FAMILY PHYSICIANS' RESPONSES TO DEPRESSION AND ANXIETY

IN SASKATCHEWAN FAMILY PRACTICE

A Thesis Submitted to the College of

Graduate Studies and Research

In Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy

In the Department of Psychiatry

University of Saskatchewan

Saskatoon

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ABSTRACT

    The current maxim concerning diagnosis and treatment of mood and anxiety disorders is that family physicians fail to appropriately respond to patients with anxiety and depression. This estimate is based upon a collection of studies that have found that accurate recognition in general practice occurred in 9% to 75% of patients with depression, and 34% to 50% of patients with anxiety. However, most studies have found that more than half *of physicians* accurately detected depression and anxiety in their patients.

    This dissertation examined physicians' responses (detection, treatment, and follow-up) to clinical scenarios of patients presenting with symptoms of either depression or anxiety. Furthermore, this study evaluated the associations between physicians' responses and physician attributes (personal and professional), organizational setting, information/resource use, and barriers to care.

    A cross-sectional study of Saskatchewan family physicians yielded a response rate of 49.7% (N=331/666). The results of this study revealed that most physicians provided appropriate depression and anxiety care with respect to recognition of disorders and follow-up care. Specifically, 85.4% of physicians provided an accurate tentative diagnosis of depression, and 86.3% provided an accurate tentative diagnosis of anxiety; 82.5% of physicians suggested adequate follow-up depression care while 79.4% offered adequate follow-up anxiety care. However, a notable proportion of physicians did not provide effective treatment; 65.6% of physicians recommended effective (immediate) anxiety treatment, and 55.6% recommended effective (immediate) depression treatment.

This study found that physicians' provision of care to patients with anxiety and depression was more likely to be associated with their personal attributes, organizational setting, and information/resource use than with their professional attributes. First, neither tentative diagnosis of depression nor tentative diagnosis of anxiety was significantly associated with any of the tested measures. Second, ineffective treatment of depression was significantly more likely among physicians who were female, educated at the undergraduate level in Canada (versus elsewhere), scored lower on anxiety attitude factor 1 (social context view of anxiety amenable to intervention), had a low patient load (< 100 patients/week), and used medical textbooks to make specific clinical decisions; ineffective treatment of anxiety was significantly more likely among physicians who had completed their undergraduate and postgraduate medical training in Canada (versus elsewhere), had a low patient load (<100 patients/week), did not practice in a private office/clinic, and used colleagues within as well as outside their main patient care setting to update their general medical knowledge. Third, physicians were significantly more likely to provide inadequate follow-up care to the depressed patient if they were in solo practice and used drug manuals to update their general medical knowledge, and significantly more likely to provide inadequate follow-up care to the anxious patient if they (the physician) were female and did not use mental health professionals to update their general medical knowledge.

Results indicated that after controlling for the effects of other factors, physicians with low patient loads were three times more likely to provide ineffective treatment of depression than physicians with high patient loads. Furthermore, when holding the effects of all other factors constant, physicians who had completed postgraduate training in Canada were approximately five times more likely to provide ineffective treatment of the anxious patient than physicians who had completed their postgraduate training outside of Canada.

ACKNOWLEDGEMENTS

DEDICATION

To my mother and father

SUZANNE

and ELIAS KOSTENIUK (1929 – 1994)

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LIST OF ABBREVIATIONS AND DEFINITIONS

CCHS 1.2   Canadian Community Health Survey (Mental Health and Well-
                   being) 2002
FP   Family Physician
GP   General Practitioner
GAD   Generalized Anxiety Disorder
NPSSS   National Physician Survey Saskatchewan Sample
MDE   Major Depressive Episode

1.0 INTRODUCTION

This chapter explains the rationale of the research project, supplemented by the most recent available Canadian and Saskatchewan data on the epidemiology of mood and anxiety disorders and service use for mental health reasons. Furthermore, this chapter states the problem, research questions, and hypotheses explored in this dissertation, concluding with an outline of the thesis.

1.1 Background of the Research Project

This project focuses on the provision of care to patients with depression or anxiety by family physicians. According to DSM-IV, mood disorders with depressive symptoms include major depression (major depressive episode and major depressive disorder), dysthymic disorder, and depressive disorder not otherwise specified (APA, 1994; Parikh et al., 2001). A major depressive episode (MDE) lasts at least two weeks; two or more MDE episodes occurring 2 months apart characterize a major depressive disorder; dysthymic disorder lasts at least two years. Anxiety disorders include distinct subcategories of disorders (i.e. panic disorders, phobias, and generalized anxiety disorder) identified by "excessive anxiety, fear, worry, avoidance, and compulsive rituals" (Canadian Psychiatric Association, 2006, p. 9S).

Overall, CCHS 1.2 data indicated that 10.6% of Canadians (2.66 million) experienced a mood, anxiety, or substance dependence disorder in a one-year period (Table 1.1). Specifically, 4.8% of Canadians (1.19 million) experienced at least one major depressive episode (MDE), 3.0% (746,000) reported a social anxiety disorder, and 1.5% (376,000) reported a panic disorder (Statistics Canada, 2004a).

Between one-third and one-half of persons experience psychiatric co-morbidity at least once in their life, that is, they experience more than one psychiatric disorder or substance disorder at

some point (Hall et al. 2009). The rates of co-morbidity between anxiety and mood disorders are generally higher than between other psychiatric and substance disorders (Merikangas & Kalaydjian, 2007). With respect to co-morbidity between substance disorders (e.g. alcohol abuse or drug abuse) and affective disorders (e.g. social anxiety disorder or major depressive disorder), the causes may be common (e.g. genetic or social), or the disorders themselves may be causally related (i.e. persons with affective disorders may become dependent on alcohol or drugs to relieve their symptoms) [Hall et al., 2009].

Based on analyses of the 2002 Canadian Community Health Survey[1], researchers have been able to gain a good picture of the number of Canadians who suffer from mood and anxiety disorders, as well as the number who access particular services from service providers for mental health reasons. Information from recent national physician surveys further clarifies the implications of mood and anxiety disorders for family physicians across Canada who provide valuable diagnosis and treatment in their everyday practice.

When individuals seek help for mental health reasons, they most often consult their family physician. CCHS 1.2 data indicated that approximately the same proportion of Canadians who experienced a mental or substance dependence disorder in a one-year period (10.6%, 2.66 million) accessed some form of service and support for mental health reasons during that same one-year period (9.5%, 2.38 million) [Statistics Canada, 2004a]. Based on the same CCHS 1.2 data, Vasiliadis and colleagues (2005) described the specific type of service and support accessed by Canadians for mental health reasons. Specifically, 5.4% of all Canadians used general

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[1] The CCHS 1.2 surveyed 36,984 respondents *aged 15 and over* from households selected at random during a six-month period in 2002 (Patten et al. 2006).[1] The survey attained an overall response rate of 77 percent. Lay interviewers used the WHM-CIDI to diagnose 12-month and lifetime disorders. Diagnoses included two mood disorders (major depression and manic episode 12-month/bipolar disorder lifetime), three anxiety disorders (social anxiety disorder, panic disorder, and agoraphobia), and two substance disorders (alcohol dependence and drug dependence) [Statistics Canada 2004c].

medical services (i.e. general practitioners and other medical specialists) for mental health reasons, compared to 3.5% of Canadians who used specialty mental health services (i.e. psychiatrists and psychologists) [Vasiliadis et al., 2005].

CCHS 1.2 data further revealed that Saskatchewan residents were similarly inclined to access general medical services more often than specialty mental services. That is, 9.8% of all Saskatchewan residents (74,000) accessed some type of service and support for mental health reasons in a one-year period (Statistics Canada, 2004a). Using CCHS 1.2 data, Vasiliadis and colleagues (2005) found that 4.5% of Saskatchewan residents used general medical services for mental health reasons, while 2.5% used specialty mental health providers.

Although approximately 10% of the *general* population accessed services and support for their mental health, the proportion of persons *with mental disorders* who accessed similar services for their mental health was less than fifty percent (Lesage et al., 2006). Specifically, Lesage and colleagues (2006) found that only 38.5% of Canadians with a mental or substance dependence disorder used health services for mental health reasons.

With respect to Saskatchewan, service use by persons with mental disorders was similarly disproportionate to the number of persons who needed such services. That is, CCHS 1.2 data indicated that 11.5% of all residents (87,000) experienced a mood, anxiety, or substance dependence disorder in a one-year period. Specifically, 4.0% of individuals (30,000) experienced 12-month MDE, 3.5% (26,700) reported a social anxiety disorder, and 1.9% (14,000) experienced a panic disorder (Statistics Canada, 2004a). However, only 38% of persons with mental or substance dependence disorders reported using health services for mental health reasons (Lesage et al., 2006).

