatment.

3.3.1.3   Behaviour – consulting skills

Several physician behaviours during the consultation have been found to influence detection of mental illness. Good eye contact with the patient, attentive posture and the use of facilitating words and fewer interruptions of the patient (Goldberg, Steele, Johnson, & Smith, 1982; Goldberg, Jenkins, Millar, & Faragher, 1993) can enhance the doctor-patient relationship and encourage open communication. If the doctor offers less doctors (Carney et al., 1999).

A further study was conducted by Robbins, Kirmayer, Cathebras, Yaffe, and Dworkind, (1994). Fifty five physicians treating a total of 600 patients completed measures of psychosocial orientation, psychological mindedness, self-rating of sensitivity to hidden emotions, and a video test of sensitivity to nonverbal communication. Patients were classified as 'cases' of psychiatric distress based on the Centre for Epidemiolgic Studies Depression Scale (CES-D). Physician recognition was determined by notation of any psychosocial diagnosis in the medical charts over the ensuing 12 months. Of 192 patients scoring 16 or above on the CES-D, 44 percent (83) were recognised as psychiatrically distressed. The findings indicated that:

- physicians who were more sensitive to nonverbal expressions of emotion made more psychiatric or psychosocial assessment of their patients and appeared to be over-inclusive in their judgments of psychosocial problems

- physicians who tended to blame depressed patients for causing, exaggerating, or prolonging their depression made fewer psychosocial assessments and were less accurate in detecting psychiatric distress (Robbins et al., 1994).

3.3.2 Patient-related barriers

In up to half the patients presenting with anxiety or depression the diagnosis is missed. Some of these patients may present with 'sub-threshold conditions' that do not meet diagnostic criteria, but nevertheless have clinically significant symptoms and functional impairment (Sartorius, Ustun, Lecrubier, & Wittchen, 1996). Of those who are recognised a significant proportion are not treated (Harris et al., 1996; Sartorius et al., 1996).

The patient initiates most general practice consultations. The context of the typical consultation and its outcome will be influenced by what the patient chooses to present and how he or she chooses to present it (Weich, Lewis, Donmall, & Mann, 1995). Most general practitioner consultations last 10-15 minutes, and many patients present with

more than one problem (Ellen et al., 1997). The diagnosis of depression and anxiety disorders in general practice is problematic as patients often present with undifferentiated symptoms. Somatic symptoms (Kirmayer et al., 1993; Montaro, 1994) sometimes become the focus of the patient's concern and motivate them to visit a general practitioner (Shear & Schulberg, 1995).

A sample of the literature identifying social and demographic risk factors for mental illness in primary care and communities is summarised in Table 3.1.

Table 3.1

Summary of the literature of adult patient risk factors associated with mental illness

Author/s	Study design	Risk factors associated with mental illness
(Zung, Broadhead, & E., 1993)	Cross sectional survey using the Zung Self-rating Depression Scale. 75,858 patients who visited one of 765 participating primary care physicians for any reason from February 1991 to September 1991.	Patients who perceived their health as poor. Women. Older age group. Those with lower levels of education.
(Harris et al., 1996)	Cross-sectional study of a random sample of 117 GPs in Sydney, Australia and 4,867 of their patients were surveyed. Audits were conducted on 50 consecutive patient consultations.	Women. Unemployed. Previously treated for depression or anxiety in the previous 12 months.
(Salokangas & Poutanen, 1998)	Cross-sectional study of a random sample of 1,643 patients aged 18-64 attending community health centres in Finland.	Negative life events, poor physical health, poor marital or other interpersonal relationships, spouse's poor health, poor socioeconomic and work situation and problems with alcohol indicate high risk of depression.
(McLennan, 1998)	Descriptive study targeting 12-month prevalence and burden of mental illness of 10,600 adults, over the age of 18 years, from 13,600 private dwellings	Females are at risk of depression and experience more anxiety disorders with those aged 45-54 years. Separated or divorced. Unemployed or not working.

cont.

Author/s	Study design	Risk factors associated with mental illness
(Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare, 1999)	National report of depression in Australia.	Social disadvantage (e.g. poverty, unemployment). Family discord (eg relationship breakup, conflict, poor parenting practices). Parental mental illness or family history of depression. Abused as children. Exposure to adverse life events (eg bereavements, family separation, trauma, family illness). Caring for someone with a chronic physical or mental disorder. High trait anxiety and pre-existing anxiety disorders, substance misuse, conduct disorder. Temperament – reacting negatively to stressors, and personality trait of neuroticism. Negative thought patterns. Avoidant coping style.
(Comino, Harris, Silove, Manicavasagar, & Harris, 2000)	Cross-sectional survey of 2,665 patients aged 18-64 years attending general practice.	Anxiety and depression more common in unemployed.
(Hickie et al., 2001c)	1585 patients in general practice examined cross-sectionally and longitudinally; 46515 patients attending 386 GPs; 364 patients participating in a longitudinal study of psychiatric disorders general practice; and 522 patients attending a specialist psychiatry clinic.	Younger age, being female, not born in Australia, having less formal education, being unemployed, being single, having children.

What is evident from this summary is that patient risk of mental illness is associated with demographic, socioeconomic and patient attitudinal variables, personality style and health. Being female or being unemployed and being involved in poor relationships were identified as risk factors in half of the studies.

Armed with this knowledge it is interesting to review the literature of patient-related risk factors associated with recognition of mental illness which is summarised in Table 3.2.

Table 3.2

Summary of the literature of adult patient risk factors associated with the recognition of mental illness

Author/s	Study design	Factors associated with the recognition of mental illness
(Marks et al., 1979)	Observational study of 2,098 interviews conducted by 55 general practitioners.	Being unemployed and being female were associated with an increased likelihood of detection of psychiatric illness.
(Freeling, Rao, Paykel, Sirling, & Burton, 1985)		Patient characteristics associated with lack of recognition included: Patients did not look depressed. Patients did not believe they were depressed Patients experienced other feelings other than an exaggeration of misery.
(Coyne, Schwenk, & Fechner-Bates, 1995)	Descriptive study comparing family physician DSM-III-R diagnoses derived from the Structured Clinical Interview for DSM-III-R interview administered by a trained health professional; 1580 patients recruited from 50 family physicians in Michigan, USA.	Lack of demographic difference between the undetected and detected patients. 58.5% of patients were not detected if they suffered 'mild depression'. Patients who suffered depression but were not detected were about 37.5 years of age and more likely to have completed high school. Undetected patients rated themselves as less depressed, and having more energy, not feeling worn out or experiencing reduced sleep. They reported having less stress in their lives. Comorbid anxiety facilitated the detection of depression.
(Bridges & Goldberg, 1997)		Patients with diagnosable depression were missed as they presented with somatic complaints rather than psychological symptoms. Patients who have been ill for some time were also likely be missed.
(McLennan, 1998)	The Australian 1997 National Survey of Mental Health and Wellbeing of Adults (SMHWB) surveyed 10,600 adults over the age of 18 years from 13,600 private dwellings.	Males were not recognised or treated.
(Britt et al., 1999)	An encounter-based study of problems managed in Australian general practice consultations	Females and patients aged 25 to 64 years with depression were likely to be treated. *cont.*

Author/s	Study design	Factors associated with the recognition of mental illness
(Tiemens et al., 1999b)	Two stratified random samples, 373 patients in Seattle, USA and 340 patients in Groningen, The Netherlands, were used to gather data to explore false-negative and false-positive cases of depressive illness between a primary care physician's diagnosis and a standardized research diagnosis	False-negative patients were younger, more often employed, rated their own health more favorably, visited their doctor for a somatic complaint and made fewer visits than the underestimated, misdiagnosed, and concordant positive patients.
(Comino et al., 2000)	Cross-sectional survey of 2665 patients aged 18-64 years attending general practice.	Unemployed patients more likely to be treated for anxiety and depression by their GP during the previous 12 months and are more likely to be prescribed medication.
(Borowsky et al., 2000)	Cross-sectional survey of 19,309 patients and 349 internists and family physicians.	Mental health problems less likely to be detected in African Americans, men, patients under 35 years and those with less severe DSM-III diagnoses.
(Hickie et al., 2001b)	46515 patients attending 386 GPs.	Those middle aged, Australian born, and symptoms of substance-misuse were more likely to be recognised.

Patients suffering mental illness are at risk of not being detected by their doctor if they are male, employed, present with somatic rather than psychological distress, have mild depression, are under 40 years of age and do not see their doctor frequently.

A cross-sectional, general practice based study conducted by Kessler, Lloyd, Lewis and Gray (1999) explored the hypothesis that patients' normalising attributions make recognition less likely. Consecutive attenders at an eight partner general practice in the UK completed the 12-item GHQ and the Symptom Interpretation Questionnaire, which scores style of symptom attribution along the dimensions of psychologising, somatising, and normalising. 'Normalising' was defined as 'fatigue thought to be related to overexertion or not exercising enough' (Robbins & Kirmayer, 1991 p.1030). Of the 305 patients who completed the questionnaires, 52 percent were identified as 'distressed'

and GPs detected depression or anxiety in 23 percent of these. Five percent were incorrectly identified as distressed. The psychologisers were more likely to be female, and normalisers and somatisers were more likely to be male. Patients with a higher score on the psychologiser dimension were more likely to be diagnosed by their GP as suffering depression or anxiety. Subjects with a normalising attribution style were less likely to be detected as cases. Doctors did not make any psychological diagnosis in 85 percent of patients who had high questionnaire and high normalising scores. The somatisation scale was not associated with low detection rates. This pattern of results persisted after adjustment for age, sex, GHQ, and general practitioner. The authors concluded that the normalising attribution style is predominant in general practice attenders and is an important cause of low rates of detection of depression and anxiety (Kessler et al., 1999).

Other patient-related factors also impact on the detection of mental illness. Tylee, Freeling, Kerry, and Burns (1995) investigated the hypothesis that depressed women who mention psychiatric symptoms early in the consultation are more likely to have their major depression recognised than depressed patients who mention such symptoms later in the consultation or not at all. This also brings in the issue of resonance with the doctor's style. If the doctor is interested in psychosocial issues the patient will be more likely to mention depression or anxiety symptoms. This study was conducted in 15 general practices in the UK and involved 47 GPs. Female patients were screened, using the 30-item GHQ, while in the waiting room prior to seeing the GP. Scoring 11 or more on the GHQ provided an indication of the presence of depressive illness. The consultations were videotaped. Later, interviews were conducted by the researchers on 60 women who the GP newly identified as having depression and 69 who scored 11 or more on the GHQ but were not recognised by the GP as depressed. Of the recognised group, 42 (70%) were rated as having probable or definite major depression. Sixty nine women rated as 'cases' on the GHQ but were not recognised by their doctor. Of these, 70 percent (i.e. the same as in recognised cases) were rated by the researchers as having

probable, or definite major depression. Analysis of the video taped consultations found that the median number of symptoms (physical, psychological or social) mentioned for the recognised group was twice that of the unrecognised group. After adjusting for physical illness, women who mentioned psychiatric symptoms early in the consultation were 10 times more likely to be recognised as depressed than those who mentioned such symptoms late or not at all during the visit. Major depression was more likely to be diagnosed if there was no physical illness present (Tylee et al., 1995).

A study conducted by Lechky (1995) found that while patients may say they are consulting their family physician about a physical complaint, it is estimated that between one-half and two-thirds are really seeking help with problems such as depression, anxiety or severe stress.

Other studies have found that patients lack insight into their emotional illness (Good, Good, & Cleary, 1987). This means that they fail to recognise depression and to seek appropriate help (Ellen et al., 1997; Rost, Smith, Mathews, & Guise, 1994b).

The presentation of patients with mental disorders may be different in primary care compared to specialist psychiatry, and a significant number of patients experience symptoms and impairment which fail to meet duration or severity criteria for mental disorder as described by disease classification systems (Broadhead, 1994). Cultural differences of the doctor and patient also impact on the doctor's ability to detect depression (Montaro, 1994; Paykel & Priest, 1992). Patients with diverse cultural backgrounds may have different ways of expressing symptoms (Broadhead, 1994).

Other patient-related barriers include frequent unwillingness of patients to disclose anxiety symptoms and/or having a psychiatric illness because they often feel stigmatised if they report such symptoms (Ellard, 1994; Zajecka, 1997). Additionally, they may fear their physician will perceive them as not having 'a real medical problem', resulting

in them being referred to a psychiatrist, and feeling abandoned or misunderstood (Zajecka, 1997). One Australian study found that 64 percent of GPs reported that patients felt uncomfortable about being referred to psychiatrists (Phongsavan et al., 1995).

Comorbidity increases the likelihood of recognition of mental disorders in general health care, and the likelihood of receiving treatment (Angst, Merikangas, & Preisig, 1997; Sartorius et al., 1996).

Patients with depression and anxiety disorders need to be recognised in order to reduce the incidence and disability associated with these disorders (Andrews, 1996).

So in summary the following 'patient factors' are associated with non-recognition:

- being male
- being employed
- presenting with somatic rather than psychological distress
- having mild depression
- are under 40 years of age
- do not see their doctor frequently.

The following factors are associated with greater recognition:

- being female
- comorbidity
- having multiple symptoms.

3.3.3   Disease related barriers

In primary care, symptom severity is more variable and may be related to the point of its clinical course when the disorder is detected. If the disorder is in its early stages or nearing recovery, symptoms may be relatively un-apparent to a busy clinician and therefore not diagnosed or treated (Volk, Nearse, & Cass, 1997).

3.3.4   System-related barriers

System-related barriers also impact on the recognition of depression and anxiety disorders in primary care. Once a doctor makes a diagnosis of a mental disorder they may not have sufficient time to manage it (Holmwood, 1998; Rost, Humphrey, & Kelleher, 1994a) as patients who report emotional distress require longer visits (Callahan et al., 1998). For example, the duration of consultations for distressed patients without a diagnosis of depression or anxiety has been estimated to be 11.5 minutes, and 12.8 minutes for those with such a diagnosis (Callahan et al., 1998). Patients with a diagnosis of depression or anxiety had more counselling in the consultation compared with patients reporting recent emotional distress but having no diagnosis of a mental illness. However significantly more history-taking and discussions about family information and substance use occured with patients reporting recent emotional distress and having a diagnosis (Callahan et al., 1998).

Sanson-Fisher and Hennrikus (1988) claimed that the present fee structure for general practice consultations discourages GPs from engaging in longer consultations. Those GPs who do spend more time with their patients are penalised by the current remuneration system in Australia (General Practice Strategy Review Group, 1998).

Once diagnosed the disease is not always labeled in the patient history. A distinction should be made between recognised depression and documented depression. Rost,

Humphrey and Kelleher (1994b) showed that recognised major depressive disorders are often deliberately miscoded in primary care due to concerns about reimbursement in USA. Deliberate miscoding tends to under represent the prevalence of depressive disorders in primary care (Volk et al., 1997).

System-related barriers also include lack of referral resources for patients (Holmwood, 1998; Rost et al., 1994a). Phongsavan et al. (1995) found that 53 percent of general practitioners in New South Wales felt that the referral service waiting lists were too long; '51 percent of respondents said there were insufficient local mental health services; and 25 percent identified that communication difficulties between referring general practitioners and mental health specialists obstructed optimal patient care '(p.139).

Primary care lacks a useful psychiatric diagnostic classification system (A report of the Joint Consultative Committee in Psychiatry, 1997). The current systems, the DSM-IV and ICD-10 were developed to improve diagnostic reliability for research purposes and the application of these to the primary care setting is problematic (Hickie, 1998). The development of a new system would assist GPs 'describe the patients who frequently present with a mix of somatic and psychological symptoms and/or concurrent medical comorbity' (Hickie, 1998. p.2).

3.3.5   Summary

There are several factors that influence doctor and patient behaviour including cognitive, cultural, perceptual, disease and system-related issues. These influence the consultation outcome and patient quality of life. Understanding the barriers suggests that attempts to alter doctor and patient behaviour should be possible. Education and training of GPs is one avenue for possible change of doctor variables - knowledge, attitude and consulting behaviour.

3.4   Management

It has been already noted that, even if the depression is recognised, many depressed people are inadequately treated. Appropriate management will depend on many of the same factors that affect recognition; doctor knowledge and attitude (for instance their view about the effectiveness of treatment), patient knowledge and attitude (similarly their view of depression as an illness, attribution, effectiveness of treatment) and system issues.

3.5   What needs to be done?

The reasons for poor recognition of the many cases of anxiety and depression in primary care are complex. Katon et al. (1997) identified several efforts to enhance recognition and management which should include screening, education and activation of patients and providers, and tracking of process and outcomes. This public health approach also involves complex systematic change.

In response to this situation many attempts have been made to improve primary care doctors' ability to detect and manage mental disorders more appropriately. These attempts range from designing specific training courses for primary care doctors (Montgomery, 1995; Wittchen, 1995), through to widely publicised educational packages for the public, patients and their relatives (Wittchen, 1995).

3.5.1   Audit

Audit in general practice is a mandatory component of the RACGP quality assurance program (Royal Australian College of General Practitioners, 1996). The literature describing audit and its use as an education strategy to change general practitioner behaviour is reviewed in Chapter 9.

Howe (1998) used audit with feedback and video taped consultations to evaluate the feasibility of auditing GPs' performance as detectors of psychological distress. Audit was found to be effective on GP performance in detection of psychological distress. GPs in this study appeared more motivated by individual case studies and reflection through video analysis on undiagnosed patients than by quantitative data feedback on their performance (Howe, 1998). This study therefore supports other evidence that clinical audit has an impact when quantitative data is coupled with clinical examples derived from patient review.

3.5.2   Guidelines

Guidelines are defined by Conroy and Shannon (1995 p.371). as 'systematically developed statements to assist practitioner decisions about appropriate health care for specific clinical circumstance' (p.371). They are seen as an important method for achieving high quality care (Grol, 1993), reducing inappropriate practice and improving efficiency (Hutchinson, 1995).

The introduction of clinical guidelines has increased over recent years, however the evaluation of their success in leading to changes in clinical practice is uncertain. In the UK a descriptive evaluation was conducted on the impact of the introduction of ICD-10 Primary Health Care guidelines on the recognition, diagnosis and management of mental disorders, primarily depression, by GPs using a pre-post-test design (Upton, Evans, Goldberg, & Sharp, 1999). GPs volunteered to participate in the study. The results indicate that recognition of mental illness did not increase after the introduction of guidelines, although there was an increase in the number of patients diagnosed with depression and unexplained somatic symptoms and a decrease in the number of patients diagnosed with MAD (Upton et al., 1999). Antidepressant prescribing decreased after the introduction of guidelines, although this may have been influenced by the local health authority advising GPs to reduce SSRI prescribing for economic reasons. There

was a significant increase in the use of specific psychological interventions in the depressed patients after the introduction of guidelines. Referral patterns changed marginally after guidelines were introduced (Upton et al., 1999).

Unfortunately Upton et al. (1999) did not describe the implementation and dissemination of the guidelines used. The literature indicates that providing practitioners with a set of guidelines do not necessarily result in their use, and perhaps this factor influenced the result of this study. The implementation and dissemination of these documents is complex although may lead to changes in patient outcomes (Grimshaw et al., 1995).

3.5.3   Public campaigns

There are numerous campaigns aimed to educate patients, the public, carers, families, siblings and employers about mental illness. Providers of these programs include charity organisations, government, special interest groups and community services.

One example of a public campaign is the 'Defeat Depression Campaign' conducted in the UK between 1992 and 1996 aimed to improve public and professional knowledge of the detection and treatment of depressive illness and reduce the stigma associated with this condition (Blenkiron, 1998). This program had two strands, one focusing on health care professional and the other on the general public. A consensus statement on the recognition and management of depression in general practice was published (Paykel & Priest, 1992) and disseminated. In addition an 'aide memoire' card with guidelines was provided for doctors to use within the consultation. Teaching material for doctors, in the form of a video-training package, was also available. Patient materials including a booklet and brochures were developed for patients (Priest, 1994). The media were used to inform the public about the program, polls were used to evaluate the public's attitudes to and perceptions of depressive illness. A poll conducted three years after the launch of the campaign showed that depression had became a more acceptable illness,

that there was an increased understanding about its causes and that it is common (Kerwick & Jones, 1998).

The impact of this campaign on 2046 GPs was evaluated. A postal survey was sent to GPs asking a series of questions about awareness of the campaign and use of materials. Two-thirds of GPs were aware of the campaign and 40 percent reported making changes to their practice as a result of it. However this evaluation did not use a pre-post test so the authors cannot conclude, with any confidence, that participants' reported management can be attributed to this campaign (Rix et al., 1999).

The recent Australian Federal and Victorian government initiative 'beyondblue' may contribute to increasing the awareness of the Australian general public about common symptoms, available treatments and ways of accessing specific medical care via the use of their web site www.beyondblue.org.au (beyondblue: the national depression initiative).

3.5.4   Educational interventions

Educational interventions for primary care physicians have focused on depression. These programs have centred knowledge and skills development. However there is a need for education to include techniques to enable practitioners to determine the presence of comorbid conditions such as anxiety disorders (Australian Institute of Health and Welfare, 1998). A review of the literature on educational activities aimed at improving the detection and management of depression or anxiety in primary care is detailed in Chapter 4.

3.6   Summary

Despite the high prevalence of patients suffering emotional distress and presenting to primary care facilities, up to half of these patients are not detected. Various reasons contribute to this problem including doctor, patient, disease and system-related factors. A number of approaches including screening, audit, public campaigns and guidelines have been developed to assist GPs enhance the detection and management of these patients. This thesis is not concerned with the effect of system changes, but rather with the value of CME strategies aimed at the GP and their effect on recognition and patient health-related outcomes. This will be the focus of the next chapter.

Chapter 4

Continuing medical education

Medical courses around the world are changing, placing more emphasis on ongoing learning and scholarship, promoting the concept of the 'life long learner' (Krackov & Mennin, 1998). Combined with the increasing amount of knowledge available and the push toward evidence-based practice in medicine this means that doctors need to continuously access information. For GPs, information is of a broad biopsychosocial nature. They also require skills in practice management, information technology and communication to enhance their ability to work in a complex and multidisciplinary health system. CME provides the pathway for doctors to pursue learning in their postgraduate years. Their motivation to participate is principally (and perhaps ideally) driven by their desire to improve patient care (Fox, Mazmanian, & Putnam, 1989). Other practitioners are intrinsic learners who have an insatiable curiosity and desire to discover. However some doctors undertake CME to fulfill the mandatory requirements imposed by professional bodies.

4.1   CME as an agent for change

Learning involves change. It is concerned with the acquisition of habits, knowledge, and attitudes. It enables the individual to make both personal and social adjustments. Since the concept of change is inherent in the concept of learning, any change in behaviour implies that learning is taking place or has taken place. (Crowe & Crowe, 1963 p.1).

Traditionally, CME aimed to inform practitioners about new research findings on the assumption that mere transmission of this information would ensure change in clinical

performance (Berg, 1979). However, doctor's beliefs and attitudes, as well as external
forces, including:

- *clinical uncertainty*
- *sense of competence*
- *perception of liability*
- *patient expectations*
- *standards of practice*
- *financial disincentive* (Thomson O'Brien et al., 2000 p.7).

determined clinical practice. Green (1988) in Figure 4.1 grouped these.
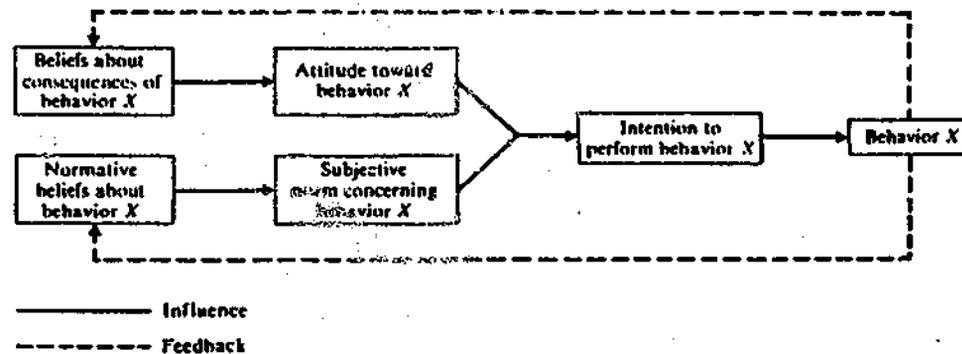
Figure 4.1
Determinants of practice patterns and related interventions to change practice (from Green, 1988).

Doctor beliefs and attitudes can be considered as 'predisposing factors' that influence a
GP's practice. However more is required to influence change. A stimulus, which may
include the introduction of CME points or death of a patient, promotes the need for
change. Recently programs on 'quality assurance' and 'maintenance of standards' have
become a powerful force for change (Grol, 1997).

Allery, Owen and Robling (1997) described a range of factors which doctors recognise
as changing their clinical practice including organisation, education, and contact with
professions. Fox and Bennett (1998) described other factors that influence clinical

practice including doctors' personal lives, professional aspirations, and the social and cultural setting of their practice. Fox et al also identifies:

> *curiosity, sense of personal and financial wellbeing, stage of career, desire for*
> *new or enhanced competence, pressures from patients and colleagues, and*
> *pressures from the healthcare institutions in which they work.* (p.466).

Cantillon and Jones (1999) identify three components that promote medical behaviour change:

- *consideration of predisposing factors that prepared doctors for change*
- *identification of enabling factors by which new knowledge and skills related to the learner's work environment*
- *reinforcement of behaviour.* (p.1275).

Reinforcing factors, such as feedback and rehearsal, are required to sustain changed behaviour (see Figure 4.1). Conversely reinforcing factors such as the health care system and social pressure can inhibit desired change. Thus the mere transmission of facts is not sufficient to change behaviour.

Crowe's (1963) quotation (see page 56) also encompasses change in knowledge and attitudes as well as behaviour. Attitudes comprise 'affective, cognitive and behavioural components corresponding to the evaluation of, knowledge of, and predisposition to action in respect to the object of the attitude' (Wagner, 1969 p.2).

Attitudes lead to a particular kind of behaviour given that the situation and other constraints make the behaviour appropriate. Change in attitude, equally with knowledge, is an important goal therefore in any educational endeavour, providing the motivation for behaviour change as well as for knowledge gain (Severy, 1974).

The aim of CME is to intervene in the aspects of medical practice that can be improved (Fox & Bennett, 1998). Changes attributed to CME have been observed in patients' health and doctor performance, knowledge and skills. However a change in one of these areas does not necessarily result in a change in another. For example, change in clinical performance does not automatically lead to change in patient outcomes (Fox & Bennett, 1998).

Today CME is an attempt to modify doctors' clinical practice by communicating information, facilitating learning (Fox & Bennett, 1998) and creating more positive attitudes toward patients, therapies and learning. The ultimate objective of all CME is to improve patient care by maintaining and perhaps increasing competence among medical practitioners (Conn, 1992). Thus CME is a process of 'life long learning'.

4.2   Delivery of CME

Traditionally CME has been delivered via print media. Originally this mode of delivery took the form of textbooks and was followed by medical journals, of which the first was the Lancet founded in 1823, in London, England by Thomas Wakely (Garrison, 1929). Now there are thousands of medical journals.

More recently CME activities have been delivered in a variety of forms including: lectures and seminars; non interactive educational materials, such as printed materials, video and audio tapes; outreach visits also termed 'academic detailing'; programs run by local opinion leaders, audit with feedback, or a combination of these (Davis, 1998).

Today CME has been formalised with medical colleges providing accredited CME activities. Australian GPs are required to participate in CME programs to remain vocationally registered. Those who are vocationally registered receive a higher Medicare rebate for fees paid. The RACGP conducts the CME program, on a three-yearly basis

and points are awarded to those GPs who successfully complete activities. GPs in the 1999-2001 triennium had to gain 130 points: a minimum of 20 points for Clinical Audit over the whole triennium and a minimum of 20 points for CME participation in each year of the triennium (Royal Australian College of General Practitioners, 1996). The scheme is designed to be flexible and permit individuals to tailor their learning to suit their professional requirements. Educational and audit activities have to be submitted to, and approved by, the RACGP Quality Assurance & Continuing Medical Education Committee for point eligibility.

Not all participation in CME is motivated by mandatory requirements but may also be based on a personal and professional motivation to improve patient health care.

4.3   Qualities of the learner

4.3.1   Adult learner

There is a plethora of literature about adult learning. This section provides an overview of two theories of adult learning. The theories outlined have been chosen as these were influential in the development of the GCGPP and are considered relevant to the context of learning in general practice.

Rogers (1969) distinguished two types of learning: cognitive (meaningless) and experiential (significant). The former corresponds to academic knowledge such as learning vocabulary or multiplication tables, and the latter refers to applied knowledge combined with the 'whole person' including 'the logical, intuitive, the intellect and the feeling, the concept and the experience, and the idea and the meaning' (Rogers, 1969 p.20). The key to the distinction is that experiential learning addresses the needs and wants of the learner.

Rogers (1969), an exponent of humanistic psychology, identified 10 principles of experiential learning:

1. humans have a natural potential to learn.

2. significant learning occurs when the learner perceives the relevance of the subject.

3. learning involves a change in self-organisation and self-perception.

4. learning that threatens self-perception is more easily understood and assimilated when external threats are at a minimum.

5. learning occurs when the self is not threatened.

6. much significant learning is acquired by doing.

7. learning is facilitated when the learner participates responsibly in the learning process.

8. self-initiated learning involves the whole person.

9. independence, creativity and self-reliance are all facilitated when self-criticism and self-evaluation are basic.

10. much socially useful learning is learning the process and retaining an openness to experience, so that the process of change may be incorporated into the self .

Knowles's (1998) theory of 'andragogy' (as opposed to pedagogy) built on Rogers' work. Andragogy values the learner's life experiences and need to be self-directed. It draws the learner into a commitment to learn by responding to the learner's needs, and involves the learner in directing the content and process. Knowles delineated five principles of adult learning:

1. the learner is self-directed.

2. the learner enters into an educational activity with both a greater volume and a different quality of experience.

3. the andragogy model assumes that adults are ready to learn when they experience a need to know or do something in order to perform more effectively in some aspect of their lives.

4. adults are motivated to learn... with a life-centred, task centred, or problem-centred orientation to learning.

5. motivation to learn is more intrinsic than extrinsic.

Knowles (1998) assumes that the adult is in the 'contemplation phase' of the Proschaska and Diclemente 'readiness to change model' (Prochaska & DiClemente, 1983). During this phase the person becomes more conscious and evaluates themselves both affectively and cognitively. Thus the adult learner perceived that they need to fill gaps in knowledge before they can undertake learning. Internal or external motivators may identify this gap. The adult learner is self motivated to learn, as they realise that learning will enhance their ability to deal with real life situations (Knowles, 1998). Adult learning fulfils the need to learn and recognises that adults are capable of self-direction (Knowles, 1998).

4.3.2   Distance learners

Distance education covers various forms of study, and is defined by Holmberg (1977) as 'studies which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from planning, guidance and tuition of a tutorial organisation'. (p.9).

In this form of education students clearly need to be self-motivated. Motivational factors arising from the contact or competition with other students is absent. The students also lack the immediate support of a teacher present and able to motivate and, if necessary, give attention to specific needs and difficulties that occur during study.

Initially students commencing distance education have some difficulty in determining course demands. While this is not necessarily different to face-to-face study, it can be compounded by distance as students may perceive that they do not have the support of an immediate peer group, ready access to the instructor, or familiarity with the technology being used for delivery of the distance education course (University of Idaho, 1995).

Because of these factors distance education students are generally identified as 'autonomous learners'. Wedemeyer (1973) outlines the characteristics of 'autonomous learners':

- they like to plan ahead - a day, a week, a month - and longer
- they usually stick to a plan
- they organise their lives to make the best possible use of time, the most critical ingredient of successful independent study
- they realise they can't start a new activity (learning) without giving up something else that formerly took the time now set aside for study
- they enjoy reading, writing, listening and discussing
- they have open minds to learning new things
- they enjoy questioning, testing and analysing
- they are not afraid to be different
- they have developed skills in note taking, remembering, and relating
- they work co-operatively with others, but enjoy being 'on their own' in learning (p.59 – 72).

Many distance education students are adults with jobs, and families. They must co-ordinate the different areas of their lives, which influence each other, including their families, jobs, spare time, and studies. A review of the literature on the characteristics of the distance education student reveals evidence of the autonomous adult learner.

4.3.3 Doctors as learners

Richards and Cohen (1980) identified six reasons doctors participate in CME. The first is that doctors have a 'commitment to the continual improvement of craftsmanship by continual learning of facts and skills' (p.480). They belief that motivation is derived from the idea that CME is a 'requirement for being a good physician' (p.480) and from external pressures imposed from peers, legislation and mandatory registration. The second reason is that doctors recognise the need to 'keep abreast of new developments' (p.481) and prefer topics that have relevance to their field of practice. Doctors also like to 'validate previous experience', being reassured that what they have been doing is correct or requires modification. This process results in enhanced confidence. Other doctors may engage in a CME program to meet 'specific personal, practice or career need' (p.483). Some doctors undertake CME as 'respite from their clinical practice and seek social contact with peers' (p.484).

These reasons build on the attributes of the adult learner. Ward (1988) identifies that doctors appear to be 'prototypical adult learners. They have clinical problems, which span their careers, that require new learning to be solved effectively and efficiently' (p.135).

This is true for GPs who work in a problem-orientated environment - patients presenting with problems for which they usually expect a solution. Piterman (1991) reports that GPs often learn best when they are challenged by problems that they relate to. GPs often select CME activities that build on their previous knowledge (Sibley, Sackett, Neifeld, Rudnick, & Fraser, 1982). Thus they are ideal adult learners as identified by Knowles and Rogers.

Motivation to learn is not the only variable that influences learning. 'Learning styles' also influence the way people learn. The learning styles of GPs have been studied and

Bennet and Danczak (1993) report that GPs tend to be 'pragmatic learners' using both concrete experience and active experimentation' (p.7 – 8). They are interested in learning by doing and in trying new things they believe can be applied practically. CME courses need to be congruent with doctors' learning style.

GPs also prefer to learn by communicating, in small groups, with peers and other health professionals focusing discussion on case studies (Munro, Colditz, & Wilson, 1982; Owen, Allery, Harding, & Hayes, 1989). This describes the 'activist learner' who enjoys group work, participating and contributing to discussions (Honey & Mumford, 1992). The 'activist learner' may not like distance education which is less interactive, a problem associated with distance education. However, this has been overcome more recently with the increased use of web-based technology.

Holmberg (1985) and Rogers (Rogers, 1986) support these descriptions of adult learners and relate these to adult education, which attracts mature people intent on personal, intellectual, and professional development in the direction of autonomy. Thus GPs should benefit from educational interventions that are under-pinned by adult learning theory.

4.4   Teaching adults

Teaching and learning are not independent activities. The needs and characteristics of the learner should influence the teaching style. The adult learner integrates new knowledge on their pre-existing knowledge, beliefs and skills. This idea forms the basis of constructivism (Garrison, 1993), a framework has that influenced adult learning and teaching. The constuctivist approach to teaching includes unstructured classes with individualised activities, encourages discussion and optional attendance. Learning takes place outside the classroom as students engage with the material, transform new information into a form that makes personal sense to them, and connects with their prior knowledge.

Knowles (1998) identified 'andragogy' as the most appropriate approach for teaching adults. The GCGPP was developed using this approach to education as it is considered critical in advanced levels of education for practicing professionals. Central is experiential learning, which assumes that adults are self-directed, aware of learning needs, competence-oriented in their learning approach, and that they learn more effectively from experience (Knowles, 1998).

The learning environment also influences learning. Ward (1988) identifies that CME must take place in a learning environment where practitioners feel safe to ask questions, recognise areas of improvement and acquire new skills. Therefore continuing medical educators should provide practitioners with constructive feedback about their clinical deficiencies. Self-reflection and critique also reduce the perceived thread of external scrutiny.

Regan-Smith (1998) suggests that in order to facilitate adult learning the teacher should be learner centred, demonstrating the following characteristics:

- *patience*
- *enthusiasm*
- *awareness of learner level of prior knowledge and prior understanding*
- *respect for ability of learner*
- *positive 'can do' attitude*
- *willingness to be a learner too*
- *high expectations and sets deadlines (p.11–20).*

The characteristics of the adult learner have been described here. The learning environment and teachers require certain qualities to facilitate adult learning.

4.5   The effectiveness of CME

GPs in many countries of the world are required to fulfill mandatory CME requirements. To meet their needs many organisations are involved in the development and delivery of these programs which is a resource intensive activity.

There is extensive literature about the effectiveness of CME and these evaluation studies have evolved over time. Abrahamson (1984) summarised the evolution of CME evaluation. Initial evaluations focused on attendance numbers, then participant satisfaction with the educational intervention. Pre-and-post testing of knowledge was used to determine cognitive gain. Assessment of competence and then behaviour change were the next steps in the evaluation of medical education to determine if change in knowledge resulted in competence in the practice of medicine. Finally people questioned whether medical education resulted in improved patient outcomes. Were patients 'better off'? As the evaluation evolved towards patient outcomes it has become evident that the link between the CME activity and the 'outcome' is not direct. There are many intervening variables including those outlined in Section 3.3.

CME has been plagued by controversy regarding its effects on physician competence and performance, and whether it improves health care outcomes (Miller, 1976). Several reviews have been conducted (Beaudry, 1989; Bertram & Brooks-Bertram, 1977; Haynes, Davis, McKibbon, & Tugwell, 1984; Lloyd & Abrahamson, 1979; McLaughlin & Donaldson, 1991; Stein, 1980). Few studies fulfil basic requirements of scientific rigour as many are descriptive. The literature reviewed here has focused on studies that have used a RCT or that have fulfilled the criteria for inclusion in systematic reviews.

Sibley, Sackett, Neifeld, Rudnick and Fraser (1982) conducted a RCT to determine if CME, and preference for CME subject, affected quality of care. Sixteen family practitioners were randomly allocated to receive or not receive CME self-learning

packages. Those randomised to receive were given four CME packages, two of which were their high preference topics and two were low preference topics. Outcome measures were episode of care and were evaluated from case notes before and after the CME. Quality of care was measured using superior, adequate or intermittent. Pre-and-post CME knowledge was assessed however there were no data provided on the validity or reliability of the instrument used to measure this. The study showed that knowledge increased with the intervention but improvement in quality of care did not necessarily occur. When the topic was of interest, both control and study group improved equally. When the topics were not preferred the study group physicians improved more than in the controls. These findings indicate that change in medical knowledge are not necessarily associated with change in performance, yet performance is enhanced when interventions to change knowledge coincide with interest (Sibley et al., 1982).

As stronger evidence about the impact of CME was required a series of systematic reviews have been conducted. Initially Davis, Thomson and Haynes (1992) reviewed 50 RCTs to assess the impact of diverse CME interventions on physician performance and health care outcomes. This systematic review included studies with both positive and negative results and acknowledges problems and missing data. Outcome measures included clinical management of general medical conditions (including investigations, diagnosis and treatment), use of laboratory and radiology investigations, prescribing practices, patient counselling and primary prevention activities. This systematic review concluded that CME using practice enabling, or reinforcing strategies with interaction, consistently improved physician performance and in some cases health care outcomes (Davis et al., 1992).

Oxman, Thomson, Davis, and Haynes (1995) built on the previous study by Davis, et al. (1992), and used a systematic review to determine the effectiveness of different types of interventions including health management systems (not just CME) in improving health professional performance and health outcomes. The 102 studies in this review

included those studies evaluated using RCTs or quasi-experimental designs. Measures of health professional performance were objective, for example general patient management, preventive services, prescribing practices, treatment of specific conditions and health service utilisation. Educational materials included distribution of published or printed recommendations for clinical care including practice guidelines, audiovisual materials and electronic publications. Conferences, outreach visits, the use of local opinion leaders, audit and feedback and reminder systems were also included. Dissemination strategies such as conferences or mailing of unsolicited materials demonstrated little or no change in health professional behaviour or health outcome when used alone. Other more complex interventions such as local opinion leaders ranged from ineffective to highly effective. These studies indicate that there is no one solution for improving the quality of health care.

A third review by this group (Davis, Thomson, Oxman and Haynes, 1995) included the effectiveness of education strategies designed to change physician performance and health care outcomes. Ninety nine RCTs, of educational strategies or interventions that objectively assessed physician performance and/or health care outcomes were included. Intervention included educational materials, formal CME activities, outreach visits such as academic detailing, opinion leaders, patient-mediated strategies, audit with feedback, and physician reminders. Almost two thirds of the interventions (101 of 160) displayed an improvement in at least one major outcome measure: 70 percent demonstrated a change in physician performance, and 48 percent of interventions aimed at health care outcomes produced a positive change. Strategies that were found to be effective in instituting change included reminders, patient-mediated interventions, outreach visits, opinion leaders, and multifaceted activities. Audit with feedback and educational materials were less effective and formal CME conferences or activities, without enabling or practice-reinforcing strategies, had relatively little impact. This review concluded that systematic, individualised practice-based interventions and outreach visits were

more effective than traditional, didactic, large group interventions and that multifaceted programs were better than a single event.

A review of 75 articles on strategies for implementing change in primary care, conducted by Wensing and Grol (1994), found education combined with feedback was more effective than education alone. Combinations of interventions that deal with different types of barriers faced by primary care physicians were more effective than single strategies.

A systematic review was conducted on 13 articles to assess the effectiveness of printed educational material in changing the behaviour of health care professionals (Freemantle, Harvey, Wolf, Oxman, & Bero. 1996). Outcome measures included number of tests ordered, prescriptions for particular drugs or patient health outcomes including blood pressure and number of caesarean sections. Printed material compared to no active intervention had uncertain clinical significance. The addition of more active interventions produced mixed results as audit and feedback and conferences and workshops did not appear to produce substantial changes in practice. The observed effects in the evaluations of outreach visits and opinion leader were more likely to be of practical importance. The results of this review are inconclusive due to the methodological flaws in the studies.

Thomson O'Brien et al. (1999) conducted a review of the CME literature to determine the effectiveness of using local opinion leaders in improving health care professional practice of health care outcomes. Local opinion leaders can be defined as health professional nominated by their colleagues as 'educationally influential' (Hiss, MacDonald, & David, 1978). Behaviour change theories of diffusion of innovations and social influences suggest that using local opinion leaders has the potential to change health professional practice, although it is unclear how this influence occurs. Six of seven trials measuring health professional practice demonstrated some improvement

for at least one outcome variable. The reviewer concluded that using local opinion leaders result in mixed effects on professional practice.

Davis et al. (1999) completed another systematic review of the literature. This one explored the effect of formal didactic and/or interactive CME interventions on physician performance and health care outcomes. A search of the literature published between 1993 and January 1999 identified 14 RCTs, with 17 interventions fulfilling the criteria, in which at least 50 percent of the participants were practicing physicians. Five of the studies included family physicians/general practitioners as participants. Nine studies reported positive changes on professional practice and three out of four interventions altered health care outcomes (Davis et al., 1999). No relationship between group size and positive outcomes was noted (Goulet, Gagnon, Desrosiers, Jacques, & Sindon, 1998). Interactive and mixed educational sessions were associated with a significant effect on practice (Davis et al., 1999). Those that were sequenced also appeared to have more impact. This review concludes that didactic sessions are not effective in changing physician performance or improving patient outcomes (Davis et al., 1999).

A subsequent review explored the effects of printed educational materials on professional practice and health care outcomes (Freemantle et al., 2000). Eleven studies were reviewed. Nine of these studies examined the effects of printed educational material, in the form of journals or targeted mailings, compared to intervention control. Six studies examined the effect of printed material plus additional implementation strategies, such as conferences, outreach visits, local opinion leaders, audit and feedback and marketing, compared to printed educational materials alone. The review included studies using RCTs, interrupted time series analyses and/or pre-post measures.

The findings of the review varied from negative to positive results for both clinician and patient outcomes. The additional impact of more interactive interventions also produced mixed results. Audit and feedback and conferences/workshops did not appear

to greatly change clinical practice, whereas outreach visits and opinion leaders were of practical importance (Freemantle et al., 2000). The implications of this review for people considering design of courseware and delivery is uncertain. There is little evidence about the usefulness of specific components of interventions that resulted in change. The cost effectiveness of these interventions was not reported reliably due to the lack of full economic analyses.

There may also be publication bias in this review of the literature on the effectiveness of CME indicated by the very few negative studies published. The systematic reviews are biased towards CME being conducted in optimal situations whereas 'real-life' primary care evaluations are more difficult to perform. The limited number of RCTs may also limit the generalisability of these reviews. Few studies explore the cost effectiveness of the educational intervention and the impact on change.

These systematic reviews have identified that learning strategies linked to clinical practice, interactive educational meetings and programs that included multiple educational interventions were the most effective. Less effective were audit, feedback, local consensus and the influence of opinion leaders. While RCTs are the epitome in research study design, the systematic reviews may in fact miss many important aspects of evaluation of an educational intervention. Given the thousands of articles on CME, the authors of these reviews employed strict inclusion criteria and many valid studies may have been excluded. Results based upon statistical significance may ignore 'clinical' importance, an important aspect of evaluating whether an educational intervention is effective.

The end point objective of CME is to change doctors' behaviour. The relationship between education and changing clinical behaviour has primarily been investigated using quantitative studies. As outlined above only a few such studies provide objective evidence of the effectiveness of CME in changing doctors' performance.

The following section reviews the literature pertaining to CME in primary care mental health to explore whether targeted CME results in change in doctors' knowledge, attitude and clinical practice.

4.6   CME in primary care mental health

As outlined in Chapter 3 depression and anxiety disorders are a major individual and public health burden throughout the world and are managed mainly in primary care. Education of primary care practitioners has been identified as an important strategy to reduce this burden. While education will not resolve the system-related barriers, it can be targeted to enhance GPs' knowledge, attitudes and practices in relation to patients suffering mental illness. These are important components for improvement in the detection and management of depression and anxiety disorders in general practice.

Thompson et al. (2000) list three assumptions about educating physicians about mental disorders 'that cases can be reliably identified; second, that there are effective treatments that can be generally applied; and third, that it is possible to modify the behaviour of most primary care professionals through education'. (p.185).

Education pertaining to mental health should begin in the undergraduate curriculum. The focus here however is on the postgraduate domain, looking at CME interventions aimed at enhancing primary care physician's knowledge, attitudes and clinical practice. Studies conducted in primary care predominantly using RCTs or quasi-experimental designs are examined.

Table 4.1 summarises the CME studies aimed at improving primary care doctors' detection and management of depression and anxiety and is limited to studies published in the last decade.

Summary of the CME literature aimed at improving primary care doctors' detection and management of patients with depression and/or anxiety disorders

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Andersen & Harthorn, 1990)	41 primary care physicians	Depression and anxiety	RCT.	2.5 hour evening seminar, videotaped consultations, slides and discussion.	Diagnosis and treatment of written cases.	Increased accuracy in diagnosis. Increased referral.
(Kaaya, Goldberg, & Gask, 1992)	18 GP trainees	Management of somatisation.	Pre-post test.	8-session course, training videotape of reattribution model, role-play, video feedback of consultations.	Blind rating of general interview skills and model specific skills.	Improved interview and reattribution skills.

cont.

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Bowman, Goldberg, Millar, Gask, & McGrath, 1992)	9 GPs	Psychiatric interview skills	Pre-post test.	Attendance at a refresher course some 18 months after attending a problem-based interviewing course.	Interview skills assessed by rating behaviour during videorecorded simulated consultations with role-players.	Findings of an earlier study were replicated. In addition, acquired skills were maintained and enhanced.
(Katon et al., 1996)	22 primary care practitioners and 153 depressed patients.	Management of depression	RCT. Patients were randomised to either receive a structured depression program or usual care.	Multifaceted program. Included didactic session and manual for the doctors about antidepressant and behaviour treatment. Intervention doctors participated in case discussions. Intervention patients received education booklets and videos, saw a psychologist.	Patient severity of depression and adherence to medication.	Intervention patients adhered to antidepressant medication.

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Roter et al., 1995)	69 primary care physicians.	Effect of communication skills training.	RCT.	Two 4-hour sessions one week apart. Lecture, case discussions and practice of skills with simulated patients. Doctors audiotaped consultations	Patient's emotional distress as measured by the GHQ. Doctors completed a consultation encounter form.	Physician use of communication skills changed. The intervention group's recognition of patients' psychosocial problems improved and they prescribed more drugs. All patient showed decrease in GHQ score over a 6 month follow-up, however the intervention group decreased more.
(Howe, 1996a)	19 GPs	Detection of psychological distress	RCT.	Brief self-directed intervention using reflection on GPs performance and consultation skills. Included written material and videotaped review of 4 patients.	Detection rates.	Intervention GPs detection improved.

cont.

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Al-Faris et al., 1997)	28 Practitioners	Recognition of mental disorders	RCT.	20 two-hour seminars over 6 months. Course included reading material, group discussion and video recorded or role-play of consultations.	Patients completed the GHQ. Doctors rated the psychiatric severity of each patient, whilst blind to the GHQ scores.	Intervention physicians improved detection of GHQ-positive cases.
(Rihmer, Rutz, & Philgren, 1995; Rutz, 1992; Rutz, Carlsson, von Knorring, & Walinder, 1992; Rutz, von Knorring, Walinder, & Wistedt, 1990; Rutz et al., 1989)	18 Practitioners	Depression	Pre-post quasi-experimental.	2-day program of lectures, case discussions and videos. Reading material provided. A one-day session one-year later was conducted.	Effects on the health care system of education given to GPs.	Doctors' knowledge of the management of depression improved, resulting in an increase in the prescription of antidepressants and a reduction in sedatives, hypnotics and major tranquillisers. 3 years later the doctor's management of depression had deteriorated, the suicide rate had returned to almost pre-intervention levels. Fewer patients were hospitalised (Rutz et al., 1990), and prescribing of antidepressants increased (Rutz et al., 1992).

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Hannaford, Thompson, & Simpson, 1996)	50+ GPs and 300 adult patients.	Detection and management of depression	Pre-post quasi-experimental.	A commercially sponsored educational package comprising a handbook on depression, an aide-memoire for assessing patients with depression, patient information brochures and videos, and a poster to display in the practice.	Recogniton of patients with depression and/or anxiety, defined by the HAD scales.	A small reduction in the overall proportion of episodes of anxiety missed by the doctor.

cont.

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Thompson et al., 2000)	59 practices, 21,409 patients were screened,	Change clinical behaviour and attitudes of GPs and other health care workers.	RCT	A one year intervention comprising 4 hours of group seminars re the introduction of clinical guidelines, a guide to the detection, assessment and management of depression, through practice based seminars and team negotiated follow-up visits. Videotapes, counselling skills, case discussions and role-plays.	Recognition of depression, defined by the HAD scale, and clinical improvement 6 weeks and 6 months post-intervention.	The education was well received, 80% thought it would change their management of patients with depression. 4192 patients were classified as depressed on the HAD. The sensitivity of physicians to depressive symptoms was 39% in the intervention group and 36% in the control group after education (odds ratio 1.2). Patient outcome did not improve at 6 weeks or 6 months.

cont.

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Lin et al., 1997)	22 primary care physicians.	Treatment of depression.	Pre-post quasi-experimental.	A 12-month program including case-by-case consultations, didactics, academic detailing and role-play of optimal treatment.	Antidepressant medication selection and adequacy of pharmacotherapy. Physician delivered educational messages regarding depression treatment; patient satisfaction; and depression outcomes.	No enduring improvement in the treatment.
(Gask, McGrath, Goldberg, & Millar, 1987)	10 GPs	Psychiatric interviewing skills	Pre-post design.	Instruction in the problem-based model with audiotape and videotape feedback of real consultations in a group setting.	Psychiatric interviewing skills.	Interviewing skills improved, particularly the direct psychosocial questions, clarifying comments and development of main problems.

cont.

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Gask, Goldberg, Lesser, & Millar, 1988)	14 GP trainees	Psychiatric interviewing skills	Pre-post quasi-experimental. No control group.	Instructed in the problem-based model in a group setting with the use of videotape feedback.	Change in psychiatric interviewing skills	Improved ability to identify psychiatric illness accurately and changes in interview behaviours.
(Gask, Usherwood, Thompson, & Williams, 1998)	20 GPs	Assessment and management of depression	Pre-post design to. Doctors were their own controls.	Five 2-hour sessions including videotaped role-play.	Impact on experienced GPs' behaviour and attitudes.	Psychosocial interviewing skills and attitudes improved but participants overestimated their depression-specific skills. Subjective and objective assessments suggested improvements in both assessment and management skills. They felt more confident in their abilities to deal with depression . *cont.*

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Tiemens et al., 1999a; van Os et al., 1999)	17 primary care physicians.	Recognition of mental health problems and diagnosis and management of depression according to clinical guidelines.	Pre-post test.	Eight intensive, hands-on training sessions of 2.5 hours including lecture, video-taped consultations, group discussion and role-plays. Supplemented with printed materials for doctors and patients.	Physicians knowledge about depression and ability to recognise and manage depression. Patient recognition determined by GHQ and CIDI-PHC. Patient outcomes at 3 and 12 months.	Physicians improved their knowledge and changed treatment of depression according to the clinical guidelines. Of note were the increase in combination therapy including antidepressants and counselling. Recognition of mental health problems and accuracy of depression diagnosis improved, but was not statistically significant. Short-term patient outcomes improved (3 months), especially those with recent onset of depression. Results were not sustained as 12 months. *cont.*

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Gerrity, Cole, Dietrich, & Barrett, 1999)	49 primary care physicians	Depression	RCT.	Two 4-hour interactive workshops combining lectures, discussion, audiotape review and role-play.	GP knowledge and behaviour pertaining to depression at 2-6 weeks. Simulated patients used checklists and scales to rate GP behaviour.	Doctors who completed the course asked more about 'stress at home', and more criteria for depression. They discussed the possibility of depression, scheduled a follow-up consultation within 2 weeks and patients scored higher on the satisfaction scale.
(Worrall, Angel, Chaulk, Clarek, & Robbins, 1999)	42 family physicians	Detection and management of depression	RCT.	3-hour, small group, case based educational session on clinical practice guidelines. Weekly access to a psychiatrist for consultation about patient management. Control doctors were mailed clinical guidelines.	Detection, management and outcomes of depressed patients over 6 months.	More patients in the intervention group were taking antidepressant medication at the 6-month follow-up although high proportions of depressed patients in each group were not on medication at this time. Referral of patients to psychiatrists or other mental health professionals was low for both groups (5%). Patients in the intervention group improved more than those in the control group did.

Author Year	Participants	Topic	Evaluation design	Intervention	Outcome measure	Findings
(Naismith, Hickie, Scott , & Davenport , 2001)	1008 GPs completed the pre-training knowledge test, 190 the post training test, 386 the first audit and 157 the second audit	Recognition and management of depression and anxiety.	Pre-post design. Doctors were their own controls.	Four small group discussion based seminars conducted over 12-hours. Printed material including depression management guide, training manual and patient treatment pack were issued to the GPs. Practice audit feedback on diagnosis and treatment of common mental disorders.	Doctors' knowledge and recognition of patients.	Post-course improvement of knowledge of drug treatment and clinical management. Recognition of patients also improved.