Table 1.1 *12-month* Prevalence of Mood, Anxiety, and Substance Dependence Disorders by Country and Study

	Canada	International				
	CCHS 1.2[a] 2002 WMH-CIDI 3.0	U.S. NCS-R[b] 2001-03 WMH-CIDI 3.0	U.S. NCS[c] 1990-92 CIDI 1.0	U.S. NESARC[d] 2001-02 AUDADIS-IV	Lebanon[e] WMH Survey 2002 WMH-CIDI 3.0	Ukraine[f] WMH Survey 2002-03 WMH-CIDI 3.0
Mood						
Any mood disorder[g]		9.5	11.3	9.2	6.6	8.9
Dysthymia		1.5	2.5	1.8	0.8	1.9
Major depressive disorder	4.0[h]	6.7		5.3	4.9	8.4
Bipolar I and II disorder		2.6			1.5	
Major depressive episode	4.8		10.3			
Bipolar 1				2.0		
Manic episode	1.0		1.3			
Mania				1.7		
Hypomania				1.2		
Anxiety						
Any anxiety disorder[i]		18.1	17.2	11.1	11.2	3.8
Social anxiety disorder (social phobia)	3.0	6.8	7.9	2.8	1.1	1.5
Panic disorder	1.5	2.7	2.3		0.2	1.3
Agoraphobia without panic disorder		0.8	2.8		0.3	0.2
Agoraphobia with or without panic disorder	0.7					
Generalized anxiety disorder		3.1	3.1	2.1	1.3	1.2
Obsessive-compulsive disorder		1.0			0.1	
Posttraumatic stress disorder		3.5			2.0	
Separation anxiety disorder		0.9				
Simple phobia			8.8			
Panic disorder with agoraphobia				0.6		
Panic disorder without agoraphobia				1.6		
Specific phobia		8.7		7.1	8.2	
Substance disorders						
Alcohol abuse with/out dependence		3.1			1.2	5.8
Alcohol dependence	2.6	1.3	7.2	3.8		
Drug abuse		1.4			0.2	
Drug dependence	0.8	0.4	2.8	0.6		
Any disorder [j]		26.2	29.5		17.0	17.6
Any measured disorder or substance dependence	10.6					

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Values are given as %

[a] Statistics Canada 2004a.
[b] Kessler et al. 2005
[c] Kessler et al. 1994
[d] Grant et al. 2006
[e] Karam et al. 2006
[f] Bromet et al. 2005
[g] Any mood disorder (NCS-R) refers to any: dysthymia, major depressive disorder, or bipolar I and II disorders (Kessler et al. 2005). Any mood disorder (NCS) refers to any: dysthymia, major depressive episode, or manic episode (Kessler et al. 1994). Any mood disorder (NESARC) refers to any: major depressive episode, dysthymia, mania, or hypomania (Grant et al. 2006). The components of any mood disorder (Lebanon) and any mood disorder (Ukraine) were not specified by the respective authors.
[h] Patten et al. 2005
[i] Any anxiety disorder (NCS-R) refers to any: social anxiety disorder, panic disorder, agoraphobia without panic disorder, generalized anxiety disorder, obsessive-compulsive disorder, posttraumatic stress disorder, or separation anxiety disorder (Kessler et al. 2005). Any anxiety disorder (NCS) refers to any: social anxiety disorder, panic disorder, agoraphobia without panic disorder, generalized anxiety disorder, or simple phobia (Kessler et al. 1994). Any anxiety disorder (NESARC) refers to any: panic disorder with and without agoraphobia, social phobia, specific phobia, or generalized anxiety disorder (Grant et al. 2006). The components of any anxiety disorder (Lebanon) and any anxiety disorder (Ukraine) were not specified by the respective authors.
[j] Any disorder (NCS-R) refers to any: *any anxiety disorder*, *any mood disorder*, any impulse control disorder, or any substance disorder (Kessler et al. 2005) as defined in notes g and i. Any disorder (NCS) refers to any: *any anxiety disorder*, *any mood disorder*, substance abuse or dependence disorder, antisocial personality disorder, or nonaffective psychosis, as defined in notes g and i (Kessler et al. 1994).

Within the last few years, the proportion of Canadian and Saskatchewan family physicians offering mental health services has increased, while their perceptions regarding patient accessibility to specialized mental health services have remained unchanged. Specifically, the proportion of family physicians in Saskatchewan who offered psychotherapy/counseling as part of their practice rose from 38% in 2004 to 45% in 2007 (College of Family Physicians of Canada, 2004 & 2007). During the same three year period, the perception of Saskatchewan family physicians regarding patient accessibility to psychiatrists and mental health support services remained unchanged, as 30% of family physicians considered accessibility to psychiatrists to be poor, as did 18%-19% of family physicians regarding accessibility to psychosocial support services (psychologists, social workers, etc).

A recent study of Saskatchewan family physicians revealed that the majority of family physicians (56%) saw an average of more than 11 patients with mental health problems per week (Clatney et al., 2008). While the majority of family physicians (83%) asserted that they were interested in providing mental health care, only a minority (46%) were satisfied with the mental health care they currently delivered to patients.

1.2 Problem Statement

More persons soliciting mental health help rely upon their family physician than any other care provider, and the proportion of family physicians incorporating psychotherapy/counseling into their practices is on the rise. However, numerous studies conducted since the 1970s contend that family physicians respond inappropriately to the majority of patients who present with depression and anxiety in everyday practice. That is, studies show that physicians under-detect, under-treat, and inadequately follow-up the majority of such patients (Fitzpatrick et al., 1997; Freeling et al., 1985; Johnson, 1973). Specifically, family physicians accurately detect

depression and anxiety in less than 50% *of the patients* who present with these psychological disorders in everyday practice (Cepoiu et al., 2007; Ormel et al., 1991; Wittchen et al., 2002). Furthermore, family physicians appropriately treat only half of those detected patients (Harris et al., 1996; Linden et al., 1999; Olfson et al., 1995; Olsson et al., 2006; Ormel et al.) and let too much time elapse before seeing these patients in follow-up (Simon, 2002; Williams et al., 1999).

However, relatively few studies have provided estimates of the *proportion of physicians* who provide inappropriate care to patients with mood and anxiety disorders. Studies which have addressed this issue indicate that on average, more than 50% of physicians accurately detect mood and anxiety disorders in their patients. Specifically, studies estimated that 45% to 100% of physicians accurately detect depression and anxiety in their patients (Andersen & Hawthorn, 1989; Badger et al., 1994; Carney et al., 1999; Kales et al., 2005; Yager et al. 1986).

Studies of psychiatric disorders in family practice have examined many factors as possible determinants of effective responses. These factors include the medical profession, physicians' organizational settings, information and resource use, and professional and personal attributes of physicians. For the most part, previous studies have focused on the isolated associations between one or more of these factors and appropriate physician responses. However, few studies have compared these associations to one another to estimate their relative importance, or have tried to determine their relative importance when accounting for other factors.

The central purposes of this thesis were to estimate the proportion of family physicians who provide appropriate responses (detection, treatment, and follow-up) to patients with depression and anxiety in family practice; to examine the associations between these responses and physicians' attributes (personal and professional), organizational setting, information/resource

use, and barriers to care; and to determine whether significant associations remained when controlling for the associations between physician responses and all factors.

This study potentially contributes to the literature in this field by examining a number of issues. First, this study employs clinical scenarios to examine the *process* of physicians' responses to patients presenting with symptoms of a psychiatric disorder. Second, rather than focusing on one indicator of care, this study explores three indicators of care: detection, treatment, and follow-up. Third, this study elicits physicians' tentative diagnoses to better understand the complex decision-making processes involved when evaluating a patient with a possible psychiatric disorder. Fourth, whereas previous studies have focused on the association between one response (e.g. detection) and one level of predictor (e.g. individual physician variables), this study examines the associations between several physician responses to depression and anxiety and factors at several micro (personal and professional), macro (organizational) and intersecting predictor levels (information use).

1.3 Research Questions

This project is guided by specific research questions:

1. How do the majority of family physicians respond to (tentatively diagnose, treat, and follow-up) mood and anxiety disorders presented by patients?

2. Which factors of physician attributes, organizational setting, and information/resource use are directly associated with their responses to mood and anxiety disorders?

3. What are the best fitting models of factors that predict family physicians' responses to mood and anxiety disorders?

1.4 Hypotheses

1. The majority of family physicians will respond appropriately to mood and anxiety disorders in clinical scenario patients. Specifically, the majority of physicians will accurately detect depression and anxiety, suggest effective treatment, and recommend adequate follow-up care.

2. Physician attributes (professional and personal), organizational setting, and information/resource use will be directly associated with physicians' responses to mood and anxiety disorders.

3. The best fitting models of factors that predict family physicians' responses to mood and anxiety disorders will include physician attributes (professional and personal), organizational setting, and information/resource use.

1.5 Thesis Structure

This thesis contains six chapters. Chapter 2 presents a review of the literature regarding family physicians' responses (detection, treatment, and follow-up) to patients' mood and anxiety disorders, with a focus on physicians' non-detection of depression and anxiety. This chapter also includes a discussion of factors proposed to account for physicians' responses. Chapter 3 is an overview of the design and methodologies of the pilot study and main study, a description of the measures included in the surveys, and the test statistics employed in analysis of the data. Chapter 4 provides a description of the pilot study conducted in 2007, and its utility as a method to test the survey questionnaires and main study procedures. Study results are presented in Chapter 5. Chapter 6 examines the study's main findings in light of the research hypotheses and relevant literature, and concludes with recommendations for future research. The Appendices include the pilot and main study survey questionnaires and letters to physicians used in each mailing of these studies.

2.0 LITERATURE REVIEW

This chapter reviews literature concerning diagnosis and management of mood and anxiety disorders in family practice. Particular attention is given to studies concerning insufficient detection, ineffective treatment, and inadequate follow-up, and the factors associated with inappropriate diagnosis and management of depression and anxiety as a whole. These factors include the medical profession, physicians' organizational setting, information and resource use in family practice, physicians' professional attributes, and patient factors.

Family physicians and general practitioners have long been criticized for failing to respond appropriately to mood and anxiety disorders in their patients (Fitzpatrick et al., 1997; Freeling et al., 1985; Johnson, 1973). Researchers generally agree that mood, anxiety, and substance abuse disorders in family practice are insufficiently detected (under-recognized and under-diagnosed), ineffectively treated, and inadequately followed up. Specifically, patients with depression in primary care and family practice receive suboptimal care (Seelig & Katon, 2008). Tylee and Jones (2005, p. 800) suggested that "depression is subject to a rule of halves - only half of depressed patients seek help from doctors, half are detected in primary care, half receive treatment with only half completing it."

2.1 Responses to Depression and Anxiety in Family Practice (Detection, Treatment, and Follow-up)

2.1.1 Detection

Regarding the issue of insufficient detection of psychiatric disorders in family practice, the popular maxim is that only 50% of *patients* presenting with depression are correctly recognized as such (Seelig & Katon, 2008; Simon, 2002; Tylee & Jones, 2005). This estimate is actually high in light of a recent systematic review of depression recognition studies, which concluded that the summary sensitivity rate of depression recognition for all of the studies included in the

review was 36.4% of patients, for an overall under-recognition rate of 64% (Cepoiu et al., 2007). Further investigation based on this review in addition to a second literature review, revealed that recognition of depression occurred in anywhere from 9% to 75% of patients seen in general practice (Cepoiu et al., 2007; Kosteniuk, 2007). Likewise, anxiety is insufficiently detected in family practice. Specifically, recognition of anxiety occurred in approximately 34% to 50% of patients seen in general practice (Ormel et al., 1991; Wittchen et al., 2002).

The issue of inappropriate care has also been examined by estimating the proportion *of physicians* who correctly detected mood and anxiety disorders in their patients. When examined from this perspective, the estimated proportion of physicians who correctly recognized depression and anxiety was generally higher than the estimated proportion of patients correctly detected with these disorders. Based on studies that used three different methods (i.e. clinical scenario, video scenario, and standardized patient) to estimate physician recognition rates, three different studies found recognition of depression to range from 81% to 100% of physicians (Carney et al., 1999; Kales et al., 2005; Yager et al., 1986), and two studies found that the recognition rate ranged from 47% to 53% of physicians (Andersen & Harthorn, 1989; Badger et al., 1994). Further, recognition of anxiety ranged from a low of 49% (Andersen & Harthorn, 1989) to a high of 78% of physicians (Yager et al., 1986).

2.1.2 Treatment

Ineffective treatment refers to two dilemmas: many patients with detected mood and/or anxiety disorders do not receive treatment, and those who do receive treatment receive inadequate doses or courses of treatment too short to be effective.

With respect to the dilemma of under-treatment, researchers revealed that once diagnosed with a mood and/or anxiety disorder by their physician, only slightly more than half of patients

received some form of treatment, such as pharmacotherapy (Linden et al., 1999) or psychological management (Olfson et al., 1995). The rate of treatment varied from 36% to 65%, depending upon the psychological disorder and type of treatment under consideration (Harris et al., 1996; Linden et al., 1999; Olsson et al., 2006b; Ormel et al., 1991). For instance, a study of Netherlands GPs and their patients found that physicians recommended treatment of some form to 60% of patients they diagnosed as depressed and 65% of patients they diagnosed with anxiety (Ormel et al.). A study of Australian general practitioners and their patients concluded that 52% of patients diagnosed with depression and 56% diagnosed with anxiety received pharmacotherapy (Harris et al., 1996). A later World Health Organization study of primary health care patients in regional centres across 15 cities worldwide concluded that slightly more than half (52%) of patients diagnosed with a mental disorder by their physician received psychotropic medication treatment (Linden et al., 1999). Specifically, 60% of patients with physician-diagnosed depression and 51% of those with physician-diagnosed anxiety disorders received medication treatment (Linden et al.). A study of Norwegian GPs and their patients found that overall, GPs recommended treatment in some form to 51% of patients diagnosed with major depressive episode, and to 36% of patients diagnosed with generalized anxiety disorder (Olsson et al., 2006b).

Regarding the second dilemma of under-treatment, at least half of patients who received pharmacotherapy received inadequate doses (Simon, 2002; Tylee & Jones, 2005), and most physicians ended pharmacotherapy treatment earlier than the recommended minimum 6-month time period after recovery (Remick, 2002). For instance, in a study of Ontario primary care physicians, Fitch et al., (2005) found that family physicians tended to prescribe shorter courses and lower doses of antidepressants to older patients than recommended for full clinical effect.

Based on these findings, Fitch et al. suggested that such suboptimal treatment may lead to unnecessary medication switches. Docherty (1997) cited a range of ineffective treatment strategies practiced by family physicians, including non-adherence to specific referral criteria, absence of criteria for psychosocial treatment, ineffective antidepressant treatment with respect to absence of such treatment, prescription of second-line rather than first-line antidepressants, and low doses of prescribed antidepressants.

2.1.3 Follow-up

With respect to inadequate follow-up, the central concern is that too much time elapses before patients with detected mood and anxiety disorders return to their physicians for second visits. For instance, Williams and colleagues' (1999) family physician study found that the average time to first follow-up for patients with newly diagnosed major depression was 3.6 weeks, and only 50% of physicians scheduled a follow-up within a 2-week period for such patients, as recommended by clinical guidelines. In a study of internists and family physicians, Carney et al. (1999) found that only 60% of physicians recommended follow-up within two weeks for patients with recognized major depressive disorder. In a later study, Simon (2002) found that primary care patients received inadequate follow-up care when evaluated on the basis of AHCPR (U.S. Agency for Health Care Policy and Research) guidelines. AHCPR guidelines recommend that follow-up visits for patients receiving antidepressant treatment for depressive illness should occur every two weeks during the first eight weeks of treatment (more frequently for those with severe depression).

2.2 Methods to Estimate Rates of Depression Non-Detection in Family Practice

2.2.1 Case Comparison

The case comparison method is the most popular method of calculating non-detection rates of mood and anxiety disorders in family practice. This method is used to estimate the *proportion of patients* with psychological disorders (as assessed by diagnostic schedule or dimensional screening instrument gold standard) detected by physicians in everyday practice. Other methods are generally used to estimate the *proportion of physicians* who correctly detect psychological disorder(s) in their patients. These methods employ clinical case scenarios (vignettes), computerized case scenarios, video case scenarios, and standardized patients; researchers estimate proportions by using one or more case scenario or standardized patient to represent a typical patient.