Eighteen studies are summarised in Table 4.1. The majority of these were conducted in USA and the UK. The educational interventions were predominantly face-to-face and all were multifaceted including discussions, role-play, video and audiotape, didactic components and printed materials. Programs varied in length from a single 2.5 hour evening session to short courses comprising several sessions of a few hours, conducted over several weeks or months. Two programs ran over one year and another two included follow-up after 12 months.

Fourteen studies used pre-post measures and six of these were RCTs. Although randomised experiments are thought the best scientific method for causal purposes, RCTs are rarely feasible in this setting, as students usually self-select and enrol in the course which prevents them being randomised into an intervention or control group. Furthermore, RCTs require large sample sizes to detect statistically significant differences between the groups. Most of the educational programs summarised in Table 4.1 included a small number of doctors, thus authors may have anticipated that their courses would not reach the necessary numbers required for this study design to be employed. One study included practices and two focused on GP trainees. In only one study (Howe, 1996a) was distance education used.

Only a few studies reported information about those practices that did not participate. This is not surprising as the focus of the evaluations was on the impact of the educational program, not exploring the barriers or reasons for non-participation, but makes the extent of bias of selection unknown.

The majority of studies using a quasi-experimental design only have an intervention group, which is measured before, during and/or after the educational program. It serves as its own control. The weakness of this design is that one cannot be sure that the interventions is responsible for the measured change. Another intervention may have contributed to the effect. Comparing the performance of the intervention group with a

comparable control group can solve this problem, however it is difficult to have a blind control group.

The fact that doctors volunteer, and are therefore motivated, to participate in CME programs may influence the evaluation of the program. For example, they may have already been better at detecting psychological distress. Furthermore these motivated doctors may already be skilled and educated, providing limited opportunity for change. For example the pre-course recognition rate of depression in the van Os study was already high (86%) (van Os et al., 1999).

Nine of the 18 studies reviewed aimed to change doctor behaviour, including recognition and management of mental disorders, primarily focusing on depression. Three studies reported change in physician knowledge, and only one change in attitude. While several studies reported change in skills we do not know if these resulted in change to clinical practice, although GPs did improve their ability to detect psychological distress in their patients utilising a self-directed educational approach.

Most studies reported positive findings. Video feedback to doctors resulted in improvements and this supports the findings of Goldberg (1980) and Whelwell (1988) who have also shown that video feedback is a powerful way to improve detection of emotional disorders in general practice.

One study reported negative findings, although the program was reportedly well received by the participants (Thompson et al., 2000). This intervention focused around treatment guidelines for depression. The recommendation of tricyclic antidepressants in the treatment guidelines may have also have contributed to the negative findings. This class of drug is increasingly being replaced by SSRIs that have fewer side effects, are easier to administer and are less toxic. In any case, Kendrick (2000) questions the place of guidelines. He identifies that diagnosis of depression is not easy to make in primary

care as the 'symptoms can change quickly and severity is arbitrary' (p.200). Secondly he states that many practitioners doubt the effectiveness of antidepressants particularly when social problems continue to exist (Kendrick, 2000). Finally, many patients who are recognised are reluctant to accept drugs and/or believe they are addictive (Kendrick, 2000). These beliefs influence compliance with drug treatment.

Other factors which may have contributed to the negative findings of Thompson's study include the cut off of the HAD scale. This may have been too low and may have weakened the power of the intervention. Finally, patient compliance was not monitored. It is interesting to note that of all four studies that have measured patient treatment outcomes only two, Hannaford et al. (1996) and Katon et al. (1996), monitored compliance.

The majority of studies reported have been conducted in white and middle class communities thus the gereralisability of the success of the program to other socioeconomic or ethnic groups is not known.

A flaw in Katon et al's study (1996) was that the patients, and not the doctors, were randomised to the intervention. Patients in the 'usual care' group may have also benefited from the doctors' training and participation in this program. Given that the literature indicates that the severe are more often detected than the less severe this may have impacted on the results of the study. The study results may not be generalisable to the approximately 50 percent of patients that are not recognised as depressed by their doctor.

Very few studies with the exception of Rutz, Carlsson, von Knorring, and Walinder (1992) evaluated the cost-effectiveness of their program. This is an oversight as educational interventions that include shared care may be expensive to patients not under research conditions. In Katon et al's study (1996) patients in the intervention group spent an average of 2.5 to 3.5 contact hours with a psychologist and also had

phone follow-up. Patients under the care of a psychologist in Australia pay for these services. Thus implementing this form of intervention requires health care service delivery reform, which is currently the topic of discussion, as is the promotion of shared care.

There were several other limitations to these studies. No study evaluated the effect of GP characteristics that may have influenced the outcomes (recognition) or patient variables that influence quality of life. Nor did any study link attitude with knowledge and behaviour. No study assessed rates of recovery from depression as an influence of an educational program.

Another methodological issue is the Hawthorne effect, which is the possibility that the effect of interventions is caused by the person's awareness of being observed.

Rutz (1992) identified the need for ongoing education, as the positive impacts derived from their program were no longer existing after three years. Reinforcing education is necessary to ensure that those GPs who move into the area receive training and those who previously under went programs have new information provided. These finding resulted in the authors concluding that their course should be repeated every two years (Rutz, 1992). While this may be expensive they explored the cost of providing education programs and found this to be an estimated 0.5 percent of the annual benefit in economic terms (Rutz et al., 1992). Policy makers should consider reinforcing education strategies as part of the initiative to lessen the burden of mental illness on society.

This review highlights that change in recognition has been the focus of CME activities in primary care mental health. The results of these studies are positive although not sustained over time. Educational efforts may be better spent on increasing GPs' knowledge and clinical skills to increase their confidence in the recognition and management of these conditions. Despite some insurmountable difficulties which are

intrinsic to GP and education research, evaluation remains an important part of the educational cycle (Cantillon & Jones, 1999) although funding is difficult to obtain.

4.7 Summary

A review of the current literature suggests that CME programs have included more scientific and quantitative assessments of evaluation in recent years. It is evident that no single activity promotes substantial change. The most effective methods include learning linked to practice, interactive sessions, outreach events and multifaceted interventions. Less effective strategies include audit, feedback, local consensus and the influence of opinion leaders. The least effective is the didactic lecture and printed material. There has been a trend to evaluate over longer time frames and for exploration of impact and outcomes beyond the participants in the program. The literature pertaining to primary care mental health focuses on recognition as an outcome. Of the 18 studies reviewed few focused on change in knowledge or attitudes and there was no evidence about aspects of the multifaceted interventions that influenced change. This study therefore sought to determine if CME influenced change in doctors' knowledge, attitude and practice, and which aspects of the program influenced change; patient outcomes were also evaluated. Chapter 5 details the GCGPP.

Chapter 5

Graduate Certificate in General Practice Psychiatry

5.1   Collaboration

The effective delivery of continuing professional education is becoming increasingly dependent on collaboration among diverse agencies and institutions (Hohmann, 1985). This graduate course involved two universities and four departments: Monash University's Department of General Practice in association with the Department of Psychological Medicine, and the University of Melbourne's Department of Psychiatry and Department of Public Health and Community Medicine (McCall et al., 2000). Part-time authors and markers were also employed making it necessary to develop an organisation structure to effectively manage the course.

Stakeholders involved in the program included the following:

- The University of Melbourne and Monash University (4 departments)
- RACGP
- RANZCP
- Course Management Committee
- course directors
- course co-ordinator
- authors, markers and tutors.
- students

A Management Committee consisting of representatives of the four university departments, the RACGP and the RANZCP, met monthly to discuss course progress,

development and administration items and to formulate policy and procedures. A schematic diagram of the course management structure is outlined in Figure 5.1.
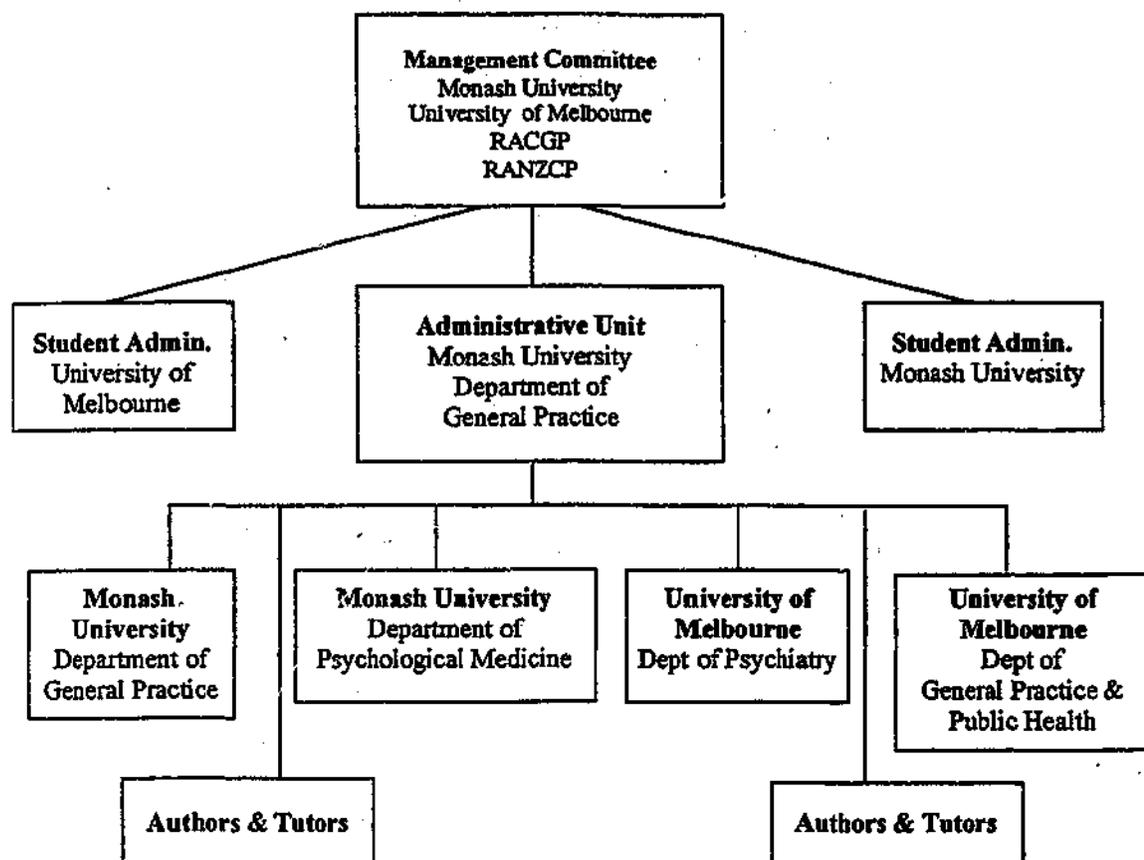
Figure 5.1
Schematic diagram of the Management Committee

5.2   Characteristics of the program

As outlined in the Chapter 1, this course was developed in response to the recommendations in the *Primary Care Psychiatry – The Last Frontier* document (1997). This 'needs analysis' provided the course developers with the background to the barriers of detection and management of mental illness in general practice and identified that CME was one strategy required to assist GPs overcome these challenges.

As the review in Chapter 4 illustrates, GPs are adult learners who are motivated to learn, to improve their knowledge, attitudes and practices, building on their previous

experience to enable them to help their patients. To this end the adult learning and teaching frameworks of Rogers' (1969) and Knowles' (1998) under-pinned the development of the GCGPP.

Distance education is an acceptable form of delivery of CME for GPs. The Department of General Practice, at Monash University, one of the parties in this collaborative endeavour, is the main provider of distance education for GPs in Australia and has a growing international reputation as evidence by its increasing off shore enrolments. Over the last decade this department has graduated over 500 GPs from its Graduate Diploma and Masters courses in Family Medicine. Whilst this may not seem many graduates compared to other distance education courses, the delivery of CME to GPs is a niche market. Traditionally distance education was industrialised (Peters, 1983) and tailored for the mass market, for example courses from the Open University in the UK. This mode of delivery is transferable to smaller markets as all education is about promoting individual learning although the costs associated with the development of distance education materials is high and may be prohibitive for some areas.

5.2.1   Goals of the program

The goals of this program were developed in response to the recommendations outlined in the *Primary Care Psychiatry – The Last Frontier* (1997) and an understanding of the barriers facing GPs in dealing with mental illness. Questions recommended by Masters and McCurry (1990) were also considered when the course goals were being established. These include:

- *What are the major aspects or divisions of profession?*
- *What are the major roles that members of this profession play?*
- *What are important tasks in the day-to-day activities of a practicing member of this profession?*

- *What areas or kinds of knowledge does the competent professional need?*
- *What skills and abilities does the competent professionals need?*
- *What are the affective and interpersonal qualities desirable in the professional? (p.16).*

The course aimed to enhance GP knowledge and understanding of the common mental disorders in the community and in general practice, predominantly depression and anxiety, including the aetiology of disorders, the prevalence and impact on the community and individual. It was anticipated that enhancing GP knowledge and understanding in these areas would result in detection and diagnose these conditions. Once diagnosed these conditions need to be adequately managed therefore another aim of the course was to increase the GP's knowledge and practices in relation to a range of drug, non-drug treatments and referral. In some instances this required GPs to change their attitudes about their current practices to enable them to learn and implement new knowledge and practices.

The following points are a summary of the goals of the course. On completion of this course students were expected to:

- appreciate the content and context of psychiatric illness in the community and in general practice
- demonstrate knowledge of the natural history and management of a range of common psychiatric problems encountered in general practice
- adequately detect and diagnose mental health problems in general practice
- effectively assess and manage (using both non-drug and drug therapy) a range of common psychiatric conditions and refer when necessary to specialist services
- involve themselves in shared care of psychiatric patients with both acute and chronic problems

- communicate effectively and empathically with patients with psychiatric illness and with their families and carers

- engage in a number of specific non-drug related therapeutic modalities which may reduce stress or modify behaviour

- evaluate their effectiveness with individual patients as well as their effectiveness in detecting and modifying psychiatric morbidity in their practice

- have a clearer understanding of themselves and their role as therapists, gatekeepers and members of a multi-disciplinary team engaged in patient centred care.

The goals of the program directed both content and structure of the course.

5.2.2   Course structure

The Graduate Certificate was conducted part-time over two semesters (42 weeks). It is equivalent to 0.5 effective full time student units (EFTSU) and is available to Australian and overseas medical graduates working in general practice with a minimum of two years active experience in this field. With appropriate prior learning this award could be upgraded to a 48-credit point professional course work Masters degree (1.0 EFTSU).

5.2.3   Course content

The following seven compulsory subjects and sessions comprised the GCGPP:

5.2.3.1   Subject: Introduction to General Practice Psychiatry

Session 1   What is psychiatry?

Session 2   Psychiatry in general practice

Session 3   The psychiatric examination

Session 4   Mental Health Acts

This subject covered the fundamentals of general practice psychiatry including an understanding of the methods of patient assessment, the classification of disorders and the principles of management (including the medico-legal obligations). It set the scene for the rest of the course (Joint Course Management Committee, 1998).

5.2.3.2   Subject: Depression and other mood disorders

Session 1   Description, classification and recognition of mood disorders

Session 2   Course and effects of mood disorders: depression in special settings

Session 3   Management of depression

This subject covered the recognition and classification of depression. It described the course of depression and its effects on the patients, their family and the community. 'Depression in particular settings' was also explored. (Joint Course Management Committee, 1998). Management of depression including drug and non-drug therapy and referral were also covered.

The 'Depression and other mood disorders' subject was developed and piloted as a three-week distance education program on depression, then evaluated by the Course-Co-ordinator in 1996 (Blashki, 2001). The subject material presented in this subject in the GCGPP incorporated the student feedback from this pilot and was modified for this program.

5.2.3.3   Subject: Anxiety

Session 1   Anxiety disorders

Session 2   Assessing the anxious patient

Session 3   The treatment of the anxiety disorders

This subject distinguished anxiety disorder from normal anxiety, stress and anxious personality. It also examined anxiety as a mixed disorder with other psychiatric and medical conditions. Specific anxiety disorders, including panic attacks, phobic disorders, OCD, PTSD and GAD and their management were examined (Joint Course Management Committee, 1998).

5.2.3.4   Subject: Alcohol and Drugs

Session 1   Understanding drugs and drug use

Session 2   Drugs: what are they, what do they do, how are they controlled?

Session 3   Recognising the user, raising the issues and assessment

Session 4   Interventions I

Session 5   Interventions II

This subject covered the nature and epidemiology of alcohol and drug dependence and explored the aetiology of dependence in pharmacological and behavioural terms. Management strategies for the abuse of nicotine, alcohol, benzodiazepine, opiates, stimulants, cannabis and other drugs were covered (Joint Course Management Committee, 1998).

5.2.3.5   Subject: Introduction to Psychotherapy

Session 1   Introduction to psychotherapy

Session 2   Overview of the different psychotherapeutic approaches

Session 3   The common psychotherapies

This subject covered the nature of psychotherapy and outlined the common types of psychotherapy, including individual long-term psychotherapy, group psychotherapy, cognitive behavioural therapy, interpersonal psychotherapy, family therapy, supportive psychotherapy and crisis intervention therapy (Joint Course Management Committee, 1998).

5.2.3.6   Subject: Stress Management

Sessions 1 – 3   Stress management

This subject examined the body of scientific evidence linking stress with mental and physical illness and with a range of abnormal lifestyle behaviours. It taught practical skills in the form of relaxation and meditation techniques which doctors practiced and then taught their patients (Joint Course Management Committee, 1998).

5.2.3.7   Subject: Introduction to Family Therapy

Session 1   Introduction to family therapy

Session 2   Schools of family therapy

Session 3   Schools of family therapy (continued)

Session 4   A four stage model of therapy.

This subject examined the context of relationships, in particular family relationships, in contributing to physical and mental illness. It explored the genogram model of identifying family factors in the aetiology of emotional problems, and examined various forms of psychotherapy used in the management of patients which these problems. A four-stage model of therapy was taught including the evaluation of therapeutic outcomes (Joint Course Management Committee, 1998).

5.3   Course development

The review of the CME literature, in relation to general practice, in Chapter 4 provided the theoretical base for the design of the GCGPP. A thorough understanding of the general practitioner audience was gained through the experience of the University of Melbourne and Monash University's general practice departments. This understanding developed by Monash University Department of General Practice through provision of distance education programs from the early 1990s included preferred instructional methods and proposed delivery systems.

In keeping with the ideas of Holmberg (1985) who promoted the idea that course development required a team effort distance education materials were developed at Monash's Department of General Practice in conjunction with subject authors from both universities.

An academic GP was appointed as Course Co-ordinator to co-ordinate course authors - a team, comprising general practitioners, psychiatrists and other specialist counselors, who developed this tailor-made course for general practitioners interested in psychiatry. The incumbent was responsible for training authors, briefing them on content, style, assessment criteria and ensuring material produced was relevant to GPs (as many of the authors worked in specialist fields) and met curriculum requirements.

The Course Co-ordinator was also responsible for ensuring that material was processed to meet strict time-frames, by co-ordinating course development activities from authorship, including editorial and desktop publishing.

Print media has been the foundation of distance education and the basis from which all other flexible delivery systems have evolved. The first distance courses were offered by correspondence, with print materials sent and returned to students by mail. Despite technological changes print media continues to be a common method of distance education. Print remains relatively inexpensive, non-threatening and is accessible to students without having the additional cost of computer hardware and software and internet access. Printed materials are also readily transportable, so reading can be done on public transport, or taken on holidays. Printed materials can be readily referenced and are easy to edit and revise. For these reasons the developers used printed materials to deliver core knowledge.

Presentation of the course materials followed the format of the Graduate Diploma in Family Medicine, designed to arouse students' interest, without overwhelming them (Piterman, Parer, Schattner, & McCall, 2000a). Inspired by Gange and Briggs (1974) the developers felt is was important to arouse student attention and motivate them, to make them aware of expected outcomes, to link material with existing knowledge and interest, present material to be learned, to provide feedback and facilitate retention.

The printed material comprised study guides, notes and collated references. A standard format for all printed course materials was used which included an outline of the course syllabus, the goals and objectives, performance expectations, descriptions of assignments, related readings (often by session), assessment criteria, and a weekly overview of the material to be covered. Each subject was divided into a session, which equated to a week of work. The printed materials for each subject were presented in a

hard cover ring binder, the course content was on white paper and reading material was placed at the back of each session and printed on 'buff' coloured paper.

Distance education can be a passive learning experience. To ensure this was not the case in the GCGPP, reflective activities and assement were posed throughout the course. These were often practice or patient based, to stimulate the learner to be more active and to enhance understanding.

Holmberg's (1985) theory of distance education as a 'method of guided didactic conversation' was used to action the ideas of Gange and Briggs (1974). This style facilitates a personal relationship with the student and the supporting organisation which enhances student motivation and stimulates them to make the course material personally relevant (Holmberg, 1985). Suggestions made by Misanchuk (1994) were incorporated into the course materials. These include that distance educators write instructional material with language more like that used for speaking than for writing journal articles or books, e.g. using short sentences, avoiding excess information in a sentence, using point form, and avoiding jargon (Misanchuk, 1992). Misanchuk (1992) also recommends that course materials be organised on the identified goals and objectives and use examples and analogies to illustrate and reinforce points.

Audiotapes, which contained discussions between course authors and facilitators supplemented this printed material and were used at the beginning of sessions in order to engage the learner and introduced them to the course authors. These discussions focused on specific controversial areas of diagnosis and management of psychiatric conditions. A number of videos were also included to demonstrate various psychotherapeutic techniques, for example, cognitive behavioural therapy, interpersonal therapy and relaxation therapy. All materials were sent via express post, which is reliable and inexpensive.

The use of multifaceted instructional techniques was based on the evidence from systematic reviews (outlined in Chapter 4) which show that these can change doctor's knowledge, attitude and practice.

5.4   Method of communication

Communication with the students was thought to be vital to maintain student motivation, support learning and assess student progress (Holmberg, 1985). A number of modes of communication were integrated into this course. As mentioned previously audiotapes were used for discussion of topics as these are flexible in that personal tape recorders and car stereo systems make this an ideal mode. Videotapes were also used and are, like the audiotapes inexpensive, easy to operate, accessible, and use technology that is familiar to students. These methods of delivering course material offer students flexible delivery as they can be used at a time convenient for them.

While computers are increasingly being used to facilitate distance education this is not the case at present for this course. Whilst there has been an increase in the computer literacy of GPs, surveys conducted by the Department of General Practice at Monash University (unpublished) show that this mode of course delivery is not preferred by GPs.

Tutorial support was conducted via teleconference and was scheduled for Sunday evenings at 8pm, a time found to be most suited to the majority of course participants. Participation in these teleconferences was optional.

Electronic mail was used to communicate with those students who possessed this method of communication. As many doctors did not have email access the telephone and facsimile were more commonly used to receive requests for extensions, and last minute

communication. Memos conveyed changes to the course and administrative requirements.

In addition to the distance learning component, two residential weekend workshops were conducted throughout the course. Approximately 80 percent of the enrolled GPs attended these weekends. The workshops were designed to discuss difficult issues of case management and to teach specific interviewing and psychotherapeutic techniques, for example motivational interviewing in drug and alcohol management, cognitive behavioural therapy in the management of various phobias, relaxation techniques in the management of stress and counselling techniques in family therapy.

5.5 The role of the distance education teacher

The perceived role of the teacher in traditional teaching settings usually emphasises the transmission of information to the students in the context of a lecture, the leading of small group discussions or tutorials and one-to-one teaching (Harden, 1988). Communication in such situations is by the human voice, and is therefore immediate, spontaneous, often emotionally motivated, provides interaction between the learner and the teacher, and is often, between the learner and other learners (Moore, 1973). This method of teaching has no distance of space or time. It relies on social interaction (Moore, 1973). In contrast, the distance education teacher has no visual cues to determine if the course content and pace is meeting the students' requirements.

In distance education this role diversifies as the teacher is the course author, tutor and marker they prepare unambiguous materials including course objectives, content, references, activities and assessments. 'Tutoring' is done by audio-visual, telephone or face-to-face at scheduled residential sessions. The authors also provide feedback to enable the student to identify his/her strengths and weaknesses in achieving the course objectives. This feedback may be written, electronic or audio mode, or face-to-face.

Successful distance education students tend to be autonomous learners. The role of the teacher in this course was to offer advice and feedback to facilitate rather than control the learning process.

5.6   **Methods of assessment**

Assessment techniques were based on the educational philosophies of phenomenology (Combs & Snygg, 1959) and constructivism (Garrison, 1993) and were driven by course objectives. Phenomenology is the idea that the learner personalises the learning within the context of their environment. Constructivism is creating personally relevant meaning by relating new learning to past experience. Although Combs and Snygg (1959) studied the education of children, their work is relevant to the adult learner.

General practitioner students are involved in patient care and many already posess years of experience, which is to be acknowledged and valued. Consequently, written assignments were based on case discussions and case management structured around a number of standard case vignettes. Students were asked to keep a journal which included responses to a number of short activities contained throughout the study guide as well as reflections on their own case management. Kottkamp (1990) defined reflection as 'a cycle of paying deliberate, systematic and analytical attention to one's own actions, feelings and thinking in relation to a particular experience for the purpose of enhancing perceptions of, and responses to, current and future experience'. (p.182).

Schon (1983; 1987) clarified the importance of reflection on everyday practice as a means of continuous change and learning. Thus journal activities included self-checking exercises in order to maintain student motivation by engaging them in consideration of their views on a specific issue and then reflecting back on their responses after discussions posed later in the course. These journals were submitted for feedback and pass/fail grading. All assessment was based on criterion referencing rather than normative

referencing. Acquisition of specific skills (e.g. counselling, motivational interviewing and cognitive behavioural therapy) was assess on documentation of consultations and submitting case commentaries with a written discussion. Residential workshops included role-plays, which were used to provide feedback on skill performance.

Formative assessment was also used to enhance learning for these distance education students. The course markers were expected to provide extensive feedback on all assignments. Information is more likely to influence practice if presented close to the time of decision making (Mugford, Banfield, & O'Hanlon, 1991) as learners value timely feedback regarding course assignments, and projects (Egan, Sebastian, & Welch, 1991). Thus markers were requested to have their marking back within two weeks of receiving the assignments from the course administrator staff.

Medical audit was also used to encourage reflection. This self-audit enabled students to create personally relevant meaning out of their own data. Comparisons between first and second audits enable differences in practice, which have ensued as a consequence of the course, to be detected and documented. Pooled data provides a comparison against which the students can reassess their own activities (benchmark). This tool also provided GPs with clinical audit points, which are needed to meet their obligations for vocational registration.

5.7   Student commitment

Considerable time and financial commitment was required from each student enrolled in this course as every student paid a fee of $4200. Each subject was designed to provide students with approximately 10 hours of work per week, including reading, activities and assessment tasks. Thus GPs who enrolled in this course were highly motivated.

5.8   Summary

The GCGPP was developed in response to a need for GPs to improve their knowledge and skills pertaining to the detection and management of patients presenting to general practice suffering common psychiatric disorders.

As GPs are adult learners the theories underlying the development of this program should facilitate learning. This coupled with the multifaceted approach, comprising the aspects shown to be effective by systematic reviews, should result in change in doctors' knowledge, attitudes and practices of the common mental disorders in general practice and may influence patient outcomes. The next chapter outlines the aims and objectives of this research study to determine if change took place.

Chapter 6

Aims and hypotheses

The focus of research in this study was the impact of the GCGPP on GPs' knowledge, attitude and practice pertaining to the common mental disorders, predominantly depression and anxiety, in general practice and an associated effect on patient health-related quality of life, including mental health. The specific aims were:

1. To examine whether the GCGPP was associated with:

   - a change in knowledge of, and attitudes towards, the common mental disorders (predominantly depression and anxiety)
   - a change in recognition and diagnosis of the common mental disorders (predominantly depression and anxiety)
   - a change in the documentation of risk factors associated with the common mental disorders
   - a change in GP management of the common mental disorders
   - improved outcomes for patients suffering these disorders.

2. To examine whether change in GP knowledge and attitude was sustained.

3. To explore what aspects of the course were associated with change in knowledge, attitude or clinical behaviour.

The following hypotheses were measured:

H_1 Participation in the GCGPP lead to improved students' knowledge of, and attitudes towards, common mental disorders (predominantly depression and anxiety) in general practice.

H_2 Change in GPs' knowledge of, and attitudes towards the common mental disorders (predominantly depression and anxiety) in general practice will endure up to 6 months after the completion of the course.

H_3 Participation in the GCGPP lead to increased documentation of diagnosis and risk factors of the common mental disorders in general practice.

H_4 Participation in the GCGPP lead to increased recognition and diagnosis of patients with common mental disorders in general practice.

H_5 Participation in the GCGPP lead to improved GP management of common mental disorders in general practice.

H_6 Participation in the GCGPP lead to improved outcomes for patients suffering common mental disorders (depression and anxiety) who present to the GPs.

The method used to research the aims and hypotheses will be described in Chapter 7.

Chapter 7

Method

7.1 Study design

7.1.1 Overview

A quasi-experimental, controlled before and after design was used (Campbell & Stanley, 1963). This design was constrained by students self-selecting to undertake the GCGPP, making randomisation impossible in a naturalistic environment.

The impact of the GCGPP was measured quantitatively using a pre-post test of knowledge and attitudes and a pre-post medical audit. Change in doctors' knowledge of, and attitudes towards the common mental disorders, predominantly depression and anxiety, was determined using a questionnaire administered one week prior to the commencement of the course (T0) and during the last week of the course (T42). The GPs in the intervention group were re-issued the questionnaire six months after they completed the course to determine if changes were sustained over this time.

Clinical practice, including recognition of disorders, was measured using an audit of medical records at week six and week 42 (T6 and T42). This was analysed looking for trends and change, both within the groups and between the control and intervention group.

Details of the knowledge, attitude and audit instruments, including the development process, are detailed in Chapter 8.

Ethical approval to conduct this study was granted by the Monash University Standing Committee on Ethics in Research on Humans (approval number 98/323 granted 25th August 1998; (Appendix 1).

7.1.2 Detailed plan

The GCGPP commenced in the first week of February 1999. GPs enrolled in the course and those who expressed interest, but did not enrol (to be used as controls), were sent a letter of invitation to participate in the study in January 1999, and if agreeable were asked to complete a consent form and return it to the researcher in a reply paid envelope (Appendix 2).

Prior to commencement of the GCGPP the GPs participating in the research were sent a copy of the study questionnaire including knowledge and attitude items (Appendix 3), to complete and return to the researcher in a reply paid envelope. They were subsequently asked to complete a repeat questionnaire during the last week of the course.

In the first week of February 1999 (Week 0), and again in September 1999 (Week 34), the GPs were asked to gather data from 50 consecutive patients aged 18 to 65 years, who had attended them. To facilitate this the GPs were supplied with an explanatory statement and consent form, attached to patient questionnaires (Appendix 4), to explain the study and seek patient participation. Each patient questionnaire was given a unique identifying number. The practice receptionists were asked to issue the numbered questionnaires and keep a register of the numbers and patient identification.

Patients were asked to complete the 28-item GHQ, SF-36 (Ware & Sherbourne, 1992) and demographic profile whilst waiting to see their GP. The patients were also asked if they would be prepared to complete and return a second SF-36 10 to 12 weeks later.

Consent was sought for their GP to audit their medical record and provide anonymous summary data to the researcher. Patients were excluded if they were not literate in English.

For the purpose of medical audit, a stratified sample was created. As each GP returned the patient surveys in the mail the researcher allocated patients to two groups, defined by a GHQ cutoff of 4/5 (as described in the *GHQ User Manual* (Goldberg & Williams, 1991) until there were 14 'probable cases' (GHQ $\geq$ 5) and 6 'non-cases' (GHQ $\leq$ 4) giving a total of 20 for each GP. The GPs were contacted in March 1999 (Week 6) and asked to conduct a retrospective audit of their medical records, over the previous six months, on the 20 patients nominated (GPs were blind to the stratification of their patients). For those patients recruited in September 1999 this same process was repeated and the GPs requested to audit their files in October 1999.

Those patients who were classified as 'probable cases' on the GHQ in either March or September were sent a second SF-36 for completion 10 weeks after the initial one in order to monitor progress.

The GPs in the intervention group were re-issued the study questionnaire, in June 2000, six months after they completed the course to determine if changes were sustained over this time.

A commercial data entry firm performed quantitative data entry and verification. Raw data was recoded and descriptive statistics generated. This procedure was conducted on two separate occasions and comparisons made to ensure that data coding was correct.

Each GP received 25 clinical audit points for completing the audit requirements of this study. These points were the full quota required for a three year period to maintain

vocational registration. Those in the control group were also sent distance education material on depression at the conclusion of the study.

Indepth, semi-structured interviews were conducted by telephone, eight months after the completion of the course, with a purposeful stratified sample of GPs from the intervention group, to explore their motivation for participating in the course. The interviews also sought to identify aspects of the course that the GPs perceived as influencing change. Details of the qualitative phase of this study are described in Chapter 12. Figure 7.1 (see page 112) summarises the study design.

7.2   Sample

Thirty-one students of the GCGPP (out of a possible 35 enrolled) consented to participate in the study. Complete data was collected on 28 and formed the intervention group. Twenty eight GPs, who initially expressed interest in the course but did not enrol, consented to be part of the control group. Of the latter, seven withdrew their consent prior to the commencement of the project and seven did not complete all data collection activities, leaving a control group of 14 with complete data. There were no significant differences in demographic data, interest and training in psychiatry for the 14 control group GPs compared with those who withdrew or were excluded on the basis of incomplete data.

The 14 control doctors were 'matched' with 14 intervention GPs, on gender, state and postcode, and interest in general practice psychiatry. The 14 GPs comprising the intervention group were not significantly different from the whole student group, or from the control group, on any of the demographic variables. This data is shown in results section in Chapter 9.

Figure 7.1 *Study design*

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                    ┌─────────────────────────────┐
                    │  Non-randomised self-selection│
                    │       assignment of GPs      │
                    └─────────────────────────────┘
```

Intervention group (14 GPs)	Control group (14 GPs)	Time

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┌──────────────────────────────┐  ┌──────────────────────────────┐
│ GHQ and SF-36 given to 50     │  │ GHQ and SF-36 given to 50     │
│ consecutive adult patients in each │ consecutive adult patients in each │
│ GP's practice over 1 week.    │  │ GP's practice over 1 week.    │
│                               │  │                               │
│ GPs completed pre-course study│  │ GPs completed pre-course study│
│         questionnaire         │  │         questionnaire         │    T 0 weeks
└──────────────────────────────┘  └──────────────────────────────┘

┌──────────────────────────────┐  ┌──────────────────────────────┐
│ Pre-course audit completed by │  │ Pre-course audit completed by │
│  each GP on 20 patients       │  │  each GP on 20 patients       │    T 6 weeks
└──────────────────────────────┘  └──────────────────────────────┘

┌──────────────────────────────┐  ┌──────────────────────────────┐
│ Pre-course 'probable cases'   │  │ Pre-course 'probable cases    │
│  complete second SF-36        │  │  complete second SF-36        │    T 10 weeks
└──────────────────────────────┘  └──────────────────────────────┘

┌──────────────────────────────┐
│   GPs undertake GCGPP         │                                     T 0–42 weeks
└──────────────────────────────┘

┌──────────────────────────────┐  ┌──────────────────────────────┐
│ GHQ and SF-36 given to 50     │  │ GHQ and SF-36 given to 50     │
│ consecutive adult patients in each │ consecutive adult patients in each │
│ GP's practice over 1 week.    │  │ GP's practice over 1 week.    │    T 34 weeks
└──────────────────────────────┘  └──────────────────────────────┘

┌──────────────────────────────┐  ┌──────────────────────────────┐
│ GPs completed post-course study│ │ GPs completed post-course study│
│   questionnaire and audit     │  │   questionnaire and audit     │    T 42 weeks
└──────────────────────────────┘  └──────────────────────────────┘

┌──────────────────────────────┐  ┌──────────────────────────────┐
│ Post-course 'probable cases'  │  │ Post-course 'probable cases'  │
│  complete second SF-36        │  │  complete second SF-36        │    T 46 weeks
└──────────────────────────────┘  └──────────────────────────────┘

┌──────────────────────────────┐
│ GPs complete 6 month post-    │
│  course study questionnaire   │                                     T 70 weeks
└──────────────────────────────┘

┌──────────────────────────────┐
│ Interviews with a purposeful  │
│  stratified sample of GPs     │                                     T 80 weeks
└──────────────────────────────┘
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7.3   Instruments

7.3.1   The General Health Questionnaire

The GHQ is a self-report measure of psychological distress designed for use in general population surveys, in primary medical care settings, or among general medical outpatients (Goldberg, 1978). It was designed as a first-stage screening instrument for psychiatric illness, which could then be verified with clinical diagnostic methods. It has also been used in epidemiological studies as an indication of 'probable caseness' (Goldberg & Williams, 1991). The questionnaire was designed to be easy to administer, acceptable to respondents, fairly short, and objective in the sense that it did not require the person administering it to make subjective assessments about the respondent.

The questions explore whether the respondent has recently experienced a particular symptom (like abnormal feelings or thoughts) or type of behaviour. Change in condition, not the absolute level of the problem, is emphasised, so items compare the present state to the person's normal situation with responses ranging from 'less than usual' to 'much more than usual' (Goldberg, 1978). The questionnaire explores symptoms of depression, anxiety and somatisation and begins with relatively neutral questions leading to the more overtly psychiatric items toward the end. This instrument has been translated in over 35 languages and is widely used (Goldberg & Williams, 1991).

GHQ scores can be interpreted as indicating the severity of psychological disturbance on a continuum. As a screening test the score expresses the probability of being a psychiatric case (McDowell & Newell, 1996). The choice of cutoff level depends on the purpose of the screening exercise and the relative disadvantages of false positive and false negative results (Goldberg & Williams, 1991). Cutoff scores of the 28-item GHQ used in general practice attenders in the UK have been 4/5 (Goldberg & Bridges,

1987; Goldberg & Hillier, 1979). Although the GHQ does cover separate types of distress it is not intended as a diagnostic tool.

The GHQ-60 (the original version) has good split-half (0.95), test-retest reliability coefficients, as well as internal consistency (0.90 to 0.51 over 6 months depending on patient sample) (Goldberg, 1978). The concurrent validity of the GHQ is good with a correlation of 0.80 with the Clinical Interview Schedule (Goldberg, Cooper, Eastwood, Kedward, & Shepherd, 1970). Test items discriminate highly between psychiatric patients and healthy controls, suggesting the scale has content validity (Goldberg, 1978).

A number of shorter versions of the GHQ have been developed. These include 30-item, 20-item, and 12-item abbreviations, and the 28-item GHQ or 'Scaled GHQ' which contains four scales derived from factor analyses (Goldberg & Hillier, 1979). The GHQ measures non-psychiatric disturbance and depression and anxiety as well or better than other instruments (Clarke et al., 1993). Diagnostic efficiency is similar for all (Clarke et al., 1993). The 28 item version has been used here.

The sensitivity for the 28-item GHQ for depressive illness was 85.6 percent (Goldberg & Williams, 1991). Sensitivity is the 'proportion of truly diseased persons in the screened population who are identified as diseased by the screening test' (Last, 1995 p.154). Specificity 'is the proportion of truly non-diseased persons who are also identified (as non-diseased) by the screening test' (Last, 1995 p.154). The specificity of this version of the GHQ for depressive illness was 86.8 percent (Goldberg & Williams, 1991). Studying general practice patients in Sydney, Australia, Tennant (1977) reported the 28-item GHQ had sensitivity ranging from 86.6 percent to 90 percent and specificity ranging from 90 percent to 94.4 percent. Thus the 28-item GHQ is suitable for use in Australian general practice.

7.3.2   SF-36

Depression and anxiety disorders are reported to have a detrimental impact on patient's quality of life. This study explored whether the health-related quality of life was better for those patients suffering emotional distress detected by their GP compared to those not detected. To measure this the SF-36 was used. It was constructed to survey general health status in the Medical Outcomes Study (Ware & Sherbourne, 1992). The SF-36 was designed for self-administration by persons 14 years of age and older, or to be administered by a trained interviewer, in person or by telephone. It was developed for use in clinical practice and research, health policy evaluations, and general population surveys (Ware & Sherbourne, 1992). The SF-36 usually takes five to 10 minutes to complete and self-administration has been found to be acceptable and feasible for most patients (Ware, Snow, Kosinki, & Gandek, 1993).

The SF-36 measures a range of physical and mental functions, producing eight scales. It has demonstrated concurrent validity with other quality of life measures (Ware et al., 1993 p.9:28). These are summarised in Table 7.1.

Table 7.1

SF-36 dimensions and items (Ware et al., 1993).

SF-36 dimensions	Items
Physical functioning	*Ten items in question 3*
Role limitations due to physical health problems	*Four items in question 4*
Bodily pain	*Questions 7 and 8*
Social functioning	*Questions 6 and 10*
General mental health, covering psychological distress and well being	*Five items: questions 9 b, c, d, f, and h*
Role limitations due to emotional problems	*Questions 5 a, b and c*
Vitality, energy or fatigue	*Four items: questions 9 a, e, g and i*
General health perceptions	*Five items: questions 1 and 11 a-d*
*Change in health status over past year	*Question 2*

* Not counted in the scoring of the eight dimensions.

McHorney, Ware, Lu and Sherbourne (1994) found an average response rate of 96 percent across the 36 items in a large study of people with chronic conditions. In a subsequent study in Australia, Lin and Ward (1998) found that 66 percent of general practice patients returned the questionnaire at two separate time periods, with minimal follow-up.

Cross-sectional data from the MOS have been analysed to test the validity of the SF-36 scales as measures of physical and mental health constructs (McHorney, Ware, & Raczek, 1993). Results from traditional psychometric and clinical tests of validity were compared. Principal components analysis of the data revealed that a general health dimension was common to all eight SF-36 scales, explaining 55 percent of the variance (McHorney et al., 1993). For purposes of clinical tests of validity, clinical criteria defined mutually exclusive adult patient groups differing in severity of medical and psychiatric conditions. McHorney, Ware and Raczek (1993) found the scales shown to primarily measure mental health (mental health and role limitations-emotional) were the 'best distinguished groups differing in the presence and severity of psychiatric disorders and had the most pure mental health interpretation' (p.254).

The SF-36 is also sensitive to change: an effect size of 0.67 in a study of musculoskeletal patients was higher than that for the Nottingham Health Profile, Sickness Impact Profile or the Duke Health Profile (Beaton, Bombardier, & Hogg-Johnson, 1994).

An Australian study, conducted in general practice, demonstrated that the SF-36 has high internal consistency and test-re-test reliability (Lin & Ward, 1998).

The *SF-36 Health Survey Manual and Interpretation Guide* (Ware et al., 1993) advises that 'a scale score can be calculated if a respondent answered at least half of the items in a multi-item scale (or half plus one in the case of scales with an odd number of items' (p.6:16). For this study stricter criteria were applied. The average score across completed

items in the same scale for that respondent were substituted (Ware, Davies-Avery, & Brook, 1980) only when the amount of missing data was 20 percent or less on any scale. Where more than 20 percent of data were missing on a scale the scale was given a 'missing score'. As a result of this decision approximately six percent of data were lost.

7.4 Sample size analysis for patients

On the basis of previous use of the SF-36 (Lin & Ward, 1998) a change score of about 2 points might be expected. Table 7.6 in Ware et al. (1993 p.7:11) indicates that to detect a significant (alpha= 0.05) difference at this level of change would require a sample size of between 1030 and 3652 patients per group.

Patient sample size per GP was unfortunately partly constrained by practicality. So as not to overburden the participating GPs they were requested to screen 50 patients over the period of one week. It was thought that this was a practical number for GPs working either full or part-time clinical practice to obtain. With an estimated prevalence of 28 percent, this would mean each GP would find 14 'probable cases' on average. If each GP audited the histories of the 14 'probable cases' a total of 196 (14x14) 'probable cases' would be obtained from the intervention for followup and a similar number (196) from the control group. On the basis of this result, Table 7.6 in Ware et al. (1993) indicates that a change of 10 points would be required for a significant change to be detected (alpha = 0.05) with 80% power (p.7:11).

7.5 Statistical analysis

7.5.1 Overview

All quantitative data, with the exception of change in patient health-related quality of

life, was analysed at the doctor level. These data were analysed using SPSS statistical software version 10.0 (SPSS Inc, 1999). Simple frequency analysis, descriptive statistics, paired t-tests, analysis of covariance and Chi-square test were used. Analysis of covariance was calculated comparing the intervention and control groups only. A p value less than 0.05 was considered statistically significant.

7.5.2   Detailed analysis

Each of the 24 items on the knowledge test was marked either correct or incorrect. A percentage score was calculated for knowledge items measuring 'recognition' knowledge, 'management' knowledge and 'total' knowledge, for each GP. (Content and development of this questionnaire is described in the next chapter). Paired t-tests were calculated to determine if there was a pre-post-course change. Analysis of covariance was calculated comparing pre-post change between the intervention and control group.

Attitude scores were derived for each GP by averaging item responses for the two scales (each item was scored on a 1-7 Likert scale). Paired t-tests were calculated to determine if there was a pre-post-course change. Analysis of covariance was calculated comparing pre-post change between the intervention and control group.

For the medical audit means were calculated for each GP from continuous data for patients' histories audited by that GP. Nominal data were summed and data aggregated so that a single result for each GP was obtained. For any variable, for example, number of patients referred, a percentage of all patients audited by that GP was derived (e.g. 50% of audited patients). This score was then treated as a continuous variable.

GP recognition of mental illness was measured by comparing GP documentation of 'a diagnosis of mental illness or significant emotional stress in the previous six months'

for patients whose histories were audited, with 'probable caseness' defined by the GHQ using the latter as the 'gold standard'. The data were aggregrated within groups and analysed with Chi-square tests. These analyses also determined whether 'probable cases' were recognised differentially by the groups of GPs as having mental illness or significant emotional distress or not, and whether change was related to belonging to a particular study group and/or being recognised as having mental illness or significant emotional distress.

The GHQ was scored in the binary manner described for this instrument (Goldberg & Williams, 1991). An example of this scoring method is outlined in Table 7.2.

Table 7.2

Example of the GHQ scoring method (Goldberg & Williams, 1991 p. 20)

	Column 1	Column 2	Column 3	Column 4
Have you recently been feeling sad and gloomy?	*Less than usual*	*No more than usual*	*Rather more than usual*	*Much more than usual*
GHQ score	*0*	*0*	*1*	*1*

The SF-36 was scored as directed by the *SF-36 Health Survey Manual and Interpretation Guide* (Ware et al., 1993). Raw scale scores were linearly transformed to a 0-to-100 scale (Ware et al., 1993 Table 6.11). Higher scores correspond to better health. The formula was:

$$\underline{Transformed\ scale = \frac{(Actual\ score - Lowest\ possible\ score)\ X\ 100}{Possible\ raw\ score\ range}}$$

(Ware et al., 1993 p 6:18).

As the intent was to measure mental health and general function, purely physical scales (physical functioning, role physical and bodily pain) were not considered. The following SF-36 scales were analysed: general health, vitality, social functioning, role emotional and mental health. Table 7.3 summarises the formulae and constants for scoring and these transforming scales.

Table 7.3

Formulas for scoring and transforming SF-36 scales (Ware et al., 1993, p. 6:18)

Scale	Sum Final Item Values (after recoding)	Lowest and Highest possible raw scores	Possible raw score range
General Health	$1 + 11a + 11b + 11c + 11d$	5, 25	20
Vitality	$9a + 9e + 9g + 9I$	4, 24	20
Social Functioning	$6 + 10$	2, 10	8
Role- Emotional	$5a + 5b + 5c$	3, 6	3
Mental Health	$9b + 9c + 9d + 9f + 9h$	5, 30	25

Australian population norms were used in the coding of the eight dimensions of the SF-36 data (Australian Bureau of Statistics, 1997. p.31).

Paired t-tests were calculated to determine if there was a change in health-related quality of life for the 'probable cases' who were recognised by their intervention or control GPs as having mental illness or significant emotional distress and those who were not. Analysis of covariance was calculated to determine whether change in health-related quality of life was associated with the study group to which the 'probable case' belonged.

Paired t-tests and analysis of covanance were done on all continuous data. A summary of data analysis is outlined in the Table 7.4.

Table 7.4 *Summary of quantitative data analysis*

		Hypothesis	Measure	Instrument	Data	Time	Statistical test
H_1	•	Knowledge of, and attitudes towards, common mental disorders (predominantly depression and anxiety) – comparison within the intervention and control group.	GP knowledge and attitude.	Knowledge and attitude scales	Continuous	Pre-and post	Paired T-Tests
H_1	•	Change in knowledge of, and attitudes towards, common mental disorders (predominantly depression and anxiety) – comparison between the intervention and control group.	GP knowledge and attitude	Knowledge and attitude scales	Continuous	Pre-and post	Analysis of covariance
H_2	•	Knowledge of, and attitudes towards, common mental disorders (predominantly depression and anxiety) will endure up to 6 months after the completion of the GCGPP.	GP knowledge and attitude	Knowledge and attitude scales	Continuous	Pre-and 6 months post	Paired T-Tests
H_3	•	Documentation of diagnosis and risk factors of common mental disorders – comparison within the intervention and control group.	Diagnosis and risk factors	Audit	Continuous Categorical	Pre-and post	Chi square Paired T-Tests
H_3	•	Change in documentation of diagnosis and risk factors of common mental disorders – comparison between the intervention and control group.	Diagnosis and risk factors	Audit	Continuous	Pre-and post	Analysis of covariance

cont.

		Hypothesis	Measure	Instrument	Data	Time	Statistical test
H_4	•	Recognition of common mental disorders (depression and anxiety) – comparison within the intervention and control group.	GP recognition rate	GHQ Audit	Continuous Categorical	Pre-and post	Paired T-Tests Chi square
H_4	•	Change in recognition of common mental disorders – comparison between the intervention and control group.	GP recognition rate	GHQ Audit	Continuous Categorical	Pre-and post	Paired T-Tests Chi square
H_5	•	Management of common mental disorders – comparison within the intervention and control group.	GP management of anxiety and depression	Knowledge and attitude scales and audit.	Continuous Categorical	Pre-and post	Paired T-Tests Chi square
H_5	•	Change in management of common mental disorders – comparison between the intervention and control group.	GP management of anxiety and depression	Knowledge and attitude scales and audit.	Continuous Categorical	Pre-and post	Analysis of covariance
H_6	•	Health-related quality of life of the 'probable cases' – comparison within the intervention and control group.	Patient distress and quality of life	SF-36 GHQ	Continuous Categorical	Pre-and post	Paired T-Tests Chi-square
H_6	•	Change in health-related quality of life of the 'probable cases' – comparison between the intervention and control group.	Patient quality of life	SF-36	Continuous Categorical	Pre-and post	Analysis of covariance

7.6   Qualitative analysis

Qualitative data gathered from telephone interviews were analysed, guided by grounded theory method as described by Strauss and Corbin (1998). Using open coding, the data were analysed to identify concepts buried within them. These concepts were the key words or phrases used by the students during the interviews. Quotations were used to illustrate similar themes. Cross-checking and triangulation were used in this framework to provide a more accurate portrayal of reality (Worthen et al., 1997). Details of the analysis of qualitative data are found in Chapter 12.

7.7   Summary

This chapter described the quasi-experimental controlled before and after design for this research and how the study was conducted. The intervention group consisted of 14 GPs who were enrolled in the course, volunteered to participate in this research and completed all data collection requirements. The intervention and control groups were created by matching the 14 control GPs with the 14 intervention GPs on demographic variables.

The study sought to examine change before and after the educational intervention on a number of key end points; GP knowledge, GP attitude, GP clinical practice (including recognition) measured by audit, and patient health-related quality of life. The instruments developed for use in the study are described in the next chapter.

Chapter 8

Instrument development

The previous chapter identified four instruments that were used to gather quantitative data for this research study; a pre-post knowledge and attitude questionnaire; a medical audit; the SF-36 and the GHQ. The knowledge and attitude questionnaire; and medical audit were developed for use in this study as no suitable instruments were identified from the literature, and these are described here.

Several instruments have been used to assess physician knowledge and attitudes about depression and anxiety in the primary care setting. These instruments are reviewed and details of the development of an instrument to measure general practitioner knowledge of, and attitudes towards the recognition and management of the common mental disorders, predominantly depression and anxiety, is described. These variables, together with items developed to collect demographic data about the participating GPs form the content of the study questionnaire. The third section of this chapter details the development, including validity and reliability, of the instrument.

Audit in general practice is used as a quality assurance measure and the literature describing audit is reviewed. The development of the medical audit, used in this study as a surrogate measure of practice, is detailed in the final section of this chapter.

8.1 Development of the study questionnaire

The study questionnaire was designed to assess GP's knowledge of, and attitude towards the common mental disorders, predominantly depression and anxiety, in general practice. Demographic data about the participating GPs was also collected. A literature review

and semi-structured interviews were conducted as part of the development of the knowledge and attitude items used for this study.

8.1.1   Knowledge questionnaire

As illustrated in Chapter 3 doctors do not possess adequate knowledge and skills to detect and manage depression and anxiety disorders. Consequently part of this research was targeted to assess any change in GP knowledge pertaining to the detection and management of these disorders changed after participating in this course. On completion of the GCGPP students were expected to meet nine course aims, as outlined in Chapter 5. Five aims could only be assessed by observation. The following four aims could be assessed, in part, using knowledge items relating to detection and management of depression and anxiety disorders in general practice.

A.   appreciate the content and context of psychiatric illness in the community and in general practice;

B.   demonstrate knowledge of the natural history and management of a range of common psychiatric problems encountered in general practice;

C.   adequately detect and diagnose mental health problems in general practice;

D.   effectively assess and manage (using both non-drug and drug therapy) a range of common psychiatric conditions and refer when necessary to specialist services.

8.1.1.1   Item selection

Twenty four knowledge items related to clinical knowledge about the diagnosis, recognition and management of anxiety disorders and depression were developed. Twelve items were sourced from Blashki (2001) due to the similarity of learning objectives between the GCGPP and the 3 week depression short course. The latter was

limited to depression. Nine items were used verbatim, the remaining three were modified. These items were included as questions 19 to 28 and items 39 and 40 in the study questionnaire.

The format of the twenty four knowledge items comprised multiple-choice questions (Appendix 3). The format chosen was 'multiple completion', designed to measure higher mental processes of understanding, application, analysis and interpretation rather than knowledge recall (Mehrens & Lehmann, 1984).

Table 8.1 summarises the relationship of the 24 knowledge items to these four goals of the course and the location of the correct answers in the printed course material. The letter 'X' in the columns represents the criteria being assessed.

8.1.1.2 Validity

Fifteen items were designed to assess GPs knowledge of recognition and nine items sought knowledge about management of these conditions reflecting the respective importance of these factors in clinical practice.

Table 8.1 provides evidence of content validity. Each knowledge item covered at least one content area represented by the columns. Recognition and management are sufficiently measured. Four of the course aims were adequately covered and key information was found in the printed course material.

Table 8.1

Relation of the knowledge items to course aims and evidence of content validity

Item	Recognition	Management	Course aim	Evidence from course material
18. Women, more than men, suffer: 1. Panic disorder 2 Specific phobia 3 Agoraphobia 4 Obsessive compulsive disorder	X		A	CGP1003 Anxiety. Session 1, Reading 1 (Kessler et al., 1994).
19. The following are useful in assessing the degree of severity of depression: 1 Level of depressed mood 2 Constancy of depression 3 Impairment of functioning 4 Presence of anxiety	X		C	CGP1002 Depression and other mood disorders. Session 1 and Section 3.1 (Severity of depression, p.5)
20. With respect to detection of depression the following are true: 1 Depression occurs with equal frequency in men and women 2 In general practice, as many as a quarter of patients have a psychiatric disorder, most commonly depression 3 Routine screening for depression is of little value 4 Depression occurs in all age groups including children and adolescents	X		A	CGP1001 Introduction to general practice psychiatry Session 1, Reading 1 (Kessler et al., 1994). CGP1002 Depression and other mood disorders. Session 2, Section 7 (Detection of mood disorders in general practice. p.13) and Section 5. (Depression in adolescents. p. 9).

Item	Recognition	Management	Course aim	Evidence from course material
21. The following are recognised as 'risk factors' for the development of depression: 1 No previous history of depression 2 Being unemployed 3 Being male 4 Having a chronic physical illness	X		C	CGP1002 Depression and other mood disorders. Session 2 and Section 8. (Improving the detection rate of depression. p. 15).
22. With respect to the time course of depression the following are true: 1 1/4 of people who develop an episode of major depression have depressive symptoms of varying duration as a prelude to their illness 2 All patients who receive effective treatment recover from an episode of major depression 3 Up to 2/3 of patients who recover from an episode of major depression will have a subsequent episode 4 Antidepressants are of little value in preventing further episodes of depression	X		B	CGP1002 Depression and other mood disorders. Section 2. (Course of depression. p. 3) and Session 3.
23. The following may occur as a result of depression: 1 Absenteeism from work 2 Recurring physical complaints 3 Increased hospital length of stay for medical and surgical problems 4 Increased accident rates	X		B	CGP1003 Anxiety. Session 1 and Section 4. (Epidemiology of anxiety disorders. p. 12) Reading 2.

cont.

Item	Recognition	Management	Course aim	Evidence from course mat....
24. Medical disorders which may present with a depressive syndrome include: 1 Pancreatic cancer 2 Hypertension 3 Hypothyroidism 4 Gastric ulcer	X		C	CGP1002 Depression and other mood disorders. Session 3 and Section 9. (Depression in the medically ill. p. 21).
25. Factors associated with increased risk of suicide include: 1 Chronic and/or painful physical conditions 2 Alcohol abuse 3 Depression, especially if associated with feelings of hopelessness 4 Being female	X		A	CGP1002 Depression and other mood disorders. Session 3 and Section 4. (Depression and suicide. p. 6).
26. The following may be indicative of depression in the elderly: 1 Anxiety 2 Behavioural disturbance 3 Disturbance of memory 'dementia like' picture 4 Suicidal behaviour	X		B	CGP1002 Depression and other mood disorders. Session 3 and Section 7. (Depression in the elderly. p. 15).
27. With respect to post natal depression the following are true: 1 Post natal depression can be associated with birth complications 2 Post natal depression is common, affecting 10-15% of mothers 3 Excessive anxiety about the baby's health is a common presenting feature. 4 Post natal depression resolves spontaneously	X		B	CGP1002 Depression and other mood disorders. Session 3 and Section 8. (Post-partum depressive disorders. p. 18).

cont.

Item	Recognition	Management	Course aim	Evidence from course material
28. What is important with respect to the management of a depressed person: 1 Patient and family education about depression 2 Assessment of suicide risk 3 Severity of episode 4 Concomitant medication		X	D	CGP1002 Depression and other mood disorders. Section 1 (Management of depression - Introduction. p. 2) and Session 4.
29. With respect to the management of anxiety disorders 1 Assessment of suicide risk is important 2 Most anxiety disorders do not require medication 3 Most require long-term management perspective 4 Relaxation is of little use		X	D	CGP1003 Anxiety Section 2. (Treatment strategies common to all anxiety disorders. p. 3) and Session 3.
30. The following is an indicator of a possible anxiety disorder or depression in a patient: 1 Suicidal behaviour 2 Substance abuse 3 Lack of interest in life 4 Recurrent visits with no clear physical problem	X		B	CGP1003 Anxiety. Session 2 Readings 1-4 (page 2).
31. Panic disorder 1 Commonly begins after 40 years 2 Is more common in women 3 Is usually associated with physical illness 4 Often associated with depression	X		B	CGP1003 Anxiety. Session 1, Reading 1 (Kessler et al., 1994).

cont.

Item	Recognition	Management	Course aim	Evidence from course material
32. Anxiety disorders are usually 1 Episodic 2 Recurrent 3 Chronic 4 Acute/one off episode only	X		B	CGP1003 Anxiety. Session 1 and Section 3. (Classification of anxiety disorders. P. 6).
33. The following are recognised as 'risk factors' for the development of anxiety disorders 1 Family history of anxiety disorder 2 Recent experience of a major stress 3 Being female 4 Having a chronic physical illness	X		A	CGP1003 Anxiety. Session 1 and Section 4. (Epidemiology of anxiety disorders. P. 12).
34. Medical conditions which may mimic an anxiety disorder include: 1 Hypertension 2 Temporal lobe epilepsy 3 Gastric ulcer 4 Hyperthyroidism	X		A	CGP1003 Anxiety. Section 1.1. (Medical disorder or anxiety disorder? p. 3) and Session 2.
35. Factors which would not influence your choice of management for the depressed patient include: 1 Hypomania 2 Previous treatment response 3 Suicidal ideation 4 Level of education		X	B	CGP1002 Depression and other mood disorders. Session 4 Section 2. (Developing a management plan. p. 5). *cont.*

Item	Recognition	Management	Course aim	Evidence from course material
36. **Appropriate pharmacological treatments for obsessive compulsive disorder include:** 1 SSRIs e.g. Prozac, Zactin, Aropax, Zoloft 2 benzodiazepines e.g. Ralozam, Xanax, Rivotril, Valium, Serepax 3 tricyclic antidepressants e.g. Imipramine, Amitriptyline, lomipramine 4 MAIOs e.g.Nardil, Aurorix		X	D	CGP1003 Anxiety. Session 3, section 3.3. (Obsessive compulsive disorder. p. 13).
37. **Appropriate pharmacological treatment for panic disorder include:** 1 SSRIs e.g. Prozac, actin, Aropax, Zoloft 2 benzodiazepines e.g. alozam, Xanax, Rivotril, Valium, Serepax 3 tricyclic antidepressants eg. Imipramine, Amitriptyline, lomipramine 4 MAIOs e.g.Nardil, Aurorix		X	D	CGP1003 Anxiety. Session 3, section 3.1. (Panic disorder. p. 6).
38. **Concomitant medications which may influence your choice of a particular SSRI antidepressant medication in the elderly are:** 1 Ventolin 2 Warfarin 3 Recent use of pethidine 4 Carbamazepine		X	D	CGP1002 Depression and other mood disorders. Session 3 and Section 7.1. (Important differential diagnosis. p. 17). Reading 4.
39. **Side effects of tricyclic antidepressants include:** 1 Dry mouth 2 Urinary hesitancy 3 Ejaculatory dysfunction 4 Solar sensitivity		X	D	CGP1002 Depression and other mood disorders. Session 4, section 4. (Medication. p. 13).

Item	Recognition	Management	Course aim	Evidence from course material
40. SSRIs may cause the following: 1 Gastrointestinal disturbance 2 Cardiac conduction disturbance 3 Insomnia 4 Blurred vision		X	D	CGP1002 Depression and other mood disorders. Session 4, section 4. (Medication. p. 13). Reading 3.
41. From the following list a Interpersonal psychotherapy b Cognitive therapy c Relaxation d Behavioural therapy eg. graduated exposure		X	D	CGP1003 Anxiety. Session 3, section 3 (Specific approaches to specific disorders. P. 6). CGP1002 Depression and other mood disorders. Section 3. (Psychotherapies for the treatment of depression. p. 7) and Session 4.

please nominate *one or more* appropriate non-drug
therapy/ies for

Obsessive compulsive disorder
Panic disorder
Specific phobia
Agoraphobia
__ ression
Post traumatic stress disorder

8.1.2 Attitude questionnaire

8.1.2.1 Literature review and item development

Seven instruments measuring physician attitudes towards depression or anxiety disorders were identified from a literature search. These are reviewed here with a view to assessing their suitability for use in this study. In summary, none were considered suitable on their own. Table 8.2 summarises the scales.

The Depression Attitude Questionnaire (DAQ) is a 20-item visual analogue scale designed in the UK to measure GPs' attitudes toward depression in general practice (Botega et al., 1992). Principal component analysis identified four constructs including: professional unease when dealing with depressed patients; belief that depressive symptoms are inevitable; recognition of depression as a clinical disorder; and attitudes towards treatment (Botega et al., 1992). Although this scale ignores anxiety, the wording of one item from the DAQ was modified for item 28 in the study questionnaire. 'I feel comfortable in dealing with depressed patients' needs' (Botega et al., 1992 p.173) to include anxiety disorders.

The DAQ contained a number of knowledge items that were no longer relevant in the late 1990s for example 'During the last 5 years, I have seen an increase in the number of patients presenting with depressive symptoms'. (Botega et al., 1992 p.173). Since the development of the DAQ, depression has had a higher profile both in government initiatives and in the medical and lay literature in our society. The deinstitutionalisation of patients suffering mental illness has led GPs to understand that the prevalence of these conditions is higher in the community and therefore they have a role in the management of these patients. The questionnaire used in this study focused on issues dealing with recognition and management of the common mental disorders, predominantly depression and anxiety. Questions such as 'Antidepressants usually

produce a satisfactory result in the treatment of depressed patients in general practice' (Botega et al., 1992 p.173) were not specific enough to measure the impact of the course on students knowledge of antidepressant prescribing.

One of the items 'The practice nurse could be a useful person to support depressed patients' (Botega et al., 1992 p.173) related to the role of the practice nurse in the UK which differs from the role of the practice nurse in Australian general practice.

A subsequent study using the DAQ found that the fourth component, relating to doctor's confidence in diagnosing depression, had limited validity when tested against external indicators of a GP's diagnostic acumen (Dowrick et al., 2000).

Phongsavan et al. (1995) designed a questionnaire that was administered to 721 full time New South Wales GPs. Responders were asked to indicate how frequently they encountered eight types of mental health problems and their current management practices. They were also asked to rate the influence of barriers to referral to community mental health services and their level of confidence in treating mental health problems in 10 special needs groups. GP attitudes towards mental health care were explored using a series of four-point scale items for agreement or disagreement. The areas of educational need and educational influences were also explored using this instrument.

Attitudinal items were modified to be included in the evaluation instrument used in this study. For example the questionnaire used by Phongsavan et al. (1995) asked GPs about their agreement with the following statement 'I am better qualified in the management of physical disease than in the management of mental health problems' (p.141). This item formed the basis of question 13 in the study questionnaire, which explored GP attitude to their level of comfort in treating these conditions, rather than their perceived level of qualification.

The item 'Treating patients with mental health problems is time consuming' (Phongsavan, et al., 1995 p.141) influenced two items included in the study questionnaire. The first, question 3, explored GP attitude to time constraints for routine investigation of mental health issues and the other, question 4, inquired about attitude to time required when dealing with emotional problems in general practice.

A number of items used by Phongsavan et al. (1995) explored GP attitudes and their perceptions of patients being asked about mental health problems, whose advice they would take and the GP job satisfaction in dealing with these patients. These ideas were considered for inclusion in the instrument developed for this evaluation.

Phongsavan et al. (1995) included items that explored whether the GPs thought it was their role to diagnose and manage mental illness. These items were not relevant for this study as the cohort being evaluated recognised that this is part of the role of the GP. The instrument was designed to measure the impact of the course on changing GP attitude, rather than as an educational needs assessment instrument. However the GPs' perceived role was investigated, with the aim to ascertain if they thought their role was primary care provider or gate keeper. There is no data presented in Phongsavan et al's article about scale reliability.

A study conducted by Falloon, Ng, Bensemann and Kydd (1996) aimed to assess the attitudes of GPs to central Auckland mental health service provision, and their perceived role and educational needs for clinical management of patients with mental disorders.

Many items from this survey were not relevant for this study as they related to GP role in shared care. However the GP role in referral and patient management influenced this instrument (Falloon et al., 1996). Falloon et al presented no data on scale reliability.

The ATP 30 is a 30-item questionnaire that measured the influence of psychiatric training on the attitudes to psychiatry held by undergraduate medical students using Likert scales (Burra et al., 1982). This instrument was designed to assess attitudes to: psychiatric patients; psychiatric illness; psychiatrists; psychiatric career choice; psychiatric treatments; psychiatric institutions and psychiatric teaching (Burra et al., 1982).

The ATP 30 contained items such as 'Psychiatric illness deserves at least as much attention as physical illness', 'With the forms of therapy now at hand most psychiatric patients improve', 'I would like to be a psychiatrist'. (Burra et al., 1982 p.34). The first example was poorly worded. The phrase 'at least as much' would lead the respondents to agree with this item, thus not a good measure of attitude. The second example was not suited for this study, as the students would tend to agree as they would be aware of the therapy options and know that patients improve. This item would not contribute to detecting change in doctor's attitude. The third example illustrates that this questionnaire was designed for people who were considering career options. While some GPs may perhaps consider psychiatry training it is unlikely they would enroll in this course and it would not be credited to specialist psychiatry training.

Several topics addressed by the ATP 30 were considered when developing the study questionnaire. These included GP attitude towards depression and anxiety disorders, the role of psychiatrists, and GP perception of competency and knowledge of psychiatric treatment options.

The ATP 30 was not applicable to this cohort as it was designed to assess undergraduate medical student attitudes towards a medical specialty where training was based in a tertiary institution. This was not relevant to the GPs participating in this study who were postgraduate medical practitioners with their patient population in the community. Furthermore, questions were not specific for depression or anxiety disorders.

To explore primary care physicians' beliefs, attitudes and practice patterns related to the diagnosis and treatment of depression data were collected using a 56-item self-administered survey (Main et al., 1993). This instrument included 32 items from the Physician Belief Scale (Ashworth, Williamson, & Montano, 1984).

The Physician Belief Scale (Ashworth et al., 1984) was reviewed and was one of two instruments that had significant influence on the instrument developed for this study. This questionnaire included items assessing beliefs concerning physician's role; beliefs about what patients want and do not want; and beliefs about physicians' reactions to patients as people (Ashworth et al., 1984).

Main, Lutz, Barrett, Matthew and Miller (1993) used the Physician Belief Scale in their work and created a 'rational scale that consisted of items that represent attitudinal and educational construct of interest' (Main et al., 1993 p.1062). Under the scale of 'internal clinical discomfort about exploring depression' the item 'I cannot treat depression problems' (Main et al., 1993 p.1064) was excluded from the study questionnaire as the study participants showed interest in general practice psychiatry through enrolment in this course. It was thought that the GPs would tend to disagree with this statement.

The item 'Exploring depression issues with patients causes me pain' (Ashworth et al., 1984 p.1237) influenced two items (questions 20 and 28) in the study questionnaire. The wording was modified to 'Exploring mental disorder issues with patients causes me discomfort' (question 20) in order to detect GPs' level of comfort in dealing with mental illness, not just depression. The word 'pain' was altered to 'discomfort' as pain tends to be associated with physical pain, whereas discomfort can relate to physical, emotional or intellectual discomfort.

The item 'I focus on organic disease because I cannot treat depression' (Ashworth et al., 1984 p.1237) influenced the wording of item 13 in the study questionnaire.

Items in the scale 'clinician perceptions of patient discomfort with exploring depression' were also reviewed. Those modified for inclusion in the study questionnaire included 'If I deal with depression issues, I will lose patients' and 'If I address depression issues, patients will reject these issues and never return' (Ashworth et al., 1984 p.1237). The former resulted in the following question 'Patients will leave my practice if I keep asking them about their emotional health' (question 9). The latter item includes two concepts, that of patients rejecting issues relating to depression and those of leaving the clinician's practice. However the concept of patients' reticence to issues of mental disorders were explored in the study questionnaire in items 10, 17 and 18.

One item from the Physician Belief Scale addressing the 'professional burden of depression to clinician and practice' was modified for inclusion in this study questionnaire 'I am too pressed for time to routinely investigate depression issues'. (Ashworth et al., 1984 p.1237). The word 'depression' was replaced with 'mental illness' (question 3) in order to evaluate GP attitudes toward other mental illness disorders.

Other items pertaining to the scale 'professional burden of depression to clinician and practice' influenced questions 1, 2, 4, 5 and 12 in the study questionnaire relating to time and remuneration, as these are interdependent in Australian general practice. The study questionnaire did not address the issue of GP attitudes towards patients becoming dependent on them as this was not relevant for this study.

The items under the 'perceived self-efficacy in diagnosing and treating depression' scale in the Physician Belief Scale were modified to reflect an instrument exploring GP attitudes towards the common mental disorders, particularly the detection and management of depression and anxiety. Rather than asking if GPs agree or disagree with the items in the Physician Belief Scale the study instrument was designed to measure GP's perceived competency in patient diagnosis and management utilising various treatment modalities. This links to the point made earlier that GPs participating in this

study had some interest in GP psychiatry and it was assumed they were diagnosing and treating some patients with these conditions. Therefore the items included in the Physician Belief Scale under this theme influenced the development of the items to determine GP perceived efficacy in using various treatment regimes for depression and anxiety.

The scale 'clinician perception of the importance of depression' (Main et al., 1993) was reviewed. No items were included from this scale in the study questionnaire as the evidence collected from previous cohorts of students indicated that they recognised the importance of mental illness in general practice.

Main et al. (1993) identified three items on the Physician Belief Scale exploring 'clinician level of training in depression' (p.1064). These items influenced two items included in the demographics section of the study questionnaire about the GPs' CME and clinical experience in psychiatry (questions 64 and 65).

A 10-item questionnaire designed to compare attitudes about depression among academic physicians, including physicians, internists, obstetrician-gynaecologists, and a reference group of psychiatrists was reviewed (Shao, Williams, Lee, & Badgett, 1997). The Physician Belief Scale influenced the development of this questionnaire. This 10-item scale measured three factors: 'attitudes attributed to patients by physicians', 'physician confidence and satisfaction', and 'physician psychosocial orientation' (Shao et al., 1997 p.168).

Items considered for the development of the study questionnaire included:

> *Most patients are receptive to the diagnosis of depression.*
> *I have confidence in my ability to prescribe anti-depressant medication.*
> *Assigning a psychiatric diagnosis to a patient is stigmatising.*

My priority is to treat medical problems first, then investigate psychological/ psychosocial problems. (Shao et al., 1997 p.168)

These influenced items 14, 10, 17 and 13 respectively in the study questionnaire.

Blashki (2001) developed an 18-item attitudinal scale to determine GP attitudes towards depression in general practice. This scale was strongly influenced by the Physician Belief Scale (Ashworth et al., 1984) as 17 of the 18 items were either used verbatim or contained wording modifications to reflect the same item. One item, although influenced by the Physician Belief Scale, was 'I feel uncomfortable questioning my patients about depression' (Blashki, 2001). The wording of this question was altered to be included as item 28 in the study questionnaire.

In summary, five themes were identified from the literature. These were:

- GP attitude to time and recommendation
- GP emotions
- GP perception of patient reaction
- GP perception of their own competence
- GP perception of their role.

Table 8.2 summarises the attitudinal instruments identified in the literature that influenced the study questionnaire.

Table 8.2

Summary of the attitudinal surveys identified in the literature

Instrument description	Comment
Botega et al (1992). Depression Attitude Questionnaire. A 20 item scale	Excludes anxiety disorders.
Phongavan et al (1995). A questionnaire asking about GP attitudes and other things pertaining to mental health conditions in general practice.	Assessed educational needs. No data presented on scale reliability.
Falloon et al (1996). A questionnaire of GP attitudes to mental health service provision, their perceived role and education needs. Burra et al (1982). A 30 item scale measuring medical undergraduate's attitude to psychiatry .	No data presented on scale reliability. Designed for medical undergraduates
Main et al (1993). A 56-item questionnaire (including 32 items from the Physician Belief Scale (Ashworth et al., 1984)) examining the relation between primary care physicians' attitudes, beliefs, and training and their perceptions of the importance and frequency of depression.	Questions not specific for depression or anxiety. Excluded anxiety disorders.
(Shao et al., 1997). A 10-item questionnaire designed to compare attitudes about depression among physicians of various specialties.	Excludes anxiety disorders.
Blashki (2001) An 18-item attitudinal scale measuring GP attitude to depression.	Excludes anxiety disorders.

8.1.2.2   Semi-structured interviews

A series of semi-structured interviews, based in part on the style of Howe (1996b), was conducted in 1998 with seven GPs to examine the relevance of these five themes for contemporary Australian general practice. Convenience sampling was used to recruit seven GPs from the southern metropolitan area of Melbourne. Recurring themes emerged after five interviews. (A copy of the interview schedule can be found in Appendix 5). Interview data were transcribed. Transcripts were hand-coded and data were sorted into themes using grounded theory (Strauss & Corbin, 1998). One GP indicated a special interest in psychiatry/psychology, the others did not. No patient input was used for this questionnaire development.

There were some interesting concepts generated from these semi-structured interviews.

All doctors felt that depression and anxiety are common commenting *we see it all the time and everyone experiences it and we all react in different ways, it covers a large spectrum from mild to a psychiatric disorder.* Four doctors felt that depression and anxiety disorders *were part of daily life* and that they *hold off making a diagnosis and work through these life issues first before making a diagnosis.*

Six GPs identified that many of these patients present with physical symptoms but have psychological disorders that are complex to treat. Comments such as *they present with other symptoms and the time spent on these people and the money earned does not reward GPs to invest in this further. Once a patient says 'I'm anxious' it opens a Pandora's box,* indicated that doctors are afraid to get into this situation which was considered *time consuming and depressing.* The general practice structure was highlighted as a barrier as *long consultations are rare and long term planning of care is not usual.*

Other points highlighted a lack of knowledge about the diagnosis and management of anxiety disorders. *What is the point of diagnosing a condition you do not know how to treat?* Furthermore three GPs expressed feeling despondent and a lack of interest *in something where they cannot make a difference.* The lack of psychiatric training in both undergraduate and postgraduate training was also mentioned, together with poor knowledge about the effectiveness of different therapies, for the various anxiety disorders.

Two GPs expressed a perception that patients are concerned about the social stigma associated with a diagnosis of depression and/or anxiety disorders. This was highlighted by the following comment:

> *It is OK to see a GP for a physical problem, but not if you are 'worried'.*

Some patients resent being told they have a mental illness.

GP perception of their role in the management of patients with these conditions varied depending upon two factors, patient needs and GP confidence in their ability to manage the patient. Some GPs felt their role was only the 'gatekeeper' as evidenced by the following comments

> *My role is the gatekeeper, to refer to specialists.*

> *My role is dictated by my patients, I listen and offer appropriate therapy, whether this is counselling and/or drugs. Sometimes I refer.*

Three GPs acknowledged ordering tests and referral for these patients as they *often need to convince the patient that the condition was psychological and not physical.*

Barriers to prevent these GPs from diagnosing or recording a diagnosis of depression, or an anxiety disorder, include the perceived patient perception that it was *OK to see a GP for a physical problem but not if you're 'worried'.* They also felt that *depression and anxiety presented simultaneously and that the overlap made the specific conditions hard to define.*

The semi-structured interviews confirmed that the themes identified in the literature were correct and pertinent issues for contemporary clinical practice. Examples of the content of the semi-structured interviews are given in Table 8.3.

Table 8.3

Examples of the content of the semi-structured interviews

GP attitude to time and remuneration

The time spent on these people and the money earned does not reward GPs to invest in this further.
Once a patients says 'I'm anxious' it opens a Pandora's box.
Long consultations are rare and long term planning of care is not usual.

GP emotions

I lack interest in something where I cannot make a difference.
I feel uncomfortable asking patients about psychological issues.

GP perception of patient reaction

It is OK to see a GP for a physical problem, but not if you are 'worried'.
Some patients resent being told they have a mental illness.

GP perception of their own competence

What is the point of diagnosing a condition you do not know how to treat?
Depression and anxiety often present simultaneously and the overlap makes the specific conditions hard to define.

GP perception of their role

My role is the gatekeeper, to refer to specialists.
My role is dictated by my patients, I listen and offer appropriate therapy, whether this is counselling and/or drugs. Sometimes I refer.

8.1.2.3   Item development

Using the five themes, a pool of 30 draft items was developed based predominantly on items identified in the literature. Each theme was represented by 6 items (Table 8.4 - see page 146).

Each item addressed one main area relevant to the issue being measured, and questions covered attitudes from one extreme to another. Positive and negative statements were included.

Each asked for a measure of attitude on a seven point Likert scale (1 strongly agree to 7 strongly disagree). This was chosen after considering a five point scale which was not

Table 8.4

Attitude items related to the barriers pertaining to the recognition and management of depression and anxiety disorders in general practice

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GP perception of time and remuneration

1. It is not economically viable for me to treat depression or anxiety disorders.
2. Medicare rebate rates are a disincentive for me to treat patients with mental disorders
3. I am too pressed for time to routinely investigate mental illness issues.
4. I find emotional problems are too time consuming to deal with in general practice.
5. I think remuneration for managing those patients with mental disorders is adequate.
12. Current payment arrangements encourage me to focus only on problems presented by the patient rather than exploring underlying issues.
21. Long consultations are not required for effective diagnosis of depression.

GP emotions

6. I feel I cannot make a difference to patients with mental disorders.
19. I feel comfortable asking about suicide risk.
20. Exploring mental disorder issues with the patient causes me discomfort.
27. I feel frustrated treating patients with emotional disorders.
28. I feel uncomfortable questioning my patients about emotional disorders.

GP perception of patient reaction

8. Patients with emotional disorders are often reluctant to see psychiatrists.
9. Patients will leave my practice if I keep asking them about their emotional health.
10. Many patients presenting with physical symptoms are not receptive to a diagnosis of a mental disorder.
17. I do not tell my patients they have a mental illness because of the social stigma attached to the diagnosis.
18. I often conduct tests on patients with mental disorders in order to convince them that the problem is not organic.

GP perception of their competency

11. I feel competent in counselling patients with anxiety.
13. I am more comfortable treating physical disease than emotional disorders.
14. I feel competent in the use of antidepressant medication.
22. I feel competent in the management of depression.
23. I do not feel competent in managing anxiety disorders.
24. I feel competent in teaching relaxation techniques.
25. My interviewing skills are adequate to detect patients with emotional disorders.
26. I feel competent in treating anxiety disorders with anxiolytic medication.
30. I feel competent in counselling patients with depression.

GP perceived role

7. Most patients with mental disorders should be jointly managed by a GP and a psychiatrist or psychologist.
15. Patients with anxiety disorders should be referred to a psychiatrist or psychologist.
16. GPs should have the primary management role in the treatment of patients with depression.
29. GPs should have the primary management role in the treatment of patients with anxiety disorders.

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considered sensitive enough to detect a change at each end of the spectrum (Streiner & Norman, 1995). Of the 30 items developed to measure attitude in this study 19 were derived from the Physician Belief Scale (Ashworth et al., 1984) and of these 14 were also used by Blashki (2001). Table 8.5 summarises the 'draft' attitudinal items developed for use in this study. These items are compared with those on the Physician Belief Scale or by Blashki.

Table 8.5

Comparison of the 'draft items' with the Physician Belief Scale
(Ashworth et al., 1984; Main et al., 1993) and the attitudinal items used by Blashki (2001)

Items	Main and Ashworth	Blashki
1. It is not economically viable for me to treat depression or anxiety disorders.	X	
2. Medicare rebate rates are a disincentive for me to treat patients with mental disorders.	X	
3. I am too pressed for time to routinely investigate mental illness issues.	X	X
4. I find emotional problems are too time consuming to deal with in general practice.	X	X
5. I think remuneration for managing those patients with mental disorders is adequate.		
6. I feel I cannot make a difference to patients with mental disorders.		
7. Most patients with mental disorders should be jointly managed by a GP and a psychiatrist or psychologist.		
8. Patients with emotional disorders are often reluctant to see psychiatrists.		
9. Patients will leave my practice if I keep asking them about their emotional health.	X	X
10. Many patients presenting with physical symptoms are not receptive to a diagnosis of a mental disorder.	X	
11. I feel competent in counselling patients with anxiety.	X	X
12. Current payment arrangements encourage me to focus only on problems presented by the patient rather than exploring underlying issues.	X	
13. I am more comfortable treating physical disease than emotional disorders.	X	X

cont

Items	Main and Ashworth	Blashki
14. I feel competent in the use of antidepressant medication.	X	X
15. Patients with anxiety disorders should be referred to a psychiatrist or psychologist.		
16. GPs should have the primary management role in the treatment of patients with depression.		
17. I do not tell my patients they have a mental illness because of the social stigma attached to the diagnosis.	X	
18. I often conduct tests on patients with mental disorders in order to convince them that the problem is not organic.		*cont.*
19. I feel comfortable asking about suicide risk.		
20. Exploring mental disorder issues with the patient causes me discomfort.	X	X
21. Long consultations are not required for effective diagnosis of depression.		
22. I feel competent in the management of depression.	X	X
23. I do not feel competent in managing anxiety disorders.	X	X
24. I feel competent in teaching relaxation techniques.		
25. My interviewing skills are adequate to detect patients with emotional disorders.		
26. I feel competent in treating anxiety disorders with anxiolytic medication.	X	X
27. I feel frustrated treating patients with emotional disorders.	X	X
28. I feel uncomfortable questioning my patients about emotional disorders.	X	X
29. GPs should have the primary management role in the treatment of patients with anxiety disorders.	X	X
30. I feel competent in counselling patients with depression.	X	X

8.1.2.4   Validity

Validity refers to the 'degree to which evidence and theory support the interpretations of test scores entailed by the proposed uses of tests' (Joint Committee on Standards for

Educational and Psychological Testing of the American Educational Research Association, American Psychological Association, & Education, 1999 p.9).

Limited validity of the attitudinal scales, including face, content and construct validity, were assessed as part of this study.

Face validity was determined by a panel, consisting of two specialist psychiatrists, three academic GPs, one biomedical and one educational statistician. Content validity was assessed subjectively to determine whether the questionnaire covered the material adequately.

Concurrent validity was not applicable, as there is no 'gold standard' on which to compare the GP's attitudes. Predictive validity was not assessed as part of this evaluation however the researcher is exploring this as an ongoing project.

Convergent validity was not assessed as part of this research project as there were no similar measures to compare. If these had been available, there would not have been the need to develop this questionnaire as part of this research project.

Evidence for construct validity of the attitudinal items was assessed using factor analysis and is described here.

In order to meet a broad cross-section of GPs 30 volunteers were sought from the students participating in the course in 1998 and an additional 33 were obtained from the local area.

The questionnaire was mailed in January 1999 prior to the commencement of the GCGPP. The GPs were asked to complete the questionnaire without looking up text books and return the completed forms in a reply paid envelope.

An exploratory factor analysis (principal component) was performed on the attitudinal items, with varimax rotation, examining one to five factor solutions. Items were required to have an item correlation greater than 0.3 on factors to be retained. All analyses were performed using SPSS software (SPSS Inc, 1999).

Sixty-three GPs completed the questionnaire.

The 30-attitudinal items were factor analysed using principal components analysis with varimax rotation with Kaiser Normalisation. A five-factor solution was examined first, potentially reflecting the five themes identified in the literature. However, several items loaded on more than one factor and the factors were not readily interpretable. Further exploration of the data with 2, 3 and 4-factor solutions indicated that a two-factor solution gave the clearest depiction.

In the two-factor solution, five items did not load on either factor, and another seven items were considered redundant, being similar to other items loading more strongly, and one item loaded counter-intuitively. These 13 items were excluded and the factor analysis repeated on the remaining 17 items. A two-factor solution resulted with Cronbach's alphas of 0.82 and 0.73 for the two factors respectively (Table 8.6). Factor one accounted for 26 percent of the variance and factor two 15 percent, a total of 41 percent of the variance in GP attitude.