The case comparison method compares physicians' responses to a gold standard. In one phase of a case comparison study, the researchers or their designates diagnose depression or anxiety in a sample of physicians' patients, using a diagnostic schedule or dimensional screening instrument with a cutpoint (gold standard). In another phase, the same physicians indicate the outcomes of the clinical visits by recognizing, diagnosing, or treating the disorders. Researchers then determine physicians' diagnosis or recognition rates by comparing physicians' responses to the gold standard. Physicians' responses are typically determined in one of two ways: direct physician diagnosis elicited at the time of the study or retrospective chart review (Cepoiu et al. 2007). Accurate diagnoses or responses typically include at least one of the following: a diagnosis of depression or anxiety; recognition by use of the words 'depression' or 'anxiety' or related words (e.g. 'depressed', 'anxious', and similar related terms); recognition by use of

words to describe symptoms of depression or anxiety (e.g. 'blue', 'sad', and similar symptoms); drug prescriptions; or mental health referrals.

2.2.2 Clinical Case Scenario

Clinical case scenarios present written cases of patients with somatic symptoms or specific medical condition(s) to physicians for evaluation (Andersen & Harthorn, 1989; Meredith et al., 2007; Ross et al., 1999; Tiemeier et al., 2002; Wilson & Read, 2001). After reading the clinical scenario, the physician is prompted to ask questions or state their next steps (Ross et al.). Alternatively, the clinical scenario presents further details of the patient's physical exam (Meredith et al., 2007) and test results. Physicians are then asked to choose their diagnosis and/or treatment choices from a checklist, or to provide a diagnosis and a management plan. Two early studies employing case scenarios conducted by Yager and colleagues (1986) and Andersen & Harthorn (1989) provided useful illustrations of how this method has been used to assess physician detection of mental disorders. Yager et al. asked physicians to tentatively diagnose two case scenario patients, one with symptoms of depression and another with symptoms of anxiety, and found that 81% of family physicians (correctly) tentatively diagnosed depression and 84% (correctly) tentatively diagnosed anxiety or panic disorder. Andersen & Harthorn presented family physicians with 14 vignettes representing patients with 14 different psychological disorders; 47% of physicians correctly recognized depression, and 49% correctly recognized anxiety.

2.2.3 Computerized Case Scenario

Computerized case scenarios are updated versions of clinical scenarios. Computerized scenarios require more active physician participation than clinical scenarios, and more realistically simulate the physician-patient interaction. In computerized scenarios, a patient and

his/her presenting problem are described in written detail, then the physician is guided through a patient assessment based on five quality criteria: taking the patient's history, performing the physical exam, ordering lab tests, making a diagnosis, and stating a treatment plan (Dresselhaus et al., 2004; Luck et al., 2006; Peabody et al., 2004). Based on their scores on these five quality criteria, Peabody et al. determined that physicians evaluated on the basis of their assessment of a clinical case scenario patient with depression scored an average of 65 percent.

2.2.4 Video Case Scenario

Video case scenarios are variations of written case scenarios. A video scenario presents a scripted clinical encounter between a physician and a patient actor, with the patient actor presenting symptoms typical of a psychological disorder in addition to other symptoms (Kales et al., 2005; Kales et al. 2006). Kales and colleagues' (2005) recent study with four video depression case scenarios concluded that 85% of primary care practitioners (correctly) diagnosed depressed patients.

2.2.5 Standardized Patient

The standardized patient method refers to using persons trained to act as unannounced patients imitating specific medical conditions in physicians' regular practice (Badger et al., 1994; Carney et al., 1999a; Carney et al. 1999b; Franz et al., 2006; Luck & Peabody 2002; Terry et al., 2007). Physician response to the standardized patient is then evaluated for quality of examination and accuracy of diagnosis and treatment. Studies indicated that physician recognition of depression with this method was quite variable. For instance, Badger and colleagues' standardized patient study presented physicians with two standardized patients, each presenting with different symptoms of major depression. Based on their assessments of these standardized patients, 47% to 53% of physicians correctly detected depression. However, a standardized

patient study of internists and family physicians by Carney et al. (1999a) concluded that 100% of physicians correctly identified standardized patients presenting with major depressive disorder.

2.3 Systematic Reviews of Depression Non-Detection in Family Practice

Two recent systematic literature reviews regarding depression detection in general practice found that depression was highly under-detected in general practice, and depression was more likely to be under-diagnosed than over-diagnosed (Cepoiu et al., 2007; Kosteniuk, 2007). Both review studies that mainly used a case comparison method to estimate patient recognition rates.

In the first systematic review[1] of depression recognition by non-psychiatric physicians, Cepoiu et al., (2007) calculated a summary sensitivity[2] rate of depression recognition based on all studies included in the review that allowed for these calculations. Sensitivity rates ranged from 9% to 75% of patients (under-recognition of 25% to 91% of depressed patients). Cepoiu et al. concluded that the summary sensitivity rate was 36% (64% summary under-recognition rate). Further analysis revealed that studies published after 1998 reported higher overall sensitivity than studies published prior to 1998, as did studies which used the method of direct physician diagnosis elicited at the time of the study rather than retrospective chart review. To account for the higher sensitivity rates in studies published after 1998, Cepoiu et al. suggested that physician training to recognize depression may be improving, and that physicians may not be documenting their recognition of patients' depression.

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[1] All of the included studies met the following criteria: the sample included patients of primary care offices, hospital emergency departments, medical and surgical wards, or outpatient clinics; a structured clinical interview or rating scale with specific cut point was administered to patients by a psychiatrist or research staff; a non-psychiatric physician made a clinical diagnosis of depression, or recognized patients' depression by prescribing an antidepressant, referring to a mental health professional, or noting depressive symptoms.
[2] Sensitivity refers to the proportion of cases which were true positives, and allows for the calculation of a rate of under-diagnosis.

In the second systematic review (Kosteniuk, 2007), a comprehensive search of the literature was conducted during the period of March 1, 2007 to March 23, 2007.[3] This search yielded 9704 titles and abstracts[4], of which 11 articles met a majority of the required methodological and design criteria (Table 2.1) and were eligible for inclusion in this review.

Rates of under-diagnosis ranged from 28% (Aragones et al., 2004) to 87% (Diminic-Lisica et al., 2005) [Table 2.2]. Three of the 11 studies reported rates of under-diagnosis below 50%, seven studies reported rates of under-diagnosis over 50%, and one study did not report a rate of under-diagnosis. These findings indicated that under-diagnosis of depression in *more* than 50% of patients was more common than under-diagnosis in *fewer* than 50% of patients, an observation that is consistent with a summary under-recognition rate of 64% of patients as reported by Cepoiu and colleagues (2007).

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[3] This search included EMBASE (from 1980), HealthSTAR (from 1975), MEDLINE (from 1966), and PsycINFO (from 1950) articles for the period January 1, 1950 to December 31, 2006. Search words/terms included: Depress$ AND Diag$ or recog$ or treat$ AND physician or practitioner or doctor. (dollar sign ($) after a term indicates that all terms that begin with that root were included in the search).

[4] From these studies, 994 study abstracts were retrieved for assessment. From these abstracts, 73 full-text articles were retrieved for further review. After assessment against eligibility criteria as outlined in a quality checklist (Table 2.1), these 73 articles were reduced to 11 articles.

Table 2.1   Methodological and Design Criteria for Inclusion in Systematic Review
            (Kosteniuk, 2007)

Section/topic	Description
Study design	**2-phase cross-sectional study, wherein patients were screened by researchers/interviewers with depression scale in one phase, and diagnosed by physicians in the other phase.**
Setting	Described setting, locations, and dates defining periods of data collection.
Participants	Described inclusion and exclusion criteria, sources and methods of selection of participants. **Participants were 18 years of age and older.**
Measurement	For each variable of interest, described methods of assessment (measurement). **Patients were classified as depressed on the basis of a validated depression screening instrument.**
Sample size	Described rationale for study size, including practical and statistical considerations.
Participants	Reported the numbers of individuals at each stage of the study, e.g. numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed. Provided reasons for non-participation at each stage.
Descriptive data	Described characteristics of study participants (e.g. demographic, clinical, social) and information on exposures and potential confounders. For each variable of interest, indicated the completeness of the data.
Main results	For comparisons using categories derived from quantitative variables, reported the n and the proportion expressed as a percentage value.
Limitations	Discussed limitations of the study, taking into account sources of potential bias or imprecision, and problems that could arise from multiplicity of analyses, exposures and outcomes. Discussed both direction and magnitude of any potential bias.
Generalizability	Discussed the generalizability (external validity) of the study findings.
Bias	**Addressed selection bias, i.e. differences between patients diagnosed as depressed, and those not diagnosed as depressed. Addressed measurement bias, i.e. patients and physicians blinded to patient's classification on the basis of the validated screening instrument.**

Note: Based on STROBE Checklist Version 3 (STROBE, 2005). Points in bold are the additions of this author.

Table 2.2 Summary of 11 Studies Meeting Systematic Literature Review Eligibility Requirements (Kosteniuk, 2007)

Title, Authors (Year)	Data collection Year/ Location	Physician sample	Patient sample	Patient RR/exclusion criteria	Phase 1 Instruments and Process	Phase 2 Instruments and Process	Phase 3 Instruments and Process	% under	% over	Limitations
The overdiagnosis of depression in non-depressed patients in primary care Aragones et al. (2006)	not stated/ Spain	n=23 (aged 27-50; 48% men, 52% women)	Phase 1 – n=906 (aged 18-70) Phase 2 – n=306 (age not reported)	Phase 1 - 89% RR (906/1015) / exclusion criteria: language, concurrent illness, psychotic disorder Phase 2 – 95% RR (306/322)	Zung self-rating depression scale, cut-off ≥55% administered to 906 patients	SCID-I administered to all pts with positive-Zung plus 1/7 of negative-Zung (total n=306)	Blind to Phase 2 results, physicians evaluated patients within unspecified time of Phase 2. They then answered a questionnaire which asked whether their "patient was suffering currently from a clinically significant depressive status"	not reported	27% (75 of 186/306 patients with neither major depression nor dysthymia, were diagnosed as depressed by physicians; proportion reported by researchers is based on weighted data)	Increased sensitivity and decreased specificity, since physicians knew which patients had qualified for Phase 2, and were asked specifically about possible presence of depression.
Detection and management of depressive disorders in primary care in Spain Aragones et al. (2004)	not stated/ Spain	n=23 (aged 27-50; 48% men, 52% women)	Phase 1 – n=906 (aged 18-70) Phase 2 – n=306 (age not reported)	Phase 1 - 89% RR / exclusion criteria: language, physical condition, concurrent disease, known psychotic disorder	Zung self-rating depression scale, cut-off ≥55% administered to 960 patients	SCID-I administered to all pts with positive-Zung plus 1/7 of negative-Zung (total n=306)	Blind to Phase 2 results, physicians evaluated patients within unspecified time of Phase 2. They then answered a questionnaire which asked whether their "patient was suffering currently from a clinically significant depressive status"	28% (34 of 120/306 patients with major depression and/or dysthymia were not diagnosed by physicians– researchers did not weight data)	not reported	Possible bias towards overdetection, since physicians knew that the patients they had to judge had been through Phase 2.
Detection of somatization and depression in primary care Becker (2004)	2000-2001/ Saudi Arabia	n=12	Phase 1 – n=431 Phase 2 – n=431	Phase 1 – RR not stated / exclusion criteria not stated: patients younger than 18 years Phase 2 – same as Phase 1	PHQ (Patient Health Questionnaire) administered to 431 patients prior to physician visit	Blind to Phase 1 results, immediately following the visit, physicians rated all 431 patients as cases or non-cases for somatization and depression.		55.1% (actual number of patients not diagnosed as depressed was not stated by the researchers)	10.5% (actual number of patients not classified as depressed with the PHQ, but diagnosed as depressed by physicians, was not stated by researchers	Given that the sample of physicians numbered only 12, and the cultural restrictions upon the Arabic population, the generalizability of these results to the other populations is questionable.
The influence of depression on physician interaction in primary care Callahan et al. (1996)	1990-1993/ not stated	n=105	Phase 1 – n=508 (aged 18 and over) Phase 2 – n=508 (aged 18 and older)	Phase 1 – RR not stated / exclusion criteria not stated Phase 2 - same as Phase 1	BDI (Beck Depression Inventory) administered to 509 patients	Physician chart notes were used to determine physician diagnoses of depression, on the basis of presence or absence of such diagnoses.		72.3% (94 of 130/508 patients with moderate to severe depression, as determined by the BDI, were not diagnosed as depressed by physicians	10.8% (41 of 378/508 patients not classified as moderately or severely depression with the BDI, were diagnosed as depressed by physicians	The physicians included in this study were second- and third-year residents, rather than family physicians with a range of experience in patient psychiatric care. This may have resulted in a bias toward lower recognition of depression.
Recognizing depression: A comparison of family physician ratings, self-report, and interview measures Coyne et al. (1991)	not stated/ United States	n=6	Phase 1 – n=266 (aged 18-76) Phase 2 – n=266 (aged 18 and older)	Phase 1 - >85% (exact number of patients not stated) / exclusion criteria not stated Phase 2 – RR not stated Phase 3 – RR not stated / exclusion criteria: patients scoring below 15 on the CES-D	CES-D (Centre for Epidemiological Studies – Depression questionnaire)	Immediately following the visit, physicians rated all 266 patients for depression on a 5-point scale, ranging from no depression to severe depression.	DSM-III-R criteria of duration of mood disturbance and presence of psychological and vegetative symptoms, administered by telephone to 61 patients scoring above 15 on the CES-D	52.3% (11 of 21 of 61/266 patients with major depression, as determined by DSM-III-R criteria	not reported	The generalizability of these results is questionable, given that the sample of physicians numbers only six.
The prevalence and detection of depressive disorders in a Croatian primary care setting Diminic-Lisica et al. (2005)	not stated/ Croatia	n=not stated	Phase 1 – n=459 (aged 18 and older) Phase 2 – n=459 (aged 18 and older)	Phase 1 – 92% (459/500) / exclusion criteria: unable to participate due to severe illness, illiteracy, or intellectual insufficiency Phase 2 – same as Phase 1	BDI (Beck's Depression Index) completed by 459 patients prior to physician visit	Medical charts were used to determine physician diagnoses. Any mention of depressive disorder, referral to psychiatrist, or specific therapy for depression were considered as depression diagnoses.		86.9% (192 of 221/459 patients classified as depressed with the BDI were not diagnosed as depressed by physicians)	5.8% (13 of 238/459 patients not classified as depressed with the BDI were diagnosed as depressed by physicians	The study researchers classify patients with mild, moderate and severe depression (as determined by the BDI) as depressed. However, the higher sensitivity of the BDI appears associated with a notable increase in the proportion of patients under-recognized by their physicians.
GP treatment decision for patients with depression Kendrick et al. (2005)	1999-2000/ United Kingdom	n=9	Phase 1 – n=425 (aged 18 and older) Phase 2 – n=425	Phase 1 – RR not stated / exclusion criteria: not currently taking antidepressants or receiving psychiatric treatment, able to complete questionnaire, no terminal illness Phase 2 – same as Phase 1	HADS (Hospital Anxiety and Depression Scale) completed prior to physician visit, or returned by mail after the consult by 437 patients	Blind to Phase 1 results, immediately following the consultation, physicians indicated whether the patient was depressed, and the severity of the depression for 425 patients		66.7% (38 of 57/425 patients classified as depressed with the HADS were not diagnosed as depressed by physicians)	11.4% (42 of 368/425 patients not classified as depressed with the HADS were diagnosed as depressed by physicians	Given that the physicians were aware that this study was focused on the factors associated with their depression management, they may have over corrected their behavior, resulting in a significant proportion of under-diagnosis.