Factor 1 contained 12 items measuring GPs' professional comfort and competence in the detection and management of the common mental disorders, predominantly depression and anxiety. Factor 2 contained 5 items assessing GPs' perceptions of the extent to which systemic problems inhibit their practice in relation to diagnosis and management of patients with depression and anxiety disorders.

Table 8.6

Rotated factor matrix solution

	Item	Factor 1	Factor 2
28.	I feel uncomfortable questioning my patients about emotional disorders.	.771	
11	I feel competent in counselling patients with anxiety.	- .675	
30.	I feel competent in counselling patients with depression	- .674	
13.	I am more comfortable treating physical disease than emotional disorders.	.670	
29.	GPs should have the primary management role in the treatment of patients with anxiety disorders.	- .643	
15.	Patients with anxiety disorders should be referred to a psychiatrist or psychologist	.609	
27.	I feel frustrated treating patients with emotional disorders	.562	
26.	I feel competent in treating anxiety disorders with anxiolytic medication.	- .528	
24.	I feel competent in teaching relaxation techniques.	- .528	
6.	I feel I cannot make a difference to patients with mental disorders	.521	
9.	Patients will leave my practice if I keep asking them about their emotional health.	.521	
14.	I feel competent in the use of anti-depressant medication.	- .301	
1.	It is not economically viable for me to treat depression or anxiety disorders.		.833
3.	I am too pressed for time to routinely investigate mental illness issues.		.708
12.	Current payment arrangements encourage me to focus only on problems presented by the patient rather than exploring underlying issues.		.636
2.	Medicare rebate rates are a disincentive for me to treat patients with mental disorders.		.630
4.	I find emotional problems are too time consuming to deal with in general practice.		.608

Extraction method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalisation.

The 17-item attitudinal instrument used in this study (found in Appendix 3) was developed and was shown to have reliability for the assessment of two key aspects of Australian GPs' attitudes to their roles in the detection and management of the common mental disorders, predominantly depression and anxiety. The two aspects identified correspond to the internal and external factors likely to impinge on the GPs' success in dealing with anxiety and depression, and therefore are likely to be significant

determinants of behaviour. This finding indicates the desirability of further research on the relationships between each of these two measures and GP behaviour.

Further validity studies were beyond the scope of this research as this requires accumulation of data over time to ensure the validity of the scale in certain populations or settings in which the test is to be used (Joint Committee on Standards for Educational and Psychological Testing of the American Educational Research Association et al., 1999).

8.1.2.5 Reliability

Reliability refers to the 'degree to which the results obtained by a measurement procedure can be replicated' (Last, 1995 p.145). Test-re-test reliability was not possible. One problem associated with this method of assessing reliability is memory as respondents may remember their answers on the first occasion and answer the same way the second time in order to be consistent. This can artificially inflate the apparent reliability of the questionnaire (de Vaus, 1995). Reliability of the attitudinal scales was analysed using Cronbach's alpha (Cronbach, 1951). A value of Cronbach's alpha over 0.7 was considered reliable. Factor 1 had a Cronbach alpha of 0.82 and Factor 2 had a Cronbach alpha of 0.73.

8.1.3 Demographic data

The study questionnaire was used to gather demographic data about the GPs. A number of questionnaires used in the Department of General Practice at Monash University were reviewed to explore the range of demographic data frequently gathered about GPs (McCall, Maher, & Piterman, 1999; Nelson, 1995; Piterman & McCall, 2000; Schattner & Coman, 1998). These include age, gender, years in general practice, the number of doctors in the practice, location of practice, year of graduation from medical school,

and postgraduate qualifications. These questionnaires influenced the design of the demographic items used in the questionnaire for this study (Appendix 3). The inclusion of these variables enables data to be compared with Australian norms for the profession (Commonwealth Department of Health and Family Services, 1996).

Additional categorical data were collected including the average number of clinical sessions the GP worked per week, the average number of patients per session and experience of CME and clinical psychiatry. An additional qualitative item was used to allow GP's to describe in their own words their interest in psychiatry.

8.1.4   Summary

The study questionnaire, used to gather demographic data about the GPs, assessed knowledge of, and attitude towards common mental disorders (predominantly depression and anxiety) consisted of 66 items.

8.2   The Audit

Audit was used in this study to measure change in GP's practice in relation to the common mental disorders, predominantly depression and anxiety. This included detection and diagnosis of these conditions, management and referral. At the time of this study audit was a compulsory part of the RACGP quality assurance program, and enabled participants to be eligible for clinical audit points to meet these regulatory requirements.

8.2.1   Literature review

In accounting, audit refers to the official examination of accounts. In medicine, audit was introduced by Codman (1916) as a means of correcting deficit standards of hospital

care in the USA. Later this was used in the UK to promote the practice of health care (Bunker, 1994).

Audit is defined in *Research methods and audit in general practice* (Armstrong & Grace, 1997) as 'monitoring performance against established standards, and implementing change, as necessary, to meet those standards' (p.199). Therefore the purpose of medical audit is to improve the quality of care (Baker, 1990a) and it can also be used to identify learning needs (Coles, 1989).

Donabedian (1986) acknowledged that medical audit could be used for quality assurance. He identified three aspects of clinical practice: structure, process and outcome. Audit of structure includes quality and types of services available. Audit of process refers to what is done to the patient and includes clinical performance, interpersonal performance and managerial performance and is more likely to contribute to improving care (Davies & Crombie, 1995; Mant & Hicks, 1995). Measures of outcome are the results of an intervention and are indicators of quality of care.

8.2.1.1   Types of medical audit

Three categories of medical audit are used in general practice. These include:

- audit project which is conducted on an area of interest or identified problem in a practice and are often used in the area of chronic disease (Baker, 1990a)
- external audit which has been shown to improve quality of care (Martin, 1985; Mourin, 1983)
- peer review (Baker, 1990a).

These forms of audit are increasingly being linked to significant event auditing in which insights from the care of individual patients are reflected upon and integrated into quality

assurance (Pringle & Bradly, 1994; Pringle, 1998a; Robinson, Stacy, Spencer, & Bhopal, 1995).

8.2.1.2   The audit cycle

The audit process can be internal (self-audit), external or peer review (Lawrence, Coulter, & Jones, 1990) and is a cycle, in which different parts correspond to assessment and improvement of quality. The three aspects of audit include data collection, data analysis and a discussion of findings. Reflection has been shown to be an effective tool in raising the awareness of professionals to the wealth of learning in their work (Berkey, Curtis, Minnick, et al, 1990). It enables reflective professionals to examine their actions and reasoning and hence become more skilful and effective (Hart, 1990). The stages of the audit cycle are outlined in Figure 8.1.
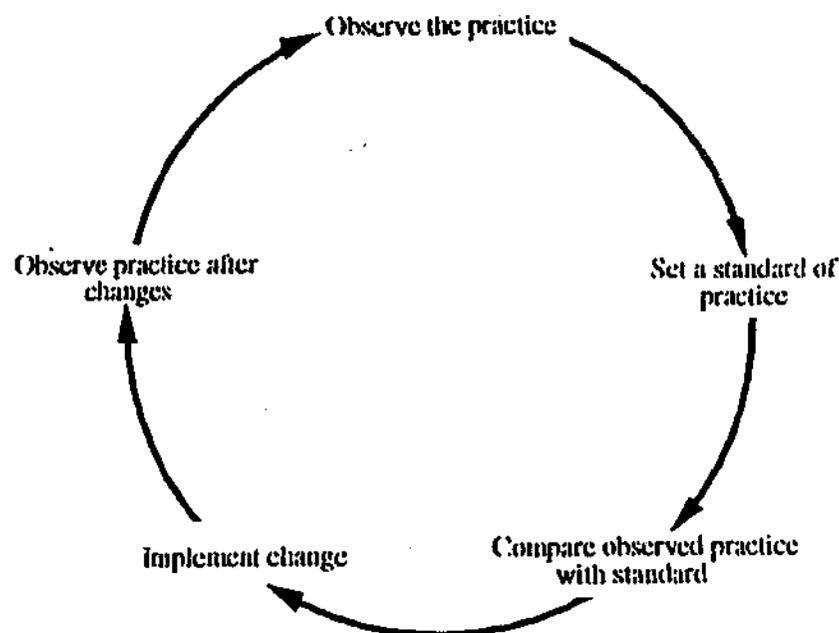
Figure 8.1
The Medical Audit Cycle (Derry et al., 1991)

The audit cycle is similar to the adult learning theory 'andragogy' (Knowles, 1984) as shown in Table 8.7.

Table 8.7

A comparison of andragogy and the audit process (Nelson, 1995)

Andragogy	Audit
A possible educational activity is defined ↓	Identify area of concern ↓
Objective are identified and refined ↓	What should be happening? ↓
A suitable format is designed ↓	Audit ↓
The format is fitted into larger patterns of life ↓	What is happening ↓
The plan is put into effect ↓	Introduce change ↓
The results are measured and appraised ↓	Re-evaluate ↓
A possible educational activity is identified (etc)	Identify are of concern (etc)

As evident from Table 8.7 andragogy and audit involve the 'learner' by asking them to identify areas of concern, deciding on what should be happening, conducting the audit or educational program, analyse the results to determine what is happening, introduce change, re-evaluate and the cycle is repeated.

8.2.1.3   Evaluation of information

For the audit cycle to be complete comparisons must be made. These can be done between practices or in the same practice at different times. There are several problems associated with making these comparisons and these include: comparing like with like, the differences in changes, the prevailing rates of illness in the community, the presentation rates of illness in the practice, and regression to the mean.

8.2.1.4   Why use audit?

Assessments of doctors' performance include direct measures where a doctor is observed managing patients, either in the consultation or by video or audiotape. These methods

are resource intensive and not practical for this research as the GPs were located in metropolitan and rural areas in most states of Australia. Furthermore use of direct measures only assesses the content of the specific consultation and this study sought to measure the impact of the GCGPP over a number of consultations. Thus self-audit was used as an indirect method of assessing doctor's performance and as an educational tool.

8.2.1.5   Is medical audit effective?

A number of studies have demonstrated the effectiveness of audit as a means of altering GP practice for preventive activities such as the recording of cervical smear rates, cardiovascular disease risk factors and immunisations (Creighton & Evans, 1992; Maitland, Reid, & Taylor, 1991; Nelson, 1995; Wilson, 1990). Audit has also been shown to increase prescription of recommended medications and has improved test ordering practices (Gelbach, Wilkinson, & Hammond, 1984).

A recent systematic review assessed the effect of audit and feedback on the practice of health professionals and patient outcomes (Thomson O'Brien., et al., 2001). Databases from January 1966 to June 1997 were searched and thirty-seven RCTs of audit and feedback (defined as any summary of clinical performance of health care over a specified period of time) were identified (Thomson O'Brien., et al., 2001). These studies involved health care workers including over 4977 physicians, and targeted reduction of diagnostic test ordering, prescribing practices, preventive care, and the general management of a problem. Twenty eight studies measured physician performance, one study targeted patient outcomes in diabetes and the remaining eight studies measured both physician performance and patient outcomes (Thomson O'Brien., et al., 2001). The timing, frequency and duration of the feedback varied, as did the source of the feedback, which was not clear in the majority of trials. Most of the feedback was in the form of a computer report and only three trials used personal individual feedback and one evaluated feedback

in the group setting. The reviewers concluded that audit and feedback can sometimes be effective in improving the practice of health care professionals, in particular prescribing and diagnostic test ordering (Thomson O'Brien., et al., 2001). When effective, the resulting improvements appear to be small to moderate but potentially worthwhile. Audit and feedback was often used in conjunction with other interventions and it was difficult to determine from this review if it is the audit and feedback alone or a combination of interventions which impacted on change.

Audit is being used as part of this study as evidence shows that knowledge and clinical competence do not go hand in hand (Brook, Williams, & Avery, 1976) because motivation, barriers and feedback also influence clinical performance. The most common reason for failure of audit to improve quality of care is that the findings do not cause changes in day to day clinical practice. Deficiencies are ignored either because they are seen as unimportant or because the changes seem impractical (Baker, 1990b).

Previous studies conducted in general practice suggest that CME linked with medical audit can produce significant improvements in practice among GPs whilst encouraging them to reflect on their practice (Piterman & Nelson, 1997). Therefore audit was included in the course to facilitate learning.

8.2.1.6   Limitations of audit

Medical audit is used extensively as an indirect method of assessing doctors' performance. The underlying notion is that good quality clinical records are associated with good care (Lyons & Payne, 1974). In some areas of medical care it is difficult to effectively and systematically manage patients unless documentation and review are carried out (Piterman & Nelson, 1997). The underlying assumption in the audit used in this study was that if the data were not recorded in the medical record the GP was not adequately managing the patient (Rachel, 1977). The rationale for this is that patients

with depression or anxiety disorders should have a record of a diagnosis, pharmacological and non-pharmacological therapy and referral recorded as a minimum. The audit data was collected from summary sheets or the patient's notes over the last six months. This timeframe was used as the current episode of distress as reported by patients on the GHQ should have been detected and recorded in the GP's notes, even if the patient had suffered more prolonged distress.

Basic aspects of measurement such as validity, inter-rater reliability and sensitivity to change have not be adequately addressed for audit (Hopkins, 1996). Without RCTs it is unlikely that these will be adequately addressed. The success of audits rely on high levels of medical record keeping however research reveals that GPs record only part of available information on patients (Daws, 1972; Lonberg & Bentsen, 1984; Mansfield, 1986; Mant & Tulloch, 1987; Rethans, Martin, & Metsemakers, 1994). Sex and age are recorded for nearly all patients (Daws, 1972), the level of recording is lower for history summary (36%), marital status (30%) and repeat medications (23%) (Mansfield, 1986; Rethans et al., 1994). Just over half of patients with a chronic disease had it recorded in the GP's record (Mant & Tulloch, 1987). This has implications for this study as depression and anxiety disorders are classified as chronic conditions. The alternative method was to audio or videotape a series of patient consultations but this was beyond the scope of this project and has other limitations as it would not necessarily reveal the diagnosis and/or management plan.

Even though the reliability of audit is low it is an accepted method of measuring clinical practice and it has been a mandatory requirement for Australian GPs to complete audits to retain vocational registration. The use of audit in this study provides further evidence about audit.

8.2   Development of the Audit

The review of the literature concluded that there was no pre-existing audit tool that could be used to measure impact of the GCGPP on GPs' stated practices for the common mental disorders, predominantly depression and anxiety.

A review of the medical audit literature and previous audit packages offered by the Department of General Practice at Monash University, identified a clinical audit of patients with known or suspected depression (Blashki, 2001). This audit had been used to assess the impact of a three-week depression course designed for GPs - a pilot project for the GCGPP.

GPs who completed Blashki's (2001) audit were asked to identify:

- the number of years the doctor had seen the patient
- if they had been hospitalised for depression
- the duration of the current problem
- if it was a new case of depression, a recurrence or a continuing problem
- the patient's problem and symptoms
- suicide risk
- the diagnosis and severity
- psychotropic medications prescribed before and after the consultation
- if the patient had been referred and to where.

This audit focused on depression and excluded patients with co-morbid anxiety disorders.

Blashki's (2001) audit provided a template for items pertaining to psychotropic medications and referral sources. These were modified and elaborated for the audit designed for this study and checked for face validity by a psychiatrist.

In order to minimise the negative attitudes about audit (Black & Thompson, 1993) this activity was included as part of the course to promote learning. This was not a graded assessment. Furthermore this audit was designed for ease of completion and was not subject to peer review, and therefore was not threatening to the participants.

Literature on essential data for inclusion in general practice audits was reviewed prior to the development this instrument.

Khunti (1998) outlined seven key elements, based on evidence-based criteria, for the management of patients with depression in primary care. They also relate to the management of anxiety disorders and include:

1. *the records show that the diagnosis of depression is correct*

2. *the records show that as part of diagnosis the patient has been assessed for risk of suicide*

3. *patients with 'major depression' are treated with antidepressants and/or cognitive therapy*

4. *antidepressants must be prescribed at therapeutic doses*

5. *drug treatment must be continued for at least four months after the episode of depression has resolved*

6. *after commencement of treatment, the patient should be reviewed within three weeks, and the risk of suicide re-assessed*

7. *patients who have responded fully in the acute phase of treatment should be seen at least once every month during the maintenance of treatment* (p. 31 – 32).

These seven points were considered when the audit was designed. Some items were difficult to audit for example point 1 could not conclusively determine that the diagnosis was correct. Doses of drugs were not recorded as the aim of the audit was to determine

change and not to determine correct treatment. Point 5 could only be determined if a GP had recorded a diagnosis of depression in the last six months and the patient was not detected as being a 'probable case', but continued on antidepressant medication. The number of consultations in the last six months was audited although the reason for contact or the content of each visit was not requested. The audit used in this study consisted of evidence-based items and were confined to items that GPs usually document as part of routine practice (Difford, 1990) including:

- patient demographic data
- family past history of mental illness
- suicide risk
- diagnosis and comorbidity
- psychotropic management
- non-drug management
- referral patterns
- number of consultations in the last six months.

The audit criteria chosen considered validity. Valid criteria have a well defined relationship to the quality and outcome of care.

The audit was viewed by four academic GPs and two specialist psychiatrists for face validity. Their feedback was incorporated into the audit instrument that was piloted in 1998. The pilot audit was completed by 35 GPs as part of the GCGPP. Data for 716 patient audits was entered into SPSS (1999) and analysed for trends within each GP's responses for validity and reliability of treatment and referral patterns.

Student attitudes to the audit were sought as part of the pilot. Ten GPs commented that it was difficult to differentiate anxiety from depression as *many of my patients who present with symptoms of anxiety are often suffering depressive symptoms too.*

It was evident from the pilot audit results that GPs find it difficult to discern between anxiety and depression, which often presents as a comorbid condition. Thus the audit instrument used for this study explored these conditions as both comorbid anxiety and depression, and as separate conditions. Two additional items were included to incorporate patients who presented with emotional or psychological distress. GPs often see patients with significant distress, which is not diagnosed as mental illness, but may impair health related quality of life. The drug therapy section was amended from recording individual drug names (qualitative data) to an audit of drug class (categorical).

Detailed instructions were prepared for the audit sheet in the development stage and piloted in 1998.

It was important that the GP was auditing their own records, so the history had to contain over 50 percent of the patient consultations being recorded by them. Six months of data was audited. The audit contained 20 printed audit sheets, one to be used per patient history and the audit instructions. A copy of the audit kit is found in Appendix 6.

This chapter has summarised the literature pertaining to knowledge and attitude instruments currently used in primary care to measure doctor's knowledge and attitude towards mental illness, predominantly depression. As no existing instruments were suitable in their entirety to measure the impact of the GCGPP the development of the study questionnaire was described. The final section of this chapter described audit and the development of the instrument used to measure change in GP practice, including recognition. The following three chapters summarise the data gathered using these instruments, the GHQ and SF-36.

Chapter 9

The sample

This chapter and chapters 10 and 11 detail the quantitative results. This chapter summarises the GP and patient demographic data. Chapter 10 explores the evidence for change in GPs attitude of, and knowledge about, the common mental disorders (predominantly depression and anxiety) and practices pertaining to these. Change in patient quality of life is detailed in Chapter 11.

9.1 The GP sample

The results of this study are based on 14 'matched pairs' of GPs. Table 9.1 summarises the main demographic characteristics of the 35 students who participated in the course and the 28 doctors who participated in this study.

Table 9.1

Student cohort and study participant demographic details

	1999 GCGPP students (n = 35)	Intervention (n = 14)	Control (n = 14)	Test statistic	p[1]
Gender - Male	53%	64%	50%	$\chi^2 = 0.58$	0.45
- Female	47%	36%	50%		
Age				$t = -1.72$	0.09
Mean	42	44	50		
Range	29-65	29 – 57	33-66		
Years since Medical graduation				$t = 1.45$	0.16
Mean	17	21	25		
Range	5 - 40	5 – 33	9 - 38		
Years in GP				$t = -0.22$	0.83
Mean	13	15	16		
Range	2 – 30	2 - 30	1 - 31		
Place of practice				$\chi^2 = 0.24$	0.62
Urban	62%	86%	78%		
Rural	38%	14%	21%		cont.

	1999 GCGPP students (n = 35)	Intervention (n = 14)	Control (n = 14)	Test statistic	p[1]
Type of practice				$\chi^2 = 1.41$	0.50
Solo	20%	23%	7%		
2 – 4 GPs	47%	46%	57%		
5 + GPs	33%	30%	35%		
Sessions worked per week				$t = 1.95$	0.06
Mean	10	9	7		
Range	2 – 30	2 – 15	3 – 11		
Patients seen per session				$t = 1.16$	0.26
Mean	15	16	14		
Range	10 – 30	10 – 30	7 – 17		
Post Graduate Qualifications					
FRACGP	35%	28%	28%	$\chi^2 \approx 0.00$	1.00
Dip Obs	23%	14%	14%	$\chi^2 \approx 0.00$	1.00
Other	52%	37%	37%	$\chi^2 \approx 0.00$	1.00

[1] Significant tests carried out on Intervention and Control group comparisons.

It is evident from Table 9.1 that there was no statistically significant difference between the intervention and control GPs in categorical demographic variables. The doctors in the intervention and control group were comparable, although some differences exist on the demographic variables with the 35 GPs enrolled in the course. The intervention group was similar in age, type of practice and the number of patients they see per week to the student cohort. There was a higher proportion of males in the intervention group, and more experienced GPs evidenced by years in general practice, than in the control group or student group but these differences were not statistically significant.

The control group was older than the average Australian GP who is 46 years of age (Australian Institute of Health and Welfare, 1999). Australian GP workforce statistics indicate that 28.7 percent of all GPs in Australia work in rural areas (Australian Institute of Health and Welfare, 1999) thus rural GPs are under-represented in this study, particularly in the intervention group. Solo GPs were also under-represented compared with the national average (33%) (Commonwealth Department of Health and Family Services, 1996). The average number of patients seen per session by the intervention and control GPs is slightly higher than the national average of 13.2 patients per session (Australian Bureau of Statistics, 1996). Most were undertaking their first postgraduate qualification.

The GPs were asked about their interest and training in psychology and psychiatry and the responses are summarised in Table 9.2.

Table 9.2

Study participant interest and training in psychology and psychiatry

	Intervention %	Control %	χ^2	p
Special interest in psychological problems	100	64	3.58	0.06
Attendance at a course in psychology in the last 2 years	57	50	0.14	0.71
Attendance at:				
Lecture series	43	21	0.66	0.42
Conference	14	7	0.37	0.54
Workshop	36	43	0.15	0.70
Other	0.0	7	1.04	0.31
Training in last 5 years at:				
Psychiatric unit in hospital	7	8	0.01	0.91
Community setting	14	15	0.01	0.94

This table demonstrates that all doctors in the intervention and control groups had similar interest and previous training in psychology and psychiatry. It is not surprising that these GPs expressed special interest in this area as they volunteered to participate in this study.

In summary the doctors in the intervention and control group were well-matched on demographic variables, interest in psychology and psychiatry, and previous training in these areas. The doctors in the intervention group were generally comparable to the 35 GPs enrolled in the course.

9.2   The patients

This section details the response rate, demographic detail, GHQ and SF-36 data for the patients who participated in this study.

9.2.1   Response rate

One thousand, four hundred and sixty nine (1469) patients were approached to complete the pre-course screening instruments in February 1999, 227 (15%) declined to participate and 105 (8%) were ineligible as they were not in the age range of 18 to 65 years. A total of 1137 valid responses (83%) was used in the analysis of the pre-course phase of this study. Table 9.3 summarises the pre-course patient response rate.

Table 9.3

Pre-course patient response rate

Patient questionnaires	Intervention n	Control n	Total
Eligible	618	519	1137
Refused or ineligible	116	216	332
Total	734	735	1469

Table 9.3 shows that a higher proportion of patients in the intervention group returned the pre-course questionnaires than in the control group ($\chi^2 = 38.74$, df = 1, p < 0.01).

One thousand, two hundred and ninety two (1292) patients were approached in September 1999, to complete, the post-course screening instruments. Of these 189 (14%) declined to participate and 70 (8%) patients were ineligible, as they were not aged between 18 and 65 years. A total of 1033 eligible patients completed the screening instrument (a 94% valid response rate). Table 9.4 summarises the post-course patient response rate.

Table 9.4

Post-course patient response rate

Patient questionnaires returned	Intervention n	Control n	Total
Eligible	581	452	1033
Refused or ineligible	65	194	259
Total	646	646	1292

Table 9.4 shows that more patients in the intervention group returned the post-course questionnaires than in the control group ($\chi 2 = 79.12$, df = 1, p < 0.01).

The GPs were asked to record reasons why patients refused to participate and some were unable to estimate this, as their clinical staff did not approach eligible people.

The intervention group patients were reported as having insufficient time to complete the forms and the attitude of clinic staff may have influenced the patient response rate, as 'my staff found the task of approaching patients burdensome'. The control group patients were reportedly too ill to complete the questionnaires, as evidenced by comments such as 'they were too depressed and negative to fill in a form'.

In summary the patient response rate and refusal rate for each group was similar at the beginning and end of the study.

9.2.2   Pre-course patient demographic and clinical data

Patient demographic data of the 1137 patients who participated in the pre-course phase of this study are summarised in Table 9.5.

Table 9.5

Pre-course patient demographic details

	Intervention patients (n = 618) %	Control patients (n = 519) %	χ^2	p
Gender - Male	30.5	29.5	0.11	0.74
- Female	69.5	70.5		
Marital status			4.75	0.19
Married	55.9	62.2		
Unmarried	24.7	21.0		
Divorced/separated	17.2	14.4		
Widow(er)	2.3	2.3		
Country of birth			20.79	<0.01
Australia	79.8	75.9		
New Zealand	1.9	2.7		
UK	4.4	11.0		
Italy	1.5	1.2		
Other	12.5	9.2		
Language spoken at home			1.33	0.25
English	91.4	93.3		
Other	8.6	6.7		
Highest level of education			22.49	<0.01
Primary school	3.3	3.0		
Secondary school	50.6	61.5		
TAFE/apprenticeship	17.9	16.7		
Undergrad/assoc diploma	9.2	9.3		
Bachelor/higher degree	19.0	9.5		
Employment status			13.39	<0.01
Full time	37.5	34.7		
Part-time	24.3	17.3		
Not currently employed	38.2	48.0		
Seeing usual GP at this visit	87.2	80.2	9.83	<0.01

The mean age for the patients in the intervention group was 41.1 years (SD 12.2) and the mean age for patients in the control group was 41.0 years (SD 12.7). This difference was not statistically significant (t = 0.18, df = 1124, p = 0.86).

The patients in the pre-course phase of the study were well matched for gender, age, marital status, language (other than English) spoken at home and full time employment status. A greater proportion of patients in the intervention group had higher levels of education as they held bachelor or higher degrees compared to patients in the control group (p < 0.01). A greater proportion of patients in the intervention group were employed (p < 0.01) and were seeing their usual doctor compared to the control group (p < 0.01).

A greater proportion of control group patients were born overseas, particularly the UK and New Zealand ($p < 0.01$).

The number of patients whose language spoken at home (other than English) was too small to warrant further analysis.

Each patient in the intervention and control group completed the GHQ and these results are summarised in Table 9.6.

Table 9.6

Pre-course patient mean GHQ scores

GHQ mean scale score	Intervention patients (n = 618)	SD	Control patients (n = 519)	SD	t	p
Total	5.40	6.39	4.89	5.88	1.32	0.19
Somatic symptom	1.74	2.09	1.66	2.05	0.63	0.53
Anxiety and insomnia	1.69	2.25	1.59	2.16	0.79	0.43
Social dysfunction	1.33	2.03	1.24	1.90	0.79	0.43
Severe depression	0.63	1.47	0.53	1.40	1.20	0.23
Percent of 'probable cases'*	41.26%	-	40.26%	-	$\chi^2=$0.13	0.72

* A 'probable case' is a patient scoring 5 or greater on the GHQ

It is evident from Table 9.6 that the patients in the intervention and control group had similar GHQ scores and both groups had a similar proportion of 'probable cases'. These percentages are higher than the community prevalence but are in line with prevalence studies conducted in primary care as discussed in section 3.1.

Patient quality of life was measured using the eight scales on the SF-36. The results for the pre-course patients are summarised in Table 9.7.

Table 9.7

Pre-course mean SF-36 scores

	Intervention patients (n = 618)	SD	Control patients (n = 519)	SD	t	p
Physical functioning	77.70	24.65	78.55	24.35	-0.56	0.58
Role-physical	65.75	40.25	70.25	38.50	-1.83	0.07
Bodily pain	62.60	23.90	64.30	23.70	-1.17	0.24
General health	65.55	22.75	65.51	21.75	0.01	0.99
Vitality	54.95	22.20	54.40	22.75	0.42	0.68
Social functioning	73.88	28.13	75.88	26.38	-1.19	0.23
Role emotional	70.67	39.67	73.00	38.67	-0.90	0.37
Mental health	68.16	21.00	68.92	21.48	-0.59	0.56

The data in Table 9.7 shows that patients in the intervention and control group had similar quality of life as measured by the SF-36.

The pre-course intervention and control group patients SF-36 quality of life results were compared with Australian population norms (taken from the *National Health Survey SF-36 Population Norms*, 1997). The results are shown in Figure 9.1.
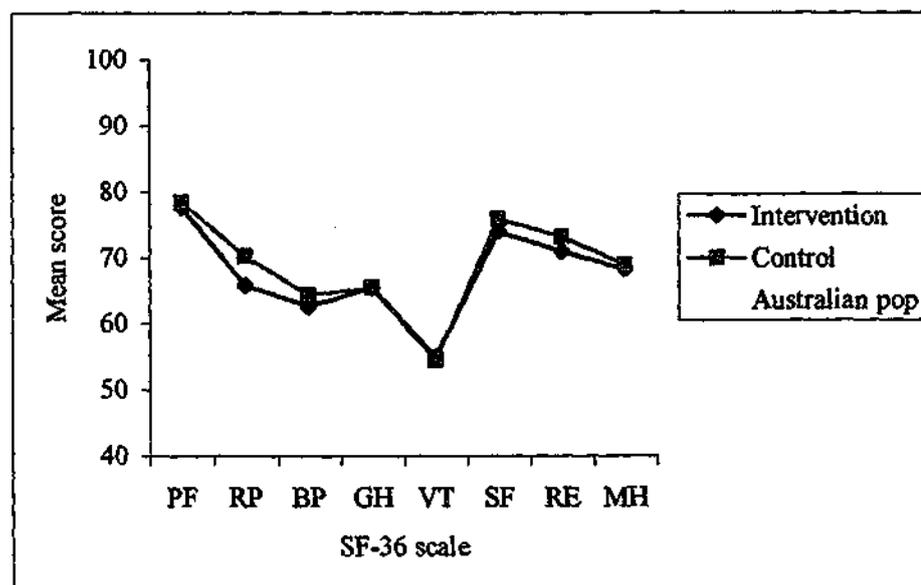

Figure 9.1
Comparison of the pre-course intervention and control patient SF-36 means scores with Australian population (Australian Bureau of Statistics, 1997).

Figure 9.1 shows that the pattern of SF-36 mean scores for the patients in this study was similar to the Australian population data. However, the mean scores for the intervention and control group patients were lower on all scales, indicating poorer quality of life. This was not surprising as these patients are visiting a GP and are probably unwell.

In summary, the pre-course patients in the intervention and control group were similar on the majority of demographic variables, GHQ and SF-36 scores although the SF-36 scores were lower than the Australian population norms.

9.2.3   Post-course patient and clinical data

Patient demographic data of the 1033 patients who completed the post-course questionnaires are summarised in Table 9.8.

Table 9.8

Post-course patient demographic details

	Intervention patients (n = 581) %	Control patients (n = 452) %	χ^2	p
Gender - Male	31.0	27.4	1.55	0.21
- Female	69.0	72.6		
Marital status			5.90	0.12
Married	55.7%	58.1		
Unmarried	26.3%	20.9		
Divorced/separated	14.5%	18.4		
Widow(er)	3.4%	2.6		
Country of birth			2.44	0.49
Australia	77.8%	78.9		
New Zealand	2.8%	2.8		
UK	6.2%	7.8		
Other	13.2%	10.6		
Language spoken at home			6.90	<0.01
English	91.7	95.8		
Other	8.3	4.2		
Highest level of education			5.90	0.21
Primary school	2.5	4.2		
Secondary school	52.9	57.9		
TAFE/apprenticeship	18.1	16.1		
Undergrad/assoc diploma	11.5	9.5		
Bachelor/higher degree	15.1	12.2		*cont.*

	Intervention patients (n = 581) %	Control patients (n = 452) %	χ^2	p
Employment status				
Full time	38.0	40.5	4.31	0.12
Part-time	26.3	20.8		
Not currently employed	35.6	38.7		
Seeing usual GP at this visit	85.4	79.0	6.67	0.01

The mean age for the patients in the intervention group was 41.7 years (SD 12.6) and the mean age for patients in the control group was 41.6 years (SD 12.6). This difference was not statistically significant (t = 0.20, df = 980, p = 0.84).

The patients in the control and the intervention group were well matched for gender, age, marital status, and country of birth, education and employment status. A higher proportion of patients in the intervention group spoke another language (other than English) at home (p < 0.01) and a higher proportion were seeing their usual doctor (p = 0.01).

The number of patients using a language other than English at home was too small to warrant further analysis.

All post-course patients completed the GHQ and the results are summarised in Table 9.9.

Table 9.9

Post-course summary of mean GHQ scores

GHQ mean scale score	Intervention patients (n = 581)	SD	Control patients (n = 452)	SD	t	p
Total	4.82	5.86	5.42	6.08	-1.43	0.15
Somatic symptom	1.75	2.09	1.95	2.11	-1.34	0.18
Anxiety and insomnia	1.54	2.11	1.71	2.25	-1.18	0.24
Social dysfunction	1.15	1.88	1.25	1.87	-0.68	0.50
Severe depression	0.51	1.33	0.70	1.63	-1.99	0.04
Percent of 'probable cases'	62%		56%		χ^2 3.13	0.08

The post-course patients were well matched on the GHQ scales except for severe depression. The control group patients had a higher severe depression score, albeit a mean score of less than one, than patients in the intervention group (p = 0.04).

The post-course patients also completed the SF-36 and the results are summarised in Table 9.10.

Table 9.10

Post-course patient mean SF-36 scores

	Intervention patients (n = 581)	SD	Control patients (n = 452)	SD	t	p
Physical functioning	78.55	24.80	79.15	24.10	-0.41	0.67
Role-physical	69.25	45.50	67.00	40.25	0.76	0.45
Bodily pain	63.50	23.30	62.30	23.40	0.74	0.45
General health	66.45	21.30	64.80	21.70	1.14	0.25
Vitality	55.35	21.90	55.15	21.45	0.17	0.86
Social functioning	74.75	26.38	72.63	27.50	1.18	0.22
Role emotional	72.33	39.00	70.33	40.00	0.85	0.39
Mental health	70.00	19.80	67.80	20.76	1.68	0.09

The post-course patients in the intervention and control group had similar quality of life as measured by the SF-36. These results were compared to the Australian population norms. The results, in Figure 9.2 demonstrates that the trend for the SF-36 mean scores for the patients in this study was similar to the Australian population data although lower on all scales, indicating poorer quality of life.
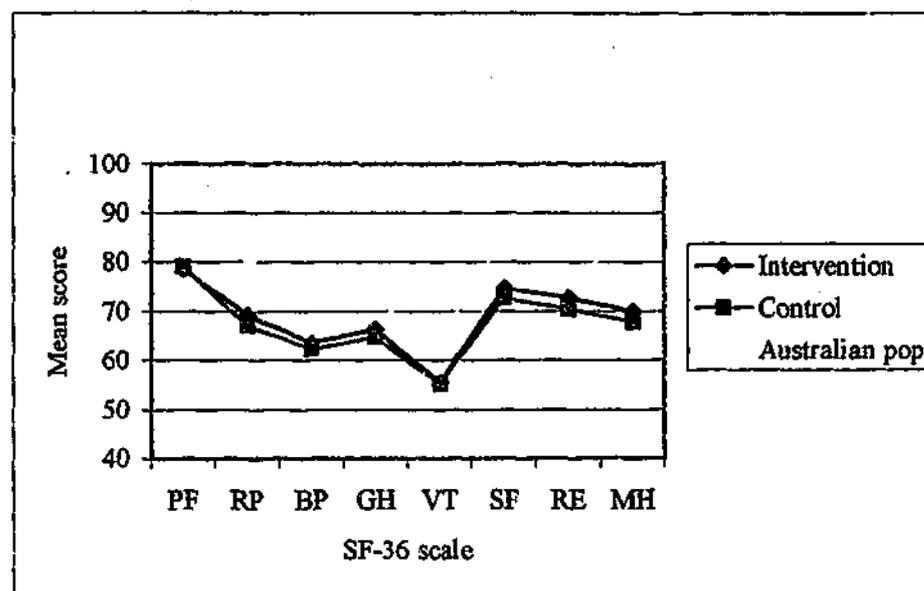
Figure 9.2
Comparison of the post-course intervention and control patient populations SF-36 mean scores with the Australian population norms (Australian Bureau of Statistics, 1997)

In summary the patients participating in the post-course intervention and control groups were similar in the majority of demographic characteristics, the GHQ and SF-36 results. Furthermore Table 9.11 reveals that the pre-and post-course patient cohorts were similar in demographic, GHQ and SF-36 variables.

Table 9.11

Profile of patient samples (same data as Tables 9.5 and 9.8)

	Pre course		Post course	
	Intervention patients (n = 618)	Control patients (n = 519)	Intervention patients (n = 581)	Control patients (n = 452)
Gender - Male	30.5%	29.5%	31.0%	27.4%
- Female	69.5%	70.5%	69.0%	72.6%
Marital status				
Married	55.9%	62.2%	55.7%	58.1%
Unmarried	24.7%	21.0%	26.3%	20.9%
Divorced/separated	17.2%	14.4%	14.5%	18.4%
Widow(er)	2.3%	2.3%	3.4%	2.6%
Country of birth				
Australia	79.8%	75.9%	77.8%	78.9%
New Zealand	1.9%	2.7%	2.8%	2.8%
UK	4.4%	11.0%	6.2%	7.8%
Other	14.0%	10.4%	13.2%	10.5%
Language spoken at home				
English	91.4%	93.3%	91.7%	95.8%
Other	8.6%	6.7%	8.3%	4.3%

cont.

	Pre course		Post course	
	Intervention patients (n = 618)	**Control patients (n = 519)**	**Intervention patients (n = 581)**	**Control patients (n = 452)**
Highest level of education				
Primary school	3.3%	3.0%	2.5%	4.2%
Secondary school	50.6%	61.5%	52.9%	57.9%
TAFE/apprenticeship	17.9%	16.7%	18.1%	16.1%
Undergrad/assoc diploma	9.2%	9.3%	11.5%	9.5%
Bachelor/higher degree	19.0%	9.5%	15.1%	12.2%
Employment status				
Full time	37.5%	34.7%	38.0%	40.5%
Part-time	24.3%	17.3%	26.3%	20.8%
Not currently employed	38.2%	48.0%	35.6%	38.7%
Seeing usual GP at this visit	87.2%	80.2%	85.4%	79.0%
GHQ mean scale score				
Total	5.40	4.89	4.82	5.42
Somatic symptom	1.74	1.66	1.75	1.95
Anxiety and insomnia	1.69	1.59	1.54	1.71
Social dysfunction	1.33	1.24	1.15	1.25
Severe depression	0.63	0.53	0.51	0.70
Percent of 'probable cases'	41.4%	40.3%	62%	56%
SF36 mean scale scores				
Physical functioning	77.70	78.55	78.55	79.15
Role-physical	65.75	70.25	69.25	67.00
Bodily pain	62.60	64.30	63.50	62.30
General health	65.55	65.51	66.45	64.80
Vitality	54.95	54.40	55.35	55.15
Social functioning	73.88	75.88	74.75	72.63
Role emotional	70.67	73.00	72.33	70.33
Mental health	68.16	68.92	70.00	67.80

9.2.4 Stratified sample

The pre-and post-course patient cohorts were stratified into 'probable cases' and 'non-cases' based on the GHQ total score. A patient was selected and labelled as a 'probable case' if they scored 5 or more on the GHQ. A 'non-case' was a patient who scored 4 or less on the GHQ. This section summarises the pre-and post-course demographic, GHQ and SF-36 data for each stratum.

9.2.4.1   Pre-course stratified sample patient data

The pre-course 'non-case' patient demographic data for the intervention and control group are summarised in Table 9.12.

Table 9.12

Pre-course 'non-case' patient demographic details

	Intervention patients (n = 86) %	Control patients (n = 91) %	χ^2	p
Gender - Male	29	34.1	0.51	0.48
- Female	71	65.9		
Marital status			1.39	0.71
Married	62	57		
Unmarried	22	22		
Divorced/separated	13	19		
Widow(er)	3.0	2		
Country of birth			11.93	0.02
Australia	77	68		
New Zealand	0	3		
UK	7	18		
Italy	2	0		
Other	14	11		
Highest level of education			2.26	0.69
Primary school	6	6		
Secondary school	54	58		
TAFE/apprenticeship	16	20		
Undergrad/assoc diploma	9	5		
Bachelor/higher degree	15	11		
Employed			2.97	0.23
Full time	34.9	30.8		
Part-time	26.7	18.7		
Not currently employed	38.4	50.5		
Seeing usual GP at this visit	84.0	79.3	0.60	0.44

The mean age for the 'non-cases' in the intervention group was 42.8 years (SD 12.6), and 44.2 years (SD 12.9) for the control group. This difference was not statistically significant (t = -0.73, df = 175, p = 0.47).

Overall the 'non-cases' in the pre-course stratified sample were well matched with only one exception. A higher proportion of control group patients were born overseas (p = 0.02).

An analysis of the GHQ and SF-36 data was conducted for the pre-course 'non-cases'. Table 9.13 summarises the results.

Table 9.13

Pre-course 'non-case' GHQ and SF-36 mean scores

	Intervention patients (n=86)	SD	Control patients (n=91)	SD	t	p
GHQ mean scale scores						
Total	1.73	2.98	1.72	2.01	0.02	0.99
Somatic symptom	0.68	1.22	0.79	1.30	-0.58	0.56
Anxiety and insomnia	0.49	1.09	0.52	1.11	-0.17	0.87
Social dysfunction	0.41	1.18	0.56	1.27	-0.77	0.44
Severe depression	0.10	0.41	0.07	0.29	0.69	0.49
SF-36 Scores						
Physical functioning	81.45	21.60	83.15	20.35	-0.97	0.33
Role physical	80.00	33.75	84.75	29.00	-1.95	0.06
Bodily pain	70.00	20.00	70.60	20.70	-0.40	0.69
General health	72.35	19.60	72.55	18.50	-0.14	0.89
Vitality	65.70	16.85	65.50	17.35	0.12	0.90
Social functioning	86.50	19.00	89.00	16.50	-1.62	0.12
Role emotional	87.67	26.00	89.67	24.67	-.75	0.45
Mental health	78.92	13.34	79.24	14.24	-0.26	0.79

The 'non-case' patients in each group were well matched for distress and quality of life measures.

An analysis of the pre-course stratified 'probable case' demographic data was conducted and the results are summarised in Table 9.14.

Table 9.14

Pre-course 'probable case' demographic details

	Intervention patients (n = 169) %	Control patients (n = 149) %	χ^2	p
Gender - Male	27	30	0.40	0.53
- Female	73	70		
Marital status			5.85	0.12
Married	49	60		
Unmarried	27	21		
Divorced/separated	21	18		
Widow(er)	3	1		*cont*

	Intervention patients (n = 169) %	Control patients (n = 149) %	χ^2	p
Country of birth			4.55	0.03
Australia	82	82		
New Zealand	1	1		
UK	3	8		
Italy	1	0		
Other	13	9		
Highest level of education			13.98	<0.01
Primary school	3	2		
Secondary school	43	61		
TAFE/apprenticeship	23	18		
Undergrad/assoc diploma	9	9		
Bachelor/higher degree	22	10		
Employed			6.48	0.04
Full time	32.0	30.9		
Part-time	29.0	18.1		
Not currently employed	39.1	51.0		
Seeing usual GP at this visit	83	82	0.07	0.79

The mean age for the pre-course 'probable cases' in the intervention group was 39.8 years (SD 11.2) which is similar to the mean age of the control group, 39.9 years (SD 12.7). This difference was not statistically significant (t = -0.05, df = 314, p = 0.96).

Table 9.14 demonstrates that the intervention and control 'probable cases' had similar demographic characteristics. A similar proportion of 'probable cases' were born in Australia but there was some difference in those born overseas (p = 0.03). A higher proportion of 'probable cases in the intervention group had higher levels of education (p < 0.01) and more were employed (p = 0.04). This mirrors previous differences shown between the intervention and control group patients.

A summary of the pre-course 'probable case' GHQ and SF-36 data is found in Table 9.15.

Table 9.15

Pre-course 'probable case' GHQ and SF-36 mean scores

	Intervention patients (n = 169)	SD	Control patients (n = 149)	SD	t	p
GHQ mean scores						
Total	13.37	5.56	11.01	5.56	3.71	< 0.01
Somatic symptom	3.69	2.02	3.57	2.05	0.50	0.62
Anxiety and insomnia	4.28	2.16	3.46	2.28	3.12	< 0.01
Social dysfunction	3.55	2.24	2.80	2.19	2.89	< 0.01
Severe depression	1.85	2.18	1.19	1.92	2.75	< 0.01
SF-36 Scores						
Physical functioning	73.15	26.65	73.15	25.95	-0.95	0.34
Role physical	46.25	40.50	50.50	40.75	-1.71	0.09
Bodily pain	53.10	25.00	55.60	23.90	2.03	0.04
General health	56.25	23.85	56.30	22.00	-0.28	0.78
Vitality	39.80	20.05	38.50	19.85	-0.25	0.80
Social functioning	56.50	28.88	58.50	27.13	-0.81	0.42
Role emotional	47.67	43.00	51.33	43.00	-0.79	0.48
Mental health	53.68	20.80	55.44	21.92	-0.82	0.41

There were some statistically significant differences between the 'probable cases' in the intervention and control group part of the GHQ scale scores. The 'probable cases' in the intervention group had higher total GHQ mean score (p < 0.01), particularly in the scales of anxiety and insomnia (p < 0.01), social dysfunction (p < 0.01), and severe depression (p < 0.01). There was also a statistically significant difference between the intervention and control group on the SF-36 score scale for bodily pain (p = 0.04) as the intervention group 'probable cases' scored slightly lower.

A comparison of the pre-course intervention and control group 'probable cases' was made with the clinically depressed norms from the US MOS Outcomes study (Ware et al., 1993) Table 10.9 p.10:26]. These are summarised in Figure 9.3.
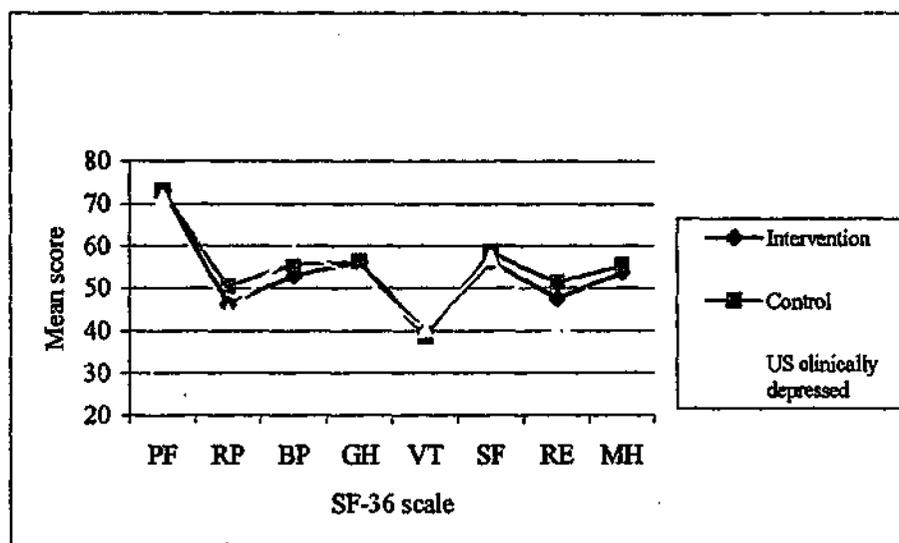
Figure 9.3
Comparison of the pre-course intervention and control 'probable cases' to the clinically depressed patients in the US (Ware et al., 1993 Table 10.9 p.10:26)

Figure 9.3 shows that the 'probable cases' in this phase of the study had a similar profile to those US patients with clinical depression. However the patients in this study had higher mean scores on the 'role emotional' and 'mental health' scales of the SF-36 than the US 'clinically depressed'. This indicates slightly better mental health than the US clinically depressed.

In summary the pre-course 'non-cases' in the intervention and control group had similar demographic, GHQ and SF-36 characteristics. The 'probable cases' differed in the GHQ scores with the intervention group patients scores indicating more emotional distress. The control group patients differed to the intervention group patients on the bodily pain scale of the SF-36. The 'probable cases' in this study were similar on most of the SF-36 scales to the clinically depressed patients in the MOS Outcomes study.

9.2.4.2   Post-course stratified sample patient data

This section explores the post-course 'non-case' and 'probable case' demographic, GHQ and SF-36 data for the stratified sample. Table 9.16 summarises the demographic data for the post-course 'non-cases' in the intervention and control groups.

Table 9.16

Post-course 'non-case' patient demographic details

	Intervention patients (n = 83) %	Control patients (n = 81) %	χ^2	p
Gender - Male	31	32	0.01	0.92
- Female	69	68		
Marital status			2.48	0.49
Married	60	68		
Unmarried	19	19		
Divorced/separated	17	9		
Widow(er)	4	4		
Country of birth			3.40	0.34
Australia	88	83		
New Zealand	1	1		
United Kingdom	6	4		
Other	5	12		
Highest level of education			3.44	0.49
Primary school	5	7		
Secondary school	56	54		
TAFE/apprenticeship	24	15		
Undergrad/assoc diploma	4	5		
Bachelor/higher degree	11	19		
Employed			1.69	0.43
Full time	26	36		
Part-time	34	29		
Not currently employed	40	35		
Seeing your usual GP at this visit	83	80	0.23	0.63

The mean age for the 'non-cases' in the intervention group was 43.0 years (SD 13.3) and the mean age in the control group was 42.2 years (SD 12.9). This difference was not statistically significant (t = 0.37, df = 161, p = 0.71). Table 9.16 demonstrates that the 'non-cases' in each group had similar demographic variables as there were no statistically significant differences between the intervention and control group.

The post-course 'non-case' patients completed the GHQ and SF-36 and these results are summarised in Table 9.17.

Table 9.17

Post-course 'non-case' GHQ and SF-36 mean scores

	Intervention patients (n = 83)	SD	Control patients (n = 81)	SD	t	p
GHQ mean scale scores						
Total	0.64	1.10	0.75	1.11	-0.63	0.53
Somatic symptom	0.33	0.71	0.43	0.89	-0.79	0.43
Anxiety and insomnia	0.16	0.48	0.13	0.33	0.49	0.63
Social dysfunction	0.13	0.37	0.15	0.51	-0.36	0.72
Severe depression	0	0.27	0	0.31	0.56	0.58
SF-36 Scores						
Physical functioning	83.75	22.35	84.55	21.15	-0.40	0.68
Role physical	87.00	40.75	85.00	30.25	0.60	0.55
Bodily pain	71.30	19.30	71.30	19.90	1.24	0.22
General health	73.25	18.30	73.25	16.75	-0.33	0.74
Vitality	65.95	15.75	66.15	16.10	-0.16	0.85
Social functioning	87.88	17.75	87.75	18.25	0.08	0.94
Role emotional	89.67	25.67	91.00	24.33	-0.56	0.58
Mental health	79.08	13.40	79.28	13.76	-0.14	0.89

As seen from Table 9.18 the 'non-cases' in the intervention and control groups had similar distress and quality of life measures.

The post-course 'probable case' demographic data for the intervention and control groups are summarised in Table 9.18.

Table 9.18

Post-course 'probable case' demographic details

	Intervention patients (n = 168) %	Control patients (n = 141) %	χ^2	p
Gender - Male	31	29	0.19	0.66
- Female	69	71		
Marital status			6.46	0.09
Married	44	55		
Unmarried	31	19		
Divorced/separated	20	22		
Widow(er)	5	4		

cont.

	Intervention patients (n = 168) %	Control patients (n = 141) %	χ^2	p
Country of birth			3.93	0.27
Australia	80	79		
New Zealand	4	3		
UK	4	9		
Other	12	9		
Highest level of education			4.7	0.32
Primary school	2	5		
Secondary school	51	57		
TAFE/apprenticeship	17	18		
Undergrad/assoc diploma	16	10		
Bachelor/higher degree	16	10		
Employed			0.70	0.71
Full time	35	39		
Part-time	26	23		
Not currently employed	39	38		
Seeing usual GP at this visit	87	77	4.67	0.03

The mean age for the 'probable cases' in the intervention group was 40.0 years (SD 12.2) and the mean age for 'probable cases' in the control group was 40.3 years (SD 11.89. This difference was not statistically significant (t =-0.96, df = 298, p = 0.34). Table 9.18 demonstrates that the 'probable cases' in the intervention and control groups were similar although a higher proportion of intervention group 'probable cases' were seeing their usual doctor compared to the control group (p = 0.03).

Table 9.19 summarises the post-course GHQ and SF-36 data for the intervention and control group 'probable cases'.

Table 9.19

Post-course 'probable case' GHQ and SF-36 mean scores

	Intervention patients (n = 168)	SD	Control patients (n = 141)	SD	t	p
GHQ mean scale scores						
Total	11.95	5.27	11.32	5.47	0.95	0.40
Somatic symptom	3.97	1.93	3.63	2.05	1.42	0.15
Anxiety and insomnia	3.75	2.23	3.67	2.28	0.31	0.76
Social dysfunction	2.92	2.28	2.56	2.09	1.41	0.15
Severe depression	1.27	1.85	1.69	2.37	-1.74	0.08

cont.

	Intervention patients (n = 168)	SD	Control patients (n = 141)	SD	t	p
SF-36 Scores						
Physical functioning	72.40	29.70	74.60	26.25	-0.70	0.48
Role physical	44.00	41.25	47.25	41.00	-0.71	0.48
Bodily pain	52.50	24.70	55.20	24.00	-0.99	0.32
General health	56.75	22.55	55.75	23.45	0.38	0.71
Vitality	40.80	22.00	42.00	20.40	-0.52	0.60
Social functioning	55.63	25.00	55.38	25.63	0.11	0.91
Role emotional	47.00	42.67	47.00	42.00	0.03	0.97
Mental health	55.84	20.48	54.88	20.76	0.42	0.67

The 'probable cases' in the intervention and control groups had similar distress and quality of life measures.

The post-course 'probable cases' in the intervention and control groups SF-36 results were graphed against the clinically depressed norms from the US MOS Outcomes study (Ware et al., 1993 Table 10.9 p.10:26). The results are found in Figure 9.4.
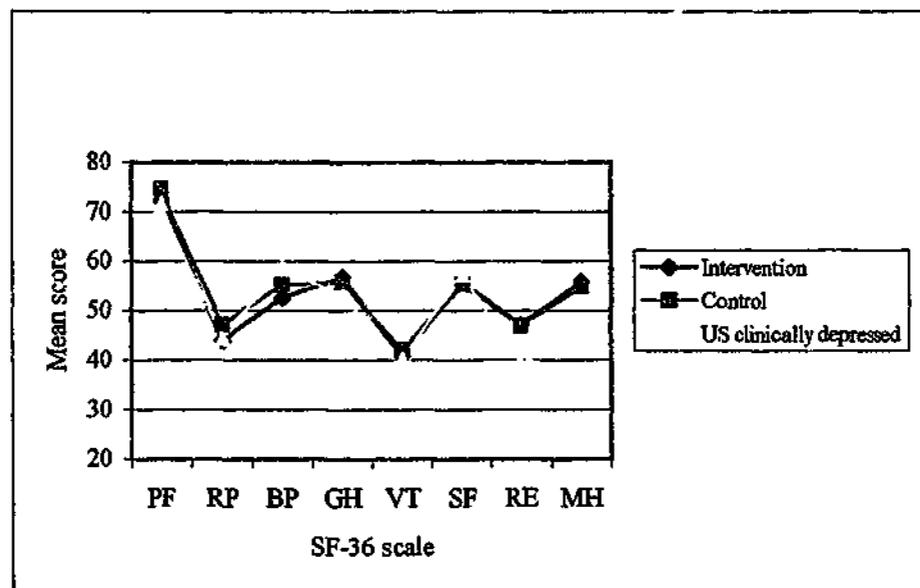
Figure 9.4
Comparison of the post-course intervention and control 'probable cases' to the clinically depressed patients in the US (Ware et al., 1993 Table 10.9 p.10:26)

The 'probable cases' in this phase of the intervention had a similar profile to those US patients with clinical depression (Ware et al., 1993 Table 10.9 p.10:26), however the

patients in this study had higher scores on the 'role emotional' and 'mental health' scales of the SF-36 than the clinically depressed in the US. This indicates they were not experiencing the same distress as the clinically depressed in the US.

In summary, the post-course 'non-cases' and the 'probable cases' in the intervention and control group had similar demographic, GHQ and SF-36 characteristics and revealed similar profile to the clinically depressed in the US MOS Outcomes study.

9.3   Summary

In this chapter I have presented the demographic and clinical data of the GPs and their patients comparing the intervention and control groups, pre-and post-groups, and 'probable cases' and 'non-cases'. Minor differences were noted. A greater proportion of patients in the pre-course intervention group had higher levels of education as they held bachelor or higher degrees compared to patients in the control group. A greater proportion of patients in the pre-course intervention group were employed compared to the control group. A higher proportion of patients in the pre-and-post course intervention group were seeing their usual doctor compared to the control group.

A higher proportion of pre-course control group 'non-cases' and 'probable cases' were born overseas compared to the intervention group. A higher proportion of pre-course intervention group 'non-cases' were employed compared to the control group. The pre-course 'probable cases' in the intervention group had higher total GHQ mean scores, particularly in the scales of anxiety and insomnia, social dysfunction, and severe depression. There was also a statistically significant difference between the 'probable cases' in intervention and control group on the SF-36 bodily pain score scale as these patients in the intervention group scored slightly lower.

A higher proportion of the post-course 'probable cases' in the intervention group were seeing their usual doctor than the control group when the study data was collected.

The next chapter examines the data related to change in doctors' knowledge, attitude towards and clinical practice related to common mental disorders, predominantly depression and anxiety in general practice.

Chapter 10

Evidence of change in doctors

This chapter contains the evidence that addresses the impact of the GCGPP on GPs' knowledge, attitude and practice pertaining to the common mental disorders, predominantly depression and anxiety in general practice. The chapter is divided into four sections. The first section highlights the evidence of change in doctors' knowledge of the common mental disorders (predominantly depression and anxiety) (Hypothesis 1). The second section explores change in doctors' attitude towards these conditions (Hypothesis 1) and the third section demonstrates the 6 month follow-up data to examine whether change in knowledge and attitude is sustained (Hypothesis 2). The fourth section details change in clinical practice, including the documentation of diagnosis and risk factors (Hypothesis 3), and recognition of mental illness (Hypothesis 4) and management (Hypothesis 5).

10.1 GP knowledge of depression and anxiety in general practice

This section details the data pertaining to GP knowledge of common mental disorders, predominantly depression and anxiety, in general practice. This data relates to Hypothesis 1 'The GCGPP will improve students' knowledge and attitudes of the common mental disorders, (predominantly depression and anxiety) in general practice'.

Post-administration examination of the pre-test (commencement of analysis) revealed one item (question 32) was poorly worded. This item was removed for the analysis. The results of the knowledge test completed by the GPs before and after the course are summarised in Table 10.1.

Table 10.1

Intervention and control GPs knowledge scores

| Measure % correct | Intervention GPs | | | | | | | | Control GPs | | | | | | | | ACOVA Results | | | |
	Mean	Pre SD	α	Mean	Post SD	α	t	p	Mean	Pre SD	α	Mean	Post SD	α	t	p	Covariate F	p	Group diff. F	p
Total knowledge	60.20	9.98	0.43	69.64	13.70	0.69	-4.48	<0.01	58.92	12.97	0.64	59.69	11.92	0.59	-0.21	0.84	11.45	<0.01	4.97	0.04
Recognition knowledge	72.45	12.48	0.29	79.08	15.46	0.60	-2.06	0.06	67.88	14.74	0.42	13.61	13.64	0.43	-0.40	0.69	11.53	<0.01	2.28	0.14
Management knowledge	54.00	15.74	0.30	64.15	13.53	0.41	-1.65	0.12	50.07	13.68	0.36	52.50	15.28	0.43	-0.50	0.62	0.00	0.95	4.14	0.05

Table 10.1 shows that the GPs in the intervention and control group had similar knowledge at the beginning of the study as indicated by the average total percent correct for all items about depression and anxiety disorders ($t = -0.13$, df $= 12$, p $= 0.89$). The alpha coefficients were low at the beginning of the study reflecting a generally low level of knowledge and an element of randomness in the GPs' responses. The post-test alpha coefficients show that the course introduced a systematic difference. There was a statistically significant overall improvement in the intervention GPs' responses on all knowledge items after the course. The GPs in the intervention group improved more than the control group ($F = 5.19$, p $= 0.03$).

Table 10.2 details the percent of correct responses for the intervention group for each knowledge item pre-and post-course and at six month follow-up. This shows that some questions were consistently answered incorrectly while other questions were sensitive to change.

Table 10.2

Percent of correct responses for the intervention group for each knowledge item
(Questions were multiple choice)

Item	Topic	% correct		
		Pre	Post	Follow up
18. Women, more than men, suffer: 1. Panic disorder 2. Specific phobia 3. Agoraphobia 4. Obsessive compulsive disorder	Recognition	21	50	77
19. The following are useful in assessing the degree of severity of depression: 1. Level of depressed mood 2. Constancy of depression 3. Impairment of functioning 4. Presence of anxiety	Recognition	57	64	77

cont.

Item	Topic	Pre	Post	Follow up
20. With respect to detection of depression the following are true: 1. Depression occurs with equal frequency in men and women 2. In general practice, as many as a quarter of patients have a psychiatric disorder, most commonly depression 3. Routine screening for depression is of little value 4. Depression occurs in all age groups including children and adolescents	Recognition	64	86	77
21. The following are recognised as 'risk factors' for the development of depression: 1. No previous history of depression 2. Being unemployed 3. Being male 4. Having a chronic physical illness	Recognition	93	93	100
22. With respect to the time course of depression the following are true: 1. 1/4 of people who develop an episode of major depression have depressive symptoms of varying duration as a prelude to their illness 2. All patients who receive effective treatment recover from an episode of major depression 3. Up to 2/3 of patients who recover from an episode of major depression will have a subsequent episode 4. Antidepressants are of little value in preventing further episodes of depression	Recognition	79	86	100
23. The following may occur as a result of depression: 1. Absenteeism from work 2. Recurring physical complaints 3. Increased hospital length of stay for medical and surgical problems 4. increased accident rates	Recognition	93	100	100

cont.

Item	Topic	Pre	Post	Follow up
24. Medical disorders which may present with a depressive syndrome include: 1. Pancreatic cancer 2. Hypertension 3. Hypothyroidism 4. Gastric ulcer	Recognition	71	50	61
25.Factors associated with increased risk of suicide include: 1. Chronic and/or painful physical conditions 2. Alcohol abuse 3. Depression, especially if associated with feelings of hopelessness 4. Being female	Recognition	93	93	93
26.The following may be indicative of depression in the elderly: 1. Anxiety 2. Behavioural disturbance 3. Disturbance of memory 'dementia like' picture 4. Suicidal behaviour	Recognition	86	100	100
27.With respect to post natal depression the following are true: 1. Post natal depression can be associated with birth complications 2. Post natal depression is common, affecting 10-15% of mothers 3. Excessive anxiety about the baby's health is a common presenting feature 4. Post natal depression resolves spontaneously	Recognition	86	86	92
28.What is important with respect to the management of a depressed person: 1. Patient and family education about depression 2. Assessment of suicide risk 3. Severity of episode 4. Concomitant medication	Management	100	93	100

cont.

Item	Topic	Pre	Post	Follow up
29.With respect to the management of anxiety disorders 1. Assessment of suicide risk is important 2. Most anxiety disorders do not require medication 3. Most require long-term management perspective 4. Relaxation is of little use	Management	21	7	23
30.The following is an indicator of a possible anxiety disorder or depression in a patient: 1. Suicidal behaviour 2. Substance abuse 3. Lack of interest in life 4. Recurrent visits with no clear physical problem	Recognition	100	93	100
31.Panic disorder 1. Commonly begins after 40 years 2. Is more common in women 3. Is usually associated with physical illness 4. Often associated with depression	Recognition	86	79	92
32. Anxiety disorders are usually 1. Episodic 2. Recurrent 3. Chronic 4. Acute/one off episode only	Recognition	50	36	77
33.The following are recognised as 'risk factors' for the development of anxiety disorders 1. Family history of anxiety disorder 2. Recent experience of a major stress 3. Being female 4. Having a chronic physical illness	Recognition	36	64	54
34. Medical conditions which may mimic an anxiety disorder include: 1. Hypertension 2. Temporal lobe epilepsy 3. Gastric ulcer 4. Hyperthyroidism	Recognition	50	64	69

Item	Topic	Pre	Post	Follow up
35. Factors which would *not* influence your choice of management for the depressed patient include: 1. Hypomania 2. Previous treatment response 3. Suicidal ideation 4. Level of education	Management	86	93	93
36. Appropriate pharmacological treatments for obsessive compulsive disorder include: 1. SSRIs e.g. Prozac, Zactin, Aropax, Zoloft 2. benzodiazepines e.g. Ralozam, Xanax, Rivotril, Valium, Serepax 3. tricyclic antidepressants e.g. Imipramine, Amitriptyline, lomipramine 4. MAIOs e.g.Nardil, Aurorix	Management	79	79	85
37. Appropriate pharmacological treatment for panic disorder include: 1. SSRIs e.g. Prozac, Zactin, Aropax, Zoloft 2. benzodiazepines e.g. Ralozam, Xanax, Rivotril, Valium, Serepax 3. tricyclic antidepressants e.g. Imipramine, Amitriptyline, lomipramine 4. MAIOs e.g.Nardil, Aurorix	Management	57	43	46
38. Concomitant medications which may influence your choice of a particular SSRI antidepressant medication in the elderly are: 1. Ventolin 2. Warfarin 3. Recent use of pethidine 4. Carbamazepine	Management	50	64	54
39. Side effects of tricyclic antidepressants include: 1. Dry mouth 2. Urinary hesitancy 3. Ejaculatory dysfunction 4. Solar sensitivity	Management	86	86	77
40. SSRIs may cause the following: 1. Gastrointestinal disturbance 2. Cardiac conduction disturbance 3. Insomnia 4. Blurred vision	Management	71	71	54

cont.

Item	Topic	Pre	Post	Follow up
41. From the following list	Management			
a. Interpersonal psychotherapy				
b. Cognitive therapy				
c. Relaxation				
d. Behavioural therapy eg.				
Graduated exposure				
please nominate *one or more*				
appropriate non drug therapy/ies for				
Obsessive compulsive disorder		14	43	23
Panic disorder		7	50	39
Specific phobia		14	43	16
Agoraphobia		29	50	7
Depression		36	86	15
Post traumatic stress disorder		21	29	23

It is evident from Table 10.2 that after question 32 was removed from the analysis 12 items were consistently answered incorrectly by the intervention group. Item 24 tested knowledge of depressive syndrome in patients suffering physical disorders. At the beginning of the course over 70 percent of the intervention GPs answered this correctly and this decreased over the duration of the study. The majority of the intervention group consistently answered item 33 incorrectly. This item tested knowledge pertaining to 'risk factors' for the development of anxiety disorders.

Item 37 tested knowledge about the appropriate pharmacological treatment for panic disorder and item 40 tested knowledge about the side effects of SSRIs. Fewer of the intervention group answered these correctly after completing the course. The course also had little impact on the intervention group's knowledge about concomitant medications, which may influence their choice of a particular SSRI antidepressant medication in the elderly. It appeared that the course did not have a positive impact on these areas of knowledge even though the answers to these questions could be found in the printed course materials and the wording of the items was not ambiguous.

The majority of the intervention group consistently answered item 29 incorrectly. This item tested knowledge of the management of anxiety disorders. This question was poorly worded as the first option 'assessment of suicide' may have misled the GPs who could have considered this answer as pertaining to recognition rather than management. Future versions of this questionnaire should include a revision of this item.

Item 41 tested knowledge about non-drug treatment of specific disorders. The items were correct if the GP identified two or more therapies. Whilst the trend improved for OCD and panic less than half of the intervention GPs answered these correctly. Knowledge of non-drug therapy for specific phobia improved post-course and then declined six months later. Knowledge pertaining to non-drug treatment of agoraphobia and depression decreased over the duration of the study. Knowledge of non-drug therapy in relation to PTSD did not change.

In summary, the course had a positive impact on the intervention GP's knowledge. Individual item analysis indicated that this positive change was identified post intervention and maintained at 6 months follow-up for 9 of the 28 items. For the other 19 questions there was little change or changes were not sustained.

10.2 GP attitude towards depression and anxiety in general practice

This section details the data pertaining to GP attitude towards the common mental disorders, predominantly depression and anxiety, in general practice. This data relates to Hypothesis 1 (that participation in the GCGPP lead to improved knowledge of, and attitudes towards, common mental disorders (predominantly depression and anxiety).

The intervention and control GP's were asked about their attitudes towards these conditions pre-and post-course using the questionnaire described in Chapter 8. The results are summarised in Table 10.3 (see page 198).

-At the beginning of the study the GPs in the intervention and control group had similar attitudes with regard to comfort and competency in the recognition and management of anxiety disorders and depression (t = -0.30, df = 12, p = 0.76) and also in issues of time and remuneration (t = 1.26, df = 12, p = 0.21).

Table 10.3 demonstrates that the intervention GPs' attitudes with regard to comfort and competency changed over the duration of the course although the result was not statistically significant (p = 0.06). There were no group differences shown on either attitude scale to show the impact of the GCGPP on GP attitude.

10.3   GP knowledge and attitude 6 months after the course

The intervention GPs were asked to complete the study questionnaire six months after completing the course to determine if any change occurred in knowledge or attitudes. This section explores the data pertaining to Hypothesis 2 (change in GPs' knowledge of, and attitude towards, the common mental disorders (predominantly depression and anxiety) in general practice will endure up to 6 months after the completion of the course). The results are summarised in Table 10.4 (see page 199) and Figures 10.1 (see page 199) and 10.2 (see page 200).

Table 10.3

GPs' attitude towards depression and anxiety in general practice

| Measure | Intervention GPs (n = 14) | | | | | | Control GPs (n = 14) | | | | | | ANCOVA Results | | | |
| | Pre | | Post | | t | P | Pre | | Post | | t | p | Covariate | | Group diff. | |
	Mean	SD	Mean	SD			Mean	SD	Mean	SD			F	p	F	p
Comfort and competency	62.79	10.47	66.93	7.60	-2.06	0.06	60.83	9.99	61.17	11.91	-0.21	0.84	34.83	<0.01	2.98	0.09
Time and remuneration	21.43	7.62	20.64	7.49	0.53	0.61	18.53	3.68	16.08	4.94	2.09	0.06	20.78	<0.01	1.68	0.21

Table 10.4

Change in the intervention GPs knowledge of, and attitudes towards,
the common mental disorders (predominantly depression and anxiety disorders)
6 months after completing the course

%	Pre-course (n = 14)		6 months post-course (n = 14)		t	p
	Mean	SD	Mean	SD		
Total knowledge score	60.20	9.98	66.31	9.97	-1.62	0.12
Recognition knowledge score	72.45	12.48	83.46	10.99	-2.93	0.02
Management knowledge score	54.00	15.74	46.62	14.63	1.56	0.15
Comfort and competency	62.79	10.47	73.38	6.46	-3.22	<0.01
Time and remuneration.	21.43	7.62	22.08	7.82	-0.41	0.69

Table 10.4 demonstrates the intervention GPs' total knowledge of depression and anxiety disorders increased six months after completion of the course, although this was not statistically significant. These GPs also felt more comfortable and confident in the recognition and management of the common mental disorders, particularly depression and anxiety, six months after completing the course. This may indicate a consolidation of learning. Their attitude about remuneration pertaining to treatment of patients suffering these conditions did not alter.
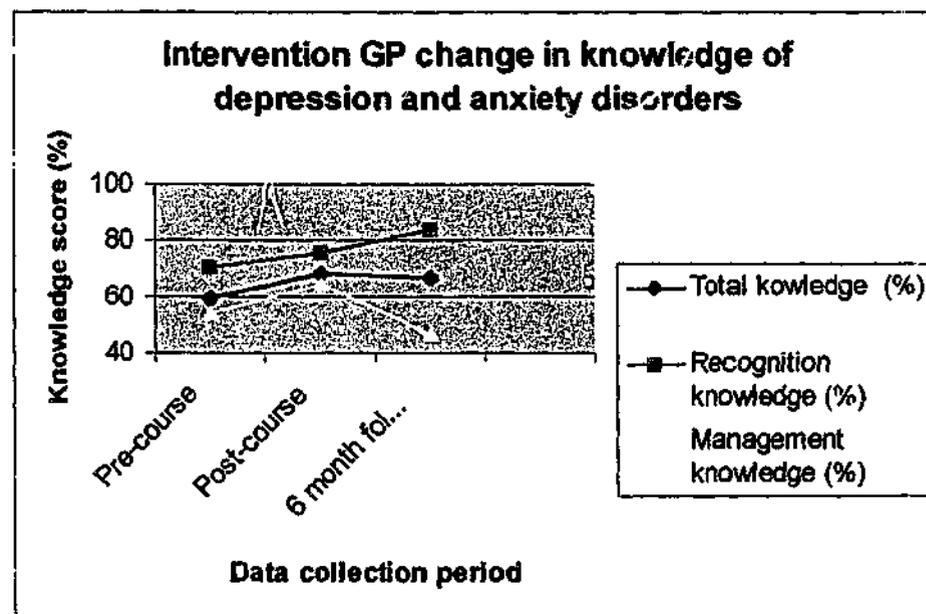
Figure 10.1
Intervention GP change in knowledge of depression and anxiety disorders at pre, post and six months post-course

Figure 10.1 shows that 'recognition' knowledge continued to increase 6 months after the intervention GPs completed the course however management knowledge declined. This may reflect that the course content pertaining to management of these conditions was not sufficiently emphasised or reinforced.
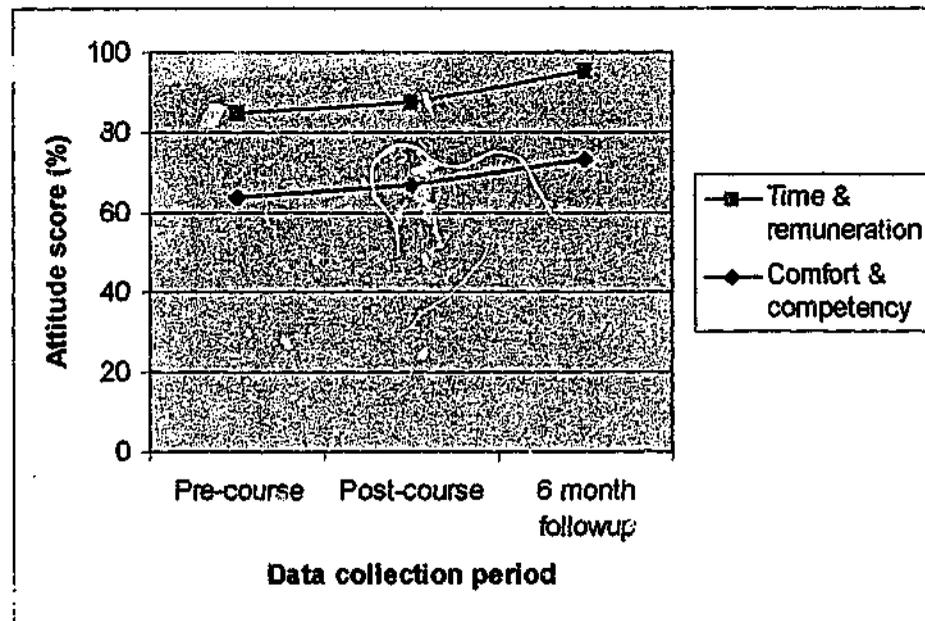
Figure 10.2
Intervention CP change in attitude towards common mental disorders, predominantly depression and anxiety, at pre, post and six months post-course

Figure 10.2 shows that the intervention GPs' attitude towards the common mental disorders, predominantly depression and anxiety, continued to increase 6 months after they had completed the course.

10.4   Clinical practice

This section examines the data relevant to Hypothesis 3 'That participation in the GCGPP lead to increased the documentation of diagnosis and risk factors of patients with common mental disorders in general practice', Hypothesis 4 'That participation in the GCGPP will lead to increased recognition and diagnosis of patients with the common mental disorders and Hypothesis 5 'That participation in the GCGPP will lead to improved GP management of common mental disorders in general practice'

Change in practice was measured using the audit instrument designed for this study. A total of 240 intervention and 251 control patient histories were audited in the pre-course phase of the study. A total of 217 intervention and 220 control patient histories were audited in the post-course phase. On average intervention and control GPs audited 16 patients files and of these 10 were 'probable cases'.

10.4.1 Documentation of diagnosis and risk factors

This section examines the data relevant to Hypothesis 3 (participation in the GCGPP will lead to increased documentation of diagnosis and risk factors of the common mental disorders).

GPs' documentation of diagnosis and risk factors for depression and anxiety and associated disorders for all patients whose files were audited was analysed. For each variable, each GP was given a percent documentation score and these were aggregated. The results are summarised in Table 10.5 (see page 202).

Analysis identified some differences between the intervention and control groups' pre-course documentation of patients' risk factors for mental illness. The intervention group recorded a higher proportion of emotional stress than the controls ($\chi 2 = 6.82$, df $= 1$, p ≤ 0.01) and suicide risk more often than the control GPs ($\chi 2 = 4.79$, df $= 1$, p $= 0.03$). There was also a statistical difference between the intervention and control GPs in the pre-course documentation of a diagnosis of mental illness ($\chi 2 = 14.42$, df $= 1$, p ≤ 0.01). The intervention GPs documented a diagnosis more, particularly a primary condition of anxiety ($\chi 2 = 9.33$, df $= 1$, p < 0.01) and secondary condition of anxiety ($\chi 2 = 3.96$, df $= 1$, p $= 0.05$). The control doctors saw their patients more often in the previous six months than the intervention GPs (t $= -2.04$, df $= 1$, p $= 0.04$).

Table 10.5

GP documentation of patient diagnosis and risk factors over the last 6 months

Measure	Intervention GPs (n=14) Pre Mean	SD	Post Mean	SD	t	p	Control GPs (n=14) Pre Mean	SD	Post Mean	SD	t	p	ANCOVA Results Covariate F	p	Group diff. F	p
Emotional stress present	55.99	15.62	50.42	22.00	1.09	0.29	43.47	17.47	45.16	29.60	-0.35	0.73	25.21	<0.01	1.31	0.24
Diagnosis of mental illness	57.56	12.96	46.22	18.81	2.64	0.02	42.31	22.76	32.83	28.10	1.87	0.08	21.98	<0.01	0.00	0.99
Primary diagnosis	55.95	12.55	45.37	19.03	2.47	0.03	42.40	22.63	31.72	26.68	2.29	0.04	21.98	<0.01	0.00	0.99
Depression	25.75	11.25	22.58	14.28	0.77	0.46	21.58	15.38	20.85	19.00	0.20	0.84	11.12	<0.01	0.05	0.83
Anxiety disorder	26.18	12.71	19.50	18.17	2.03	0.06	16.33	10.19	7.79	9.13	3.58	<0.01	20.93	<0.01	0.59	0.45
Substance abuse	5.89	8.34	4.82	8.51	0.39	0.70	4.66	6.29	1.23	2.46	1.91	0.08	0.97	0.34	2.03	0.17
Psychosis	-	-	-	-	-	-	-	-	-	-			-	-	-	-
Dementia	-	-	-	-	-	-	-	-	-	-			-	-	-	-
Other	3.23	6.41	4.19	4.83	-0.50	0.62	5.96	8.43	2.31	4.53	1.15	0.15	0.83	0.37	1.47	0.24
Secondary diagnosis	21.44	12.11	15.35	13.54	2.25	0.04	16.25	15.57	10.94	17.40	1.17	0.26	11.21	<0.01	0.05	0.82
Depression	6.34	8.50	7.69	9.18	-0.89	0.39	6.79	10.91	1.94	3.36	1.70	0.11	9.36	<0.01	6.78	0.02
Anxiety disorder	10.56	9.37	3.37	7.30	3.53	<0.01	1.74	2.91	2.22	4.41	1.28	0.22	12.08	<0.01	1.12	0.30
Substance abuse	4.39	6.87	2.44	2.96	0.86	0.41	5.49	6.68	3.35	5.98	-0.34	0.74	1.14	0.30	0.18	0.68
Psychosis	0.42	1.57	0.40	1.48	0.04	0.97	0.71	2.67	0.38	1.41	0.04	0.69	0.14	0.71	0.00	0.99
Dementia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	3.99	4.79	2.62	4.00	0.90	0.38	1.87	3.26	3.43	8.70	-0.71	0.49	1.40	0.25	0.38	0.55
Significant stressor present	62.49	15.41	54.58	21.73	1.57	0.14	59.34	17.88	60.74	26.83	0.23	0.82	9.87	<0.01	1.16	0.29
Family history of psychiatric illness	8.84	9.08	17.88	13.37	-2.68	0.02	9.99	17.06	7.24	12.37	0.61	0.56	3.85	0.06	5.70	0.03
Suicide risk assessment	17.03	14.06	22.56	16.35	-1.28	0.22	9.55	9.98	6.99	8.76	0.82	0.43	4.22	0.05	6.50	0.02
Number of documented patient visits	6.17	1.46	6.55	1.69	-1.18	0.26	7.44	1.99	6.76	2.93	0.62	0.54	0.09	0.77	0.01	0.92

Overall the GP's post-course documentation of the majority of variables were similar to the pre-course documentation. However there was a statistically significant difference between the intervention and control GPs documentation of risk factors including family history of psychiatric illness ($\chi2 = 10.22$, df = 1, $p \leq 0.01$) and suicide risk ($\chi2 = 19.65$, df = 1, $p \leq 0.01$) as the intervention GPs recorded this more. The intervention GPs also recorded diagnosis more often ($\chi2 = 8.63$, df = 1, $p \leq 0.01$), particularly primary anxiety disorder ($\chi2 = 15.86$, df = 1, $p \leq 0.01$); primary substance abuse ($\chi2 = 5.28$, df = 1, p = 0. 02) and secondary depression ($\chi2 = 7.69$, df = 1, $p \leq 0.01$).

Table 10.5 reveals a decrease in documentation, by both groups of GPs, post-course for the majority of variables. The change in the proportion of documented post-course secondary depression was statistically significant as the intervention GPs changed more than the control GPs (p = 0.02). The post-course increase in the documentation of family history of psychiatric illness as a risk factor, by the intervention GPs, lead to a statistically significant group difference (p = 0.03). The intervention group doctors also recorded a higher proportion of suicide risk than the control GPs (p = 0.02).

The documentation of risk factors and diagnoses for the 'probable cases' was explored (see Table 10.6 - page 204).

There was a statistically significant difference between the intervention and control GPs pre-course documentation of suicide risk, emotional distress in the last 6 months, diagnosis of mental illness and primary mental illness for this group of patients at the beginning of the study. The intervention GPs documented more emotional distress ($\chi2 = 6.39$, df = 1, p = 0.01), suicide risk ($\chi2 = 8.07$, df = 1, p < 0.01), diagnosis of mental illness ($\chi2 = 13.93$, df = 1, p < 0.01) and primary diagnoses ($\chi2 = 10.68$, df = 1, p< 0.01) than the control doctors. Intervention GPs also recorded more primary anxiety than the controls ($\chi2 = 5.27$, df = 1, p = 0.02).

Table 10.6

GP documentation of 'probable case' risk factors and diagnosis of mental illness over the last 6 months

Measure	Intervention GPs (n=14)						Control GPs (n=14)						ANCOVA Results			
	Pre		Post		t	p	Pre		Post		t	p	Covariate		Group diff.	
	Mean	SD	Mean	SD			Mean	SD	Mean	SD			F	p	F	p
Emotional stress present	66.65	19.01	59.01	24.47	1.67	0.26	51.47	22.92	48.53	31.60	0.63	0.49	13.05	<0.01	0.02	0.88
Diagnosis of mental illness.	69.14	17.81	53.55	21.50	2.90	0.01	49.43	26.98	39.28	29.95	1.94	0.08	21.29	<0.01	0.01	0.91
Primary diagnosis	67.43	17.94	52.25	21.97	2.59	0.02	49.43	26.98	39.28	29.95	2.29	0.04	17.36	<0.01	0.05	0.83
Depression	36.29	22.51	26.47	20.33	1.60	0.13	27.43	20.41	29.25	27.34	-0.31	0.76	9.51	<0.01	0.98	0.33
Anxiety disorder	26.76	15.98	21.59	19.52	1.41	0.18	18.82	16.20	4.89	7.98	3.19	<0.01	9.72	<0.01	6.47	0.02
Substance abuse	7.01	12.41	5.70	10.19	0.59	0.57	3.84	7.91	1.57	4.20	1.05	0.31	7.22	0.01	1.47	0.30
Psychosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dementia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	3.43	5.80	5.71	7.36	-1.48	0.16	8.91	14.61	2.76	6.23	1.61	0.13	2.43	0.13	2.35	0.14
Secondary diagnosis	27.27	14.18	20.62	19.98	1.58	0.14	22.35	19.83	14.99	22.42	1.45	0.17	14.64	<0.01	0.09	0.77
Depression	8.29	10.46	11.00	13.51	-1.22	0.24	8.47	14.20	3.10	5.43	1.43	0.18	8.44	<0.01	5.40	0.03
Anxiety disorder	12.59	12.94	4.73	10.00	2.56	0.03	8.15	10.46	4.38	8.44	1.15	0.27	4.19	0.05	0.08	0.78
Substance abuse	4.73	7.43	3.80	4.70	0.35	0.73	2.69	4.23	2.63	5.51	0.03	0.98	1.28	0.27	0.62	0.44
Psychosis	0.60	2.23	0.60	2.23	-	1.00	-	-	0.55	2.01	-1.00	0.34	0.08	0.78	0.01	0.91
Dementia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	6.16	7.30	2.20	4.72	1.59	0.14	3.56	7.11	4.34	11.22	-0.23	0.82	0.05	0.83	0.45	0.51
Significant stressors present	73.93	20.43	62.31	22.96	1.78	0.10	67.26	22.11	66.94	25.50	0.06	0.95	9.77	<0.01	1.16	0.29
Family history of psychiatric illness	11.51	14.64	21.50	17.55	-1.91	0.08	11.29	17.82	10.57	19.32	0.13	0.90	3.42	0.08	2.64	0.12
Suicide risk assessment	26.17	25.06	28.80	23.27	-0.33	0.75	10.09	11.49	9.76	12.54	0.08	0.94	1.32	0.26	4.09	0.05
Number of documented patient visits	6.56	1.63	6.81	2.08	-0.45	0.66	7.34	2.72	6.93	2.57	0.39	0.70	0.45	0.51	0.00	0.99

The data in Table 10.6 show that both groups recorded less primary anxiety disorder at the end of the study with the controls recording a lower proportion than the intervention GPs (p = 0.02). Intervention GPs recorded a higher proportion of secondary depression compared to the controls (p = 0.03).

10.4.2 · Recognition

This section examines the data relevant to Hypothesis 4 (That participation in the GCGPP lead to increased recognition and diagnosis of patients with common mental disorders).

GP recognition of mental illness was analysed comparing GP documentation of a diagnosis of mental illness or significant emotional stress in the previous six months for patients whose histories were audited, with 'probable cases' defined by the GHQ using the latter as a 'gold standard'. Various cutoffs were tried. The results are summarised in Tables 10.7 to 10.9.

Table 10.7

GP recognition of mental illness – the latter depicted by GHQ 4/5 cutoff

		Intervention group patients				Control group patients			
		Pre Probable case 4/5 cutoff		Post Probable case 4/5 cutoff		Pre Probable case 4/5 cutoff		Post Probable case 4/5 cutoff	
		Yes n %	No n %	Yes n %	No n %	Yes n %	No n %	Yes n %	No n %
Documented diagnosis	Yes	113 76%	33 43%	87 63%	29 34%	75 54%	32 41%	68 56%	31 43%
	No	35 24%	44 57%	51 37%	50 63%	64 46%	47 59%	54 44%	42 57%
	Total	148 100%	77 100%	169 100%	83 100%	139 100%	79 100%	122 100%	73 100%

The evidence from Table 10.7 reveals that the intervention GPs had a high recognition rate (sensitivity) (76%) at the beginning of the study, perhaps indicating they were particularly more motivated to recognise 'probable cases'. However this decreased (63%) at the end of the study and this change was statistically significant ($\chi2 = 6.01$, df $= 1$, p $= 0.01$). The recognition rate (sensitivity) for the control group doctors marginally increased from 54 percent to 56 percent at the second audit and this change was not statistically significant ($\chi2 = 0.08$, df $= 1$, p $= 0.77$). The trend was replicated when a 3/4 or 5/6 cutoff for caseness was used, as shown by the data in Tables 10.8 and 10.9.

Table 10.8

GP recognition of mental illness – GHQ 3/4 cutoff

| | | Intervention group patients | | | | Control group patients | | | |
| | | Pre Probable case 3/4 cutoff | | Post Probable case 3/4 cutoff | | Pre Probable case 3/4 cutoff | | Post Probable case 3/4 cutoff | |
		Yes n %	No N %	Yes n %	No n %	Yes n %	No n %	Yes n %	No n %
Documented Diagnosis	Yes	116 77%	30 40%	88 63%	28 36%	78 53%	29 41%	69 55%	30 43%
	No	35 23%	44 60%	52 37%	49 64%	70 47%	41 59%	56 45%	40 57%
	Total	151 100%	74 100%	140 100%	77 100%	148 100%	70 100%	125 100%	70 100%

Table 10.9

GP recognition of mental illness – GHQ 5/6 cutoff

| | | Intervention group patients | | | | Control group patients | | | |
| | | Pre Probable case 5/6 cutoff | | Post Probable case 5/6 cutoff | | Pre Probable case 5/6 cutoff | | Post Probable case 5/6 cutoff | |
		Yes n %	No n %	Yes n %	No n %	Yes n %	No n %	Yes n %	No n %
Documented Diagnosis	Yes	108 76%	38 46%	86 65%	30 35%	72 56%	35 39%	69 51%	36 43%
	No	34 24%	45 54%	46 35%	55 65%	56 44%	55 61%	67 49%	48 57%
	Total	142 100%	83 100%	132 100%	85 100%	128 100%	90 100%	136 100%	84 100%

The 4/5 cutoff used in this study indicates that the GPs, in both groups, were missing 'probable cases'. The intervention GPs recognised a higher proportion of the 'probable cases' at the beginning of the study than the controls. After the course the intervention group recognised a smaller proportion of probable cases and this decrease was statistically significant ($p = 0.01$). The next section explores the documentation of patient risk factors to see if this is one reason why the GPs were not recognising these 'probable cases'.

10.4.2.1   Patient variables that influence recognition

Patient risk factors for mental illness, outlined in the course material and literature on depression and anxiety disorders include: family history of depression; personal past history of depression; being young and female; having relatively poor social supports; being divorced, separated or socially isolated; being unemployed; being an older male; and having a serious physical illness. The 'probable cases' demographic data for each variable were explored to see if there was a trend in those being recognised by the GPs, compared to those who were not recognised. These data are summarised in Table 10.10.

Table 10.10

Demographic details and documentation of the 'probable cases'

	Intervention group patients				Control group patients			
	Pre Recorded diagnosis		Post Recorded diagnosis		Pre Recorded diagnosis		Post Recorded diagnosis	
	Yes n (%) n = 113	No n (%) n = 35	Yes n (%) n = 87	No n (%) n = 51	Yes n (%) n = 75	No n (%) n = 64	Yes n (%) n = 68	No n (%) n = 54
Gender - Male	32 (28)	7 (20)	21 (25)*	22 (43)*	25 (33)	16 (25)	14 (21)	20 (37)
- Female	81 (72)	28 (80)	63 (75)*	29 (57)*	50 (67)	47 (75)	54 (79)	33 (62)
Marital status								
Married	56 (50)	17 (49)	38 (46)*	19 (37)*	49 (65)	34 (54)	37 (54)	28 (56)
Unmarried	27 (24)	13 (37)	16 (19)*	26 (51)*	12 (16)	17 (27)	10 (15)	13 (26)
Divorce/separated	26 (23)	5 (14)	25 (30)*	4 (8)*	13 (17)	12 (19)	20 (29)	7 (14)
Widow/er	3 (3)	-	4 (5)*	3 (4)*	1 (1)	-	1 (2)	2 (4)

cont.

| | Intervention group patients | | | | Control group patients | | | |
| | Pre Recorded diagnosis | | Post Recorded diagnosis | | Pre Recorded diagnosis | | Post Recorded diagnosis | |
	Yes n (%) n = 113	No n (%) n = 35	Yes n (%) n = 87	No n (%) n = 51	Yes n (%) n = 75	No n (%) n = 64	Yes n (%) n = 68	No n (%) n = 54
Country of Birth								
Australia	93 (82)	29 (83)	66 (76)	41 (80)	63 (84)	51 (80)	58 (85)	41 (76)
New Zealand	1 (1)	1 (3)	5 (6)	2 (4)	1 (1)	1 (2)	1 (2)	2 (4)
UK	4 (4)	1 (3)	5 (6)	1 (2)	6 (8)	5 (8)	6 (9)	5 (9)
Other	15 (13)	4 (11)	11 (13)	7 (14)	5 (7)	7 (10)	3 (4)	6 (11)
Employed								
Yes	47 (46)*	8 (23)*	49 (63)	31 (63)	30 (40)	36 (57)	39 (60)	32 (63)
No	56 (54)*	27 (77)*	29 (37)	18 (37)	44 (60)	27 (43)	26 (40)	19 (37)
Full time	27 (47)	15 (56)	24 (51)*	24 (75)*	17 (57)	25 (68)	23 (61)	19 (61)
Part-time	30 (53)	12 (44)	23 (49)*	8 (25)*	13 (43)	12 (32)	15 (39)	12 (39)
Highest level of education								
Primary	3 (3)	1 (3)	1 (1)	1 (2)	2 (3)	1 (2)	2 (3)	2 (3)
Secondary	48 (46)	12 (34)	40 (51)	25 (50)	46 (62)	36 (57)	41 (62)	27 (53)
TAFE/Apprentice	24 (22)	8 (23)	12 (16)	9 (18)	14 (19)	13 (21)	12 (18)	9 (17)
Undergraduate	10 (10)	3 (9)	15 (19)	7 (14)	7 (9)	4 (6)	5 (8)	4 (8)
Degree or higher	20 (19)	11 (31)	10 (13)	8 (16)	5 (7)	9 (14)	6 (9)	9 (18)
Seeing usual doctor								
Yes	91 (86)	29 (83)	75 (96)*	38 (76)*	8 (11)*	45 (73)*	53 (80)	37 (72)
No	15 (14)	6 (17)	3 (4)*	12 (24)*	67 (89)*	17 (27)*	13 (20)	14 (28)

* statistically significant p < 0.05

Table 10.10 demonstrates there was little statistical difference between the demographics of the 'probable cases' who had a recorded diagnosis compared to those who did not.

Further analysis was conducted on the GHQ data for the 'probable cases'. The mean GHQ score for intervention GP pre-course recognised 'probable cases' was higher (14.08) than the mean score of those who were not recognised (11.09; t = -3.54, df = 87, p < 0.01). Before the course the intervention GPs were more likely to miss 'probable cases' who were employed ($\chi2$ = 4.74, df = 1, p = 0.03) and younger, mean 36.89 years, compared to 41.29 years (t = -2.02, df = 145, p = 0.04). The intervention GPs were also more likely to miss 'probable cases' who had a family history of mental illness (χ^2 = 3.82, df = 1, p = 0.05).

Post-course the mean GHQ score for the intervention GPs 'probable cases' who were recognised was 13.13, compared to the mean GHQ score of 10.14 for those who were not recognised (t = -3.36, df = 136, p ≤ 0.01). 'Probable cases' were more likely to be missed if they were male ($\chi2$ = 4.81, df = 1, p = 0.03), single ($\chi2$ = 18.76, df = 1, p ≤ 0.01) or employed full time ($\chi2$ = 4.56, df = 1, p = 0.03). Other 'probable cases' were likely to be missed if they were not seeing their usual doctor ($\chi2$ = 11.96, df = 1, p ≤ 0.01). Again younger 'probable cases' (mean 34.8 years) were more likely to be missed, compared to 42.0 years (t = -3.46, df = 129, p < 0.01). Post-course the 'probable cases' who had a family history of mental illness were still more likely to be missed by the intervention doctors ($\chi2$ = 8.28, df = 1, p ≤ 0.01).

The mean GHQ score for control GP pre-course 'probable cases' who were recognised was higher (12.48) compared to those who were not recognised (9.30; t = -3.89, df = 132, p < 0.01). 'Probable cases' were more likely to be missed by the control GPs, before the course, if they were not seeing their usual doctor ($\chi2$ = 5.31, df = 1, p = 0.02) or were younger (mean 36.4 years, compared to 42.6 years, t = -3.03, df = 136, p < 0.01). The control group GPs were more likely to miss patients who had a family history of mental illness ($\chi2$ = 8.28, df = 1, p ≤ 0.01).

Post-course the mean GHQ score for the control GPs recognised 'probable cases' was higher (12.46), compared those who were not recognised (10.02; t = -2.61, df = 118, p = 0.01). 'Probable cases' were likely to be missed if they were male ($\chi2$ = 4.34, df = 1, p = 0.04). The average age of the control group post-course recognised 'probable cases' was 41.2 years and for those not recognised was 40.7 years of age (t = -0.21, df = 119, p = 0.83). At the end of the study the control group GPs were still more likely to miss 'probable cases' who had a family history of mental illness ($\chi2$ = 11.55, df = 1, p ≤ 0.01).

In summary the 'probable cases' who were more severely distressed (mean GHQ 12 - 14) tended to be recognised by the intervention and control GPs before and after the course. Those who were more likely to be missed had a mean GHQ score between 9 and 11.

The intervention GPs recognition of 'probable cases' decreased post-course even though the pattern of documentation of patient demographic risk factors did not alter. This may be surprising as majority of 'probable cases' who were not recognised were seeing their usual doctor.

Risk factors for depression and anxiety disorders were listed in the course materials within the sections pertaining to the detection of each condition. Suicide was highlighted in the depression and anxiety disorders course material as 20 percent of patients with depression and up to 25 percent of patients suffering anxiety disorders, especially panic, are at risk of suicide attempt or death. A section of the depression subject was devoted to assessing suicide risk.

The importance of making a diagnosis was reinforced in articles about the prevalence and burden of illness. The activities in the course guided students to reflect on patients whom they had previously diagnosed, to identify aspects that led them to the diagnosis and other areas of the patient history they could have explored. Whilst comorbidity is reinforced throughout the course materials, the terminology used in the audit may have been inappropriate to accurately gather this information from the GPs. For example the terms 'primary diagnosis' and secondary diagnosis' may have confused GPs who make a diagnosis of several concurrent conditions, without considering which condition is the comorbidity. Rather than emphasising the importance of differentiating between one condition and another, the course notes encourage all-inclusive history-taking. Perhaps GPs do not differentiate conditions in practice but treat them simultaneously?

10.4.3   GP Management

This section examines the data relevant to Hypothesis 5 'Participation in the GCGPP lead to improved GP management of common mental disorders. Data related to drug therapy, non-drug therapy and referral are explored to determine if there was a change between the intervention and the control GPs' management of these conditions for the 'probable cases'. A comparison was made between management of those 'probable cases' recognised by their GP and those 'probable cases' who were not recognised. Data was collected before and after the course using the audit instrument and were aggregated so a single result was calculated for each GP. Therefore the results in the remaining tables in this chapter are based upon 14 GPs in each group.

10.4.3.1   Drug therapy

Data pertaining to the intervention and control GPs documentation of psychotropic drugs prescribing in all histories audited are summarised in Table 10.11 (see page 212).

Table 10.11 demonstrates that the intervention GPs documented more psychotropic therapy than the control GPs although not statistically significant. Both the intervention and control group documented a smaller proportion of psychotropic medication at the end of the study. The SSRIs were the most prescribed class of psychotropic medication for both groups of doctors however the control group prescribed less at the end of the study and this resulted in a statistically significant difference between the groups ($p = 0.01$). This group tended to document the use of SARIs more at the end of the study than the intervention GPs ($\chi 2 = 6.43$, df $= 1$, $p = 0.04$).

Table 10.11

GP documentation of drug therapy for all patients over the last 6 months

| Measure | Intervention GPs (n = 14) | | | | | | Control GPs (n = 14) | | | | | | ANCOVA Results | | | |
| | Pre | | Post | | t | p | Pre | | Post | | t | p | Covariate | | Group diff. | |
	Mean[1]	SD	Mean[1]	SD			Mean[1]	SD	Mean[1]	SD			F	p	F	p
Drug therapy documented	39.11	17.76	33.28	13.27	0.96	0.35	29.40	17.57	20.99	14.93	1.70	0.11	0.75	0.39	3.86	0.06
Tricyclic	5.11	3.34	4.07	4.94	0.66	0.52	3.99	6.73	1.92	3.46	0.90	0.38	0.77	0.39	2.00	0.17
Tetracyclic	1.26	2.55	0.38	1.41	1.08	0.30	0.71	2.67	0.36	1.34	0.43	0.67	0.31	0.59	0.01	0.93
MAOI	-	-	-	-	-	-	0.45	1.67	-	-	1.00	0.34	-	-	-	-
SSRI	22.05	12.24	18.01	14.01	0.72	0.48	19.46	13.53	7.16	6.44	3.31	<0.01	0.28	0.60	6.95	0.01
SNRI	1.91	2.66	2.48	3.71	-0.04	0.97	2.39	4.74	3.39	8.41	-0.36	0.72	0.52	0.48	0.17	0.68
SARI	0.91	2.23	0.71	1.82	0.36	0.74	1.59	3.40	3.25	7.51	-0.77	0.46	0.27	0.61	1.30	0.26
RIMA	1.20	1.19	1.22	2.37	-1.44	0.29	2.57	3.89	2.27	4.37	0.28	0.78	11.36	<0.01	0.03	0.87
Lithium	0.38	0.38	0.36	1.41	0.04	0.97	0.39	1.49	0.36	1.34	0.07	0.94	0.15	0.70	0.00	0.99
Anticonvulsants	-	-	-	-	-	-	1.07	4.01	0.36	1.34	1.00	0.34	-	-	-	-
Benzodiazepines	9.53	7.02	9.83	12.30	-0.08	0.94	8.48	10.12	8.89	10.37	-0.10	0.92	0.12	0.73	0.06	0.82
Antipsychotic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other drugs	3.06	5.84	1.15	3.16	0.99	0.34	-	-	1.09	2.16	-1.88	0.08	0.74	0.40	0.13	0.72

MAOIs - Monoamine oxidase inhibitors.
SSRI - Selective serotonin reuptake inhibitor.
SNRI - Selective noradrenaline reuptake inhibitor.
SARI - Serotonin-2 antagonise/reuptake inhibitor.
RIMA - Reversible inhibitor of monoamine oxidase A.

Footnote: *The means recorded in the table are the percentages of patients for whom each drug class is prescribed, averaged over the 14 GPs in each group.*

There were several clinically important post-course changes in the psychotropic recording patterns, although these were not statistically significant. The first is the change to nil recording of the prescription of MAOIs. This class of drugs have been replaced by newer classes such as RIMAs for the treatment of panic attacks. There was a decrease in the recording of tricyclics and tetracyclics by both the control and student GPs after the course. This is not surprising as the newer classes of drugs such as the SSRI, SNRI and SARIs were becoming more popular for the treatment of depression and anxiety disorders possibly through active marketing of these newer classes of drugs by pharmaceutical companies. Of surprise was the reduction in the prescribing patterns of SSRIs. The SSRIs are newer antidepressant medications and are more expensive than the tricyclic and other classes of antidepressants. However these are usually prescribed once per day thus patient's compliance in taking their medication may be increased. Compliance may be further enhanced as this class of antidepressants has fewer side effects compared with the other classes of antidepressants.

The intervention and control doctors **'probable case'** documentation of drug therapy was also analysed separately. The results are summarised in Table 10.12 (see page 214).

Table 10.12 demonstrates that the course had limited impact on psychotropic prescribing for the 'probable cases. There was a statistically significant change between the intervention and control GPs' in the documentation of SSRIs at the end of the study. The control GPs changed more than the intervention GPs in their documentation of SSRIs at the end of the study ($p = 0.04$).

Table 10.12

GP documentation of drug therapy for the 'probable cases' over the last 6 months

Measure	Intervention GPs (n = 14)						Control GPs (n = 14)						ANCOVA Results			
	Pre		Post		t	p	Pre		Post		t	p	Covariate		Group diff.	
	Mean[1]	SD	Mean[1]	SD			Mean[1]	SD	Mean[1]	SD			F	p	F	p
Drug therapy documented	40.30	29.68	41.21	19.83	-0.09	0.93	31.34	19.68	26.92	18.82	0.88	0.39	0.79	0.38	3.07	0.09
Tricyclic	4.33	5.82	4.80	5.41	-0.30	0.77	3.05	5.38	3.44	7.01	-0.15	0.89	0.05	0.82	0.28	0.60
Tetracyclic	1.30	3.40	0.51	1.91	0.73	0.48	1.79	6.68	0.51	1.91	0.67	0.51	0.18	0.68	0.00	0.98
MAOI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SSRI	24.43	25.27	24.44	25.28	0.31	0.76	20.58	15.10	9.36	10.65	2.32	0.04	2.07	0.16	4.70	0.04
SNRI	2.36	3.99	3.19	5.63	-0.42	0.68	1.79	3.58	4.25	9.65	-0.87	0.40	0.25	0.62	0.10	0.76
SARI	0.79	2.97	1.02	2.60	-0.38	0.71	1.74	4.76	4.87	11.35	-0.90	0.39	0.09	0.77	1.55	0.23
RIMA	1.19	3.02	1.95	4.05	-1.32	0.21	1.71	3.42	2.96	5.07	-1.05	0.31	18.18	<0.01	0.15	0.70
Lithium	0.54	2.05	0.51	1.91	0.05	0.96	0.59	2.23	0.51	1.91	0.11	0.92	0.00	0.99	0.00	1.00
Anticonvulsants	-	-	-	-	-		1.53	5.27	0.55	2.06	1.00	0.34	-	-	-	-
Benzodiazepines	9.57	11.10	13.19	15.75	-0.74	0.47	6.79	10.54	10.98	12.09	-0.99	0.34	0.13	0.72	0.13	0.72
Antipsychotic	5.34	13.62	3.15	5.37	0.57	0.58	2.34	3.86	0.51	1.90	1.49	0.16	0.45	0.51	2.52	0.13
Other drugs	3.04	4.32	1.74	4.76	0.67	0.51	-	-	1.06	2.70	-1.47	0.17	1.55	0.23	0.98	0.33

MAOIs - Monoamine oxidase inhibitors.
SSRI - Selective serotonin reuptake inhibitor.
SNRI - Selective noradrenaline reuptake inhibitor.
SARI - Serotonin-2 antagonise/reuptake inhibitor.
RIMA - Reversible inhibitor of monoamine oxidase A.

Footnote: *The means recorded in the table are the percentages of patients for whom each drug class is prescribed, averaged over the 14 GPs in each group.*

The documentation of drug therapy for the 'probable cases' who **were recognised by** the GPs as having emotional distress or were diagnosed with a mental illness over the last 6 months was compared. The results are summarised in Table 10.13 (see page 216).

Tables 10.13 shows no change in the documentation of drug therapy for the recognised cases either within or between the intervention or control group.

Documentation of drug therapy for the **unrecognised** 'probable cases' was also explored. These results are summarised in Table 10.14 (see page 217).

Table 10.14 demonstrates that a higher proportion of drug therapy was documented at the beginning of the study. A large proportion of the 'probable cases' who were not recognised by the intervention GPs were not prescribed medication. The decrease in documentation of SSRI drugs by both groups was statistically significant ($p < 0.01$). There was no group difference in the documentation of drug therapy for the unrecognised 'probable cases'.

Tables 10.13 and 10.14 show that larger proportions of drug therapy are recorded for the recognised 'probable cases' than those who are not recognised.

Table 10.13

GP documentation of drug therapy for the 'probable cases' who were recognised by the GPs as having a mental illness over the last 6 months

Measure	Intervention GPs (n = 14)						Control GPs (n = 14)						ANCOVA Results			
	Pre		Post		t	p	Pre		Post		t	p	Covariate		Group diff.	
	Mean¹	SD	Mean¹	SD			Mean¹	SD	Mean¹	SD			F	p	F	p
Tricyclic	5.39	4.24	9.46	1.36	-1.07	0.30	7.32	11.60	5.26	8.67	0.43	0.67	3.95	0.06	0.80	0.38
Tetracyclic	1.44	3.69	-	-	1.46	0.17	-	-	9.61	3.47	-1.00	0.34	0.00	1.00	0.96	0.34
MAOI	-	-	-	-	-	-	1.29	4.62	-	-	1.00	0.34	-	-	-	-
SSRI	22.92	17.09	33.54	24.49	-1.13	0.28	24.82	24.82	20.42	19.57	0.49	0.63	1.30	0.26	2.20	0.15
SNRI	2.76	3.90	4.54	1.06	-0.55	0.59	2.38	5.83	6.73	1.13	-1.01	0.33	0.82	0.38	0.19	0.67
SARI	7.93	2.94	1.54	3.98	-0.82	0.43	2.89	8.11	8.44	1.79	-0.95	0.36	0.36	0.55	2.17	0.15
RIMA	1.74	3.46	3.29	7.32	-0.99	0.34	1.99	5.31	4.64	7.52	-1.17	0.27	4.03	0.06	0.19	0.67
Lithium	4.20	1.57	7.93	2.97	-0.40	0.69	1.09	3.96	9.62	3.47	0.09	0.93	0.14	0.71	0.03	0.86
Anticonvulsants	-	-	-	-	-	-	6.99	2.52	8.55	3.08	-1.00	0.34	-	-	-	-
Benzodiazepines	13.36	11.88	20.00	22.86	-0.92	0.37	10.67	13.93	20.36	22.00	-1.32	0.21	0.12	0.73	0.00	0.99
Antipsychotic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other drugs	4.29	9.18	2.14	5.79	0.68	0.51	-	-	-	-	-	-	0.87	0.36	2.42	0.13

MAOIs - Monoamine oxidase inhibitors.
SSRI - Selective serotonin reuptake inhibitor.
SNRI - Selective noradrenaline reuptake inhibitor.
SARI - Serotonin-2 antagonise/reuptake inhibitor.
RIMA - Reversible inhibitor of monoamine oxidase A.

Footnote: *The means recorded in the table are the percentages of patients for whom each drug class is prescribed, averaged over the 14 GPs in each group.*

Table 10.14

GP documentation of drug therapy for the 'probable cases' who were not recognised by the GPs as having a mental illness over the last 6 months

| | Intervention GPs (n = 14) | | | | | | Control GPs (n = 14) | | | | | | ANCOVA Results | | | |
| | Pre | | Post | | t | p | Pre | | Post | | t | p | Covariate | | Group diff. | |
Measure	Mean[1]	SD	Mean[1]	SD			Mean[1]	SD	Mean[1]	SD			F	p	F	p
Tricyclic	7.00	1.54	-	-	1.64	0.13	1.51	5.24	-	-	1.00	0.34	-	-	-	-
Tetracyclic	9.61	3.46	-	-	1.00	0.34	2.78	9.62	-	-	1.00	0.34	-	-	-	-
MAOI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SSRI	2.30	2.24	-	-	3.27	< 0.01	15.22	14.08	-	-	3.75	<0.01	-	-	-	-
SNRI	-	-	-	-	-	-	3.25	6.25	-	-	1.80	0.10	-	-	-	-
SARI	9.61	3.47	-	-	1.00	0.34	1.39	4.81	-	-	1.00	0.34	-	-	-	-
RIMA	-	-	-	-	-	-	1.96	4.61	-	-	1.48	0.17	-	-	-	-
Lithium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anticonvulsants	-	-	-	-	-	-	1.85	6.42	-	-	1.00	0.34	-	-	-	-
Benzodiazepines	3.02	7.69	-	-	1.42	0.18	6.02	9.79	1.19	4.12	1.48	0.17	0.50	0.49	1.30	0.27
Antipsychotic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other drugs	1.10	3.96	1.54	5.55	-0.22	0.83	-	-	1.04	3.61	-1.00	0.34	0.26	0.61	0.09	0.76

MAOIs - Monoamine oxidase inhibitors.
SSRI - Selective serotonin reuptake inhibitor.
SNRI - Selective noradrenaline reuptake inhibitor.
SARI - Serotonin-2 antagonise/reuptake inhibitor.
RIMA - Reversible inhibitor of monoamine oxidase A.

Footnote: *The means recorded in the table are the percentages of patients for whom each drug class is prescribed, averaged over the 14 GPs in each group*

10.4.3.1.1 Summary of drug therapy

The intervention and control GPs' documentation of psychotropic therapy, for all audited patients, was similar at the beginning of the study. The SSRIs were the most frequently documented antidepressant. At the end of the study both groups documented fewer psychotropic drugs. This decline may related to the decreased number of 'probable cases' in the post-course cohort that were recognised by their GP.

In the intervention group there was no change in the rate of prescribing for the 'probable cases' (approximately 40%) although there was a reduction in prescribing in the control group. Examination of the documentation of drug therapy for those 'probable cases' who were recognised by their GP revealed no differences for either the intervention or control group or change over the duration of the study. A large proportion of the 'probable cases' who were not recognised by the intervention GPs were not prescribed medication.

These results are not surprising as the course did not promote specific drug regimes for the treatment of specific mental disorders. The course encouraged students to read, critique and reflect on the various pharmacological treatments and their applicability to specific patients. This may account for the reason that they continue to choose SSRIs which, although more expensive than other classes of drugs, have shown fewer side effects and improved patient compliance.

10.4.3.2 Non-drug therapy

Table 10.15 (see page 219) summarises the intervention and control group documentation of non-drug therapy for all **audited patients**.

Table 10.15

GP documentation of non-drug therapy for all audited patients over the last 6 months

Measure	Intervention GPs (n=14)						Control GPs (n=14)						ANCOVA Results			
	Pre		Post		t	p	Pre		Post		t	p	Covariate		Group diff.	
	Mean[1]	SD	Mean[1]	SD			Mean[1]	SD	Mean[1]	SD			F	p	F	p
Non-drug therapy	43.23	19.65	42.08	22.86	0.26	0.80	30.94	25.96	32.35	35.53	-0.20	0.85	21.13	<0.01	0.02	0.91
Counselling	37.37	19.26	31.79	20.87	1.16	0.27	28.28	26.68	29.25	34.78	-0.15	0.89	19.93	<0.01	0.34	0.56
Relaxation therapy	7.34	10.51	8.17	12.87	-0.41	0.69	6.71	10.14	9.81	14.30	-0.87	0.40	16.17	<0.01	0.28	0.60
Hypnosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stress management	11.21	13.94	10.78	18.36	0.15	0.88	6.59	13.98	5.45	14.02	0.25	0.81	11.87	<0.01	0.19	0.67
CBT	8.64	16.58	10.97	19.91	-1.01	0.33	5.16	9.42	4.07	5.34	0.44	0.67	44.01	<0.01	1.30	0.26
Family therapy	2.59	4.89	3.09	7.43	-0.39	0.71	2.19	5.05	0.75	1.91	1.25	0.23	15.34	<0.01	1.58	0.22
Other	4.28	7.44	7.54	11.38	-1.50	0.16	6.72	8.73	3.81	8.55	0.83	0.42	2.47	0.13	1.53	0.23

Footnote: *The means recorded in the table are the percentages of patients for whom non-drug therapy is prescribed, averaged over the 14 GPs in each group.*

Patterns in Table 10.15 demonstrate that the intervention group recorded more non-drug therapy than the control GPs at the beginning of this study. Subsequent analysis revealed that this difference was statistically significant ($\chi2 = 11.03$, $p < 0.01$). Of note was the higher proportion of counselling by the intervention group ($\chi2 = 7.05$, df $= 1$, p < 0.01). The intervention group continued to recorded more non-drug therapy than the control group at the end of the study ($\chi2 = 4.31$, df $= 1$, p $= 0.04$), particularly CBT ($\chi2 = 5.99$, df $= 1$, p $= 0.01$). A higher proportion of control GPs documented hypnosis than intervention GPs ($\chi2 = 4.88$, p $= 0.03$).

Table 10.15 also demonstrates no statistically significant change in the documentation of non-drug therapy for either group of doctors at the end of the study. No specific form of psychotherapy was prescribed by the course authors for any condition. The course provided an overview of the aims and components of the various forms of psychotherapy. The 'introduction to psychotherapy' subject provided students with the opportunity to learn more about supportive psychotherapy and CBT, skills practiced at the weekend residential workshops. The 'Family therapy' and 'Stress management' subjects provided students with the opportunity to explore these modes of treatment in more detail.

The intervention and control GPs documentation of non-drug therapy for the **'probable cases'** are summarised in Table 10.16 (see page 221).

Table 10.16

GP documentation of non-drug therapy for the 'probable cases' over the last 6 months

| | Intervention GPs (n=14) | | | | | | Control GPs (n=14) | | | | | | ANCOVA Results | | | |
| | Pre | | Post | | t | p | Pre | | Post | | t | p | Covariate | | Group diff. | |
Measure	Mean[1]	SD	Mean[1]	SD			Mean[1]	SD	Mean[1]	SD			F	p	F	p
Non-drug therapy	51.41	20.55	51.09	27.96	0.06	0.95	37.13	27.20	35.60	35.59	0.27	0.79	34.10	<0.01	0.02	0.90
Counselling	44.96	19.81	37.55	23.95	1.44	0.17	32.57	28.58	30.91	34.15	0.34	0.74	37.12	<0.01	0.42	0.52
Relaxation therapy	8.29	1.38	8.06	14.59	0.11	0.91	10.31	15.54	9.85	16.33	0.13	0.90	31.28	<0.01	0.00	0.98
Hypnosis	-	-	-	-	-	-	1.43	5.35	3.06	11.45	-1.00	0.34	-	-	-	-
Stress management	13.49	15.93	11.68	17.60	0.46	0.65	9.64	19.14	6.16	14.79	0.68	0.51	8.00	<0.01	0.47	0.50
CBT	8.29	16.30	12.44	20.29	-1.04	0.32	6.74	11.50	6.01	7.75	0.22	0.83	11.92	<0.01	1.25	0.27
Family therapy	2.76	4.77	3.37	7.13	-0.33	0.75	2.97	6.30	0.55	2.06	1.32	0.21	0.90	0.35	2.07	0.16
Other	5.02	9.75	9.30	15.91	-1.41	0.18	8.17	14.20	5.22	11.11	0.61	0.56	1.77	0.19	1.19	0.29

Footnote: *The means recorded in the table are the percentages of patients for whom non-drug therapy is prescribed, averaged over the 14 GPs in each group.*

It is evident from Table 10.16 that the intervention GPs recorded more non-drug therapy for 'probable cases', before undertaking the course, than the control doctors did ($\chi2 = 8.80$, df = 1, p < 0.01), particularly counselling ($\chi2 = 5.68$, df = 1, p = 0.02). This table also shows no statistically significant, post-course, change in the intervention GPs documentation of non-drug therapy for 'probable cases'. Nor was there a statistically significant change between the intervention and control group in the documentation of non-drug therapy for these patients at the end of the course.

Further analysis of documented drug therapy of 'probable cases' who were recognised as having emotional distress or were diagnosed as having a mental illness was completed. Analysis was also performed on the data for those 'probable cases' who were not recognised by the GPs as having mental illness. The data for the **recognised** 'probable cases' are summarised in Table 10.17 (see page 223) and the data for the **unrecognised** 'probable cases' is found in Table 10.18 (see page 224).

It is evident in Table 10.17 that the intervention GPs recorded higher proportions of non-drug therapy than the control group, particularly counselling and CBT, although the results are not statistically significant. Neither the intervention nor the control group documentation of non-drug therapy for the recognised 'probable cases' changed over the duration of the study. There was a difference between the intervention and control group documentation of 'other' referrals as the intervention GPs recorded a smaller proportion after completing the course than the control GPs (p = 0.02).

The data in Table 10.18 reveal a similar pattern in documentation for the unrecognised 'probable cases'. The intervention group recorded more non-drug therapy, particularly counselling and 'other referral' than the control group, although these results are not statistically significant. There was no significant change within the intervention or control group. Tables 10.17 and 10.18 also demonstrate that a larger proportion of non-drug therapy was documented for the recognised 'probable cases'.

Table 10.17

GP documentation of non-drug therapy for the 'probable cases' who were recognised as having mental illness over the last 6 months

| Measure | Intervention GPs (n=14) | | | | | | Control GPs (n=14) | | | | | | ANCOVA Results | | | |
| | Pre | | Post | | t | p | Pre | | Post | | t | p | Covariate | | Group diff. | |
	Mean[1]	SD	Mean[1]	SD			Mean[1]	SD	Mean[1]	SD			F	p	F	p
Non-drug therapy	64.05	26...	7?.?2	31.53	-1.12	0.28	51.62	30.85	51.66	42.78	-0.00	0.99	19.96	<0.01	0.75	0.39
Counselling	55.09	25.66	5?.58	31.94	0.32	0.76	47.32	32.82	43.35	39.34	0.47	0.65	12.87	<0.01	0.10	0.75
Relaxation therapy	10.57	14.24	12.7?	24.81	-0.48	0.64	12.01	18.43	15.70	24.51	-0.60	0.56	13.89	<0.01	0.05	0.83
Hypnosis	-	-	-	-	-	-	2.31	8.32	4.19	15.13	-1.00	0.34	-	-	-	-
Stress management	15.93	18.29	18.12	24.77	-0.46	0.66	12.29	24.50	9.67	22.24	0.34	0.74	7.04	0.01	0.64	0.43
CBT	11.40	20.21	20.60	31.17	-1.54	0.15	8.98	15.81	12.80	19.08	-0.58	0.58	8.07	<0.01	0.46	0.50
Family therapy	3.67	6.38	5.95	1.19	-0.95	0.36	3.99	8.92	1.09	3.96	1.02	0.33	3.34	0.08	2.23	0.15
Other	6.?.	1.09	1.31	1.84	-2.15	0.05	9.92	1.26	4.04	7.76	1.79	0.10	13.02	<0.01	6.56	0.02

Footnote: *The means recorded in the table are the percentages of patients for whom non-drug therapy is prescribed, averaged over the 14 GPs in each group.*

Table 10.18

GP documentation of non-drug therapy for the 'probable cases' who were not recognised as having mental illness over the last 6 months

Measure	Intervention GPs (n=14)						Control GPs (n=14)						ANCOVA Results			
	Pre Mean[1]	SD	Post Mean[1]	SD	t	p	Pre Mean[1]	SD	Post Mean[1]	SD	t	p	Covariate F	p	Group diff. F	p
Non-drug therapy documented	26.37	65.43	61.54	1.71	-0.84	0.42	2.96	7.11	8.73	21.95	-0.82	0.43	0.26	0.61	0.09	0.76
Counselling	26.37	6.54	6.15	1.71	-0.84	0.42	2.98	7.12	7.54	18.33	-0.76	0.47	0.41	0.53	0.03	0.86
Relaxation therapy	-	-	-	-	-	-	-	-	3.57	12.37	-1.00	0.34	-	-	1.09	0.31
Hypnosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stress management	10.99	39.62	-	-	1.00	0.34	5.95	2.06	2.77	9.61	-0.75	0.47	0.04	0.85	1.00	0.33
CBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Family therapy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	15.38	55.47	-	-	1.00	0.34	1.19	4.12	4.76	16.50	-0.71	0.49	0.06	0.81	1.02	0.32

Footnote: *The means recorded in the table are the percentages of patients for whom non-drug therapy is prescribed, averaged over the 14 GPs in each group.*

10.4.3.2.1 Summary of non-drug therapy

At the beginning of this study the intervention group documented more non-drug therapy for the 'probable cases' than the controls, particularly counselling. After completing the course the intervention GPs still recorded more non-drug therapy than the control group and the amount of CBT increased. This may indicate they were practicing skills learned. However examination of the data pertaining to 'recognised' and 'unrecognised' 'probable cases' reveal no impact of the course on management of these patients.

10.4.3   Referral

The course material, in both the depression and anxiety disorders subjects, outlined when GPs should refer to psychiatrists. Other specific referral services were not detailed in the course notes although discussed at the weekend workshops and teleconferences when students engaged in case commentaries. Therefore data pertaining to the impact of the GCGPP on referral was also gathered.

At the beginning of the study there was a statistically significant difference between the intervention and control GPs in their referral patterns to 'other health professionals' ($\chi2 = 3.93$, df = 1, p = 0.05). Pre-course the control group referred to: cardiologist (n = 4); gastric surgeon (n = 1); community nurse (n = 1); drug and alcohol counselor (n = 1); ear, nose and throat specialist (n = 1); gynaecologist (n = 3), mental health unit (n = 4); pain clinic (n = 1); oncologist (n = 1) and psychiatric nurse (n = 3). The intervention GPs referred to community mental health nurse (n = 3), vocational counselor (n = 1), dermatologist (n = 1), general hospital (n = 1) and pain clinic (n = 2).

Post-course the control GPs referred to pain clinic (n = 1), methadone program (n = 1), and a case manager from a mental health service (n = 1). Intervention GPs referred to a surgeon (n = 1), post natal depression group (n = 1), marriage counsellor (n = 2), another

GP who specialised in stress management (n = 1), family therapist (n = 1) and a case manager from a mental health service (n = 1).

Table 10.19 (see page 227) summarises the intervention and control doctors referral **of all patients**, whose history was audited, to other professionals.

Table 10.19 demonstrates a statistically significant group difference in change between the intervention and control GPs in their referral patterns to health professionals (p < 0.01) as the control group recorded a smaller proportion of referrals at the end of the study. The intervention GPs referred more patients to psychologists after completing the course than the control group (p = 0.02). The post-course audit data show that both the intervention and control GPs referred less to psychiatrists, although this was not a statistically significant change.

Documentation of **referral of 'probable cases'** to other professionals was also explored. At the beginning of this study the intervention GPs recorded more referrals than the control doctors did ($\chi 2 = 8.69$, df = 1, p < 0.01), in particular to psychologists ($\chi 2 = 10.47$, df = 1, p < 0.01). The results are summarised in Table 10.20 (see page 228).

Table 10.20 demonstrates a statistically significant change in intervention GPs recording of referral of 'probable cases' to psychiatric hospital as more were referred after the course (p = 0.02). There was also a group change for documentation of 'probable case' referral after the course (p < 0.01). The intervention GPs' referral to psychologists changed, more than the control group, after completing the course (p = 0.02).

Table 10.19

Intervention and control group documentation of referral for all patients over the last 6 months

| Measure | Intervention | | | | | | Control | | | | | | ANCOVA Results | | | |
| | Pre | | Post | | t | P | Pre | | Post | | t | p | Covariate | | Group diff. | |
	Mean[1]	SD	Mean[1]	SD			Mean[1]	SD	Mean[1]	SD			F	p	F	p
Patient referral	20.20	8.34	21.20	10.46	-0.29	0.78	17.52	17.27	8.26	7.64	2.21	0.05	1.57	0.22	13.19	< 0.01
Psychiatrist	11.26	7.44	9.31	5.70	0.96	0.35	9.31	9.55	6.24	6.86	1.44	0.17	7.65	0.01	1.23	0.28
Psychologist	3.75	7.67	9.92	11.00	-1.86	0.09	2.06	3.52	2.02	3.48	0.03	0.98	0.30	0.59	5.77	0.02
Drug rehabilitation	0.38	1.41	2.37	5.82	-1.64	0.13	0.42	1.57	0.36	1.34	0.11	0.91	13.18	<0.01	2.51	0.13
Alcohol rehabilitation	1.64	2.73	1.48	4.33	0.10	0.92	0.71	2.67	-	-	1.00	0.34	0.65	0.43	1.95	0.18
Social worker	0.40	1.48	0.75	1.92	-0.52	0.61	1.35	2.72	1.45	4.15	-0.07	0.94	0.75	0.39	0.55	0.47
CAT	-	-	0.38	1.41	-1.00	0.34	-	-	-	-	-	-	-	-	1.00	0.33
Psychiatric hospital	1.09	2.92	0.40	1.48	0.75	0.46	-	-	-	-	-	-	0.29	0.59	1.19	0.28
Family therapist	-	-	1.17	2.33	-1.88	0.08	0.?3	1.41	-	-	1.00	0.34	0.00	1.00	3.28	0.08
Other	3.47	4.83	4.13	6.60	-0.37	0.71	8.09	15.38	1.54	2.54	1.57	0.14	0.25	0.62	2.03	0.17

Footnote: *The means recorded in the table are the percentages of patients for whom referrals are documented, averaged over the 14 GPs in each group.*

Table 10.20

GP documentation of referral of the 'probable cases' to other professionals over the last 6 months

Measure	Intervention GPs						Control GPs						ANCOVA Results			
	Pre		Post		t	p	Pre		Post		t	p	Covariate		Group diff.	
	Mean[1]	SD	Mean[1]	SD			Mean[1]	SD	Mean[1]	SD			F	p	F	p
Patient referral	23.19	13.89	24.39	10.94	-0.24	0.82	19.89	17.60	9.50	11.45	2.07	0.06	0.07	0.79	11.60	<0.01
Psychiatrist	14.16	12.92	11.21	5.34	0.79	0.44	11.82	13.27	6.22	8.30	1.66	0.12	1.46	0.24	3.20	0.09
Psychologist	3.66	9.64	12.49	14.13	-1.74	0.11	2.56	5.20	2.69	6.28	-0.06	0.95	1.18	0.29	6.01	0.02
Drug rehabilitation	0.55	2.06	2.93	6.48	-1.81	0.09	-	-	-	-	-	-	51.86	<0.01	2.17	0.15
Alcohol rehabilitation	2.69	4.52	1.53	4.14	0.64	0.53	-	-	-	-	-	-	1.49	0.23	3.13	0.09
Social worker	-	-	1.11	2.82	-1.47	0.17	0.89	3.34	2.08	5.93	-0.63	0.54	0.21	0.65	0.39	0.54
CAT	-	-	0.51	1.91	-1.00	0.34	-	-	-	-	-	-	-	-	1.00	0.33
Psychiatric hospital	1.62	4.27	12.49	14.13	-2.79	0.02	-	-	-	-	-1.60	0.13	0.30	0.59	1.20	0.28
Family therapist	-	-	1.19	3.03	-1.47	0.17	0.65	2.43	-	-	1.00	0.34	0.00	1.00	2.01	0.17
Other	3.06	6.08	4.38	7.93	-0.55	0.59	9.13	16.24	1.89	3.84	1.66	0.12	0.29	0.60	1.31	0.26

Footnote: *The means recorded in the table are the percentages of patients for whom referrals are documented, averaged over the 14 GPs in each group.*

The documented referral of 'probable cases' who **were recognised** by the GPs as having emotional distress or were diagnosed with a mental illness was also explored. These results are summarised in Table 10.21 (see page 230).

Table 10.21 demonstrates that neither the intervention nor the control group documentation of referral for the recognised 'probable cases' changed over the duration of the study. There was a difference between the intervention and control group documentation of 'documented referral' as the intervention GPs recorded a smaller proportion after completing the course than the control GPs ($p = 0.04$).

The documented referral of 'probable cases' who were **not recognised** by the GPs as having emotional distress or were diagnosed with a mental illness was also explored. These results are summarised in Table 10.22 (see page 231).

The data in Table 10.22 reveals that only a few professions were referred to however the intervention group documented higher proportions than the control GPs although the results were not statistically significant. There was no significant change for either the intervention or control group.

Table 10.21

GP documentation of referral of the 'probable cases' who were recognised as having a mental illness over the last 6 months

| Measure | Intervention GPs | | | | | | Control GPs | | | | | | ANCOVA Results | | | |
| | Pre | | Post | | t | p | Pre | | Post | | t | p | Covariate | | Group diff. | |
	Mean[1]	SD	Mean[1]	SD			Mean[1]	SD	Mean[1]	SD			F	p	F	p
Documented referral	28.74	14.08	37.91	19.54	-1.21	0.25	26.17	17.45	20.58	21.43	0.89	0.39	0.00	0.96	4.59	0.04
Psychiatrist	16.70	10.09	21.09	17.42	-0.89	0.39	15.21	15.31	14.26	17.08	0.17	0.87	1.27	0.27	0.93	0.35
Psychologist	6.13	13.25	19.41	23.28	-1.87	0.09	3.78	6.39	5.32	11.78	-0.41	0.69	0.00	0.97	3.62	0.07
Drug rehabilitation	4.20	1.57	4.96	0.11	-1.76	0.10	6.99	2.52	-	-	1.00	0.34	4.90	0.04	3.72	0.07
Alcohol rehabilitation	2.65	4.41	3.17	9.17	-0.18	0.86	1.10	3.96	-	-	1.00	0.34	0.71	0.41	1.89	0.18
Social work	5.95	2.27	6.49	2.43	-0.60	0.95	2.90	6.12	3.98	10.82	-0.29	0.78	0.79	0.38	1.17	0.20
CAT	-	-	1.19	4.45	-1.00	0.34	-	-	-	-	-	-	-	-	0.93	0.35
Psychiatric hospital	1.69	4.52	-	-	1.40	0.18	-	-	-	-	-	-	-	-	-	-
Family therapist	-	-	8.92	3.34	-1.00	0.34	1.10	3.96	-	-	1.00	0.34	0.00	1.00	0.85	0.37
Other	3.39	6.63	3.37	7.77	0.01	0.99	9.94	14.40	3.49	6.89	1.47	0.16	0.01	0.94	0.00	0.99

Footnote: *The means recorded in the table are the percentages of patients for whom referrals are documented, averaged over the 14 GPs in each group.*

Table 10.22

GP documentation of referral of the 'probable cases' who were not recognised as having a mental illness over the last 6 months

| | Intervention GPs | | | | | | Control GPs | | | | | | ANCOVA Results | | | |
| | Pre | | Post | | t | p | Pre | | Post | | t | p | Covariate | | Group diff. | |
Measure	Mean[1]	SD	Mean[1]	SD			Mean[1]	SD	Mean[1]	SD			F	p	F	p
Documented referral	34.62	85.11	30.77	75.11	0.11	0.91	6.71	20.55	-	-			0.11	0.74	1.81	0.19
Psychiatrist	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Psychologist	-	-	15.38	55.47	-1.00	0.34	-	-	-	-	-	-	-	-	0.92	0.35
Drug rehabilitation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alcohol rehabilitation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Social work	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CAT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Psychiatric hospital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Family therapist	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	34.62	85.11	15.38	55.47	0.65	0.53	6.71	20.55	-	-	1.13	0.28	-	-	-	-

Footnote: *The means recorded in the table are the percentages of patients for whom referrals are documented, averaged over the 14 GPs in each group.*

10.4.3.1   Summary of referral

The intervention GPs referred more 'non-cases' and 'probable cases' than the control GPs before and after the course. Both groups of doctors referred fewer 'probable cases' to psychiatrists at the end of the study. The intervention group increased referrals to psychologists after completing the course. Examination of the data related to referral of the 'probable cases' who were recognised as having a mental illness over the last 6 months revealed that no change in referral to specific health professionals either within or between the intervention or the control group. There was a statistically significant change in total referral as the intervention group recorded a smaller proportion after completing the course than the control GPs. Overall referral patterns of the intervention and control group were similar before and after the course for both recognised and non-recognised 'probable cases'.

10.4.4   Summary of GP clinical practice

10.4.4.1   Documentation of diagnosis and risk factors

The overall pre-course documentation of risk factors and diagnoses of mental illness, for all patients, were comparable between the intervention and control group although the intervention group recorded more emotional stress, and suicide risk than the control doctors. The intervention group also recorded more diagnoses particularly primary and secondary anxiety.

The post-course audit data revealed a decrease, by both groups of GPs, in the documentation of the majority of risk factors and diagnoses for all patients compared to the pre-course audit results. However the intervention group documented a higher proportion of family history of psychiatric illness, suicide risk and diagnoses such as anxiety, substance abuse and comorbid depression than the controls.

There was a highly statistically significant pre-course difference between the intervention and control GPs documentation of suicide risk, diagnosis of mental illness and primary mental illness for 'probable cases'. The intervention group documented more primary anxiety than the controls. There were no statistically significant differences between the groups' mean number of patient visits or the number of patient visits over the previous six months for the 'probable cases'.

Post-course there was a statistically significant group difference in the change in the documentation of suicide risk for 'probable cases' as the intervention GPs recorded this more frequently than the controls. Both groups recorded less primary anxiety disorder at the end of the study with the controls recording less than the intervention GPs.

10.4.4.2 Drug Therapy

The pre-course results indicated that the intervention and control GPs had similar patterns of documentation of psychotropic medication for all patients. The only exception was the difference in the recording of 'other psychotropic medication' as this category was documented more by the intervention GPs. The SSRIs were the most commonly prescribed medication by both groups, in the six months prior to participating in this study. The post-course audit data revealed that both groups documented fewer psychotropic drugs, although not statistically significant. SSRIs continued to be the most commonly documented psychotropic drug, by the control and intervention group, at the end of the study.

There was no statistically significant difference between the intervention and control group doctors' documentation of psychotropic medication for 'probab'. cases' in the pre-course audit. However, there was a statistically significant change between the intervention and control GPs' in the documentation of SSRIs post-course as the control GPs changed more and recorded less at the end of the study.

Examination of the intervention and control GPs' documentation of drug therapy for the recognised and non-recognised 'probable cases' revealed a higher proportion of documentation for those who were recognised. The GCGPP had limited impact on the documentation of drug therapy as evidenced by the lack of change in the intervention group between two groups. However the post-course documentation of SSRIs for the unrecognised 'probable cases' in both the control and intervention groups decreased.

10.4.4.3 Non-drug therapy

There was a statistically significant difference between the intervention and control group GPs in the documentation of non-drug therapy for all patients in the pre-course audit. The intervention GPs recorded more non-drug therapies than the control GPs, particularly counselling. This trend continued post-course but the intervention GPs recorded a higher proportion of CBT. Overall there was no statistically significant group difference in the documentation of non-drug therapies.

The control and intervention GPs had similar patterns of non-drug therapy at the beginning of the study for 'probable cases'. However the intervention GPs recorded more non-drug therapy than the control doctors, in particular counselling. There was no statistically significant change in the intervention GPs documentation of non-drug therapy nor was there a statistically significant change between the intervention and control GPs' documentation of non-drug therapy for these patients at the end of the study.

Examination of the intervention and control GPs documentation of non-drug therapy for the recognised and non-recognised 'probable cases' revealed that the intervention GPs documented a higher proportion of non-drug therapy, particularly counselling, for the recognised 'probable cases' than the control GPs although this was not statistically significant.

These results of this section indicate that the GCGPP had no impact on non-drug therapy treatment.

10.4.4.4 Referral

The documentation of referral, of all patients, to health professionals was similar for both groups at the beginning of the study, with one exception. The intervention GPs referred more patients to 'other health professionals' than the control doctors. At the end of the study there was a statistically significant difference in change between the intervention and control GPs in their referral patterns to health professionals as the intervention GPs referred more patients to psychologists.

The pre-course referral patterns for 'probable cases' were comparable for the intervention and control doctors. There was a highly statistically significant group difference for referral to psychologists after the course, as the intervention GPs changed more than the control doctors did.

Examination of the data related to referral of the 'probable cases' who were recognised as having a mental illness over the last 6 months revealed increased referral to psychiatrists and psychologists at the end of the study. However these results were not statistically significant. There was a statistically significant change in the total referral as the intervention group recorded a smaller proportion after completing the course than the control GPs. Overall referral patterns of the intervention and control group were similar before and after the course for the recognised and non-recognised 'probable cases'.

10.5   Summary

This chapter examined the data addressing the impact of the GCGPP on GP's knowledge, attitude and clinical practice pertaining to the common mental disorders, predominantly depression and anxiety, in general practice. The course had a positive impact on the intervention GPs overall knowledge post-course however this was not sustained 6 months later, although knowledge related to recognition had improved.

The GCGPP had no statistically significant impact on GP attitude post-course however 6 months later the intervention GPs felt more comfortable and confident in recognising and managing the common mental disorders. GP attitude about remuneration relating to the management of patients suffering these conditions did not alter.

Change in clinical practice was also explored. The course did not have substantial impact on the intervention GPs' documentation of risk factors, diagnoses, pharmacological and non-pharmacological therapy or referral after they completed the course. The next section explores the 'probable case' health-related quality of life to determine if those who were recognised by their GP changed more or less than those who were not recognised.