Table 2.2 Summary of 11 Studies Meeting Systematic Literature Review Eligibility Requirements (Kosteniuk, 2007)

Title, Authors (Year)	Data collection Year/ Location	Physician sample	Patient sample	Patient RR/exclusion criteria	Phase 1 Instruments and Process	Phase 2 Instruments and Process	Phase 3 Instruments and Process	% under	% over	Limitations
Accuracy of diagnosing depression in primary care: the impact of chronic somatic and psychiatric co-morbidity Nuyen et al. (2005)	not stated/ The Netherlands	n=195	Phase 1 – n=8191 (aged 18 and older) Phase 2 – n=811 (aged 18 and older) Phase 3 – n=191 (aged 18 and older)	Phase 1 – 64.5% RR (8191/12699) /exclusion criteria: not stated Phase 2 – 58.8% RR (811/1379) / exclusion criteria: patients diagnosed by GP with dementia, or psychotic illness, or had not contact with their GP within time frame covered by the CIDI Phase 3 – 191/576 / RR not stated	GHQ-12 screening (Dutch version) for non-psychotic psychiatric morbidity administered to 1379 patients	CIDI-auto 2.1 follow up (Dutch version) to detect any psychiatric disorder in past 12 months, administered to 811 patients	Patients were classified as depressed if they were diagnosed with 12-month major depressive disorder or dysthymia.	71.2% (136 of 191/576 patients classified as depressed with the Phase 3 CIDI, were not diagnosed as depressed by physicians).	not reported	A significant proportion of patients were diagnosed with major depressive disorder and/or dysthymia (33%), indicating that the CIDI instrument employed in this study is highly sensitive, rather than highly specific. This factor may account for the high rate of under-diagnosis by physicians (71.2%).
Depression in Medical Outpatients Perez-Stable et al. (1990)	not stated/ United States	n=not stated (n=1544 chart notations; the discrete number of physicians who made the chart notations was not mentioned)	Phase 1 – n= 708 (aged 18-69) Phase 2 – n=265 (aged 20-69)	Phase 1 –RR not stated / exclusion criteria: illiteracy in English or Spanish, no medical chart available at institution for min. 6 mos. before recruitment, terminal illness. Phase 2 – RR not stated	20-item CES-D screening administered to 708 patients	21-item BDI (Beck Depression Inventory) and DIS (National Institute of Mental Health's Diagnostic Interview Schedule) administered within 2 weeks of Phase 1 to 292 patients. The medical records of 265 patients who completed the DIS were reviewed for a diagnosis of depression by the primary physician, defined as whether the diagnosis was listed as an active problem; if the terms 'depression' or 'depressed' were mentioned in a chart note; or if antidepressant was prescribed.	Cognitive behaviour variables and CES-D administered within 10 days of Phase 2.	64.3% (45 of 70/265 were not diagnosed as depressed by physicians)	18.5% (36 of 195/265 patients without DIS-diagnosed current depression were diagnosed as depressed by physicians)	Given that a high proportion of respondents had DIS-diagnosed depression (25%, 70/265), it appears that the researchers were biased toward moving persons who were likely to be diagnosed, from Phase 1 screening to Phase 2 diagnosis. Therefore, one obvious study limitation is that the sample from Phase 2 (n=265) was used to determine depression recognition, rather than the sample size from Phase 1 screening (n=708).
Identification of psychiatric distress by primary care physicians Pini et al. (1997)	not stated/ Italy	n=not stated	Phase 1 – n=3202 (aged 18-65) Phase 2 – n=559 (aged 18-65). Two subsamples were drawn: patients with depression or dysthymia (n=66), and patients with no current mental disorders (n=123)	Phase 1 – 62% RR (559/903) / exclusion criteria: illness prevents screening participation, screened on a previous visit, not attending clinic for medical consult, no fixed address, psychotic disorder, organic mental disorder, pregnancy, alcohol or substance abuse, undergoing treatment with psychiatrist or psychologist Phase 2 – 62% RR (559/903)	GHQ-12 administered to 3202 patients	Stratified random sample (weighted toward higher GHQ scores) chosen for second stage interview (SSI) (n=559). In the SSI, physicians assessed pts on 5-point scale for physical illness, and 5-point scale for psychiatric caseness. The latter scale was dichotomized into no psychiatric distress, and psychiatric distress. The SSI was based on WHO Primary Health Care Version of CIDI-PHC		28.8% (19 of 66/189 patients who had current depression or dysthymia were not diagnosed with psychiatric distress by physicians)	31.7% (39 of 123/189 patients who were mentally healthy were diagnosed with psychiatric distress by physicians)	The time elapsed between the first screening of participants in Phase 1 and the second stage interview in Phase 2 is not specified. More importantly, it is not clear whether the PCP identification of current depression or dysthymia (psychiatric distress) occurred in Phase 1 or Phase 2.
Determinants of the diagnosis of psychological problems by primary care physicians in patients with normal GHQ-28 scores Rosenberg et al. (2002)	2002/ Canada	n=40 (aged n/a; gender n/a)	Phase 1 – n=1011 (aged 18 and older)	Phase 1 - 77% RR (1011/1313) / exclusion criteria: language other than French or English, incapable of giving informed consent, younger than 18 years, consulting for minor trauma or psychotherapy	GHQ-28 administered to all 1011 patients. Patients also asked: the reason for their visit, characterization of health problem evaluation of general health, seriousness of problem and level of worry about it.	Blind to Phase 1 results, immediately following the visit, physicians indicated whether they detected any signs/symptoms of anxiety, depression, somatization, or other psychosocial problems. Detection was the equivalent of any mention.		42.3% 242 of 572/1011 patients with high GHQ scores were not diagnosed with a psychosocial problem by physicians)	38.3% (177 of 462/1011 patients with normal GHQ scores were diagnosed with a psychosocial problem by physicians)	High sensitivity due to the measure of 'physician detection' employed, may have increased bias towards overdetection.

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2.4 Overstatement of Non-Detection in Family Practice

Studies that attempt to account for the phenomenon of non-detection of mood and anxiety disorders in family practice with the case comparison method have several limitations which may result in overstatements of non-detection rates. The first limitation of case comparison studies is that the small physician samples typically employed in these studies are unlikely to be representative of the general population of physicians (Thompson et al., 2001). For instance, six of the eight studies described in one systematic review (Table 2.2; Kosteniuk, 2007), had fewer than 100 physicians in their samples. Without a representative physician sample in terms of age, gender, and years in practice, it is difficult to generalize rates of non-detection to a wider population of physicians.

Second, the case comparison method typically bases non-detection rates upon one patient-physician encounter. However, physicians may require more than one visit to recognize or diagnose their patient with a psychological disorder (Lemelin et al., 1994). For instance, based on a qualitative study with family physicians, Thomas-Maclean et al., (2005) concluded that diagnosing depression is a time-consuming process that requires more than one visit, and may require several lengthy visits. Siriwardena (2008) contended that a diagnosis of depression is an outcome of negotiation between patient and physician; further, when patients present with both depression and physical illness, a premature diagnosis of depression may prevent further necessary investigation of the physical illness. Lemelin et al., (1994, p. 106) noted, "A final diagnosis for many problems, including depression, will often be made only after several visits... Most studies of diagnostic accuracy evaluate only one visit and might, therefore, overestimate the number of missed diagnoses in primary care."

Third, not all case comparison method researchers use the same instrument to detect depression in their patient samples. The use of different instruments may lead to classifications of persons as depressed by one instrument who would not be classified as such by another instrument. For instance, in a comparison of the self-rated PHQ-9 (Patient Health Questionnaire), against the SCID (Structural Clinical Interview for Depression), Gilbody et al. (2007) found that the PHQ-9 instrument had sensitivity of 91.7% (rate of true positives) and specificity of 78.3% (rate of true negatives). The implication for case comparison studies of non-detection is that diagnosis rates may vary more than expected if the construct being measured varies from scale to scale.

Fourth, not all case comparison method researchers who use dimensional scales to detect psychological disorders use the same scoring methods, possibly leading to inconsistent classifications of persons as depressed or anxious. Dimensional scales are best used to assess the number and nature of depressive symptoms in order to rate a person on symptom severity, rather than to diagnose (Switzer et al., 1999). For instance, the Beck Depression Inventory (BDI) is a dimensional scale widely used in case comparison studies to diagnose depression. In a review of the first and second editions of the BDI, Dozois et al. (1998) concluded that the cutoff score for depression should be ≥ 20, such that a person scoring below 20 is not considered depressed. However, Cepoiu et al., (2007) indicated that four of 36 studies in their review employed the BDI as the gold standard diagnosis, all of which used a cutoff score of 10 and below. The use of a cutoff score below the recommended number may have resulted in exaggerated rates of depression non-detection.

Fifth, specific diagnostic schedules, such as the CIDI (Composite International Diagnostic Interview) indicate high rates of false positives (Kurdyak & Gnam 2005). For instance,

Wakefield (1999) noted that persons suffering symptoms due to losses, such as unemployment, separation, and terminal medical diagnoses, are not excluded by diagnostic instruments. In this way, diagnostic instruments create false positives by classifying persons experiencing normal depressive reactions as pathologically depressed. The 'problem of false positives' (Wakefield, p. 40), whereby a diagnostic instrument does not accurately distinguish depression from sadness, may significantly inflate the number of persons with depression in case comparison studies.

Lastly, the use of rating scales (diagnostic schedules) to detect depression in case comparison studies runs counter to the social negotiation of diagnosis between physician and patient (Siriwardena, 2008). That is, false negatives (of psychological disorder detection) may be exaggerated if physicians know patients are depressed but do not make a diagnosis on the basis of patient preferences or cues. Further, researchers' diagnoses on the basis of screening instruments have the potential to elicit more cases of depression than physicians' diagnoses in regular patient care. That is, researchers conducting a case comparison study seek patients with depression and are focused on such; however, physicians in the same study are concerned with the overall well-being of their patients.