Chapter 11

Evidence for change in patients

This chapter contains the evidence for change in patient's health-related quality of life. These data relate to Hypothesis 6 'Participation in the GCGPP will lead to enhanced outcomes for patients suffering common mental disorders (depression and anxiety) who present to the GPs'. Outcome was measured by 'probable case' status determined by the GHQ and SF-36 as a measure of health-related quality of life. GHQ dimensional scores were not used in this analysis because the GHQ was used to allocate patients to 'probable case' and 'non-case' and its use as a dimensional outcome measure would be affected by 'regression to the mean' (Streiner, 2001 p.72). Assessing the change in clinical state of 'probable cases', using GHQ data collected several weeks later, would be closer to the population mean.

11.1   Response rate

All the pre-course 'probable cases' (n=318) were sent a second SF-36 and GHQ ten weeks after the first one. One hundred and fifty four (154) were returned. Of these 14 were 'no longer at this address' and one person was deceased. From those who had the opportunity to respond, the response rate for the second set of pre-course probable case data was 46% (n=139/304). Approximately half (51%) continued to score as a 'probable case' on the GHQ. Of these, 56 percent were in the intervention group and 46 percent were in the control group ($\chi^2 = 1.35$, df = 1, p = 0.31).

All 309 post-course 'probable cases' were sent a second SF-36 and GHQ to complete ten weeks after the first one. One hundred and forty five (145) were returned. Of these nine were 'return to sender' (8 from the control group). The response rate for the second

set of post-course patient data was 45% (n=136/300). Approximately half (53%) continued to score as a 'probable case' on the GHQ. Of these, 45 percent were in the intervention group and 53 percent in the control group ($\chi^2 = 0.69$, df = 1, p = 0.40).

11.2 Change in SF-36

Table 11.1 (see page 239) details the pre-course 'probable cases' responses to the SF-36. This table shows that the 'probable cases' quality of life, for both groups, improved significantly for most of the SF-36 scales 10 weeks after the initial data collection.

Table 11.2 (see page 240) details the post-course intervention and control groups 'probable case' responses to the SF-36 at week 34 (T34) and week 46 of the study (T46).

Table 11.2 demonstrates that the intervention group 'probable cases' experienced a statistically significant change after 10 weeks on all scales of the SF-36 except for 'general health'. The control group 'probable cases' improved after 10 weeks on 'social functioning', 'role emotional' and 'mental health scales' There was a statistically significant group change on the vitality scale as the intervention groups' 'probable cases' improved more than those in the control group. The mean 'mental health' change score post-course (6.56) was not very different to the pre-course change score (7.36).

At both pre- and post-course, there was no group difference between the health-related quality of scores. Therefore a non-significant effect of group difference over time (t0-t46) was expected. This was examined by ANCOVA and found to be so (Table 11.3 - see page 241).

Table 11.1

Intervention and control group 'probable case' responses to the SF-36 at T_0 and T_{10} (pre-course)
(Data based on 79 matched pairs)

| SF-36 mean scores | Intervention GPs | | | | | | Control GPs | | | | | | ANCOVA Results | | | |
| | T_0 | | T_{10} | | t | p | T_0 | | T_{10} | | t | p | Covariate | | Group diff. | |
	Mean	SD	Mean	SD			Mean	SD	Mean	SD			F	p	F	p
General health	45.85	24.35	51.05	24.70	-0.11	0.91	55.30	24.75	55.25	24.65	-0.01	0.99	204.53	<0.01	0.13	0.72
Vitality	34.25	19.55	37.80	21.55	-1.53	0.13	35.05	18.80	44.10	19.60	-4.30	<0.01	47.72	<0.01	0.49	0.52
Social functioning	48.63	27.25	59.25	27.63	-3.15	<0.01	51.63	29.50	66.25	29.00	-4.38	<0.01	32.88	<0.01	0.03	0.86
Role emotional	38.67	41.00	55.33	45.00	-3.08	<0.01	47.00	43.00	62.33	42.67	-2.81	<0.01	21.13	<0.01	0.77	0.38
Mental health	47.44	22.64	54.80	20.80	-2.91	<0.01	49.36	23.24	60.64	20.32	-4.57	<0.01	48.38	<0.01	0.31	0.58

Table 11.2

Intervention and control GPs' 'probable case' responses to the SF-36 T_{34} and T_{46} (post-course)
(Data based on 61 matched pairs)

| SF-36 mean scores | Intervention GPs | | | | | | Control GPs | | | | | | ANCOVA Results | | | |
| | T_{34} | | T_{46} | | t | p | T_{34} | | T_{46} | | t | p | Covariate | | Group diff. | |
	Mean	SD	Mean	SD			Mean	SD	Mean	SD			F	p	F	p
General health	55.95	23.70	53.95	24.10	0.77	0.45	56.60	24.50	56.45	25.10	0.74	0.94	249.12	<0.01	0.03	0.85
Vitality	35.45	21.95	40.45	25.15	-1.73	0.09	44.35	22.65	46.65	25.05	-0.78	0.43	58.71	<0.01	4.13	0.04
Social functioning	50.25	26.88	58.38	30.63	-2.46	0.02	55.50	26.88	62.75	30.50	-1.74	0.08	43.09	<0.01	1.19	0.28
Role emotional	43.00	41.33	56.67	45.00	-2.42	0.02	48.67	43.67	63.00	43.00	-2.47	0.02	28.93	<0.01	0.26	0.51
Mental health	52.12	20.64	58.68	22.68	-2.42	0.02	51.84	22.32	59.00	21.52	-2.37	0.02	54.47	<0.01	2.05	0.15

Table 11.3

Pre-post-course group change in QOL for 'probable cases'

| | ANCOVA Results | | | | | |
| | Pre-post effect | | Group effect | | Pre-post by group interaction | |
SF-36 mean scores	F	p	F	p	F	p
General health	18.34	<0.01	0.87	0.35	1.10	0.29
Vitality	24.37	<0.01	0.31	0.58	2.46	0.12
Social functioning	23.08	<0.01	1.01	0.31	0.01	0.93
Role emotional	11.67	<0.01	0.47	0.49	0.11	0.75
Mental health	21.17	<0.01	1.37	0.24	0.00	1.00

Pre-post effect = whether change in quality of life was associated with time.
Group
Group effect = whether change in quality of life was associated with the study group the 'probable case' belonged to.
Pre-post by group interaction = whether change was related to time and belonging to a particular study group.

11.3   Change in SF-36 - effect of recognition

The health-related quality of life of 'probable cases' who were recognised by the GPs as having emotional distress or were diagnosed with a mental illness was compared to those who were not recognised. The pre-course results of the intervention group 'probable cases' who were recognised by their GP are compared with those who were not recognised in Table 11.4 (see page 242).

Table 11.4

Pre-course QOL of the 'probable cases' who were recognised by the intervention group as having a mental illness compared to those who were not recognised

	Intervention GPs						Intervention GPs					
	Recognised n=60						Not recognised n=19					
	T_0		T_{10}		t	p	T_0		T_{10}		t	p
SF-36 mean scores	Mean	SD	Mean	SD			Mean	SD	Mean	SD		
General health	47.11	23.79	49.37	24.98	-1.09	0.28	63.75	20.91	59.25	20.12	1.32	0.20
Vitality	31.86	19.00	36.44	20.11	-1.76	0.08	45.00	16.91	47.89	23.71	.075	0.46
Social functioning	44.58	28.12	55.83	26.19	-3.15	<0.01	65.00	25.52	71.87	27.47	-0.88	0.39
Role emotional	34.46	39.62	49.72	44.79	-2.59	0.01	55.00	40.86	80.00	34.87	-2.32	0.03
Mental health	44.34	22.52	53.08	21.88	-2.94	<0.01	58.20	17.76	62.80	19.72	-1.49	0.15

Table 11.4 demonstrates that recognised 'probable cases' in the intervention group started lower and improved more. Most scale scores increased but not all were significant.

The results of the pre-course control group 'probable cases who were recognised by these GPs are compared to those who were not. The data are summarised in Table 11.5.

Table 11.5

Pre-course QOL of the 'probable cases' who were recognised by the control group as having a mental illness compared to those not recognised

	Control GPs						Control GPs					
	Recognised n=42						Not recognised n=19					
	T_0		T_{10}		t	p	T_0		T_{10}		t	p
SF-36 mean scores	Mean	SD	Mean	SD			Mean	SD	Mean	SD		
General health	53.85	26.50	53.30	26.60	0.20	0.84	59.75	18.65	63.50	19.45	-0.93	0.36
Vitality	31.15	17.30	44.65	20.30	-4.78	<0.01	49.05	21.55	54.50	18.00	-1.26	0.22
Social functioning	43.63	27.38	61.91	31.01	-3.90	<0.01	69.07	26.13	76.97	24.03	-1.17	0.26
Role emotional	41.86	42.00	53.48	43.11	-1.47	0.15	55.00	46.33	73.33	38.33	-1.81	0.08
Mental health	43.52	24.48	57.64	21.77	-3.92	<0.01	63.04	20.96	70.08	16.88	-2.12	0.05

Table 11.5 shows that the 'probable cases' who were recognised by the control group had lower mean SF-36 scores than those not recognised. All control group 'probable cases' experienced improved health-related quality of life after 10 weeks.

The pre-course change in health-related quality of life for the 'probable cases' who were recognised by the GPs as having emotional distress or a diagnosis of mental illness were compared to those who were not recognised. The results are summarised in Table 11.6.

Table 11.6

Pre-course group change in QOL of the 'probable cases'

| | ANCOVA Results | | | | | |
| | Group effect | | Recognition effect. | | Group x Recognition interaction. | |
SF-36 mean scores	F	P	F	p	F	p
General health	1.12	0.29	0.15	0.70	2.29	0.13
Vitality	3.92	0.05	0.28	0.60	0.43	0.51
Social functioning	1.07	0.30	1.42	0.24	0.10	0.75
Role emotional	0.14	0.71	6.39	0.01	0.27	0.60
Mental health	2.21	0.14	0.71	0.40	0.00	0.99

Group effect = whether change in health-related quality of life is associated with the study group the 'probable case' belonged to.
Recognition effect = whether 'probable cases' were recognised by the GPs as having mental illness or significant
emotional distress or not.
Group x Recognition interaction = whether change was related to belonging to a particular study group and being
recognised as having mental illness or significant emotional distress.

Table 11.6 demonstrates that improvement in health-related quality of life was not related to study group (role emotional; $p = 0.01$). However, recognition did effect one of the quality of mental health related quality of life scales.

The post-course quality of life of 'probable cases' who were recognised by the GPs as having emotional distress or a diagnosis of mental illness was compared to those who

were not recognised. The results of the intervention group GPs are summarised in Table 11.7.

Table 11.7

Post-course QOL of the 'probable cases' who were recognised by the intervention group as having a mental illness compared to those who were not recognised

	Intervention GPs						Intervention GPs					
	Recognised n=40						Not recognised n=16					
	T_{34}		T_{46}		t	p	T_{34}		T_{46}		t	p
SF-36 mean scores	Mean	SD	Mean	SD			Mean	SD	Mean	SD		
General health	52.75	25.20	47.00	23.35	1.93	0.06	64.70	16.90	73.00	13.80	-1.84	0.08
Vitality	29.10	18.80	32.00	21.70	-0.96	0.34	53.45	20.65	64.35	18.15	-1.55	0.14
Social functioning	45.38	25.63	53.13	29.25	-1.48	0.14	63.25	26.38	82.00	24.13	-2.42	0.03
Role emotional	37.00	42.33	52.00	44.00	-2.57	0.01	60.33	35.00	71.00	45.33	-0.72	0.48
Mental health	48.80	19.24	53.68	21.00	-1.66	0.10	61.52	22.16	72.76	21.92	-1.79	0.09

Table 11.7 demonstrates that the 'probable cases' who were recognised, by the intervention group, had lower mean SF-36 scores, on all scales, than those not recognised. Except for general health the intervention group 'probable cases' experienced improved health-related quality of life after 10 weeks, as the mean scale scores increased.

The **post-course quality** of life of 'probable cases' who were recognised by the control group as having emotional distress or a diagnosis of mental illness was compared to those who were not recognised. These results are summarised in Table 11.8 (see page 245).

The 'probable cases' who were recognised by the control group had lower mean SF-36 scores, on all scales, than those not recognised. Most of the mean SF-36 scale scores for the control group 'probable cases' improved after 10 weeks.

Table 11.8

Post-course QOL of the 'probable cases' who were recognised by the control group as having a mental illness compared to those not recognised

SF-36 mean scores	Control GPs Recognised n=36						Control GPs Not recognised n=25					
	T_{34}		T_{46}		t	p	T_{34}		T_{46}		t	p
	Mean	SD	Mean	SD			Mean	SD	Mean	SD		
General health	51.60	23.25	52.45	23.90	-0.29	0.76	63.10	25.05	61.70	26.10	0.47	0.64
Vitality	37.55	21.50	42.85	25.80	-1.39	0.18	54.55	20.75	52.25	23.20	0.52	0.60
Social functioning	46.13	25.63	54.50	30.25	-1.32	0.19	69.25	22.75	75.00	27.00	-1.29	0.21
Role emotional	33.33	40.67	52.33	46.33	-2.34	0.03	69.33	39.33	77.67	33.33	-1.00	0.33
Mental health	43.48	19.20	57.44	20.28	-3.59	<0.01	64.36	21.08	61.24	23.48	0.78	0.44

The **post-course change** in quality of life of 'probable cases' who were recognised by the GPs as having emotional distress or a diagnosis of mental illness was compared to those who were not recognised. The results are summarised in Table 11.9.

Table 11.9

Post-course group change in QOL of the 'probable cases' who were recognised as having a mental illness compared to those not recognised

SF-36 mean scores	ANCOVA Results					
	Group effect		Detection effect.		Group x detection interaction.	
	F	p	F	p	F	p
General health	0.38	0.54	8.00	<0.01	6.42	0.01
Vitality	0.65	0.42	4.58	0.04	5.54	0.02
Social functioning	0.49	0.48	9.47	<0.01	0.84	0.36
Role emotional	0.11	0.74	1.05	0.31	0.00	0.98
Mental health	0.73	0.39	0.44	0.51	6.63	0.01

Group effect = whether change in quality of life is associated with the study group the 'probable case' belonged to.

Detection effect = whether 'probable cases' were recognised by the GPs as having mental illness or significant

emotional distress or not

Group x detection interaction = whether change was related to belonging to a particular study group and being

recognised as having mental illness or significant emotional distress.

It is evident from Table 11.9 that the 'probable cases' who were recognised improved more in general health and social functioning than those who were not. Those who were recognised and in the intervention group experienced improved general and mental health and vitality. This improvement may have resulted from spontaneous recovery, or appropriate diagnosis and management of the condition.

11.4   Summary

This chapter examined the data addressing the impact of the GCGPP on change in patient health-related quality of life. The results are derived from small samples as 46 percent of the pre-course and 45 percent of the post-course 'probable cases' returned the second SF-36 survey 10 weeks after the initial data collection. These patients, regardless of study group, experienced improved health-related quality of life after 10 weeks.

All 'probable cases' who were recognised by the GPs had lower mean scores on all SF-36 scales than those who were not recognised.

Pre-course 'probable cases' improved after 10 weeks regardless of the study group from which they were derived. Post-course improvement in 'vitality' depended on group and being recognised. Those 'probable cases' in the intervention group who were not recognised improved more than those recognised. These patients may have spontaneously recovered from the condition that was influencing their emotional distress and reduced quality of life.

The post-course 'probable cases' who were not recognised seemed to experience greater improvement in 'social functioning' than those who were recognised. Explanation of this finding could be linked to severity of illness or spontaneous recovery, as those not

as severely ill are more likely to recover. However there is little evidence to suggest that the course had an impact on the patients' wellbeing.

The next chapter describes the qualitative phase of this research project included to explore the intervention GPs' perceptions of aspects of the GCGPP associated with change in knowledge, attitude and clinical practice related to the common mental disorders, predominantly depression and anxiety, in general practice.

Chapter 12

Qualitative phase

The aim of the qualitative phase of this research project was to illuminate the findings from the quantitative data by the addition of the intervention GPs' thoughts and attitudes about aspects of the course, which they felt, may have impacted on their knowledge, attitude and clinical practice of anxiety disorders and depression. Semi-structured interviews were conducted, with a small number of GPs, in the first two weeks of August 2000, eight months after completion of the GCGPP.

The objectives were to explore:

- GPs reasons for doing the course
- their expectations for the course
- their understanding of influence of change validation
- student focused perspectives on change in knowledge, attitude and practice related to depression and anxiety disorders in general practice.

12.1   Method

12.1.1   Sampling and recruitment

Telephone interviews were conducted with six of the 14 GPs in the intervention group. Stratified purposeful sampling (Patton, 1990) was used to recruit participants. This method was chosen to provide diversity within the student GPs. To select participants the quantitative results of the knowledge and attitude questionnaire and the audit instrument were reviewed for each GP in intervention group. GPs who had substantial positive or negative changes in knowledge, attitudes and practice were selected.

Several demographic variables were also reviewed to ensure the sample contained similar representation of male and females and rural and metropolitan GPs. There is evidence in the literature that female GPs are involved in more counselling than their male colleagues (Bensing, Van den Brink-Muinen, & de Bakker, 1993; Elks, 1996; Pringle, 1998b) and have longer consultations (Sayer et al., 2000). Changes in attitude and practice may also have been influenced by location. Rural and remote practitioners experience more difficulty in accessing referral services for their patients as the mental health services are centred around metropolitan areas (Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare, 1999). A short priority list of eight GPs was developed, to be interviewed as necessary until no new information was elicited. In this event, six GPs were interviewed.

The selected GPs were invited to take part in the interview and information was conveyed via the explanatory statement found in Appendix 7. On receipt of the GP's consent form (Appendix 7), each was contacted to schedule a convenient time. All of the participants selected telephone interview although the Melbourne GPs were offered a choice of a face-to-face or telephone interview. All of the interviews were conducted with the GP in his/her surgery and were scheduled at the beginning of a clinical session, either in the morning or afternoon before they saw patients.

12.1.2   Development of the interview schedule

The interviews were used to gather data about GPs' perceived change in practice and what aspects of the course, if any, influenced the change. Broad questions to illuminate these aspects were developed after speaking to a specialist qualitative researcher.

The opening question, 'Briefly tell me about your practice', was used to get the study participants talking about a non-threatening topic with which they were familiar.

The participants were then asked, 'Why did you enrol in the course?' This question was used to ascertain student motivation for undertaking the course, which may have related to change in their clinical practice. These data were also collected so that they could be triangulated with data gathered from enrolment forms at the beginning of the course.

In order to explore change in clinical practice it was important for the researcher to understand the students' feelings and attitudes towards patients presenting with depression and anxiety before the course. Students were asked 'Before you did the course, what was it like when someone with depression or anxiety presented to you, at your practice?', 'Has your practice changed?' and 'What is it like for you now when someone with depression or anxiety comes to see you?' The inclusion of this last item was to illuminate the students' current feelings and attitudes towards dealing with patients suffering from depression and anxiety disorders, enabling a comparison with the previous two questions so that changes could be understood.

To delve into influences on change the students were asked 'Why do you/don't you feel differently?' and 'What was it about the course, if it was the course, that made you feel differently?'

A copy of the semi-structured interview schedule is found in Appendix 8. Interviews were audiotaped and transcribed verbatim. Copies of interview transcripts were sent to the participants for verification of content.

12.1.3   Data analysis

Data collection and analysis were guided by grounded theory methodology as described by Strauss and Corbin (1998). This method involves open coding. 'During open coding data are broken down into discrete parts, closely examined, and compared for similarities and differences' (Strauss & Corbin, 1998 p.102). These discrete parts were then labelled

and categorised according to themes. Each theme was analysed in detail (Strauss & Corbin, 1998).

Coding of data was hand processed and entered on a word processor, as the process data collection was in progress. Data were examined for inconsistencies with themes, which modified the meaning of the discourse. Interviews were conducted until there was a saturation of themes. A total of six interviews were conducted.

The reasons given for enroling in the GCGPP, derived from these interviews, were considered with the data collected pertaining to reason for enrolment from the 1999 Application for Admission form (Appendix 9) and telephone interviews conducted with 35 students at the beginning of the course (a form of triangulation). Results of the triangulation are detailed in section 12.2.1.2 of this chapter.

Finally, results were linked back to relevant literature as a source of comparison and to enrich the understanding.

12.1.4   The sample

Demographic details of the six GPs interviewed are summarised in the following table.

Table 12.1

Interview participant demographic details

Demographic variable	GPs
Gender - Male	4
- Female	2
Age	
Mean	45.2
Range	35-57
Years since Medical graduation	
Mean	22
Average years in GP	15
	cont.

Demographic variable	GPs
Place of practice	
Urban	4
Rural	2
Type of practice	
Solo	1
2 – 4 GPs	3
5 + GPs	2
Average sessions worked per week	10
Average patients seen per session	17
Post Graduate Qualifications	
FRACGP	1
Dip Obs	1
Other	3

The demographics of these selected GPs were compared to the demographics of the 45 students enrolled in the course (Table 10.1). The interviewed GPs were similar in type and location of practice; average number of sessions worked per week; number of patients seen per session and postgraduate qualifications to the students in the course. The GPs interviewed differed to the 45 students in gender mix, mean age and years in general practice. Males were over-represented and this cohort was slightly older and had been in general practice longer than the average of the student body. Table 12.2 (see page 253) summarises the criteria and data used to select each GP for interview.

All students interviewed had enrolled in the Master of General Practice Psychiatry (i.e. the second year of the course). The researcher was blind to this when sampling, as GPs disclosed this information when being interviewed.

Table 12.2

Results of stratification

Doctor	Gender of GP	Practice location	Change in knowledge	Change in GP attitude towards confidence and competence	Change in GP attitude towards professional burden	GP change in the detection of patients suffering significant emotional distress	GP change in diagnosis of mental illness	GP change in drug management of mental illness	GP change in counselling patients with mental illness	GP change in the use of stress management for patients with mental illness	GP change in patient referral to psychologist
A	Female	Urban	+ ve	+ ve	No change	+ ve	+ ve	+ ve	- ve	- ve	- ve
B	Male	Rural	+ ve	+ ve	- ve	+ ve	+ ve	+ ve	+ ve	+ ve	+ ve
C	Male	Rural	+ve	+ ve	- ve	- ve	- ve	+ ve	+ve	+ ve	+ ve
D	Male	Urban	- ve	- ve	- ve	+ ve	- ve	+ ve	+ ve	+ ve	+ ve
E	Male	Urban	- ve	- ve	- ve	- ve	- ve	+ ve	No change	- ve	+ ve
F	Female	Urban	+ ve	No change	+ ve	- ve	- ve	+ ve	+ ve	- ve	- ve

12.2　Results and interpretation

The data revealed five themes. These were:

- professional development
- change in attitude towards patients with depression and anxiety
- personal insight
- continuing medical education
- aspects of the course that influenced change.

Four of the five themes were derived from specific open-ended questions as seen in Table 12.3. The fifth theme (continuing medical education) emerged spontaneously throughout the interview.

Table 12.3

Relationship of themes and interview questions

Open-ended question	Theme
Why did you enrol in the course?	Professional development
Before you did the course what was it like when someone with depression or anxiety presented to you, at your practice?	Change in attitude towards patients with depression and anxiety.
Has your practice changed?	Change in attitude towards patients with depression and anxiety.
What is it like for you now when someone with depression or anxiety comes to see you?	Personal insight
Why do you/don't you feel differently?	Personal insight
What was it about the course, if it was the course, that made you feel differently?	Aspects of the course that influenced change.

Quotes from the interviews are presented to illustrate each theme. The letter, in bold font, that precedes each quote represents the student interviewed. For example, 'A.' represents the first doctor interviewed.

12.2.1 Theme 1 - Professional development

12.2.1.1 Interview data

This theme, professional development, highlighted student motivation for enrolment into the course and arose mostly in relation to the second question, 'Why did you enrol in the course?'

The GPs were aware of mental illness in their practice.

> **E.** *In our area we have an ageing population and a population which is, I suppose, a lower socioeconomic grouping, some poorly educated. There seems to be quite an incidence of psychological and psychiatric illnesses there.*

Research has indicated that GPs are not detecting cases of depression and anxiety. GPs interviewed were aware of patients suffering these conditions in their practices. However, they acknowledged deficiencies in their clinical skills and in the knowledge required to recognise such patients.

> **B.** *You knew it was there, but you didn't really know how to approach the matter, how best to approach, and how to guide the patient, and how to treat the patient. For one thing, sometimes I missed the recognition of depression altogether, and if I did know there was depression I didn't know how to approach it. I wasn't so confident.*

They also recognised deficiencies in management of skills.

> **D.** *I do lots of counselling here and I needed to upgrade my skills.*

> **F.** *I have inadequate skills to deal with these patients and referrals.*

Perhaps the lack of knowledge and confidence impacted on the GPs willingness to detect and manage these patients. This, coupled with a lack of mental health services, and barriers to access pressured GPs to recognise and manage these conditions.

> **C.** *And then up here there's even more to it because you don't have any back-up system.*

One GP sought a career change, looking for respite from her current practice, and viewed this course as an avenue to facilitate this change.

> **A.** *I don't plan to stay in my own general practice for ever, ...it's a bit too much to be trying to manage your own practice and do the general work on top of it all. It's just become overwhelming..... I would like to be more involved on the educational side of things.*

12.2.1.2   Triangulation with pre-course interview data

The interview data, pertaining to this theme, were triangulated with the quantitative data collected from 35 students at the beginning of the course. The students were asked to document their reasons for wanting to participate in the GCGPP on the Application for Admission form. The results are tabled on the following page.

Table 12.4

Student reasons for enrolling in the course

Reason	Response N (%)
Self development	4 (28.6)
CME/PA purposes	7 (50.0)
Improve patient care	13 (92.9)
Pursue academic/teaching role	5 (35.7)
Improve knowledge	12 (85.7)
Alter clinical practice	5 (35.7)
Other	3 (21.4)

The primary reasons the 35 GPs enrolled in this course were related to improving patient care and their knowledge. This quantitative data support the reason given by the GPs interviewed, which was to increase their knowledge and skills to better equip them manage their patients.

At the commencement of the course, students said they undertook the course in response to change in the needs of their patient population and the paucity of mental health services available for the sufferers of mental illness. They also felt their previous experience did not equip them for this change.

I'm caring totally for more clients due to the lack of availability of psychiatrists. I feel that I and my clients would benefit from some more formal education in this area improve my knowledge of psychiatry as I feel my undergraduate and hospital experience is inadequate to deal with many issues in general practice (unfortunately).

...I feel that I'd like to have more to offer them when they come in with a lot of their anxiety and stress-related problems. I just don't feel that I'm giving them enough or helping them enough, and I just wanted to develop my skills in that area so I can help them more

The above quotes reiterate that the GPs were aware of the need to increase their skills and knowledge about managing mental illness in their practice. Thus they were responding to the needs of their patients who were presenting to them, unable to able to attend other mental health services which were not available.

Other GPs wanted to consolidate their existing skills.

> *I do a lot of counselling and I just wanted to do to the course to make sure that I'm not making mistakes,*

> *I have a fair degree of knowledge and expertise in this area, but would like to consolidate and update this knowledge.*

The GPs identified that they had considerable experience in this area and they wanted to build on this. Their comments imply that consolidating their existing skills will transfer into enhanced confidence in their ability to manage these patients. These data also support the interview data gathered from the six GPs relating to enhancing knowledge, skills and confidence.

Other GPs were undertaking this course as part of a career change, from general practice to one focused on general practice psychiatry.

> *I would prefer to have a general practice, which is directed towards psychiatric and psychological medicine and for this reason I have decided to do this course*

This quote also indicate that career change was another motivating factor for GPs enrolling in this course, reiterating the data provided by one of the six GPs interviewed.

12.2.1.3 Discussion of 'Professional development'

This theme, and the underlying concepts, is supported by the work of Fox et al. (1989) who identified that physicians are motivated to participate in CME to improve their delivery of health care to patients. Piterman (1991) found that GPs learn best when they are challenged by problems that they relate to. Despite the evidence that primary care physicians fail to detect mental illness, as outlined in Chapter 4, GPs were aware of its existence in their practice. They enrolled in this course as they perceived that they lacked knowledge and skills to appropriately manage patients presenting with mental illness. Thus they spontaneously identified some of the doctor-related barriers to the management of depression and anxiety disorders as outlined in the literature in Chapter 3, section 3.3.1.

Ross et al. (1999) found that pessimistic GPs were less willing to be actively involved in the treatment of depression. The GPs interviewed certainly were not pessimistic, indeed they were motivated to improve their knowledge, attitude and skills. They made a substantial financial commitment to undertake this course and they felt they could positively influence patient outcomes once equipped with the necessary tools. This was compounded by the lack of referral resources available; thus GPs felt that they had to manage these patients themselves. This finding is linked to Main et al's (1993) conclusion that clinicians who are satisfied treating patients with depression are more likely to view depression as an important primary care problem.

The GPs interviewed did not perceive the need to enhance their recognition of these conditions as they felt they were identifying patients but were not equipped to treat them. These GPs were highly motivated to participate in this course. They believed that increased knowledge and skills would enable them to manage patients suffering mental illness more effectively and in doing so benefit their patients.

12.2.2   Theme 2 - Change in GPs' attitude towards patients with depression and anxiety

12.2.2.1   Interview data

This theme was developed in response to the interview questions 'Before you did the course, what was it like when someone with depression or anxiety presented to you, at your practice?', 'Has your practice changed?' and 'What is it like for you now when someone with depression or anxiety comes to see you?'

GP attitude towards their 'heart sink' patients influenced the way they approached and managed their conditions. 'Heart sink' is a term used by doctors to describe patients who cause the doctor's heart to sink when they see these patients who are often frequent attenders. These patients usually have large patient medical records, and often present with non-specific symptoms, have undergone numerous tests and referrals to allied health professionals that do not result in definitive diagnoses and cause frustration for the treating doctor.

> **C.**   *That was one of the revelations of the course. Most of my 'heart sink' patients had anxieties of some sort, and I just wasn't very aware of it .... With somebody suffering from anxiety I would just think to myself 'strange sort of character' or something like that. Often you would regard it as more of a nuisance ...and you might become a bit irritated by it. But now I see it just as a problem like someone comes in with heart failure or something like that. Emotional failure maybe is a better word. Treat it as a clinical syndrome. Rather than just a vague something which was there but I didn't quite know what to do with it and I just felt uncomfortable about it...I don't have any problems questioning people and asking people about it (anxiety).*

D.   *I don't feel 'heart sink' whenever they come in, (and think) 'Christ, here we go again'! A lot of that has disappeared because I've become more structured in my approach to it. And that has helped a lot.*

After completing the course the GPs felt more comfortable, and less frustrated dealing with patients suffering mental illness, particularly anxiety disorders. The GPs experienced an increased understanding about the impact of mental illness on a patient's personal life and this influenced their history-taking:

B.   *besides the physical things that I used to treat before, I might look at how this is affecting them psychologically and go into that a bit in depth. Try and handle that and treat them of the consequences of those anxieties that develop after certain conditions are diagnosed......It gives me more or less an all-round approach to a patient. ...I go into the different dynamics of the family, who they are attached to, who don't they get on well with and all this sort of stuff. As part of...what are the social supports they have in the family, negative and positive.*

Their ability to reflect on the impact of illness on a person's life has also influenced detection and diagnosis. They are more willing to explore issues pertaining to somatisation as a presentation of mental illness.

E.   *I think that an individual who comes back several times with, say, abdominal pains which don't fit any of the parameters very well, you'd begin to form a relationship and start asking questions about how life has treated this individual. You start to often pull out underlying anxiety or depressive disorders from complaints which initially don't have anything to do with it.*

F. *Recognition – now not random, (as it is) now more structured to fit into general practice.*

The GPs reported feeling more confident in their awareness of risk factors and their endeavour to document these to assist patients to self-manage.

C. *I try and note any major events that have happened in people's lives. I keep a record of that together with their clinical diagnoses so I am more aware of any of those risks coming up*

Enhanced knowledge and understanding of risk factors, patient presentation and the impact of illness of the patient's wellbeing increased the GP's confidence in diagnosis.

A. *I tend to be more definite with the diagnosis. Not just depression and anxiety but more definite about the kind of anxiety disorder or things to do with the depression rather than just an overall term.*

One of the reasons GPs enrolled in the course was to improve patient management. They indicated that they were aware of mental illness, did not have difficulty recognising conditions but did not know how to manage them. This last quote illustrates that the GPs felt able to diagnose conditions, particularly as anxiety disorders. This is important, as a correct diagnosis is necessary to enable appropriate treatment to commence (Khunti et al., 1998).

All GPs expressed increased confidence in their ability to manage patients with depression and anxiety disorders.

B. *Certainly in my own mind I have improved a lot in tackling these with a bit more confidence than I had..... Well, I feel a lot more secure now that I*

know how I can handle this, what to expect and so on, what is the natural progression of the illness.....I'm able to approach and plan some kind of an outline for treatment, which I couldn't do before....I was a bit anxious about how best to treat them. But with this I'm a bit more confident...... Discussing openly what goes on in the mind and trying to help them find a path out of their depression or anxiety or whatever they have.....I've got a shelf-full of psychiatric things for patients to go and read about and come back and discuss with me.

This GP attributes his increased confidence, in part, to enhanced knowledge about the conditions they has resulted in his planning care including empowering the patient.

The GPs also felt more confident in specific aspects of management, particularly pharmacotherapy management.

F. *I am more discriminative in selection of drugs as I have increased knowledge of the side effects and now not afraid to change drugs if necessary*

They felt more confident in their ability to initiate drug therapy as they perceive that the patients believed in the GP's ability to care for them.

E. *.. they (the patients) believe you. It's true. It may sound strange to you, ...nowadays I can say to somebody, now I want you to take this SSRI and I want you to do a bit of thinking about the way you are running various aspects of your life, and I want you back here in a week. I promise you that when you come through the door when I say how much better do you feel, you'll say I'm 60 percent better. And people will take that view because they will be reassured of that. They feel confidence in you, that you know*

what you are doing, and invariably they do, when they come back and you say well how are you, they say I'm better than that, I'm 70 percent.

After completing the course most GPs viewed depression and anxiety disorders as chronic conditions. This change in attitude, impacted on the way they educated their patients about their medication.

B. *They are looking at long-term things. I have to hammer that home to most of these patients.... Most of these are chronic cases and medication has to be long term to help them.*

Not only has this altered their pharmacotherapy patient education but aspects of non-pharmacotherapy treatment and prevention.

C. *Like I say, I see especially anxiety and depression more as a chronic illness now which needs to be managed by regular follow-up and curative as well as preventative care as much as a lot of other things..... I am certainly aware that most of those people with the long-term disorders...I don't expect any quick fixes..... It changed my attitude. I'm using more counselling and I persevere much longer. I take them as they come.*

Several GPs said that understanding the chronic illness model enabled them to cope with patient relapse.

C. *I'm prepared for people to fail, if you like, or temporarily fail, and I talk to people about this. It's not an all or nothing thing, I'm a lot more flexible about that now. I won't give up on people just because they've lapsed once or twice....before I might have just lost interest when they have gone back*

to their previous behaviours, now I would say that that is just part of the illness and just keep working.

This GP changed his attitude towards the patient suffering depressive or anxiety disorders and became prepared to discuss relapse and associated patient-related factors. He appears more tolerant and no longer 'blames' the patient for 'failure'. However, it is noteworthy in this quotation that the doctor, whilst acknowledging the reality of relapse of a chronic condition, may be ignoring the effectiveness of treatment in this situation.

He indicates that this change in attitude had a positive effect on the management of these condition and he is more tolerant and prepared to preserver with them.

12.2.2.2 Triangulation with attitude scale results

Quantitative data derived from the attitude scale in the study questionnaire (see Chapter 10) were used to triangulate the qualitative data about change in GP attitude. The pre-course attitude score was compared to the post-course attitude score for each GP. This data was collated after all interviews had been completed. As shown in Table 12.5 (see page 266), all interviewed GPs showed a positive change on the scale relating to 'GP attitude towards confidence and competence'.

This supports the quantitative data which provides insight into aspects of change that resulted after students complete the course.

Table 12.5

18 month quantitative results for GPs' attitude towards
confidence and competence

Doctor	Change in GP attitude towards confidence and competence	Change in GP attitude towards professional burden
A	+ ve	- ve
B	+ ve	+ ve
C	+ve	- ve
D	+ ve	No change
E	+ ve	- ve
F	+ ve	+ ve

+ ve = increased score on the attitude scale
- ve = decreased score on the attitude scale

12.2.2.3 Discussion of 'Change in GPs' attitude towards patients with depression and anxiety'

The interview data show that GPs felt they had increased confidence and this was attributed to enhanced knowledge about the depression and anxiety disorders. Their new understanding of somatisation had also impacted on the GP's confidence as they felt equipped to probe the psychosocial aspects of the person's life and were no longer afraid to discuss these issues. They were satisfied that they could 'label' their 'heart sink' patients resulting in reduced frustration. The course provided a framework in which they could work and this increased their confidence in history-taking.

Enhanced confidence reportedly resulted in change to patient management including drug therapy and the use of management plans. Improved knowledge of drug therapy was reported as impacting on confidence resulting in renewed ability, or belief, in communicating this information to the patient. The GPs felt they were more confident in their ability to use medication appropriately to benefit these patients. They were prepared to talk to patients about the benefits of taking these drugs and they were no longer reluctant to change medication if warranted. The GPs, now understanding

depression and anxiety disorders as chronic relapsing conditions, reinforced this idea in their patient management and education.

GPs also indicated noticeable changes in the doctor-patient relationship as they perceived that their patients were more confident in their ability to mange these conditions. They also thought their patients were more confident in them as clinicians and in their ability to improve patient outcomes Therefore they were willing to empower their patients by providing literature and forums for discussion to increase their understanding of these conditions.

None of these GPs saw their role solely as the gatekeeper as they all indicated they engaged in non-drug therapy with the patients themselves. Referral behaviour was not influenced by gender, but by the GPs, regardless of gender, recognising their limitations. These included their ability to manage specific situations, their need to protect themselves from burn-out and the availability of services in their area.

Change in confidence was raised spontaneously by those interviewed. The GPs describe several factors that influenced clinical practice including their personal attitudes and the social and cultural setting of their practice. These are the same factors identified by Fox and Bennett (1998).

The interview data indicate that a change in knowledge and understanding by the learner resulted in changed behaviour. This combined two ideas from Novak and Gowin (1984) that learning can result in change to behaviour or can result in change in understanding or meaning to the learner. One cannot attribute change solely to an educational program as this does not work in isolation. There are many variables that contribute or prevent change. The current study illustrated that doctor's knowledge and attitudes towards patients and diseases influenced their clinical behaviour, management and referral. External factors, for example the Medicare system and the closure of mental institutions

also influenced the doctor's clinical practice and they have no control over these events. It is interesting that none of the GPs interviewed commented that the course affirmed their current practice and knowledge.

12.2.3   Theme 3 - Personal Insight

12.2.3.1   Interview data

This theme primarily related to the question 'Why do you/don't you feel differently?' Four GPs commented that the course not only helped them professionally, but in their personal lives too:

> **B.**   *This course has really given me an insight into my own life, my family life, through the family therapy. It has been an eye-opener.*

> **C.**   *I have benefited on the personal level and I am quite happy.*

> **D.**   *.....The other thing I was aware of was that I think I was getting burn-out. I think that's another reason for being more cautious in how I approach things. I was getting tired of dealing with all of this stuff.*

These comments are in contrast to the primary motivating force for enrolment in the course, professional development. It is obvious that the students reflected on their personal life as well as their patients and practice.

GPs were aware of the burden of the practice.

> **B.**   *I have to do the best I can because I can't get help here. Seeing the patients, talking to them. It takes up a lot of my time for which I do not get paid. It is goodwill and for the sake of my patients I do this. Financially it's a disaster*

.....What kills me is the time that it takes in doing these things, and we GPs aren't paid for that, not unless you make all of them a long consultation and have the luxury of spending half an hour, 45 minutes each patient....I bulk bill.

Patients with depression and anxiety disorders in general practice are often complex and their management may involve components of non-pharmacological therapies that are time consuming. This issue combined with the current Medicare system imposes constraints on GPs who are often small business owners. This is more problematic in those areas where there are limited mental health resources available for patients.

As a result of the professional burden of managing chronic conditions, such as mental illness, in general practice, some GPs have become more selective about the patients they see.

D. *I'm more protective of myself dealing with these things. No, I'm not going to take this on board because it's just going to drain me too much, and I know it's outside my field and I haven't got the time to do that.........That's also where the referral process comes in. I just don't deal with them any more..........You really have to be realistic...if they are not going to make an effort I'll just drop it. It was always, well you keep on, you keep on, you keep on. And frankly you can't keep on and on and on in a family practice set-up, because you haven't got the time. There are lots of other people need your time and attention.....*

GPs indicated that they were more aware of their professional limitations, which has resulted in change in their communication with their patients and altered referral patterns.

D. *I am much more aware that there are certain things that I don't feel that I'm experienced enough in. And also I think it is very helpful because it taught*

me the value of bringing into play other, say, paramedical resources that
we have available to us.........I'm more aware of, yes, my own boundaries,
and the limitations that you need to apply when you are dealing with people
in these situations who are desperate for something to happen for them......
Instead of saying no, look, we're getting somewhere but it's so slow we're
hardly making any movement, and if you had a different approach to it...and
frequently they come back and say well that was great, and now I want to
talk about these other things with you. So there is a separation of their
problems, which actually makes them clearer for them. It makes them feel
they are more in charge of what is taking place, and therefore you can get
ahead .....Now I refer when I can feel a brick wall ahead of me.

F.   *I now admit to a patient when I am frustrated, I'm not afraid to say that any*
more. This is interesting as the patient is often not frustrated and feels they
are improving.........I feel more empowered to acknowledge my limitations
and will refer if necessary, when a patient needs help outside my abilities.

12.2.3.2   Discussion of 'Personal Insight'

GP recognition of their limitations has influenced patient rapport and management.
Previously the GPs perceived that the patient felt they were a 'failure' if they could not
deal with all aspects of their problems. They were surprised that this was not the case.
As a result management of mental illness is more structured and they treat aspects they
feel confident in and refer to other services to complement treatment. The doctors felt
more satisfied with this approach and they perceived this as more effective for them
and the patient.

To protect themselves from professional burn-out and to work within the Medicare
system more efficiently some GPs became more selective about the patients they treated.

They chose to spend more time with 'compliant patients', those they felt they could help. They did not abandon their patients but recognised their limitations, sourced other services to benefit particular patients and in doing so, themselves.

Four GPs identified personal insights and three reflected on the burden and frustration of dealing with depression and anxiety disorders in general practice. Two of the GPs identified these problems whilst doing the course, rather than a reason for participating. This is in contrast to the findings of Piterman, Parer, Schattner and McCall (2000b) whose students identified professional 'burn-out' as a reason for enrolling in courses (p.11).

Personal insight also resulted in change in the way some GPs manage their patients with depression and anxiety disorders. They recognised their limitations as professionals, acknowledge that they 'cannot fix everything' and strove to empower their patients and work in partnership with them. However, depression and anxiety disorders are chronic and require time and energy to manage. This led to conflict for the doctor who questions the capacity to be the caring clinician whilst maintaining the financial viability of their business in a prohibitive health care system. The current Medicare system is seen as a barrier to the management of depression and anxiety disorders in general practice and this has impacted on the management of patients.

12.2.4 Theme 4 - Continuing medical education

12.2.4.1 Interview data

Two GPs indicated they were more actively involved now after doing the course, in delivering education to their peers in their local area.

A.   *I've just run a (CBT) workshop this weekend, all day Saturday and Sunday morning....organised by the local Division*

B.   *I've been a facilitator, a moderator, even a speaker at a psychiatric meeting, I've had equal billing, would you believe, with another psychiatrist....nobody was game to talk to the psychiatrist and ask questions, and I had to ask him questions and bring out some things that I know from my knowledge from the course that I could ask and for the education of those present – there were about 20 doctors present. .....I'm doing more of the evening 'dos'.*

One doctor expressed surprise that he was performing, on par, with a 'specialist' drawing on the knowledge he gained, and in doing so, facilitating the learning of his peers.

These GPs were motivated to continue learning and all expressed interest in continuing education in the area of general practice psychiatry.

A.   *Yes (I'm) officially enrolled in the Masters of GP Psychiatry.*

Other GPs have supplemented their clinical skills by participating in short courses.

C.   *I did this in parallel to that (stress management) course, which was a lucky coincidence, I actually did an on-line meditation course from somebody who is like a reformed Buddhist in England which was extremely useful too.*

F.   *I have done more on CBT through the Division since. This course was over 6 weeks for one night per week and this was very helpful.*

12.2.4.2 Discussion of 'Continuing medical education'

These quotes highlight that the GPs intended to continue to learn using a variety of formats, both tertiary institution based recognised award courses conducted by distance education, and professional development face-to-face short courses in clinical skills . The clinical skill area is difficult to teach via a distance program so the GCGPP included skill development as a component of the weekend residential program. Counselling and psychotherapy require clinical supervision and was beyond the scope of this course.

All the GPs interviewed were 'life long learners' participating in a variety of courses. Although CME is a mandatory requirement for vocational registration the data indicates that these GPs were motivated by intrinsic factors such as their perceived need to upskill and enjoyment derived from learning, rather than the extrinsic mandatory pressure.

One GP enrolled in this course as an avenue to becoming more involved in GP education. She and another GP are blending teaching and clinical practice, which they find satisfying.

12.2.5 Theme 5 - Qualities of the course that contributed to change

12.2.5.1 Interview data

This theme directly related to the question 'What was it about the course, if it was the course, that made you feel differently?' Some students felt that participation in a tertiary course provided motivation and structure to pursue their learning agenda.

> **A.** *I think it's more to do with the formality or the structure of it (the course) and actually embracing that as a way of thinking about things rather than just being on your own and floundering.*

C. *I have to subscribe to a course like that because I just don't have the discipline to otherwise keep a regular learning up like that. I need some structure and some deadline imposed on me.*

E. I *think the fact that I'm doing a course, coming back to study. I'm a bit older...So even just that, coming back, the very act of coming back to do some disciplined study was very, very effective.*

The timeframes imposed by tertiary institutions were perceived as necessary for these students to maximise and pursue learning.

They also benefited from learning from a course designed specifically for general practice:

A. *(Other courses) are not as wide or as relevant to general practice.*

B. *GPs' knowledge point of view..... It's more diagnosis, treatment and recognition.*

F. *Appropriate to general practice as deals with specific issues in depression and anxiety that we see daily.... Because of the time limits of general practice the course provided a framework to work in.*

A variety of learning modes were highlighted as impacting on the GPs' learning. There was unanimous support for the relevance of case-based learning. GPs found the cases reassuring and enjoyable.

B. *I thought the cases were genuine. There was nothing in there that I hadn't come across before as an experienced GP, but it just sharpened my knowledge, that's all. There is nothing in it that is new. Because I've seen it*

all after 25 years. But this only makes me recognise better, and it's fun to read and it gives me confidence I think.

The cases were designed to engage the GP by promoting reflection on their own patients and their management. The cases were context based and therefore non-threatening to the GP.

F. *Case presentations were helpful as they broke complicated patients into steps which makes you realise you don't have to do it all at once. This puts into specific steps that are manageable.*

They provided a relevant framework for the management of patients and reiterated that chronic management can be planned and conducted in general practice, although there are 'no quick fixes'.

The GPs found the interactive learning at the weekend workshops reassuring as they learned not only from course authors, but also from their peers. The face-to-face encounters also promoted social interaction assisting those students who had felt isolated.

A. *The weekends were great...because it's coming together, being a little bit unsure about where you're at and then coming together and I guess it's some reassurance. But it's always better to learn in person. I just find them really inspiring. I think a lot would be lost if you didn't go to any of the weekends.......It just adds to it, and I find myself keeping it in mind. I guess that was the other good thing about the weekend. To really experience it and to meet the course authors.*

C. *I found (the residential) really useful and really interesting to talk to him (course author).*

D. *I suppose it was being exposed to the new ideas and the different approaches that people take to some of their circumstances. Saying well, there is another way of approaching these things rather than your standard. If you're getting stuck, try something else.*

F. *Role-play very helpful, even being the patient is important.*

The residential workshop fostered interactive peer learning and provided some students with a 'sense of belonging'.

Interaction with the course material enhanced understanding as the students made the experience personally relevant.

A. *I should also say, the stress management module, we all loved that because we're actually doing it..... Doing it yourself. Really understanding it.*

D. *People discussing things on the tapes was interesting. ...you can actually hear people discussing things. It is so much easier to take it in rather than reading it all the time.*

This multifaceted intervention was shown to engage the learner.

The students felt respected and enjoyed being treated as adults rather than 'undergraduate' students.

A. *I think it's essential to be treated as individuals and as adults in this sort of thing because you're asking us for our own opinions and thinking. And there's a feeling of respect there for what we've got to offer. There's an assumption of having a knowledge base and experience as well......And*

not having to...I may have been asked for reasons (when requesting extensions), but they didn't have to be good enough. They didn't have to be dying or terribly ill, it could just be that you were short-staffed at work. There were other ways in which you treated us like adults as well. It reflected a whole attitude....the whole approach to the whole course.

C. *I thought it was really good in that all the instructors were extremely helpful, offered to help you. I wouldn't have any problem even now. If I got stuck with something I'd just get the thing out and see who I can ring up.... I am sure that wouldn't be a problem. And just generally how supportive all the lecturers were. It wasn't a 'you' and 'us' thing. It feels like it was a genuine team effort and I really appreciated that.*

F. *The psychiatrists were very approachable and didn't treat us like unknowledgeable people.*

The GPs spontaneously identified important aspects of adult learning theory as influential on their learning experience. They appreciated that teaching was learner centred, flexible and that teachers were approachable. There was also a mutual respect for each other's knowledge. They GPs recognised that they built on their previous knowledge and experience. All these aspects were identified as important in maintaining motivation to learn.

The GPs highlighted the importance of reflection as a valuable learning tool, although acknowledging that this was challenging.

A. *Initially I had to push myself and I didn't really like it (the journal). But I can see it's actually essential to make you think, and actually write something down or typing it out forces you to think in detail about it. While I would be*

doing it I'd actually be...things would be coming to me that I wouldn't necessarily have thought. Like just thinking about a patient in more depth. While you're actually typing it more comes to you. I think the journal is great that because it actually makes you think. Much like if you are in a room discussing something......While you're actually typing it (the journal) more comes to you.

B. *Writing the journal? What a pain, honestly. But having said that...knowing that you can pour your heart out into it in a way... But I think it's good, because after you read and want to reflect and that's good as an outpouring. It's the next best thing to sitting in front of a teacher and telling him something. In a way that is very good. I thought the journal was very good.*

Students highlighted the impact of recall of various aspects of course material as influential on their learning.

A. *You keep in mind the people that you've heard, the things that they've said.*

E. *I think the great thing about this course is you can read a bit even when you are out doing calls or visiting people.... You read the salient points, read a paper or consider a case, and then for the rest of the day while you are wandering around you can reflect on it, come back and jot down some points.*

F. *We could discuss cases, which would trigger something, and then I would re-read the course materials and trigger more off.*

External critique by the course markers was viewed favourably and in contrast to 'internal review' this was not perceived as confronting.

B. *I'm amazed that they read every word that I wrote. Some of it was so much nonsense. But I am amazed that every sentence was read and marked and commented on.*

F. *The doctor's review takes your blinkers off to our current practice, but not confronting.*

The journal was used to facilitate learning; thus formative evaluation was vital for students studying via distance mode. It is interesting that despite the idea that 'assessment drives learning' (Newble & Jaeger, 1983) there was no mention of essays and other summative assessments as impacting on these students' learning experience.

Students can feel isolated at times and this is particularly relevant to those studying via distance education. The students indicated that the teleconferences and weekend workshops were useful in overcoming isolation.

A. *I haven't found (the teleconferences) particularly helpful. I've still welcomed them, and I'll welcome them in future. Basically just as a contact, interesting to hear how other people are going, interesting to hear the voices of the course people and the teachers. Not necessarily helpful educationally, but it gives you some support........ I guess that was the other good thing about the weekend.... to meet the course authors.*

D. *The teleconferences were quite good. I enjoyed them. They are a good way of talking about things.... They made me feel less isolated. That's the big thing.*

The teleconferences were identified as reducing social isolation rather than being of primary educational importance. However, the course was not just about transfer of

knowledge and facts, it was also designed to facilitate communication, maintain student motivation, facilitate learning and promote change. Teleconferences were useful and served a purpose in their current format.

12.2.5.2 Discussion of 'Qualities of the course that contribute to change'