In sum, the limitations of case comparison studies include small physician samples, expectation of detection based on one patient-physician encounter, different gold standard instruments, inconsistent gold standard scoring methods, and the problems of false positives and false negatives. In contrast, clinical scenario studies offer the opportunity to use large physician samples; focus on physicians' decision-making processes (Veloski et al., 2005); allow physicians to offer tentative rather than absolute diagnoses; and remove the problems of false positives and false negatives by eliminating the element of comparison between physician diagnosis and researcher diagnosis. However, clinical scenarios are also somewhat limited as a method for

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estimating physician detection of psychological disorders in key ways: physicians cannot elicit information from a clinical case scenario to support their decision-making processes; physician responses to clinical scenarios are expected to approximate their responses to encounters with patients (Yager et al., 1986); and physicians are expected to detect psychological disorders based on one clinical case scenario. In summary, given equal strengths and limitations, the use of clinical case scenarios rather than case comparisons to examine detection of psychological disorders in family practice is justified when the goal is to estimate the *proportion of physicians* who correctly detect psychological disorders.

2.5 Factors Associated with Responses to Depression and Anxiety in Family Practice

Many factors may contribute to physicians' diagnosis and treatment strategies in response to patients' psychological problems. These factors include the medical profession as a whole, the organizational settings of physicians, information and resource use by physicians, physician professional attributes (e.g. beliefs/attitudes, knowledge/skills) and patient factors.

2.5.1 Medical Profession

The evidence-based medicine movement emphasizes the value of scientific evidence over clinical judgement in patient diagnosis and treatment (Biller-Andorno et al., 2002; Eitel et al., 2000). Clinical practice guidelines represent a move toward standardization and formalization of clinical processes, including diagnostic and treatment decisions, in order to account for the quality and cost of health care (James et al., 1997). Some researchers within the mental health care field believe that evidence-based practice, based on clinical epidemiology, is preferable to uninformed clinical practice (Tanenbaum, 2003). However, the goal of effectiveness within evidence-based medicine may clash with physicians' attempts to do what they think is right given constraints of time, resources, and patients' demands for care (Tanenbaumm).

Recent research suggests that physicians still value personal experience and negotiation as important tools in the decision process. Although the shift within the medical profession is toward the use of guidelines and checklists in everyday practice, segments of the physician population believe that relying upon personal experience saves more time than accessing clinical practice guidelines or using a diagnostic manual. For instance, authors of a qualitative study of 11 GPs concluded that physicians generally viewed clinical practice guidelines and their use as inflexible, irrelevant, overwhelming in their number, and unrealistic (Smith et al., 2004).

2.5.2 Organizational Setting

Organizational setting factors cited most often as relevant to diagnosing and treating psychiatric disorders included case loads, time to spend with patients (AAFP, 2001; Arean et al., 2003; Baik et al., 2005; Docherty 1997; Levinson et al., 2000), group versus solo practice, and practice setting. Although family physician remuneration issues have also been suggested as determinants of effective mental health care (Collaborative Working Group on Shared Mental Health Care, 2000), little evidence of this association exists in the Canadian literature.

Primary care providers typically have little time to spend with individual patients, given their large caseloads (Borus et al., 1988). For instance, a recent study of Saskatchewan family physicians concluded that the majority of family physicians (56%) saw more than 10 patients with mental problems on a weekly basis (Clatney et al., 2008). Physicians face the difficult challenge of responding to patients' mental health issues while maintaining productivity via short patient visits (Levinson et al., 2000). The pressure to work quickly may hinder physicians' abilities to uncover psychological illnesses that require more time and effort to diagnose, such as depression and anxiety (Baik et al., 2005). Given the nature of short consultations, Lemelin et al. (1994, p.106) characterized dealing with a secondary psychosocial problem akin to 'opening a

can of worms' when faced with primary physical problems. Martin-Agueda and colleagues (2005) found that the majority of physicians (85%) believed they need more time to diagnose depression than to diagnose other illnesses.

Family physicians spend an average of 13 minutes with each patient, compared to 30 minutes spent by psychiatric professionals (AAFP, 2001). During these short visits, patients present an average of six problems (AAFP, 2001). Martin-Agueda et al., (2005) found that first visits generally lasted longer than follow-up visits, with physicians spending an average of 14.5 minutes on a first consultation and an average of 11 minutes on follow-up consults. Given the frequency with which family physicians cite lack of time as a barrier to effectively managing patients with mental problems (Dew et al., 2005; Hartley et al., 1998), there is a surprising dearth of studies which examined the association between visit duration and rate of diagnosis or recognition. However, one such study used 1991-1994 data from the U.S. National Ambulatory Medical Care Survey to conclude that visit duration was not significantly associated with a mental-health related diagnosis by a physician (Glied, 1998).

Based on a retrospective study of patients referred to psychiatric hospitals by their general practitioners in a major city in Ireland, Fitzpatrick et al., (1997) determined that solo practice was negatively associated with diagnostic accuracy, in so far as physicians in group practice were significantly more likely to accurately diagnose patients presenting with a common psychiatric disorder.

Although urban physicians may see a greater volume of patients with psychological disorders on a weekly basis, rural physicians may be more likely to treat patients within their practice rather than refer them to distant specialists. That is, practice setting may influence physicians' diagnosis and treatment plans for patients with mood and anxiety disorders. For instance, an

early study concluded that rural physicians were more likely to treat patients in their practice, rather than refer them to a mental health care provider located some distance away (Hartley et al., 1998). However, rural physicians tended to see fewer patients per week with mental problems than urban physicians (Clatney et al. 2008). Practice setting as a determinant of physician diagnosis encompasses the issues of wait times to see psychiatrists and other mental health professionals (Docherty, 1997), communication problems between psychiatrists and physicians (Martin-Agueda et al., 2005), patients' negative attitudes toward psychiatry (Martin-Agueda et al.), as well as lack of access to specialty services (Smith et al., 2004).

2.5.3 Information and Resources

Researchers found that physicians were more likely to *use* information and resources which they perceived to be physically accessible (easy to access), intellectually accessible (easy to understand), reliable (trustworthy), and applicable (relevant to their needs) [Curley et al., 1990; Dawes & Sampson, 2003; Gonzalez-Gonzalez et al., 2007; Verhoeven et al., 1995]. However, physical accessibility is likely the paramount determinant of information that is sought for specific clinical decision-making purposes. For instance, Curley et al. found that physicians ranked colleagues high on physical and intellectual accessibility, and preferred to use colleagues over text-based sources for immediate problem solving purposes.

A large gap in the literature exists regarding the relationship between effective responses to mood and anxiety disorders in family practice and physicians' information and resource use. In particular, the question remains whether physicians who use formal research-based sources (e.g. medical journals, medical textbooks, clinical practice guidelines, personal digital assistant programs, and drug manuals) or more informal sources (e.g. colleagues, psychiatrists, mental

health professionals, and pharmacists) are more or less effective in their responses to patients with mood and anxiety disorders.

2.5.4 Physician Professional Attributes

Professional factors cited most often as relevant to diagnosis and treatment of psychiatric disorders include resistance to formal diagnosis, knowledge of issues regarding effective diagnosis and management of depression and anxiety, and attitudes and beliefs concerning depression and anxiety and individuals who may be suffering with these disorders.

2.5.4.1 Resistance to Formal Diagnosis

For several reasons, physicians recognize patient presentations of depression or anxiety, yet choose to not record a diagnosis. These reasons include the need to rule out physical causes, diagnostic uncertainty, problems with reimbursement for services, avoiding jeopardizing patients' future health insurance claims, desire to avoid stigma (Hartley et al., 1998), and perceived patient unwillingness to accept such a diagnosis (Dew et al., 2005; Goldman et al., 1999). Physicians use strategies to avoid formal diagnoses, including delaying formal diagnosis (Baik et al., 2005; Goldman et al.), recording 'queries' rather than definitive diagnoses (Dew et al.), and substituting alternative diagnostic codes (Rost et al., 1998).

Although presentation may point to a psychological cause, or physicians suspect a psychological cause, the initial course of action is to first eliminate physical causes (Baik et al., 2005; Borus et al., 1988; Dew et al., 2005; Lemelin et al., 1994). Although patients present with symptoms that have possible physical and/or psychological causes, physicians are trained to prioritize the physical. The need to rule out physical causes results in differential diagnoses that are combinations of psychological and physical causes (Baik et al.).