The data illustrate that these GPs typify the adult learner as described by Knowles (1998) and Muir Gray (1997). The GPs appreciated 'andragogy' as a framework of ideas for teaching adults (Knowles, 1998) as they welcomed being identified as knowledgeable and experienced GPs and that the course built on this principally via reflection on their experience. Tailoring the course content around the clinical setting significantly impacted on learning. Not only was the course perceived as clinically relevant, the learning environment was familiar and non-threatening.

The GPs identified 'learning by doing' (Rogers, 1969) in the form of role-play and listening to the audiotapes as important. This form of learning engaged the student. Audiotape discussions were used at the beginning of a subject to engage the learner, increase their motivation and to clarify material to be covered. The discussions were centred on the general practice setting, drawing on practice organisation issues, patient presentations and the role of the GP. The students reported they were still reflecting on these discussions up to eight months after completion of the course.

Bennet and Danczak (Bennett & Danczak, 1993) noted that GPs are pragmatic learners. Aspects of this have been illustrated here. The doctors claim to have changed their practice as the course provided them with structured approaches to detection and management of conditions within the GP context. They also illustrate the 'activist learner' enjoying communicating with peers and other health professionals and engaging in case discussions.

The GPs identified aspects of adult teaching, particularly experiential learning (Rogers, 1969), that assisted their learning. The relevance of the course content in meeting their learning needs was noted as important in sustaining interest and motivation.

The students expressed feeling threatened by self-reflection rather than fearing peer review. It is not surprising that these medical graduates, familiar with examination and external review in their undergraduate medical training perceived self-reflection as a challenge. The 'journal' was one method of reflective learning and despite the initial negativity the students attributed this as having significant impact on learning and change. This course promoted reflective learning, which for some may be a new concept, and may be confronting for 'pragmatic' or 'activist' learners.

Piterman et al. (2000b) found that reflective learning resulted in students reporting change in their clinical practice and decision-making. Of note was the patient-centred approach, and increased awareness of the doctor-patient relationship in influencing patient outcomes, and hence their own role in influencing patient outcomes' (Piterman et al., 2000b). These findings are supported here.

The students valued the attributes of the learner-centred teachers, particularly their patience in taking the time to read and comment on all the work submitted, notably the journals. This was important for students studying at a distance, as this was the primary contact with their teachers. The feedback was a vital component to reinforce learning, therefore it had to be regular.

Grol (1997) identified quality assurance as a powerful force in influencing change. Audit is used by the RACGP QA program to promote reflective practice and was incorporated in the course as a vehicle to facilitate learning. Reflection was identified by the GPs as an aspect of the course that impacted on change in practice, however audit was not mentioned. Perhaps GPs view the audit as a necessary exercise to gain

sufficient points for the mandatory requirements, rather than an agent for change. This idea was not explored.

GPs are busy people, balancing career, family and other activities. Many prefer to study via distance mode as this provides flexibility in time management (Piterman et al., 2000b). The GPs interviewed did not comment on distance education as a mode of delivery and its impact l on learning. They identified social isolation, which could have been a barrier to learning, although they acknowledge that this was overcome via the use of teleconferences and attendance at the weekend workshops.

Interaction with peers was identified as an important part of the students' learning. The two weekend workshops were identified as essential to influencing change in attitude and practice. Students enjoyed the social interaction with peers and staff. During these weekends students discussed cases and in many instances obtained reassurance whilst acquiring new information about alternative approaches for the treatment of complex patients.

The courseware was familiar to the GP. They were comfortable using printed materials, video and audiotapes, rather than other forms, possibly less familiar, of delivery, such as web based courses. The students continued to refer to their course manuals and maximise their learning by reading and reflecting on articles throughout their working day.

It is evident from a review of the current literature about the effectiveness of CME that no single activity promotes substantial change. The most effective methods include learning linked to practice, interactive sessions, and multifaceted interventions. The students identified all of these attributes as important. Audit and printed material are noted in the literature as a less effective strategies (Davis et al., 1995). The noticeable lack of data about these two components of this program collaborates this.

12.3   Methodological considerations

As described earlier the qualitative phase was included to illuminate the findings from the quantitative data to provide meaningful links about aspects of the course, which participants felt, may have impacted on their knowledge, attitude and clinical practice of anxiety disorders and depression. The interviews provided insight into the GPs thoughts about change in their personal and professional life, which cannot be captured using a quantitative instrument. This method of data collection also enabled the researcher to explore specific aspects of the course that influenced these changes.

12.3.1   Sampling

As indicated in section 12.1.1 a stratified purposeful sampling was used to gather data relevant to all students. This was a suitable sampling method to identify themes common to a variety of participants. Common themes were identified across all cases, despite the differences in the quantitative results and the possible influence of gender and geographic location (Patton, 1990).

12.3.2   Potential bias in conduct of interviews

One potential source of bias was response bias. The participants may not have answered truthfully knowing that the interviewer was employed at the Department of General Practice, a department involved with the course. This was minimised as previous exposure to the researcher had only been in relation to this research, and was not associated with academic or administrative issues related to the conduct of the course.

A study is thought to have ecological validity if carried out in the subject's natural environment 'using suitable methods, to take into consideration the context of the research questions and subjects' (Sarantakos, 1993 p.76.).

All interviews took place via the telephone with the GPs in their clinics. GPs are comfortable discussing complex issues using the telephone as this is a natural mode of communication in their daily working environment. Logistical reasons prevented personal meetings for the participants located interstate and rural settings. The Melbourne based participants were given the choice of face-to-face interviews. One GP preferred the telephone option, as this was perceived as less intrusive in their practice schedule and another did not have a preference, so the researcher chose the telephone interview to ensure continuity of data collection method. However, telephone interviews are limiting compared to personal interactions as the researcher relies solely on the spoken word, unable to observe body language or the environment, factors that may bias the results. The structure of the questions resulted in themes that were not surprising. However, the content within the themes was not predicted.

The sample consisted of six of the 14 GPs in the intervention group (43%) and all were intending to pursue the Master of General Practice Psychiatry. In this respect, the sample may be unrepresentative of the intervention group, although we do not have data on the aspirations of the whole group, of whom 50 percent have, in fact, enrolled in the Masters program. This may have biased the results, as compared to the other students, they may have been more motivated and satisfied with the course, had more insight into their learning needs or other factors that were not explored. However, the researcher only became aware of their plans to continue education in this field when they were interviewed. This sample may have represented extreme case sampling, which may detract from more representative attitudes (Patton, 1990 p.170). This becomes problematic when saturation of themes is not reached, which was not the case here.

In qualitative research the researcher's own background, knowledge and attitudes influence and shape the research project, including the results. This component of the research study focused on the GCGPP, so questions were designed to be practical. The researcher was constantly aware of her thoughts about change and aspects of the course

that may have influenced these. Open coding was used so data were not analysed to fit pre-defined codes. Reliability was increased by triangulation of data.

12.3.3 Data analysis

Intra-rater reliability was not measured. Investigator bias may have been reduced if a co-researcher had observed the interviews and independently analysed the data.

The interviews were conducted using a semi-structured interview schedule and data analysis was performed during data collection. During the initial interviews the GPs raised new concepts which were explored in more depth in the subsequent interviews. The core questions were not altered however the prompts used were more open-ended which may have resulted in the later interviews being richer and more in-depth.

Data were checked by comparing and contrasting data, within and across the interviews. Codes and concepts were checked to ensure they were mutually exclusive. These steps increased the validity and reliability of the analysis.

Triangulation was conducted to assess the reliability of the results. The qualitative results pertaining to reasons for enrolling in the course were supported by quantitative data collected from Application for Admission form and interviews conducted with a wider group of GP students (n=35) at the beginning of the course. The data from the 35 students had been classified into prevalence of condition, paucity of mental health resources, gaining knowledge and skills to reassure them about, or enhance their clinical practice. These concepts were developed in the theme - professional development.

The qualitative results relating to the theme 'Change in attitude and practice towards patients with depression and anxiety' were supported by the quantitative results 'GPs professional comfort and competence' on the validated attitudinal instrument developed

for this evaluation. This data was collected 10 weeks (Week 70) before the interviews (Table 12.4).

12.3.4 Limitations

Qualitative data gathered using interviews relies on self-report. Although the GPs report substantial change in their clinical practice the design did not target observed practice. To do this an observational study would need to be undertaken and this was beyond the resources available for this research project.

12.4 Summary of qualitative data analysis

The following summary shows the concepts and themes from the coding of the six interviews. The themes and the concepts were:

- **Professional development**

  Awareness of patients suffering mental illness

  GP perceived lack of clinical skills and knowledge

  Paucity of mental health services

  Career change

- **Change in attitude towards patients with depression and anxiety**

  GP attitude to mentally ill patients

  GP comfort with knowledge about depression and anxiety

  Enhanced confidence

  Doctor-patient relationship

- **Personal insight**

  Insight into emotional issues.

Professional boundaries

Insight into professional limitations

Professional burden

- **Continuing medical education**

Teacher

Learner

- **Qualities of the course that contributed to change**

Tertiary course

Relevance to profession

Learning modes

Adult learning principles

Internal review

External review

Overcoming isolation

It appeared from this phase of the study that the GPs reasons for enrolling in the GCGPP influenced learning. They attribute the course to changing knowledge, which lead to change in attitude and insight about mental illness. These aspects influenced how the GPs managed their patients. The next chapter of this thesis will provide a summary and discussion of the results obtained from this research and the apparent discrepancies between the quantitative and qualitative data.

Chapter 13

Summary and discussion

Chapters 2 and 3 outlined the evidence for prevalence and burden of depression and anxiety disorders to the public and the individual. These conditions can be treated once recognised. GPs, as the first point of contact in the Australian health care system, are well placed to assist patients suffering depression and anxiety disorders and to reduce the personal and public cost. Chapter 3 detailed the problems which influence detection of mental illness and these included barriers related to doctor, patient, disease and the health care system. However these barriers can be overcome.

Primary Care Psychiatry - The Last Frontier (1997) outlined recommendations to assist Australian GPs detect and manage mental illness. These recommendations included CME, which has been shown to change doctor knowledge, attitude and skill levels required to detect and treat these conditions, detailed in Chapter 4. The University of Melbourne and Monash University collaborated to develop the GCGPP, a 42-week part-time course delivered via distance education. This course, under-pinned by adult learning theory, in particular 'andragogy', utilised experiential learning and reflective practice to facilitate learning. It sought to increase GP knowledge, attitude, practice including clinical skills, and to enable GPs to detect and treat the common mental disorders, predominantly depression and anxiety, in their practice.

The major focus of the research in this study, as stated in Chapter 6, was to:

> *determine the impact of the GCGPP on GPs' knowledge, attitude and practice pertaining to the common mental disorders, predominantly depression and anxiety, in general practice and an associated effect on patient health-related quality of life, including mental health.*

Four research tools: the GHQ; the SF-36; the knowledge and attitude questionnaire; and audit were used to gather data to determine the impact of the course on the doctors and their patients. A qualitative phase was also conducted to explore GPs' perceptions about aspects of the course that influenced change. The flowchart in Figure 13.1 forms the model for discussion of the results of this study.

Figure 13.1
Flowchart
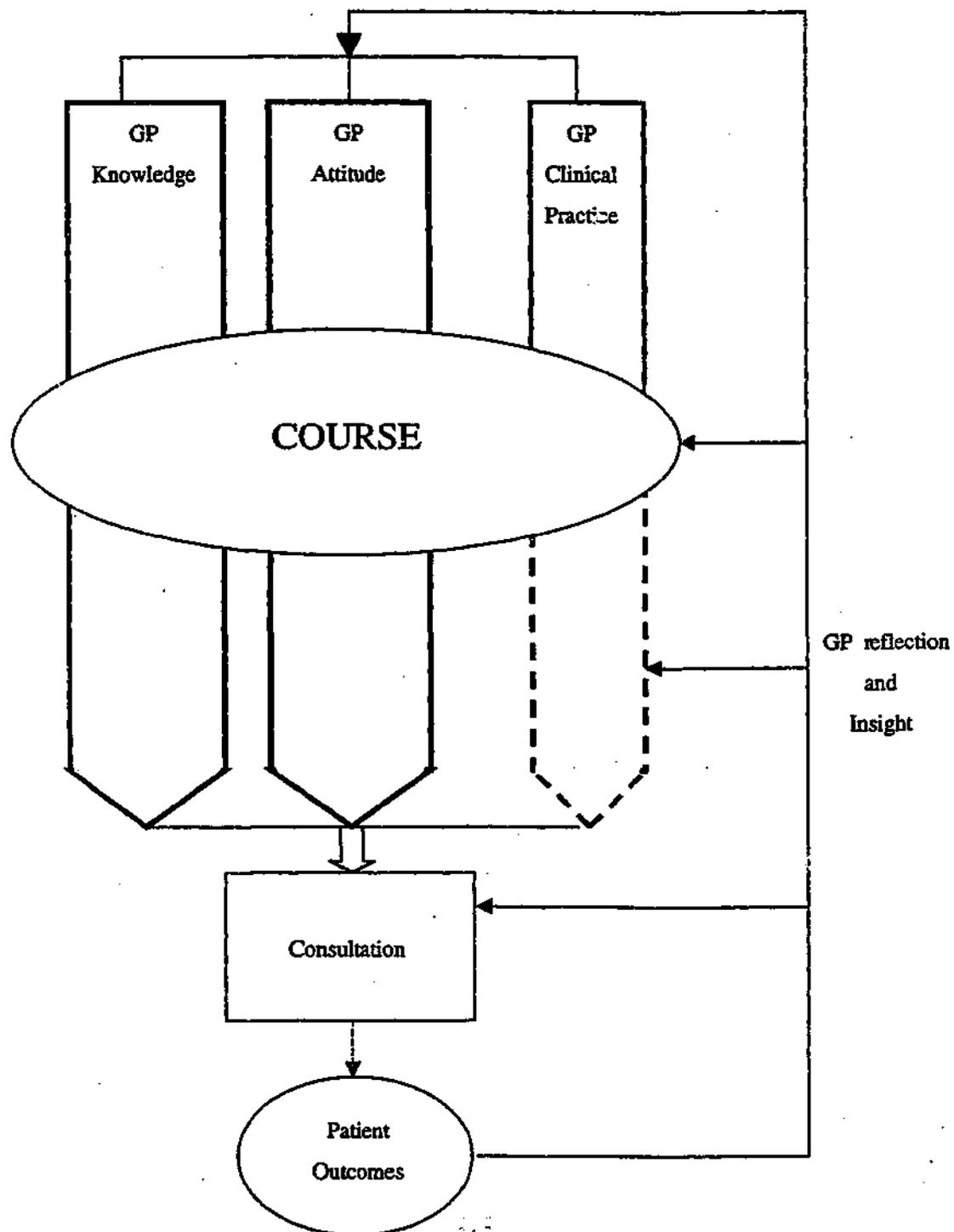
13.1   The sample

13.1.1   The GPs

Intervention GPs in this study were true adult learners who displayed the characteristics described by Rogers (1969), Muir Gray (1997), and Knowles (1998). They were highly motivated to learn and willing to make substantial financial and time commitment. The GPs who successfully completed this course were not rewarded financially for their efforts. They enrolled in response to both intrinsic and extrinsic motivators. All GPs believed they could help patients suffering mental illness. This internal desire to improve their knowledge and skills, in order to become better clinicians and assist their patients, was more influential in motivating change than the necessity to fulfill mandatory educational requirements, consistent with the findings of Fox et al. (1989). The qualitative data revealed that the intervention GPs participated in the GCGPP because they were motivated by reasons relating to professional development. Figure 13.1 shows that learning is a cycle, as the GPs continued to reflect on their consultation, knowledge, attitude and clinical practice, indicating that they were 'life long learners'.

Thirty-one of the 35 students enrolled in the course consented to be part of this study and 28 GPs expressed interest in being participants in the control group. Matching the intervention and control doctors resulted in 28 GPs participating who completed all data collection requirements; 14 matched pairs. Thus the intervention group consisted of approximately one third of the students enrolled in the course, and was broadly representative of the 35 students who undertook the GCGPP in 1999.

The intervention and control groups consisted of experienced GPs, primarily located in urban areas, working in group practices, spending an average of 16 minutes with each patient they see. The groups were well-matched on demographic variables, interest and training in psychiatry or psychology. They were not representative of the GP workforce

as they volunteered to participate; however this sample may be regarded as representative of those willing to participate in a postgraduate course in general practice psychiatry. Thus selection bias may have limited the external validity of this study.

The small sample size may well have influenced the results of this research, however the power of any educational research conducted on a course that only has small enrolments is problematic. It was important to match the intervention and control group doctors to minimise the impact of a systematic bias that may have influenced the results. The matching process, whilst ensuring that the intervention and control groups were similar, resulted in a design with slightly less power than had been intended. However, this was unavoidable as this course is designed for GPs who have an interest in gaining more knowledge and skills in psychiatry for the general practice setting.

In this event, there was adequate effect size (0.75) to detect post-course change in GP knowledge. The effect size for GP attitude relating to comfort and competence was smaller (0.44) and the sample size fell just short of that required to detect a significant change of that size. Post-hoc sample size calculations showed that a sample of 31 GPs per group was required to detect a post-course change in total knowledge with 80% power. Further calculations revealed a sample of 51 GPs in each group would have been required to detect a post-course change in attitude pertaining to confidence and competence, with 80% power.

13.1.2 The patients

In the second week of February 1999, and again in September 1999, the GPs were asked to gather data from 50 consecutive patients aged 18 to 65 years, who attended them. The majority agreed to participate.

The pre-and post-course data from the intervention and control group patients indicated that these patient cohorts were comparable with respect to the GHQ, SF-36 and demographic variables and they represented average Australians' quality of life as measured by the SF-36. The intervention group patients incurred more dysfunction in their lives than the control group patients, or the average Australian, although all mean scores were within one standard deviation of the Australian population data. There were no systematic differences in the two samples which were thought likely to influence the outcomes of the results of this study.

Whilst the patients were similar it was important to determine if the patients who were emotionally distressed, or those who were not emotionally distressed as measured by the GHQ, differed between the groups. Accordingly the population was stratified, based on a 28-item GHQ cutoff of 4/5 as recommended in the GHQ manual and previous study conducted in Australian general practice (Tennant, 1977).

This study identified that the 'probable cases' were representative of clinically depressed patients attending primary care (Wells et al., 1989). Thus the findings may be generalisable to distressed patients receiving care in general practice.

The proportion of 'probable cases' is similar to that in the longitudinal data from the WHO Psychological Problems in General Health care study which focused on depression (Simon et al., 1999). The prevalence of psychological distress in these studies is higher than other studies conducted in primary care (Callahan, 1998) and community prevalence studies (Kessler et al., 1994; McLennan, 1998). Possible reasons for the higher proportion of 'probable cases' in this study may have related to the choice of screening instrument. The GHQ was chosen for use in this study as it is a reliable and valid instrument, with good utility, and widely used in research in primary care. The high response rate and lack of missing data indicate that the choice of instrument was suitable for educational research in this environment. Cultural influences would not have had a significant

influence on the GHQ results of this study as most of the patients were Australian-born and the instrument has been validated in Australian general practice (Tennant, 1977). However the GHQ included the following questions 'Have you recently been feeling perfectly well and in good health?', 'Have you recently felt that you are ill?', 'Have you recently been having hot or cold spells?', 'Have you recently been taking longer over the things you do?' and 'Have you recently been able to enjoy your normal day-to-day activities?' A high proportion of 'probable cases', could be expected as they may experience distress associated with the reason they presented to the GP which may not be related to a mental illness. For example a person with influenza may answer 'worse' or 'much worse than usual' to these items.

The alternative scoring method devised by Goodchild and Duncan-Jones (1985) may have resulted in a more normal distribution of scores; however the mean scores for the intervention and control group patients would have been inflated as fewer patients would have scored zero. Therefore the proportion of 'probable cases' in this study can be considered conservative although higher than other studies conducted in primary care (Callahan et al., 1998; Simon et al., 1999).

The results of the current study show that 'probable cases' were more likely to be women. The SMHWB study found that men and women had similar rates of mental disorders although women were more likely to suffer depression and anxiety disorders (McLennan, 1998). Men had more substance abuse disorders than women was not measured here.

Unlike the community prevalence studies the current research did not use a psychiatric diagnostic interview and assessment to confirm diagnoses of depression or anxiety disorders. The GHQ was used as a 'case-finding' instrument. This study was conducted in general practice and to determine the impact of CME in a natural setting. Using the GHQ and SF-36 was found to be intrusive, but it would have been more problematic to

use a psychiatric interview and assessment to confirm diagnoses. Furthermore, independent confirmation of diagnosis does not occur in day-to-day general practice.

13.2   The course

Monash University and the University of Melbourne both have established credibility as educational providers. The course was structured using adult learning principles, which emphasised active student participation. Using Holmberg's distance education theory (1985) the course contained concise, graphical educational materials. Essential messages were highlighted and repeated throughout the course materials and reinforced via teleconferences and during the weekend workshops. Academic staff were encouraged to provide extensive written feedback when marking assignments.

13.2.1   Needs analysis

The *Primary Care Psychiatry - The Last Frontier* (1997) provided course authors with an understanding of the barriers to the detection and management of mental illness in general practice. They wrote their material, mindful of these barriers, and attempted to offer solutions to these challenges. The needs analysis and the collaboration of GPs and psychiatrists contributed to ensuring that the course material was compatible with student beliefs.

It appeared that these GPs enjoyed learning by doing and building on previous experience, indicating that they may be 'pragmatic learners' (Bennett & Danczak, 1993), or the 'activist learner' (Honey & Mumford, 1992). Although learning styles were not explored in this study they are an important consideration for educationalists developing and delivering curricula.

13.2.2 Models of CME

Reading can be a passive learning experience. To overcome this, reflective activities and assessment questions were posed throughout the course material. These activities engaged the GPs and encouraged them to draw on past experience and existing knowledge in a context which was relevant and meaningful to their circumstance and environment. In many instances the assessment activities centred on case presentations, which the GPs found to be relevant to their work. Consequently, the content could be personalised and made relevant to their environment (phenomenology) whilst building on past experience (constructivism). The GPs identified these principles as vital for their learning as they were relevant for the practicing clinician. However self-reflection was challenging and initially threatening for some GPs.

13.2.3 Adult learning and teaching principles

Adult learning and teaching principles were spontaneously identified as promoting learning by the intervention GPs who were interviewed. Specifically the interaction between the course staff and students, provided by ready access to administrative and academic staff on an 'as needed' basis through the scheduled teleconferences and weekend residential workshops, was viewed as vital for the success of this course. Communication between the academic staff and students was often via the journal. This medium formed the 'tutorial' where the tutor facilitated learning through the provision of feedback of the student's interpretation and understanding of the course material. The GPs identified the extensive written feedback from academic staff as important for maximising learning. Soumerai and Avorn (1990) support this finding.

Course staff strove to be accommodating for those students who experienced difficulty in meeting the assessment deadlines. Students were appreciative of this as it provided

them with time and encouragement to reflect on experience, which promoted deeper understanding of the material.

The academic staff's learner-centred approach was identified as another factor which positively influenced learning. The students recognised that the teaching staff, experts in their field, also realised that they as learners had experience to offer. These attributes were identified by Oxman (1998) as important in the education of primary care providers in the management of psychiatric disorders. Learning was a partnership, the students and facilitators were equal, and learning was mutual.

13.2.4   Mode of delivery

The course was conducted via distance education, which enabled a wider audience to be reached and overcame barriers faced by doctors in rural and remote areas in accessing quality courses. This self-instructional method, supported by tutors and the academic organisations, also overcame one of the problems facing busy general practitioners, that is, finding the time to leave their practice to attend afternoon or evening lectures on a regular basis. This mode of delivery was deemed suitable for these busy clinicians who chose where and when they would complete course material. The structure offered by this course enabled them to plan their learning and this contributed to sustaining their motivation to learn.

The face-to-face learning experienced at the weekend workshops provided the students with the opportunity to learn, not only from the course authors, but their peers. They participated in case discussions, which enhanced understanding and overcame the isolation which some students experience learning at a distance. The teleconferences were identified by students as useful in overcoming isolation, but not educationally beneficial.

Hutchinson (1999) identified several factors which influence the effectiveness of an educational intervention. These include personal factors, the prior experience and motivation of the student; facilitation skills and enthusiasm of tutors; opportunities to influence individuals or organisations; external factors; and components of the course including interactions with peers. The GPs who were interviewed identified all of these factors as having a positive influence on their learning.

Although this course was multifaceted and addressed the learning needs of the students, did it promote change? This question will be addressed in the next section.

13.3 Evidence of change in GPs

Grol (1992) found that several barriers influence change in doctors including their perception of competence, motivation, attitude, and personal characteristics (knowledge, skills and attitudes) and features of the work environment. To effect change these barriers have to be overcome. This section explores whether the GCGPP changed the intervention GPs' knowledge, attitude and clinical practice pertaining to the common mental disorders, predominantly depression and anxiety, in general practice.

13.3.1 GP knowledge of the common mental disorders, predominantly depression and anxiety, in general practice

The literature indicates that lack of knowledge about mental illness influences GPs' ability to detect and manage patients with these conditions. The intervention GPs cited reasons of professional development, including their recognition of insufficient knowledge about mental disorders in general practice, for enrolling in the course.

The measurement of knowledge by a 'paper-and-pencil test represents the most predominant of educational measurement techniques' (Dixon, 1978 p.45). In this study

knowledge was assessed using a multiple-choice test specifically developed to assess knowledge about detection and management of depression and anxiety disorders in general practice. Multiple completion items were designed to not only draw on knowledge of facts, but assess 'higher-order' evaluative skills. These may include evaluating information and making judgement about the appropriateness of data and using and understanding several principles to develop an appropriate solution. Therefore, this was not a test of recall but a measure of problem solving, similar to solving a work place problem (Masters & McCurry, 1990). This test was used for research purposes only and was not used as a form of summative or formative assessment.

At the beginning of the research project the intervention and control group had similar levels of knowledge about depression and anxiety disorders in general practice. On completion of the course the intervention group's knowledge improved more than the control group and this improvement was maintained six months after they finished the course. This was a positive finding.

Ten of the items designed to test knowledge about the management of specific conditions were consistently poorly answered. The majority of these related to pharmacotherapy and non-drug management of specific disorders, especially the anxiety disorders which needs more emphasis and reinforcement in future versions of the course. As was indicated in Chapter 8, the answers to the knowledge items were based on the content in the printed course material, although not verbatim. Lack of change in these items may have contributed to the limited change in clinical practice and the patient quality of life outcomes in this study. Perhaps the course encouraged too much reflection and critical review and the GPs may not have possessed sufficient knowledge to engage.

Lack of change in the control group indicated that it was unlikely that the pre-test was reactive. A reactive test is one which, when completed by learners, influences their response to the educational intervention (Popham, 1988). However, the results of the

knowledge questionnaire were not fed back to the GPs although the intervention GPs may have identified areas of deficiency when completing the knowledge items and this may have influenced learning. In the future it may be preferable to provide information allowing the opportunity for them to review their personal learning goals.

There are no studies in the literature which measure change in primary care doctors' knowledge that can be directly compared with the findings of the current study. Other studies' examination of knowledge have been specifically linked to the intervention (van Os et al., 1997).

13.3.2 GP attitude towards the common mental disorders, predominantly depression and anxiety

Learning is about changing knowledge, attitude and behaviour; improvement in knowledge alone is not sufficient to change behaviour. This study also sought to determine if the GCGPP changed GP attitudes as this can influence the detection and management of patients with depression and anxiety disorders. The quantitative data showed a trend towards some enhancement of the intervention GPs' perception of comfort and competency in the recognition and management of the common mental disorders by the end of the course but this was not statistically significant. The literature shows that education and feedback may create change but it is not usually sustained over time. However, six months after completing the course the intervention GPs' attitudes about their comfort and competency in recognition and management of these conditions was enhanced and the result was statistically significant. This may indicate that the intervention GPs had consolidated their learning.

The qualitative data show that the GPs, having improved knowledge, had a sense of improved competence. This was identified as particularly important in enabling the GPs to detect and manage patients who present with somatic symptoms. GPs expressed

increased professional satisfaction as a result of reduced frustration with dealing with these 'heart sink' patients. They also claimed they now had a more positive attitude to patients suffering depression and anxiety disorders and felt better equipped to manage them.

From the qualitative study, it seems that GPs perceived enhanced knowledge contributed to their changed attitudes about the recognition and management of patients with common mental disorders. This might at first appear to be a cause effect relationship. However, Knowles (1998) principles of the adult learner reveal that this is not the case. The learners' motivation, including attitude, influences the learning process, which effects what, and how, knowledge will be processed. The GPs undertook the GCGPP, as they perceived they possessed inadequate knowledge, lacked confidence and lacked sufficient skill to effectively manage patients with mental illness. The relationship between change in knowledge and attitude is inter-twined, rather than linear.

The GPs had also changed their view of how patients perceived them as clinicians. They now felt able to empower their patients, support them with management plans, and help them recognise their risk factors. They viewed management of these conditions as an enduring partnership, understanding that these are relapsing and remitting conditions. The GPs were less likely to view a 'relapsed patient' as a failure and therefore were more likely to avoid blaming the patient or themselves. Attitude influenced practice.

GP attitudes about time and remuneration were included in the study questionnaire, as systemic barriers are known to influence GP recognition and management of mental illness. There was no change in either the intervention or the control group on this scale. This result was not surprising as the course targeted GP factors rather than barriers related to the health system. However the qualitative data highlight the extent to which GP management of these conditions is made difficult by the Medicare system.

Physicians need encouragement to detect and manage depression and anxiety disorders. This course has resulted in the intervention GPs having increased confidence which impacted on their relationship with their patients and their belief in their ability to manage these conditions. However, one cannot assume that increased confidence will translate into more effective behaviours.

13.3.3 Evidence of change in clinical practice

This section explores whether the GCGPP resulted in change in clinical practice, including the documentation of risk factors, recognition, treatment and referral.

13.3.3.1 Risk factors

The results of the first audit indicated that the intervention group documented significantly more emotional distress, suicide risk and diagnoses of mental illness, particularly anxiety disorder, for their patient cohort than the control group. This difference continued post-course. The course had a positive impact on the intervention group's documentation of risk factors, particularly suicide risk and family history of psychiatric illness (Table 10.5). This finding demonstrates that reinforcement of important knowledge influences change as key knowledge was reiterated in different subjects. For example the assessment of suicide risk was highlighted in both 'Depression and other mood disorders' and the 'Anxiety' subjects. The increased documentation of suicide risk, by the intervention group, is a positive outcome of this course as suicide is the most dramatic consequence of depression or anxiety disorders and can be prevented.

The literature related to doctor-related barriers influencing recognition of mental illness included inadequate interviewing and diagnostic skills. The GCGPP aimed to address these issues. The qualitative data revealed that the intervention GPs had been reluctant to raise the issue of mental illness or emotional disturbance with their patients. After

completing the course they said they felt more confident in their ability to take a history and ask about risk factors, results that are supported by the quantitative data.

Patient risk factors of mental illness are associated with demographic, socioeconomic, attitude, personality style and health. However patient-reported demographic data were not correlated with doctor recognition of mental illness as sub-analysis of these data would not have been meaningful due to the sample size. The question remains 'Did the improvement in the documentation of risk factors influence recognition?' This question will be explored in the following section.

13.3.3.2 Recognition

GP recognition of mental illness was analysed, comparing the GHQ results of the 'probable cases' whose histories were audited, with the documentation of a diagnosis of mental illness or significant emotional stress recorded in the previous six months. These data were gathered using the audit instrument.

The 'probable cases' who were recognised by the GPs had higher mean GHQ scores, indicating more emotional distress than those who were not recognised.

The intervention GPs recognised the majority of 'probable cases' at the beginning of this study, although the proportion decreased at the end of the study and this decrease was statistically significant. Despite this decline the proportion was higher than other studies of recognition of mental illness in primary care, indicating that these GPs are better at recognising mental illness than the average primary care physician. These GPs may have been keen and motivated to detect patients. The recognition rate in this study was around 63-76 percent (Table 10.7) which is higher than the findings of other studies conducted in primary care (Simon et al., 1999). The results of this study reiterate the

ideas of Marks et al (1979) who found that doctors who have an interest in psychiatry tend to detect mental illness more often.

The decrease in recognition of 'probable cases' by the intervention GPs, at the end of the study, is consistent with the results of the Hampshire Depression project (Thompson, 2000). Thompson (2000) also found that an educational intervention did not increase the sensitivity or specificity of physicians' detection of depression. These GPs may have written the symptoms of these conditions in their medical record rather than a psychological diagnosis. Alternatively, the GPs may have known that mental illness or significant emotional distress existed as these patients may have been diagnosed or treated at an earlier time.

Control group recognition at the beginning of the study was more aligned with the results of other primary care studies, which conclude that doctors may fail to detect up to half the patients who show significant psychological distress (Boardman, 1987; Bridges & Goldberg, 1997; Freeling et al., 1985; Hickie, 1998; Kessler et al., 1999; Marks et al., 1979; Ormel et al., 1990; Simon et al., 1999; Tiemans et al., 1996). Many of these studies are cross-sectional and only look at one consultation, however, the nature of general practice is longitudinal (Tylee, 1999). In this study the audit was used to collect retrospective data over six months as a way of accommodating the nature of general practice.

Audit may not be the appropriate method to measure GP recognition of mental illness and an alternative may have been to audit the same patients pre-and post-course. This is problematic as GPs could have heightened awareness of their patients in the second audit, which may have influenced the results. Secondly, if patients were still distressed after six months of treatment, audit may indicate that they were not treated appropriately, or were not compliant with recommended treatment, issues that were not measured during this study. Audit data is difficult to validate without someone actually re-auditing

the same files or watching the consultation to determine if the records truly represent the consultation. Independent observation of consultations would be the best measure to validate whether the audit data provides a true representation of the consultations. Because the audit used in this study required retrospective data collection over six months, validation of this data using observation was not logistically possible or feasible over such a long time frame.

Overall the data indicate that recognition of mental illness declined although the GPs had the opportunity to recognise these patients, who had been seeing their GP for several years and averaged monthly visits over the previous six months - almost double the Australian average. If this trend continued they would average approximately 12 visits per annum, indicating high use of GP services. The GPs in this study had already demonstrated their interest in this area of medicine therefore one could surmise that the recognition of 'probable cases' by the average Australian GP would be worse.

13.3.3.2 GP management

Another aim of this research was to determine whether the GCGPP influenced change in GPs' management of patients suffering the common mental disorders, predominantly depression and anxiety. Data were collected on pharmacological and non-drug therapy, and referral, using the audit instrument.

There was no difference between the intervention and control group doctors' documentation of psychotropic medication for 'probable cases' at the beginning of the study. One third of these patients had a record of psychotropic medication. This figure is lower than those of Harris et al. (1996) who found that approximately half of the patients in his study were prescribed drug therapy in the previous 12 months. At the end of the study both groups recorded less pharmacotherapy (although not statistically significant), specifically SSRIs. This decline in prescribing possibly relates to the

decreased proportion of patients who had a recorded diagnosis of mental illness in this timeframe compared to the pre-course data collection period. Overall the newer antidepressants, specifically SSRIs, were prescribed more than the other classes of psychotropic drugs. This finding is consistent with the results of the SPHERE project (Hickie et al., 2001a).

Examination of the intervention and control GPs documentation of drug therapy for the 'probable cases' who were not recognised by the intervention GPs were not prescribed medication which may indicate that these GPs had become more confident not to prescribe or they did not recognise a need for it. However there were no significant changes within the intervention group to show that the GCGPP had influenced documentation of psychotropic drug therapy. One possible reason for this is that the GP was used as the unit of analysis, thus the patient data were aggregated for each GP, which resulted in a small sample size and subsequently decreased power to detect a change.

Change in non-drug therapy was also explored. Approximately half of the 'probable cases' in the intervention group, and one third of those in the control group, had a record of non-drug therapy. The lack of application may be related to the fact that these therapies require more time to implement, which results in financial penalty in the current Medicare system.

Change in referral as an aspect of management of the 'probable cases' was also explored. A low proportion of these patients were referred. This is consistent with other studies which found that physicians prefer to treat the majority of their patients with mental disorder in primary care (Fauman, 1983; Harris et al., 1996; Orleans, George, Houpt, & Brodie, 1985) due to patient preference for primary rather than specialist care. These data suggest that most patients with depression and anxiety disorders are treated, without referral, in primary care. The intervention GPs referred more to psychologists, after

completing the course (Tables 10.19 and 10.20), as they had gained an understanding of how these professionals could assist the management of their patients.

The qualitative data identified change in the GPs self-reported management of patients. Perceived change in management was linked to the GPs increased confidence in their ability to detect and manage patients suffering from depression and anxiety in their practices. In particular they felt more confident in their the use of drug therapy and management plans. Enhanced knowledge of drug therapy was also reported as improving confidence, resulting in a belief in renewed ability in communicating this information to the patient. For example, these GPs, now understanding depression and anxiety disorders as chronic relapsing conditions, stated that they reinforced the idea that antidepressants are recommended for a minimum of six months to prevent early relapse as part of their management and patient education. They were also more prepared to talk to patients about the benefits of taking medication and were more confident to change drug regimes if necessary. The GPs also felt that their patients were more confident of their ability to help them, thus the GPs were more willing to provide information to patients to enable them to improve their illness. These self-reported changes, which cannot be validated, reveal insights that were not measured using the audit.

There were some discrepancies between the qualitative and quantitative data related to the audit as a measure of clinical practice. Several possible reasons may account for the discrepancy. The audit instrument may not have been sensitive enough to detect change. The literature review on audit in Chapter 8 revealed that a number of studies have demonstrated the effectiveness of audit as a means of altering practice for preventive activities and prescription of recommended medications. A systematic review of audit with feedback found that audit and feedback can 'sometimes' be effective in improving the practice of health care professionals, particularly prescribing and diagnostic test ordering (Thomson O'Brien et al., 2000). In these studies audit has been primarily used

to assess quality of patient management, often comparing the results to clinical guidelines. This was not possible in this study as there are no official evidence-based standard of care for depression and anxiety in adults aged 18 to 65 years in Australia. Feedback of the audit data to the GPs earlier may have resulted in reflection on practice and change which would have confounded the results of this study, detracting from the impact of the educational intervention. Thus audit results were not fed back to the GPs until the end of the study.

The GPs may have been less motivated to complete the second audit, viewing it as an exercise, rather than an important learning activity. They may have only completed the second audit to meet the mandatory QA requirements for vocational registration.

Discrepancies in results pertaining to change in practice could be related to the idea that self perception and actual performance are quite different. There are cases in the literature where individual perceptions of change are not matched by objective data (McCord, 1978). Alternatively, people are aware of change but the objective measure does not detect it. Another possible explanation is that the GPs who were interviewed deluded themselves, overstating their performance, or they may have commented on potential performance rather than actual behaviour. In addition, a further explanation could be related to the timing of the qualitative and quantitative data collection. The post-course audit was completed at the end of the course and the qualitative data were collected six months later. Over this time the GPs may have consolidated their learning. If the audit data and interviews had been collected simultaneously the quantitative results may have been more aligned with the qualitative.

Patient management should be tailored to the individual patient. To this end this study could have measured change in clinical practice using significant event audit. This form of audit has been shown to be an effective model in linking educational intervention, practice and behaviour change (Pringle, 1998a). Significant event audit could target

specific behaviour change; for example drug therapy, including dosage of psychotropic medication; non-drug therapy including patient education, duration of treatment and referral. Information about patient comorbidity, severity of illness, and whether the person is attending with a new case of depression or anxiety or a recurrence could also be collected. Data about the number of, and reasons for, encounter in the past 12 months could also be monitored to determine if the acute patients are being seen frequently in the acute phase and monthly for ongoing management, as suggested by Khunti (1998).

Despite limited change in patient management the qualitative data identified other behaviour change. Two GPs had, since completing the course, become more involved in teaching general practice psychiatry in their local Division of General Practice. Furthermore all GPs interviewed expressed interest in pursuing education in this area by undertaking skills based training or formal academic qualifications, indicating they were 'life long learners'. It is obvious that quantitative data alone are insufficient to describe change in clinical practice. Future studies should include both quantitative data, for hypothesis testing, and qualitative data to explore and illuminate the subtleties and intricacies of changing behaviour.

The GCGPP did influence some aspects of the intervention GPs' patient management and in some instances their professional and personal activities. The next section explores whether the GCGPP influenced patient quality of life.

13.4   Patient outcomes

Change in health-related-quality of life for the 'probable cases' was explored. These patients were asked to complete a second SF-36 10 to 12 weeks after the initial data were collected. The response rate for the second SF-36 pre-and post-course was low. It is likely that the 'probable cases' who were more seriously ill may not have been well enough to complete the forms. Alternatively those who were feeling better may not

have bothered because they were well. Information about those who did not return these forms was not analysed separately.

In keeping with the findings of other studies conducted in primary care this study found that the recognised patients were more severely distressed and disabled than those who were not (Coyne et al., 1995; Mathias, 1994; Ormel et al., 1990; Simon et al., 1999; Tiemans et al., 1996). Perhaps this is because patients with mild disorders would not think of themselves as needing treatment (Andrews, 1995). The findings of this study are also consistent with Goldberg ('998) who found that unrecognised patients generally had better outcomes. This may be related to the fact that they were less impaired than those who were recognised. GP's may be \ ping the more severely ill, reducing the burden of illness on the patients and the community.

Other aspects of the study design may also have influenced the results. Feedback about patient GHQ scores was not given to the GPs. The evidence in the literature does not show that feedback, to primary care phyisicans, of the results related to screening of emotional distress results will improve detection and patient outcomes. Dowrick et al. (1996) found that feedback does not result in improved recognition of mental illness, such as depression. Hoeper, Nycz, Kessler, Burke and Peirce (1984) suggest that GPs lack certainty about patient management. Therefore it is uncertain that feedback would have benefited the patients, as Eisenberg (1992) and Mathias et al. (1994) found that feedback did not result in improved patient outcomes.

The use of the specific scales on the SF-36 as a measurement of quality of life may also have influenced the findings. Ware et al. (1993) identified the SF-36 'mental health', 'role emotional' and 'social functioning' scales as depicting the best measure of the mental component. These three scales combined with 'vitality' and 'general health' were used to measure change in mental health-related quality of life for the 'probable cases'. The 'social functioning', 'vitality' and 'general health' scales measure both

physical and mental health components. Thus the lack of statistically significant improvement on these scales may be attributed to the physical component.

One of the problems associated with measuring outcomes for depression or anxiety disorders is that these are relapsing and remitting diseases. In addition, depression and anxiety disorders are often comorbid with physical conditions so it is difficult to determine which disease is affecting the person's functioning. The SF-36 scores for 'probable cases' in the intervention and control group changed over the data collection period indicating improved quality of life although no relationship with improvement can be linked to the course as there was no group difference in change.

The dotted line in Figure 13.1 shows that change in doctors' knowledge, attitudes and clinical practice which influence the consultation may not result in a change in patient outcomes. Patient outcomes are complex even apart from their management, influenced by many factors including a variety of social factors, the role of the physician, efficacy of available treatment and access to mental health services (Coyne et al., 1995). These and other confounders, not related to the educational program were not explored by this study and may have influenced the results. It is not possible to isolate the effects of CME from these confounding factors.

13.5   GP insight

The qualitative data showed that GP awareness of the personal and professional burden of managing these patients influenced their clinical decision making. Financial considerations were at the forefront for some. The GPs were more aware of their personal and professional limitations, and in many cases this resulted in them establishing boundaries for their practice. Perhaps enhanced confidence, coupled with the professional burden associated with treating the chronically mentally ill in general practice, empowered them to establish these boundaries.

In some cases this increased insight resulted in altered referral patterns. For example some GPs indicated they refer patients to mental health professionals when their psychotherapy or counselling was no longer helping the patient. Others chose to refer selected patients, whom they identified as 'difficult to mange', to mental health services, whilst offering to spend more time with other patients they felt they could actively engage in treatment. The GPs claimed they changed their practice to protect their professional satisfaction. The qualitative data revealed that the GPs were consciously reflecting on the course eight months after completion. They had continued to reassess their knowledge, attitudes and practices, including their relationships with their patients. This resulted in them modifying their clinical management and undertaking further professional education of skills development. Therefore, Figure 13.1 represents a learning cycle illustrating that these GPs were 'life long learners'.

13.6   Other bias

A quasi-experimental, controlled before and after design was used to test hypotheses and to minimise judgement bias that could have had a greater impact if only qualitative methods were employed. Randomised experiments are thought the best scientific method for causal purposes. In this study a RCT was not feasible, as students enrolled in the course and could not be randomised into the intervention or control group. Furthermore RCTs require large sample sizes to detect statistically significant differences between the groups. Both of these factors prohibit the use of the RCT as an appropriate methodology to research in a naturalistic environment. Accordingly a quasi-experimental design was used.

Other education and training undertaken by the GPs may have influenced the results of this stuc, For example, the control GPs may have been susceptible to cross-contamination from participation in other CME programs (especially psychiatry

programs, because they had already expressed interest in this field) aimed to enhance GP knowledge and practice of general practice psychiatry.

Students' motivation for participation in the GCGPP influenced what and how they learn. This study has shown that the course had a direct impact on change in doctors' knowledge and attitudes which are interelated. However the study findings indicate that the course had little impact on changing GPs on the recording of practice. Possible explanations for this may include the idea that doctors' attitudes combined with external forces, also determine clinical practice (Thomson O'Brien et al., 2000). These GPs may have opposed implementing some new practices as they felt the viability of their business in the current health care system, was threatened. Whilst the course material addressed many of the barriers influencing the recognition and management of patients with common mental disorders presenting at general practices, this perceived threat cannot be addressed by a single CME activity.

Another possible explanation is that CME does not have a direct influence on clinical practice which involves change in a combination of knowledge, attitude and skills. Change in one of these variables does not automatically result in changed clinical practice. Furthermore, behaviour change may take more time to affect as the GPs may experiment with the application of new knowledge and skills, disregarding some practices and adopting others. Thus clinical practice may have changed although not within the time frames of this study.

Given the limited change in clinical practice, it is not surprising that there was no evidence in this study of a significant affect on patient outcomes. Furthermore, patient outcomes are not directly related to a CME program, rather they are subject to many confounding variables that cannot be addressed only by CME. These may include biological, personality and socioeconomic variables.

13.7   Conclusion

Conducting educational research in a naturalistic environment is difficult and the results cannot be generalised beyond the intervention under study. This research provides further evidence that multifaceted CME programs can change doctor's knowledge and attitude and that change in these areas can be sustained for six months after completion of a CME program. However, change in GP clinical practice was not directly associated with the GCGPP. Behaviour is more difficult to affect given the complexity and relationship of knowledge, attitudes and barriers which influence this change. Patient quality of life improved, although it is not possible to isolate the effects of CME from the multitude of confounding variables that could influence these outcomes.

Very few studies included in systematic reviews include CME conducted via distance education. In keeping with the literature on effective CME this course was multifaceted. It comprised nine facets and was under-pinned by adult learning theory. Chapter 14 will explore the lessons learned and the potential applications of this study for educationalists and policy makers and further research.

A summary of this study is found in Table 13.1 (see page 314). The details are derived from a set of criteria developed from (Fowkes & Fulton, 1991; Haynes et al., 1984; Oxman, 1994).

Table 13.1

Study summary

Criteria	Brief description
Aim of the study.	The primary aim of this study was to determine the impact of the GCGPP on GPs' knowledge, attitude and practice pertaining to common mental disorders (predominantly depression and anxiety) in general practice, and to see if change influenced patient quality of life.
	The secondary aim was to explore which aspects of the course influenced change in GPs.
Study design.	This research used a quasi-experimental, controlled before and after design and was conducted in a naturalist environment.
	A qualitative phase was included to explore the secondary aim of the study.
Study sample.	The GPs in this study were not representative of the Australian general practitioner workforce therefore the results are not generalisable to this population but are relevant for GPs undertaking postgraduate education in the area of general practice psychiatry.
	Patients in the intervention and control group were comparable. SF-36 data for these patients was comparable with Australian norms.
Source of sample.	GPs in Australia who were interested in a course in general practice psychiatry.
Sampling method.	All GPs who expressed interest in the 1999 GCGPP were invited (control GPs), including those who enrolled (intervention GPs). Thirty-one students and 28 control GPs accepted. Intervention GPs were matched to the 14 control GPs who completed all data collection requirements. Thus only 50% of controls, who initially consented to participate, completed the study.
	Data from patients at the beginning and end of the study was collected from consecutive adults aged 18 – 65 years who visited their GP over a one-week period.
	This study was not blinded.
Sample size.	14 matched pairs may not have been sufficient to detect change in GP knowledge or attitudes. Post-hoc sample size calculations showed that a sample of 31 GPs per group was required to detect a post-course change in total knowledge with 80% power ($p = 0.05$). Further calculations revealed a sample of 51 GPs in each group was required to detect a post-course change in attitude pertaining to confidence and competence, with 80% power.
	Patient sample size was calculated from previous studies.
Entry criteria.	Intervention group GPs were participating in the GCGPP and consented to participate in this research project. The control GPs were invited to participate if they had expressed interest in the course but did not enroll.
Withdrawal rate.	14 out of 35 GPs participating in the course were matched to the control GPs (14 matched pairs).
	There was a low patient refusal rate for initial data collection (approximately 10%) however there was a poor response rate for the follow-up SF-36 data for 'probable cases'.

Criteria	Brief description
Control group.	The GPs in the intervention group were representative of the student cohort undertaking the course in 1999. The intervention and control group GPs were well-matched on demographic variables, interest and training in psychiatry or psychology. The control and intervention group patients were also comparable.
Intervention.	A multifaceted distance education program designed for GPs.
Measurement	Change in GP knowledge, attitude and behaviour was assessed pre-and post-course. Change in the intervention GPs' knowledge and attitude was also measured six months after they completed the course. There was evidence that the attitude scales were psychometrically sound. Knowledge items had content validity. There is no evidence of validity or reliability of the audit instrument and this may not have been the best instrument to measure change in clinical practice. Patient emotional distress was measured using the GHQ. Patient health-related quality of life was assessed using the SF-36.
Distorting influences.	The study may have lacked sufficient power to detect change in GP attitude and practice. Aggregation of patient data for analysis at the GP level may have contributed to this.
Contamination.	One of the problems of conducting education research is contamination or learning from other sources. Pre-testing of knowledge, attitude and practice showed that the intervention and control GPs were similar. Lack of change in the GP variables was not due to the ceiling effect. Change resulting from doctor's participation in a CME activity was not linked to change in patient health-related quality of life. This study was completed in a naturalististic environment therefore efforts to avoid contamination were not minimised.
Over-diagnosing after intervention.	This was not evident. The GPs, in both groups, recognised more patients with psychological distress at the beginning of the study, even though patient self-reported distress did not change in severity.
Conclusion	Conducting educational research in a naturalistic environment is complex and the results are only generalisable to the intervention under study. This study provides further evidence that multifaceted CME programs can change doctor's knowledge and attitude and that change in knowledge and attitude can be sustained six months after completion of a CME program. Change resulting from doctor's participation in a CME activity is not linked to patient quality of life . This course comprised nine facets under-pinned by adult learning theory. Thus postgraduate CME providers may utilise the findings of this study when considering course design and delivery or research into their CME program.

Chapter 14

Lessons learned and potential applications

There are many providers of CME for GPs, resulting in an increasingly competitive environment. The development and delivery of education is resource-intensive and there is an expectation that learning will occur. Increasingly CME may be expected to result in improved patient outcomes. However the latter may not, as the results of this study have shown that a CME program based on sound adult learning principles and well regaded by participants, may not not result in measurable change of patient health-related quality of life in the short term. These findings have implications for educators involved in the development, delivery and evaluation of CME programs and policy-makers.

14.1   Implications for the educationalist

The development and delivery of education is expensive and there is extensive literature to show that this money does not always result in change in knowledge, attitude or behaviour. If this is the case, by definition, learning has not occurred.

This study has shown that the GCGPP was a trigger that resulted in changed GP attitude about the common mental disorders, predominantly depression and anxiety, in general practice. It resulted in increased GP confidence and influenced their willingness to manage patients with these conditions and the management regimes used. These changes and awareness increased over time. However, this study did not see all the anticipated changes in students but has commenced a process for continuous learning, which over time may result in more change and benefit patients.

Aspects of the course that were attributed to these changes included the importance of responding to student need, rather than developing a product to meet the perceived need of the educator. An understanding of the barriers facing the GPs in dealing with mental illness also contributed to defining the relevant content of this program. However, a needs analysis should extend beyond the determination of course content and seek answers to the preferred instructional methods and proposed delivery systems for the target audience.

Multifaceted educational interventions have been identified as effective strategies for promoting change for some time (Oxman et al., 1995). Courses that use interactive techniques such as role-play and case discussions have been shown to be effective in changing outcomes (Davis et al., 1999). Sessions that are sequenced appear to reinforce learning (Davis et al., 1999) and this is further enhanced if the learning takes place in the environment where outcomes are to be applied. These concepts relate to adult learning principles which are increasingly reported as under-pinning interactive learning (Davis et al., 1999). All these components, in addition to adult teaching, engagement, reflective practice, interaction and the use of assessment activities based on the educational philosophies of phenomenology and constructivism, and frequent communication were identified by the GPs as influential in promoting learning.

It is unclear, from the evidence in the literature, how many facets, and which combinations of these influence change. This distance education course combined printed materials, audit, audio and videotapes, role-play, case discussions, reflective journal, teleconferences and two weekend residentials. This combination was identified as an effective model for CME design and delivery targeting GPs, although the impact of audit on learning is unclear.

Table 14.1 contains the key points for consideration when developing postgraduate distance education CME programs for adult learners.

Table 14.1

Key points for consideration for curriculum development for postgraduate distance education for adult learners

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Needs analysis
Relevant course content for the learner
Multifaceted modes of learning based on best evidence
Interactive techniques
Adult learning and teaching principles
Self reflection
Extensive, relevant and timely marker feedback
Social interaction and personal contact
Assessment based on phenomenology and constructivism
Frequent communication
Reinforcement and repetition of important facts
Flexible delivery

The definition of CME used in Chapter 4 included change in knowledge, attitudes and habits (Crowe & Crowe, 1963). Therefore curricula should address these facets as knowledge alone does not result in changed behaviour. This study also found that limited changes in clinical performance does not automatically translate into change in patient outcomes as the effectiveness of CME is also influenced by external factors (Davis et al., 1999) and it is not possible to isolate the effects of CME from these confounding factors. This is explored further in the next section.

14.2   Implications for the policy-maker

In Australia, the Federal and Victorian governments have established 'beyondblue: the national depression initiative' to increase public awareness and concern about depression and anxiety disorders in the community. This initiative has a specific brief 'to highlight the roles for GPs' (Hickie, Davenport, Naismith, & Scott, 2001c p.S4) who are increasingly expected to undertake more responsibility for the public health of Australia, resulting in competing medical demands. Mental health is one area in which this increased pressure on GPs has been felt. This thesis reinforces the idea that GPs have

an ongoing role to play in reducing the burden of these conditions on the individual and society. Therefore continued efforts need to be directed to CME for GPs. Rutz (1992) found that changes dissipate over time and concluded that a one-off educational intervention is not the answer. Education needs to be reinforced and efforts should be made to encourage more GPs to participate in these programs. Programs need to target the interest of the GP. It is evident from the enrolment numbers for the 1999 GCGPP (n=35) that few GPs in Australia are prepared to undertake a 42 week CME activity. Recent articles by Ellis, Smith and Bushnell (2001) and Davenport, Hickie, Naismith, Hadzi-Pavovic and Scott (2001) support this idea.

Several needs analyses have been undertaken, for example, *Primary Care - The Last Frontier* document, and identify that CME is one initiative to enhance the quality of mental health care in general practice. This study found that the GCGPP led to change in doctors' knowledge, attitude and some behaviours related to the common mental disorders, predominantly depression and anxiety, in general practice. It is not surprising that some aspects of clinical practice did not alter. For example, recognition of mental illness involves assessment of all the complex risk factors including genetic predisposition, comorbid physical illness and socioeconomic variables that were not addressed by this research. GPs alone should not be solely responsible for the recognition of patients' mental illness. Patients have responsibility for their personal health and do not always disclose all facets of their general health. Should all emotional stresses we encounter daily be diagnosed as depression or anxiety? Is a diagnosis or a label really necessary or are the GPs treating symptoms and not labelling the patient, perhaps to overcome the stigma associated with mental illness? It is unfair to criticise the GPs for under-detection when they alone are not to blame.

The results of this study found that patient health-related quality of life improved although it was not possible to isolate the effects of CME from the multitude of confounding variables that influence these outcomes. This study focused on the GCGPP as one solution

to the problem but it is evident that a CME program alone cannot address the complexity of issues involved in the recognition and treatment and patient outcomes related to depression and anxiety disorders in general practice. This equally applies to other conditions that impose a high burden on the community.

14.3   Further research

Another question, not addressed by this study, is: Is change in GP knowledge, attitude and practice and patient health-related quality of life outcomes sustained or revoked or does it grow over time?

Other areas for further research include student learning style, which may influence changes in knowledge and behaviour. Doctor's emotional wellbeing may also influence recognition and management of patients with mental illness. This study did not monitor this but future studies could explore doctor's emotional wellbeing as a predictor of recognition. Future research could focus not only on knowledge, behaviour and attitude, but also the application of specific skills in the consultation (Wilkes & Bligh, 1999). This could be done using observers or alternatively video or audio recording of consultations. The data would then need to be assessed by specialists with feedback to participants. Another area of research could include economic outcomes. For example, does the GCGPP result in savings on the public purse in the areas of prescribing and pathology costs?

Path analysis (Asher, 1983) could be used to explore the relationship of doctor's knowledge, attitude and practice on patient wellbeing. This analysis is often used in social anthropology to 'estimate the magnitude of the linkages between variables and using these estimates to provide information about the underlying causal processes' (Asher, 1983 p.30). A cohort of 'probable cases' in general practice could be surveyed at the beginning of the research project and then 12 to 24 months later. The patients

would be requested to complete a measure of wellbeing, such as the SF-36, at the beginning of the study, and a different measure, such as the 17-item Duke Health Profile (Parkerson, Broadhead, & Tse, 1990) at the end of the study.

GP data could also be gathered including GP attitude and knowledge using the items developed for this research. Data pertaining to GP practice could include the documentation of a diagnosis of mental illness in the patient's medical record, documentation of psychotropic medication, non-drug therapy and referral.

Several areas of potential research have been identified. Lack of appropriate funding for educational research limits the capacity to undertake substantial and meaningful investigations and remains a challenge for educational researchers.

14.4   Final comment

CME and the medical profession alone cannot resolve the burden of mental illness on the individual nor the community. Educational programs may lead to change in knowledge, attitudes and some clinical practices. However, these may not be sufficient to change patient outcomes as the conditions they suffer are influenced by biological and environmental factors that cannot be remedied by a CME program in isolation.

Solutions are most likely to be found through a multifaceted approach that address patient help seeking behaviour, as well as health professional education and training. Health care reform, community attitudes and values, and socioeconomic factors could also be included. Only with evaluation of these complex interventions, using study designs appropriate for the naturalististic environment, including quasi-experimental methods, undertaken over sufficient time periods could research be expected to determine the impact of interventions on the burden of disease on both the individual and the community.

In order to equip GPs, patients and the wider community to understand, recognise and manage the common mental disorders there needs to be an accumulation of data and recommendations from appropriately designed studies to support a public health approach.

Appendices

Appendix 1

Ethical approval: Monash University Standing Committee on Ethics in Research

on Humans

M O N A S H   U N I V E R S I T Y

25 August 1998

A/Professor Glenn Rowley
Education

Ms Louise McColl
Department of Community Clayton Clayton
Medicine and Practice
867 Centre Road
East Bentleigh   Vic 3165

Re: Project 98/323 – Evaluation of the Graduate Ceertificate in General Practice Psychiatry

The Standing Committee on Ethics in Research on Humans at its meeting on Tuesday 25 August 1998 considered the above project. The Committee agreed to approve the project as conforming to NH&MRC Guidelines with the following provisos:

> Include more detail in the Explanatory Statement that the focus is on Doctors' diagnosis and management of anxiety. Supply a copy of the revised form for our records. Confirm that the research has not commenced prior to approval.

This approval is of the project as submitted and if any changes are subsequently made, the Committee should be advised. Please quote the project number above in any further correspondence and include it in the complaints clause:

> *Should you have any complaint concerning the manner in which this research (project number...) is conducted, please do not hesitate to contact The Standing Committee on Ethics in Research on Humans at the following address:*
> > *The Secretary*
> > *The Standing Committee on Ethics in Research on Humans*
> > *Monash University*
> > *Wellington Road*
> > *Clayton   Victoria   3168*
> > *Telephone (03) 9905 2052   Fax (03) 9905 1420*

Institutional Ethics Committees are required by the NH&MRC to monitor research projects until completion to ensure that they continue to conform with approved ethics standards. The Committee undertakes this role by means of annual progress reports and termination reports. Please ensure that the Committee is provided with a brief summary of the outcomes of your project when the project has concluded.

The Chief Investigators of approved projects are responsible for the storage and retention of original data pertaining to a project, for a minimum period of five years. You are requested to comply with this requirement.

▮▮▮▮▮▮▮▮▮▮
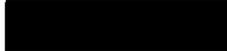
for
Ann Michael
Human Ethics Officer
Standing Committee on Ethics
In Research on Humans

Appendix 2

Explanatory Statement and Consent Form for Intervention and Control GPs

MONASH UNIVERSITY

AUSTRALIA

December 1998

Project Title: Evaluation of the Graduate Certificate in General Practice Psychiatry

My name is Louise McCall and I am studying for my Doctor of Philosophy at Monash University. A research project is an important component of the course and I am undertaking mine under the supervision of Associate Professor Glenn Rowley, an Associate Professor in the Faculty of Education, and David Clarke, an associate professor in the Department of Psychological Medicine at Monash University.

The aim of this project is to evaluate the above mentioned distance education course. I believe that the findings of this research project will be essential to improve the course in subsequent years and to determine whether the course has any impact on student's diagnosis and management of these disorders and changes the outcomes of patients who suffer anxiety disorders and/or depression.

I am seeking course participants who are prepared to release their course feedback sheets, anxiety/depression questionnaire and audit summary results and participation in teleconferences, for use in this research project. All these activites are scheduled as part of the course curriculum.

No findings will be published which could identify any individual participant. Anonymity is assured by our procedure, in which you are not asked to provide your name on course feedback sheets and the course administrator will copy your data with no identifying information on it for the researcher i.e. all student numbers will be erased. Access to data is restricted to my supervisors and to me. Coded data are stored for five years, as prescribed by University regulations.

Participation in this research is entirely voluntary, and if you agree to participate, you may withdraw your consent at any time by notifying the researcher by telephone so as to exclude your data from this project.

If you wish to participate in this study please return the completed consent form to me by January 12th 1999 in the reply paid envelope.

If you have any queries or would like to be informed of the aggregate research finding, please contact telephone 9579 3188 (Louise McCall at the Department of Community Medicine and General Practice) or fax 95701382.

Thank you.

> Should you have any complaint concerning the manner in which this research (project number) is conducted, please do not hesitate to contact The Standing Committee on Ethics in Research on Humans at the following address:
>
> The Secretary
> The Standing Committee on Ethics in Research on Humans
> Monash University
> Wellington Road
> Clayton Victoria 3168
> Telephone (03) 9905 2052   Fax (03) 9905 1420

_____ _____ (your signature)

Louise McCall Ph (03) 9579 3188

Informed Consent Form

Project Title: Evaluation of the Graduate Certificate in General Practice Psychiatry.

I agree to take part in the above Monash University research project. I have had the project explained to me, and I have read and understood the Explanatory Statement, which I retain for my records.

I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party.

I also understand that my participation is voluntary, that I can choose not to participate, and that I can withdraw my participation at any stage of the project.

Name: .... (please print)

Signature: .... Date: ....

M O N A S H   U N I V E R S I T Y

AUSTRALIA

December 1998

Project Title: Evaluation of the Graduate Certificate in General Practice Psychiatry

My name is Louise McCall and I am studying for my Doctor of Philosophy at Monash University. A research project is an important component of the course and I am undertaking mine under the supervision of Associate Professor Glenn Rowley, Faculty of Education, and Associate Professor David Clarke, in the Department of Psychological Medicine at Monash University.

The aim of this project is to evaluate the above mentioned distance education course. I believe that the findings of this research project will be essential to determine whether the course changes the outcomes of patients who suffer anxiety disorders and/or depression.

I am seeking GPs who expressed interest in the course, but did not enrol, to act as a control group to determine if the course has any impact on student's diagnosis and management of anxiety disorders and/or depression.

If you participate I would like you to complete a questionnaire (approximately 20 minutes) and medical audit of 30 files in March and December 1999. To determine which files you should audit I would like 100 consecutive adult patients to be given a copy of two questionnaires for completion in your waiting room over 1 week in early February 1999 and in September. These questionnaires have been widely used in general practice: the General Health Questionnaire is a screening instrument for mental health and the SF-36 assesses quality of life. These are to be returned to our department where they will be analysed. A list of questionnaire numbers of patients whose histories I would like you to audit will be sent to you prior to the audit periods.

All GPs who take part in this evaluation study will receive 25 practice assessment points for participation, this being the full quota for the triennium. At the completion of this evaluation you will also be provided with materials for a 3-week depression distance education course.

No findings will be published which could identify any individual participant. Anonymity is assured, as access to data is restricted to my supervisors and to me. Coded data are stored for five years, as prescribed by University regulations.

Participation in this research is entirely voluntary, and if you agree to participate, you have the right to withdraw your consent at any time by notifying the researcher by telephone so as to exclude your data from this project.

If you have any queries or would like to be informed of the aggregate research finding, please contact telephone 9579 3188 (Louise McCall at the Department of Community Medicine and General Practice) or fax 95701382.

Thank you.

Should you have any complaint concerning the manner in which this research (project number) is conducted, please do not hesitate to contact The Standing Committee on Ethics in Research on Humans at the following address:

      The Secretary
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      Monash University
      Wellington Road
      Clayton Victoria 3168
      Telephone (03) 9905 2052   Fax (03) 9905 1420

_____ (your signature)

Louise McCall
ph 9579 3188

Informed Consent Form

Project Title: Evaluation of the Graduate Certificate in General Practice Psychiatry.

I agree to take part in the above Monash University research project. I have had the project explained to me, and I have read and understood the Explanatory Statement, which I retain for my records.

I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party.

I also understand that my participation is voluntary, that I can choose not to participate, and that I can withdraw my participation at any stage of the project.

Name: .... (please print)

Signature: .... Date: ....

Appendix 3

Study qustionnaire: GP knowledge, attitude and demographic items

General Practice Psychiatry

Study Questionnaire

We are interested in the detection and management of anxiety disorders and depression in general practice. We would appreciate you taking the time (approx 20 minutes) to complete this questionnaire which is part of the course evaluation which will help our understanding of attitudes about depression and anxiety disorders in general practice.

Circle the response that **BEST** describes your agreement with each of the following statements.

		Strongly agree					Strongly disagree	
1.	It is not economically viable for me to treat depression or anxiety disorders.	1	2	3	4	5	6	7
2.	Medicare rebate rates are a disincentive for me to treat patients with mental disorders.	1	2	3	4	5	6	7
3.	I am too pressed for time to routinely investigate mental illness issues.	1	2	3	4	5	6	7
4.	I find emotional problems are too time consuming to deal with in general practice.	1	2	3	4	5	6	7
5.	I feel I cannot make a difference to patients with mental disorders.	1	2	3	4	5	6	7
6.	Patients will leave my practice if I keep asking them about their emotional health.	1	2	3	4	5	6	7
7.	I feel competent in counseling patients with anxiety	1	2	3	4	5	6	7
8.	Current payment arrangements encourage me to focus only on problems presented by the patient rather than exploring underlying issues.	1	2	3	4	5	6	7
9.	I am more comfortable treating physical disease than emotional disorders.	1	2	3	4	5	6	7
10.	I feel competent in the use of antidepressant medication.	1	2	3	4	5	6	7

1

		Strongly agree						Strongly disagree
11.	Patients with anxiety disorders should be referred to a psychiatrist or psychologist.	1	2	3	4	5	6	7
12.	I feel competent in teaching relaxation techniques.	1	2	3	4	5	6	7
13.	I feel competent in treating anxiety disorders with anxiolytic medication.	1	2	3	4	5	6	7
14.	I feel frustrated treating patients with emotional disorders.	1	2	3	4	5	6	7
15.	I feel uncomfortable questioning my patients about emotional disorders.	1	2	3	4	5	6	7
16.	GPs should have the primary management role in the treatment of patients with anxiety disorders.	1	2	3	4	5	6	7
17.	I feel competent in counselling patients with depression.	1	2	3	4	5	6	7

Each question below contains four suggested answers of which one or more is correct. Please choose the answer:

A *if 1,2,3 are correct*
B *if 1 and 3 are correct*
C *if 2 and 4 are correct*
D *if only 4 is correct*
E *if 1,2,3 and 4 are correct*

18.   Women, more than men, suffer:

1. Panic disorder
2   Specific phobia
3   Agoraphobia
4. Obsessive compulsive disorder

Answer _____

Each question below contains four suggested answers of which one or more is correct.
Please choose the answer:

A   *if 1,2,3 are correct*
B   *if 1 and 3 are correct*
·C   *if 2 and 4 are correct*
D   *if only 4 is correct*
E   if 1,2,3 and 4 are correct

19. The following are useful in assessing the degree of severity of depression:

1. Level of depressed mood
2. Constancy of depression
3. Impairment of functioning
4. Presence of anxiety

Answer _____

20. With respect to detection of depression the following are true:

1. Depression occurs with equal frequency in men and women
2. In general practice, as many as a quarter of patients have a psychiatric disorder, most commonly depression
3. Routine screening for depression is of little value
4. Depression occurs in all age groups including children and adolescents

Answer _____

21. The following are recognised as 'risk factors' for the development of depression:

· 1. No previous history of depression
2. Being unemployed
3. Being male
4 Having a chronic physical illness

Answer _____

22. With respect to the time course of depression the following are true:

1. 1/4 of people who develop an episode of major depression have depressive symptoms of varying duration as a prelude to their illness
2. All patients who receive effective treatment recover from an episode of major depression
3. Up to 2/3 of patients who recover from an episode of major depression will have a subsequent episode
4. Antidepressants are of little value in preventing further episodes of depression

Answer _____

3

Each question below contains four suggested answers of which one or more is correct.
Please choose the answer:

A   *if 1,2,3 are correct*
B   *if 1 and 3 are correct*
C   *if 2 and 4 are correct*
D   *if only 4 is correct*
E   if 1,2,3 and 4 are correct

23. The following may occur as a result of depression:

1. Absenteeism from work
2. Recurring physical complaints
3. Increased hospital length of stay for medical and surgical problems
4. Increased accident rates

Answer_____

24. Medical disorders which may present with a depressive syndrome include:

1. Pancreatic cancer
2. Hypertension
3. Hypothyroidism
4. Gastric ulcer

Answer_____

25. Factors associated with increased risk of suicide include:

1   Chronic and/or painful physical conditions
2   Alcohol abuse
3   Depression, especially if associated with feelings of hopelessness
4   Being female

Answer_____

26. The following may be indicative of depression in the elderly:

1. Anxiety
2. Behavioural disturbance
3. Disturbance of memory 'dementia like' picture
4. Suicidal behaviour

Answer_____

4

Each question below contains four suggested answers of which one *or* more *is correct.*
Please choose the answer:

A *if 1,2,3 are correct*
B *if 1 and 3 are correct*
C *if 2 and 4 are correct*
D *if only 4 is correct*
E if 1,2,3 and 4 are correct

27. With respect to post natal depression the following are true:

1. Post natal depression can be associated with birth complications
2. Post natal depression is common, affecting 10-15% of mothers
3. Excessive anxiety about the baby's health is a common presenting feature
4. Post natal depression resolves spontaneously

Answer _____

28. What is important with respect to the management of a depressed person:

1. Patient and family education about depression
2. Assessment of suicide risk
3. Severity of episode
4. Concomitant medication

Answer _____

29. With respect to the management of anxiety disorders

1. Assessment of suicide risk is important
2. Most anxiety disorders do not require medication
3. Most require long-term management perspective
4. Relaxation is of little use

Answer _____

30. The following is an indicator of a possible anxiety disorder or depression in a patient:

1. Suicidal behaviour
2. Substance abuse
3. Lack of interest in life
4. Recurrent visits with no clear physical problem

Answer _____

5

Each question below contains four suggested answers of which one or more is correct.
Please choose the answer:

A   if 1,2,3 are correct
B   if 1 and 3 are correct
C   if 2 and 4 are correct
D   if only 4 is correct
E   if 1,2,3 and 4 are correct

31. Panic disorder

1.   Commonly begins after 40 years
2.   Is more common in women
3.   Is usually associated with physical illness
4.   Often associated with depression

Answer ____

32. Anxiety disorders are usually

1.   Episodic
2.   Recurrent
3.   Chronic
4.   Acute/one off episode only

Answer ____

33. The following are recognised as 'risk factors' for the development of anxiety disorders

1.   Family history of anxiety disorder
2.   Recent experience of a major stress
3.   Being female
4.   Having a chronic physical illness

Answer ____

34. Medical conditions which may mimic an anxiety disorder include:

1.   Hypertension
2.   Temporal lobe epilepsy
3.   Gastric ulcer
4.   Hyperthyroidism

Answer ____

6

Each question below contains four suggested answers of which one or more is correct.
Please choose the answer:

A   if 1,2,3 are correct
B   if 1 and 3 are correct
C   if 2 and 4 are correct
D   if only 4 is correct
E   if 1,2,3 and 4 are correct

35. Factors which would _not_ influence your choice of management for the depressed patient include:

1. Hypomania
2. Previous treatment response
3. Suicidal ideation
4. Level of education

Answer _____

36. Appropriate pharmacological treatments for obsessive compulsive disorder include:

1. SSRIs e.g. Prozac, Zactin, Aropax, Zoloft
2. benzodiazepines e.g. Ralozam, Xanax, Rivotril, Valium, Serepax
3. tricyclic antidepressants e.g. Imipramine, Amitriptyline, Clomipramine
4. MAIOs e.g.Nardil, Aurorix

Answer _____

37. Appropriate pharmacological treatment for panic disorder include:

1. SSRIs e.g. Prozac, Zactin, Aropax, Zoloft
2. benzodiazepines e.g. Ralozam, Xanax, Rivotril, Valium, Serepax
3. tricyclic antidepressants e.g. Imipramine, Amitriptyline, Clomipramine
4. MAIOs e.g.Nardil, Aurorix

Answer _____

38. Concomitant medications which may influence your choice of a particular SSRI antidepressant medication in the elderly are:

1. Ventolin
2. Warfarin
3. Recent use of pethidine
4. Carbamazepine

Answer _____

7

Each question below contains four suggested answers of which one or more is correct.
Please choose the answer:

A   *if 1,2,3 are correct*
B   *if 1 and 3 are correct*
C   *if 2 and 4 are correct*
D   *if only 4 is correct*
E   if 1,2,3 and 4 are correct

39. Side effects of tricyclic antidepressants include:

1. Dry mouth
2. Urinary hesitancy
3. Ejaculatory dysfunction
4. Solar sensitivity

Answer _____

40. SSRIs may cause the following:

1. Gastrointestinal disturbance
2. Cardiac conduction disturbance
3. Insomnia
4. Blurred vision

Answer _____

41. From the following list

a   Interpersonal psychotherapy
b   Cognitive therapy
c   Relaxation
d   Behavioural therapy eg. graduated exposure

please nominate **one or more** appropriate non drug therapy/ies for

Obsessive compulsive disorder   _____
Panic disorder   _____
Specific phobia   _____
Agoraphobia   _____
Depression   _____
Post traumatic stress disorder _____

8

Now we would like to know more about you.

42. Gender   Male ☐
                    Female ☐

43. How old were you last birthday? _____

44. What year did you graduate from medical school? 19_____

45. How many years have you been in general practice? _____

46. How many doctors work in your practice?   1   ☐
                                         2-4   ☐
                                         5-7   ☐

47. I work _____ sessions, on average per week.

48. On average I see _____ patients per session.

49. Do you have post graduate qualifications?   FRACGP   ☐
                                             Dip Obs   ☐
                                             Others (please specify)_____

50. Do you have a special interest in psychological problems?   Yes   ☐
                                                                   No   ☐

51. Have you attended a course in psychiatry in the last 2 years?   Yes   ☐
                                                                   No   ☐

         If "yes" was this course a: Lecture series   ☐
                                           Conference   ☐
                                           Workshop   ☐
                                           Other (please specify)_____

52. Do you have any training in psychiatry within the last 5 years in a

         Psychiatric unit in a hospital?   Yes   ☐   No   ☐
         Community setting   Yes   ☐   No   ☐
         Certificate course in psychiatry   Yes   ☐   No   ☐
         Other (please specify) _____

53. I am interested in psychiatry because_____

_____

_____

_____

_____

_____

Thank you, very much

9

Appendix 4

Patient Explanatory Statement, Consent Form and questionnaires including

the demographic profile, GHQ and SF-36

M O N A S H U N I V E R S I T Y

AUSTRALIA

October 1999

Project Title: Evaluation of the Graduate Certificate in General Practice Psychiatry

My name is Louise McCall and I am studying for my Doctor of Philosophy at Monash University. A research project is an important component of the course and I am undertaking mine under the supervision of Associate Professor Glenn Rowley, an Associate Professor in the Faculty of Education, and David Clarke, an Associate Professor in the Department of Psychological Medicine at Monash University.

The aim of this project is to evaluate the Graduate Certificate in General Practice Psychiatry which is a distance education course specifically for general practitioners. The aim of my project is to determine whether the course changes the quality of life of patients. Your GP may or may not be a student in this course although he/she has agreed to participate in this evaluation study by conducting an audit of patient medical records. To this end I am seeking your assistance by completing the attached questionnaires and your permission to use the data from these and for you GP to audit your medical record and provide annoymous summary data for this research project. The questionnaires have been widely used in general practice: the General Health Questionnaire is a screening instrument for mental health and the SF-36 assesses quality of life. These are to be returned to our department where they will be analysed. Your general practitioner will not see the results. Should any of the questions relating to your feelings or ability to perform daily activities cause you any distress, pleae feel free to discuss this with your general practitioner.

If you agree to take part in this research project, your privacy is respected. I may need to contact you in the future to complete a second copy of these questionnaires. If do need to contact you for any aspect of this project I would forward a sealed, stamped envelope contacting a letter to your GP's receptionist, who will be asked to address the envelope and mail it to you. The receptionist will link your number, which will be written on the bottom left hand corner of the envelope, with the number next to your name in the appointment book.

No findings will be published which would identify any individual participant. Anonymity is assured by our procedure, in which you are not asked to provide your name. Access to data is restricted to my supervisors and to me. Coded data are stored for five years, as prescribed by University regulations.

Participation in this research is entirely voluntary and if you agree to participate, you may withdraw your consent at any time by notifying the researcher by telephone so as to exclude your data from this project

If you have any queries or would like to be informed of the aggregate research finding, please telephone 9579 3188 (Louise McCall at the Department of Community Medicine and General Practice) or fax 95701382.

Thank you.

Should you have any complaint concerning the manner in which this research (project number 98/323) is conducted, please do not hesitate to contact The Standing Committee on Ethics in Research on Humans at the following address:

> The Secretary
> The Standing Committee on Ethics in Research on Humans
> Monash University
> Wellington Road
> Clayton Victoria 3168
> Telephone (03) 9905 2052   Fax (03) 9905 1420

_____ (your signature)

Louise McCall
ph 9579 3188

Informed Consent Form

Project Title: Evaluation of the Graduate Certificate in General Practice Psychiatry.

I agree to take part in the above Monash University research project. I have had the project explained to me, and I have read and understood the Explanatory Statement, which I retain for my records.

I agree that my responses to the questionnaires
may be used for the purposes of this research   ❑YES   ❑NO

I agree that my GP may audit my medical
record and provide anoymous summary data
for the purposes of this research   ❑ YES   ❑ NO

I understand that any information so provided is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party.

I also understand that my participation is voluntary, that I can choose not to participate, and that I can withdraw my participation at any stage of the project.

Name: .... (please print)

Signature: .... Date: ....

Thank you very much for agreeing to participate in this confidential survey.

The aim of this project is to evaluate a distance education course for general practitioners and determine whether the course changes the quality of life of patients. Your GP may or may not be a student in this course although he/she has agreed to participate in this evaluation study by conducting an audit of patient medical records. The attached questionnaires have been widely used in general practice; the General Health Questionnaire is a screening instrument for mental health and the SF-36 assesses quality of life. These should take about 10 minutes. If you complete these questionnaires, your privacy is respected. Anonymity is assured as you are not asked to provide your name.

Thank you for your help and we hope you find this interesting.

1. Are you?   Male ☐   Female ☐

2. How old are you? _____ years

3. Are you?   Married   ☐
                   Unmarried   ☐
                   Divorced/separated ☐
                   Widow(er)   ☐

4. Country of birth: Australia   ☐
                        New Zealand   ☐
                        United Kingdom   ☐
                        Italy   ☐
                        Former Yugoslav republic ☐
                        Vietnam   ☐
                        Greece   ☐
                        Germany   ☐
                        China   ☐
                        Hong Kong   ☐
                        Netherlands   ☐
                        Philippines   ☐
                        Other: _____

5. Language spoken at home: *(other than English)*

                        Italian   ☐
                        Greek   ☐
                        Dutch   ☐
                        Chinese   ☐
                        Vietnamese   ☐
                        Indian   ☐
                        Other: _____

6. Are you currently employed?   Yes ❑   No ❑

7. If employed are you employed?   Full time ❑
                                     Part time ❑

8. Please state occupation: _____

9. Highest level of education:

        Primary school   ❑
        Secondary school   ❑
        TAFE/apprenticeship   ·   ❑
        Undergraduate or Associate diploma ❑
        Bachelor degree or higher   ❑

10. Are you seeing your usual doctor at this visit?   Yes ❑   No ❑

THE GENERAL HEALTH QUESTIONNAIRE
GHQ 28
David Goldberg

Please read this carefully.

We should like to know if you have had any medical complaints and how your health has been in general, *over the past few weeks.* Please answer ALL the questions on the following pages simply by underlining the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

It is important that you try to answer ALL the questions.

Thank you very much for your co-operation.

Have you recently

A1 — been feeling perfectly well and in good health?	Better than usual	Same as usual	Worse than usual	Much worse than usual
A2 — been feeling in need of a good tonic?	Not at all	No more than usual	Rather more than usual	Much more than usual
A3 — been feeling run down and out of sorts?	Not at all	No more than usual	Rather more than usual	Much more than usual
A4 — felt that you are ill?	Not at all	No more than usual	Rather more than usual	Much more than usual
A5 — been getting any pains in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
A6 — been getting a feeling of tightness or pressure in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
A7 — been having hot or cold spells?	Not at all	No more than usual	Rather more than usual	Much more than usual
B1 — lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
B2 — had difficulty in staying asleep once you are off?	Not at all	No more than usual	Rather more than usual	Much more than usual
B3 — felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
B4 — been getting edgy and bad-tempered?	Not at all	No more than usual	Rather more than usual	Much more than usual
B5 — been getting scared or panicky for no good reason?	Not at all	No more than usual	Rather more than usual	Much more than usual
B6 — found everything getting on top of you?	Not at all	No more than usual	Rather more than usual	Much more than usual
B7 — been feeling nervous and strung-up all the time?	Not at all	No more than usual	Rather more than usual	Much more than usual

have you recently

C1 – been managing to keep yourself busy and occupied?	More so than usual	Same as usual	Rather less than usual	Much less than usual
C2 – been taking longer over the things you do?	Quicker than usual	Same as usual	Longer than usual	Much longer than usual
C3 – felt on the whole you were doing things well?	Better than usual	About the same	Less well than usual	Much less well
C4 – been satisfied with the way you've carried out your task?	More satisfied	About same as usual	Less satisfied than usual	Much less satisfied
C5 – felt that you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less useful
C6 – felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less capable
C7 – been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual

D1 – been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
D2 – felt that life is entirely hopeless?	Not at all	No more than usual	Rather more than usual	Much more than usual
D3 – felt that life isn't worth living?	Not at all	No more than usual	Rather more than usual	Much more than usual
D4 – thought of the possibility that you might make away with yourself?	Definitely not	I don't think so	Has crossed my mind	Definitely have
D5 – found at times you couldn't do anything because your nerves were too bad?	Not at all	No more than usual	Rather more than usual	Much more than usual
D6 – found yourself wishing you were dead and away from it all?	Not at all	No more than usual	Rather more than usual	Much more than usual
D7 – found that the idea of taking your own life kept coming into your mind?	Definitely not	I don't think so	Has crossed my mind	Definitely has

Should any of these questions cause you distress, please feel free to discuss with your general practitioner.

A [ ]   B [ ]   C [ ]   D [ ]   TOTAL [ ]

SF-36 HEALTH SURVEY

INSTRUCTIONS: This questionnaire asks for your views about your health, how you feel and how well you are able to do your usual activities.

Answer every question by marking the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

1   In general, would you say your health is:

(circle one)

Excellent 1

Very good 2

Good 3

Fair 4

Poor 5

2 ·   <u>Compared to one year ago</u>, how would you rate your health in general <u>now</u>?

(circle one)

Much better now than one year ago 1

Somewhat better now than one year ago 2

About the same as one year ago 3

Somewhat worse than one year ago 4

Much worse now than one year ago 5

3   The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

(circle one number on each line)

ACTIVITIES	Yes Limited A lot	Yes Limited A Little	No, Not Limited At All
a Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	1	2	3
b Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling or playing golf	1	2	3
c Lifting or carrying groceries	1	2	3
d Climbing several flights of stairs	1	2	3
e Climbing one flight of stairs	1	2	3
f Bending, kneeling or stooping	1	2	3
g Walking more than one kilometre	1	2	3
h Walking half a kilometre	1	2	3
I Walking 100 metres	1	2	3
j Bathing or dressing yourself	1	2	3

4   During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

(circle one number on each line)

	YES	NO
a Cut down on the amount of time you spent on work or other activities	1	2
b Accomplished less than you would like	1	2
c Were limited in the kind of work or other activities	1	2
d Had difficulty performing the work or other activities (for example, it took extra effort)	1	2

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5   During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

	YES	NO
a Cut down the amount of time you spent on work or other activities	1	2
b Accomplished less than you would like	1	2
c Didn't do work or other activities as carefully as usual	1	2

6   During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours or groups?

(circle one)

Not at all 1

Slightly 2

Moderately 3

Quite a bit 4

Extremely 5

7   How much bodily pain have you had during the past 4 weeks?

(circle one)

No bodily pain 1

Very mild 2

Mild 3

Moderate 4

Severe 5

Very severe 6

8   During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

(circle one)

Not at all 1

A little bit 2

Moderately 3

Quite a bit 4

Extremely 5

9   These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past 4 weeks

(circle one number on each line)

	All of the Time	Most of the Time	A Good Bit of the Time	Some of the Time	A Little of the Time	None of the Time
a Did you feel full of life?	1	2	3	4	5	6
b Have you been a very nervous person?	1	2	3	4	5	6
c Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
d Have you felt calm and peaceful?	1	2	3	4	5	6
e Did you have a lot of energy?	1	2	3	4	5	6
f Have you felt down?	1	2	3	4	5	6
g Did you feel worn out?	1	2	3	4	5	6
h Have you been a happy person?	1	2	3	4	5	6
i Did you feel tired?	1	2	3	4	5	6

10   During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives etc)?

All of the time 1

Most of the time 2

Some of the time 3

A little of the time 4

None of the time 5

11   How **TRUE** or **FALSE** is each of the following statements for you?

	Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
a I seem to get sick a little easier then other people	1	2	3	4	5
b I am as healthy as anybody I know	1	2	3	4	5
c I expect my health to get worse	1	2	3	4	5
d My health is excellent	1	2	3	4	5

Appendix 5

Semi structured interview schedule for attitude item development

Semi structured interview schedule for attitude item development

Some of the literature suggests that GP miss quite a few patients who are psychologically distressed when they consult. What do you think about that?

Why do you think GPs might miss of fail to diagnose these patients?

There are varying rates for the presentation of anxiety disorders to primary care reported in the literature (from <1% to 30+%). Apart from the way studies classify these disorders (OCD, PTSD, Panic.etc) why do you think there is such a difference in these figures.

What barriers are there in general practice that prevent the detection or a written diagnosis of anxiety disorders being made?

Appendix 6

Audit kit

Graduate Certificate in General Practice Psychiatry

by Distance Education

GENERAL PRACTICE PSYCHIATRY PROGRAM

Audit Kit

University of
Melbourne

Monash
University

General Practice Psychiatry

Audit Kit

Produced and developed by

Department of Community Medicine and General Practice

Monash University

Author: Louise McCall

C

Medical record audit instructions

Please read the following instructions carefully

1. Patient record selection

From the questionnaires that your patients completed earlier this year we have collated this information and have provided you with a list of numbers that link to your patients. We would like you to retrieve and audit these patient histories.

2. Conducting the audit

Once you have obtained records for the specified histories you may commence the audit. You are then required to transfer information relating diagnosis and management on to the attached audit sheets for each specified patient history.

Each patient record is to be recorded on a separate page.

Only information actually recorded in the case notes and/or summary sheet is to be transcribed onto the audit sheet. As we are aware, many GPs have information about a patient but frequently this is not recorded. If in the process of conducting the audit you are aware of some information that is not written in the history, please write NR even though we are well aware that this may not be a true reflection of all the information you have about the patient. However, this is an audit of recorded data.

What about information in summary sheets where sometimes the exact date that information was entered is unknown? Please include this information on the audit sheet.

All items need to be filled. Please do not leave any item blank.

GPID

This is your allocated GP number and should be written on every page.

Patient record number

This number is the one that corresponds to your clinic history notes in case you may want to refer to this later. Please note, to protect the patient's confidentiality, do not write the patient's name on the audit sheets.

Patient audit number

This number is the one that corresponds to the identifying number on the list that we have sent you. Please note, to protect the patient's confidentiality, do not write the patient's name on the audit sheets.

1.   **Gender** - tick the box that corresponds with the gender of the patient.

2.   **Age** - indicates age *at last birthday* of the patient.

3.   **Number of years as your patient** - Please enter the number of years that you have been seeing this patient. If this patient is not usually seen by you enter NA.

4.   **Is there evidence of the patient suffering significant stressors in the past 6 months?** If there is any evidence in the patient history (in the last 6 months) of the patient suffering significant stressors such as family, physical illness etc related matters please tick the relevant box.

5.   **Is there evidence of the patient suffering emotional distress in the past 6 months?** If there is any evidence in the patient history, over the past 6 months, of the patient suffering emotional distress please tick the relevant box.

6.   **Has a diagnosis of mental illness been recorded?** - tick 'yes' if a diagnosis was documented or 'no' if this is not recorded in the last six months.

     If 'yes', is the condition - tick the box that corresponds to the primary diagnosis recorded.

     Other (please specify) - if the recorded psychiatric condition is not listed please specify the condition.

     Secondary psychiatric condition - please tick the relevant boxes that correspond to the other psychiatric conditions that are recorded within the last 6 months in the patient's history.

     Other (please specify) - if the recorded psychiatric comorbidity is not listed please specify the condition.

If you have answered no to the items relating to 'significant stressor', 'emotional distress' or 'mental disorder' please do not procede any further

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7.   **Is a family past history of psychiatric illness** - please check through *all* the notes (i.e. go back more than 6 months if necessary) and place a tick in the 'yes' box if the history contains an entry of family history of psychiatric illness for a blood relative. If no family history was recorded, place a tick in the 'no' box.

     If 'yes', specify illness that was recorded as family history of psychiatric illness, e.g. depression in sister or father with schizophrenia.

GP Psychiatry Medical Record Audit Checklist

(enclose with original audits and journal)

Name _____

Student number _____

Number of patient histories audited? _____

Remember to enclose all audit pages.

**Make a copy of this sheet for your own records and
return the original with your journal.**

General Practice Psychiatry Program Audit

GP Id:_____

Patient record no:_____

Patient audit no:_____

1. Gender: male ☐   female ☐

2. Age:_____

3. Number of years as your patient:_____

4. Is there evidence in the history in the last six months of the patient suffering significant stressors? Yes ☐ No ☐

5. Is there evidence in the history in the last six months of the patient suffering emotional distress?   Yes ☐ No ☐

6. Has a diagnosis of mental illness been recorded?   Yes ☐ No ☐

   If a diagnosis of mental illness was recorded, is the primary condition:

   Depression   ☐
   Anxiety disorder   ☐   specify _____
   Substance abuse   ☐   specify _____
   Psychosis   ☐
   Dementia   ☐
   Other   ☐   specify _____

   Is a secondary psychiatric condition recorded? *(please tick)*   Yes ☐
                                                                          No ☐
                                                                          Not applicable ☐

   If a 'yes' please tick the relevant condition:

   Depression   ☐
   Anxiety disorder   ☐   specify _____
   Substance abuse   ☐   specify _____
   Psychosis   ☐
   Dementia   ☐
   Other   ☐   specify _____

   > *If you answered 'no' to items 4, 5 or 6 do not proceed further*

7. Is a family history of psychiatric illness recorded?   Yes ☐ No ☐

   If 'yes' specify illness: _____

8. Is suicide risk documented?   Yes ☐ No ☐

9. Is psychotropic medication use recorded?   Yes ☐ No ☐

   If 'yes' please complete the table overleaf and continue to item 10.

Page 1

Drug	Duration of drug therapy		In the last 6 months how many prescriptions have been issued?
Tricyclic anti-depressants	0 – 6 months ☐	6+ months ☐	
Tetracyclic anti-depressants (e.g. Mianserin)	0 – 6 months ☐	6+ months ☐	
MAOI (e.g. Nardil)	0 – 6 months ☐	6+ months ☐	
SSRI (e.g. Prozac)	0 – 6 months ☐	6+ months ☐	
SNRI (e.g. Venlafaxine)	0 – 6 months ☐	6+ months ☐	
SARI (e.g. Serzone)	0 – 6 months ☐	6+ months ☐	
RIMA (e.g. Aurorix)	0 – 6 months ☐	6+ months ☐	
Lithium carbonate	0 – 6 months ☐	6+ months ☐	
Anticonvulsants (e.g. Carbamazepine)	0 – 6 months ☐	6+ months ☐	
Benzodiazepines	0 – 6 months ☐	6+ months ☐	
Antipsychotic (e.g. Haloperidol)	0 – 6 months ☐	6+ months ☐	
Other (please specify)	0 – 6 months ☐	6+ months ☐	

10. Is non-drug therapy documented?   Yes ☐ No ☐

If 'yes' please tick

Counselling   ☐
Relaxation therapy   ☐
Hypnosis   ☐
Stress management   ☐
Cognitive behaviour therapy   ☐
Family Therapy   ☐
Other   ☐   specify _____

11. Was the patient referred?   Yes ☐ No ☐

If 'yes' please tick relevant body

Psychiatrist   ☐
Psychologist   ☐
Drug rehabilitation   ☐
Alcohol rehabilitation   ☐
Social worker   ☐
CAT   ☐
Psychiatric hospital   ☐
Family therapist   ☐
Other   ☐   specify _____

12. How many visits has this patient made to your clinic in the last 6 months ? _____

Make a copy of this sheet for your own records and return original with your journal

Appendix 7

Explanatory Statements and Consent Form for Intervention GP participation in the qualitative phase

M O N A S H   U N I V E R S I T Y

AUSTRALIA

July 2000

Project Title: Evaluation of the Graduate Certificate in General Practice Psychiatry

My name is Louise McCall and I am studying for my Doctor of Philosopy at Monash University. A research project is an important component of the course and I am undertaking mine under the supervision of Associate Professor Glenn Rowley, Faculty of Education, and Associate Professor David Clarke, in the Department of Psychological Medicine at Monash University.

The aim of this phase of the project is to explore your opinion about aspects of the course that you believe may have impacted on your change in knowledge, attitudes and practices.

I am seeking GPs, who consented to be part of this evaluation last year, who are willing to be interviewed by me, either face-to-face or over the phone (approximately 30 minutes). If you agree, your interview will be taped and transcribed by me. You will be provided with a copy of the interview transcript for your files and to vertify that the record is accurate. No findings will be published which could identify any individual participant. Anonymity is assured, as access to data is restricted to my supervisors and to me. Coded data will be stored for five years, as prescribed by University regulations.

Participation in this research is entirely voluntary, and if you agree to participate, you have the right to withdraw your consent at any time by notifying the researcher by telephone so as to exclude your data from this project.

If you have any queries or would like to be informed of the aggregate research finding, please contact Louise McCall at the Department of Community Medicine and General Practice (telephone 9579 3188 or fax 95701382).

Should you have any complaint concerning the manner in which this research (98/323) is conducted, please do not hesitate to contact The Standing Committee on Ethics in Research on Humans at the following address:

> The Secretary
> The Standing Committee on Ethics in Research on Humans
> Monash University
> Wellington Road
> Clayton Victoria 3168
> Telephone (03) 9905 2052   Fax (03) 9905 1420

Thank you.

_____

Louise McCall

Informed Consent Form

Project Title: Evaluation of the Graduate Certificate in General Practice Psychiatry.

I agree to take part in an interview, as part of the above Monash University research project. I have had the project explained to me, and I have read and understood the Explanatory Statement, which I retain for my records.

I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party.

I also understand that my participation is voluntary, that I can choose not to participate, and that I can withdraw my participation at a° stage of the project.

Name: .... (please print)

Signature: .... Date: ....

Appendix 8

Interview schedule for the qualitative phase

Semi structured interview schedule for the qualitative phase

Why did you enrol in the course?

Before you did the course what was it like when someone with depression or anxiety presented to you, at your practice?

Has your practice changed?

What is it like for you now when someone with depression or anxiety comes to see you?

Why do you/don't you feel differently?

What was it about the course, if it was the course, that made you feel differently?

Appendix 9

Application for Admission 1999

MONASH UNIVERSITY & THE UNIVERSITY OF MELBOURNE

APPLICATION FOR ADMISSION 1999

---

1. I WISH TO APPLY FOR THE FOLLOWING COURSE IN 1999:

☐ Graduate Certificate in General Practice Psychiatry

2a. PERSONAL DETAILS:

International doctors please be advised that all students will be addressed by their surname/family name, however, should this be inappropriate, please circle your pr example; given name.

TITLE	SURNAME/FAMILY NAME	GIVEN NAME
DR		

POSTAL ADDRESS:	RESIDENTIAL ADDRESS *(if different from postal address)*
POST CODE:	POST CODE:

PHONE *(business hours)*	PHONE *(after hours)*	FAX

E-MAIL ADDRESS	QA NUMBER

DATE OF BIRTH	GENDER
/ / 19	Female: ☐ Male: ☐

Have you been a student at Monash before? If so, please enter your student number and course name:

2b. EXCHANGE OF NAME AND DETAILS:

Do you consent to your name, address, telephone numbers and e-mail address being provided to other distance education students who live in your area, and who are studying the same course and subject plus appropriate external organisations? *(formation of study groups can be helpful)* :

No ☐

3. PREFERRED INSTITUTE FOR ENROLMENT:

☐   Monash University   ☐   Melbourne University

---

4. STUDY PROGRAM FOR 1999:

SUBJECT CODE	SUBJECT NAME As per Course Handbook	SUBJECT PERIOD	OFFICE USE ONLY COURSE

---

5. PAYMENT DETAILS:

Once you have completed both sides of the application form, please return together with payment of the first semester fees to: Administration & Marke Distance Education, Monash University, 867 Centre Road, East Bentleigh, Victoria 3165, AUSTRALIA.

☐   Cheque/Bank Draft (AUD$) enclosed made payable to 'Monash University'   OR   ☐ Visa   ☐   Mastercard
☐   Bankcard

Credit Card No:_____   Amount $_____

Name of Cardholder:_____   Expiry Date:_____/____

Signature of Cardholder:_____

6. STATISTICAL INFORMATION:

(a)   Number of Years in General Practice: _____ years   (b) Year of Medical Graduation: 19____

(c) please tick one

Type of Practice:	☐ Solo	☐ Group	Location of Practice: ☐ Urb. ☐ Rural	Fraction: ☐ Full Time ☐ Part-time

(d) Citizenship & Residence Status
during year of enrolment (please tick one only)
- ☐ Australian citizen resident inside or outside of Australia during the enrolment period
- ☐ New Zealand citizen, or a diplomat or consular representative of New Zealand, a member of staff of such a representative, of the spouse of a dependant relative of such a representative
- ☐ Your parents or yourself are entitled to enter and stay in Australia without any limitations as to time, but are not an Australian or New Zealand citizen
  - ☐ and you will reside in Australia during the enrolment period
  - ☐ or you will not reside in Australia during the enrolment period
- ☐ You have a temporary entry permit or you are a Diplomat or a dependent of a diplomat (except New Zealand) and you will reside in Australia during the enrolment period
- ☐ You will reside overseas during the enrolment period and are not and Australian or New Zealand citizen

(e) In what country were you born?
- ☐ Australia
- ☐ Other Country: _____

What year did you first arrive in Australia? 19_____

(f) Do you speak a language other than English at your permanent home residence?
- ☐ No   ☐ Yes _____

(g) In what country is your permanent home residence?
- ☐ Australia
- ☐ Other Country _____

(h) In what country will you be resident during the enrolment period?
- ☐ Australia
- ☐ Other Country _____

(i) Do you have a disability, impairment or long term medical condition which may affect your studies?
- ☐ Yes   ☐ No

If yes, please indicate the area of impairment:
- ☐ hearing ☐ learning ☐ mobility
- ☐ vision ☐ medical ☐ other

(j) Reasons for wanting to do this course:
- ☐ Self Development
- ☐ Pursue and Academic/Teaching Role
- ☐ CME/PA Purposes
- ☐ Upgrade knowledge and skills
- ☐ Improve Patient Management
- ☐ Alter Practice
- ☐ Other _____

7. PREVIOUS STUDIES:

Name of Qualification	Year of Completion	Institution

8. RECOGNITION OF PRIOR LEARNING:

☐ Yes, I would like to apply for recognition of prior learning for my FRACGP or equivalent qualification. I have attached documentary evidence (legally certified copy of the original) of this. (only available to those applying for a Masters degree program)

☐ Yes, I would like to apply for recognition of prior learning based on previous studies completed with either Monash University or other institution. I have attached documentary evidence (legally certified copy of the originals).

***Requests for RPL will be assessed on a case-by-case basis and will be at the discretion of the appropriate committee with up to a maximum of 50% credit being available towards an award course.

9. NEXT OF KIN:
NAME & ADDRESS: _____

TELEPHONE NUMBER: _____   RELATIONSHIP: _____

10. DECLARATION:

I declare that the information supplied on this form, and the information given in support of my application for admission as a student, are correct and complete. I acknowledge that I am bound by the statutes and regulations of the University and Department, and agree to pay all fees and levies charged directly to me arising from an enrolment, and re-enrolment consequent to this application.

SIGNATURE: _____ DATE: _____

(application not valid unless signed)

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