The psychological symptoms of anxiety are generally accompanied by multiple physical complaints that have no identifiable physiologic basis, such as chest pain, irritable bowel symptoms (IBS), headache, hyperventilation, or fatigue, that often cause the patient to seek help. GAD may therefore be confused with insomnia and various functional somatic disorders, including palpitations and IBS….PCPs, even in the absence of an appropriate diagnosis, will prescribe treatment (Allgulander, 2006, p. S105)

Although physicians may delay their diagnoses until follow-up, at which point they can assess the lab results, physicians may still provide their patients with mental health treatment in the meantime (Hartley et al., 2008). Patients do not need to be diagnosed in order to receive treatment, (Mirowsky & Ross, 2002); consequently, more patients than are diagnosed might actually receive effective treatment.

2.5.4.2 Physician Knowledge

Physicians' knowledge and skills have often been cited as critical determinants of successful diagnosis and treatment of psychiatric disorders in primary care patients (Andersson et al., 2002; Docherty, 1997; Katerndahl & Ferrer, 2004; Smith et al., 2003; Tinsley et al., 1998). Baik et al. (2008) described three types of knowledge that may improve patient care: professional role (clinical experience and familiarity with illness patterns), self-awareness (mindfulness and confidence), and patient knowledge (familiarity with particular patients).

Studies of physician knowledge and skills typically focus on technical and work knowledge. Technical knowledge (i.e. explicit/declarative/theoretical) contains mainly research-based information produced and presented in a scientific fashion, whereas work knowledge (i.e. tacit/procedural/experiential) derives from verbal and written communication between physicians and their colleagues or patients (Kosteniuk et al., 2006).

Physicians with a high degree of technical knowledge understand what *should* be done to achieve successful outcomes; work knowledge requires advanced capabilities to *apply* technical

knowledge to achieve those successful outcomes (Brown, 1990). Technical knowledge includes an understanding of the specific criteria that must be met, the interviews that should be conducted, and the tasks to be completed to accomplish successful outcomes. This knowledge is required to understand how to successfully manage patients (e.g. the criteria of a patient interview), based on evidence from prior research and from patients' presentation and lab results which comprise medicine's 'knowledge base' (Florance & Welch, 1992). Work knowledge includes the capacity to accomplish patient management through decision-making processes based largely on heuristics and experience using the technical knowledge base (Florance & Welch).

Physicians often employ heuristics (i.e. mental short-cuts) to make clinical decisions (Smith et al., 2003). The term 'heuristics' has been used to "…account for discrepancies between … rational strategies and actual human thought processes" (Goldstein & Gigerenzer, 2002, p.75); heuristics are essential during the application of technical knowledge in the clinical setting. For instance, physicians employ the recognition heuristic to make inferences from patterns of missing knowledge (Goldstein & Gigerenzer), a useful technique during diagnosis considering that physicians for the most part do not use a depression rating scale or a diagnostic criteria checklist (Andersson et al., 2001).

Intervention studies are most often used to address the question of whether physicians' knowledge or skills are associated with effective diagnosis and treatment of patients with mood and anxiety disorders. Gilbody and colleagues (2003) conducted a systematic review of studies which explored primary health care interventions associated with depression care at the organizational and educational level. Based on the results of 36 studies, Gilbody et al. concluded that educational interventions and guidelines offered without organizational support are less

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effective in improving practice and patient outcomes than integrated educational and organizational strategies.

2.5.4.3 Physician Attitudes

The three major etiological theories of mental illness include social context, psychology, and medical model perspectives. Physicians' beliefs regarding the etiology of mental illness have been linked to their attitudes toward patients presenting with such disorders (Andersson et al., 2001; Gallo et al., 1999; Martin-Agueda et al., 2005), and to their abilities to diagnose such patients in everyday practice (e.g. Dowrick et al., 2000 found that GPs who subscribed to the social context etiological model were less likely to correctly diagnose their patients). Based on a qualitative study of family physicians, Thomas-Maclean & Stoppard (2004) concluded that although the wider medical community understands depression as a biomedical condition which can be diagnosed with the assistance of guidelines and checklists, family physicians are constrained by the medical model which does not readily account for the social and psychological aspects of depression.

Social context

The social context theories of mental illness include social causation, social selection, labeling theory, and sociology of diagnosis. Theories of social context challenge the medical model view that mental illness is rooted in physical causes. In contrast to the emphasis placed on individual risk factors by medical and psychological theories of mental illness, social theories focus on population risk factors (Aneshensel, 2005). Social context theorists also examine classifications of mental illness as products of social, political, and historical forces (Bendelow, 2004).

From the social causation perspective, mental illness is a product of one's role in society, and as such, is distributed throughout social groups. These social groups may be organized around

income, education, age, or gender. The roles and life events associated with social groups tend to produce stress (Link & Phelan, 2001). For instance, individuals in social groups with low income and low education are more likely to experience ongoing (i.e. chronic) stressors and negative life events related to their personal and work roles (Thoits, 1999; Cockerham, 2006). These stressors and events may include working in a job with low decision-making authority, worrying about meeting everyday expenses, or facing rental increases. Without financial and emotional resources to mediate the effects of chronic stressors and negative life events, persons in disadvantaged social groups may experience anxiety, depression, and even the onset of schizophrenia (Thoits).

The social selection perspective suggests that mental status predicts location on the social ladder. From this perspective, lower social status positions are filled by those with a lower capacity for mental functioning (Eaton & Muntaner, 1999). Further, higher status jobs which require higher education and levels of functioning preclude those with social impairment caused by depression or alcohol abuse.

From the perspective of labeling theory, mental illness is not a real and measurable social fact (Brown, 1995). Rather, mental illness encompasses behavior that violates social rules and is consequently devalued within society (Horwitz & Scheid, 1999). Once labeled as mentally ill, individuals' deviant behavior confirms the label. Labeling theorists emphasize the social and economic control exercised by the medical profession, (Cockerham, 2006) and suggest that the Diagnostic and Statistical Manual of Mental Disorders supports and perpetuates such control (Cockerham).

Sociology of diagnosis blends social causation and labeling theories (Brown, 1995). Brown proposed a typology of four categories including routinely defined conditions, medicalized

definitions, contested definitions, and potentially medicalized definitions. Diagnoses can shift from one category to another over time, given enough social pressure. Most diagnoses, including depression, are routinely defined conditions. Social benefits and social costs are associated with each of the four diagnostic categories. For instance, a diagnosis of depression may require a leave of absence from work (benefit) and result in increased insurance premiums (cost).

Psychology model

Behaviorist (social learning) and psychoanalytic perspectives form the basis of the psychology model of mental illness. According to the behaviorist perspective, situations that confound our processes of thinking and learning (Peterson, 1999) lead to mental illness. For instance, experiences in early childhood that produce 'unconscious psychic conflicts' or unresolved fixations (Leventhal & Martel, 2006) may result in mental illness in adulthood. However, since behavior is learned, socially inappropriate behavior can be replaced with appropriate behavior (Cockerham, 2006). For instance, cognitive behavioral therapy (CBT) involves treating depressive and anxiety disorders by changing negative to positive thoughts in order to change negative to positive behavior, and vice versa (Peterson). Early psychoanalytic treatment has evolved to include more short-term therapies which focus less on patients' history and more on current difficulties, with the goal of providing insight to patients and helping them make positive adjustments (Leventhal & Martel).

Medical model

The medical model of mental illness (e.g. genetics, neurochemical, and neuroanatomy) contends that mental disorders have underlying physical causes (Leventhal & Martel, 2006). Diagnosis and treatment of mental illnesses is similar to that for physical illnesses such as heart disease and cancer, insofar as pathological symptoms indicate illness (Gallagher, 1995).

Evidence of increased risk of mental disorders among first-degree relatives and identical twins of individuals with mental disorders supports the genetics model (Berrettini, 2000), which explains mental illness as an outcome of heredity (Gallagher, 1995; Mechanic, 1999). Behavioral genetics theory suggests that environmental factors, such as stress, trigger mental illness in those with a genetic predisposition to mental illness (Cockerham, 2006).

According to the neurochemical model, mental illness is an outcome of an imbalance of neurotransmitters (Gallagher, 1995). From this perspective, mental illness symptoms are attributed to too few or too many neurotransmitters at receptor sites (Cockerham, 2006). For example, from this perspective, depression is a result of decreased levels of the neurotransmitters norepinephrine and serotonin (Leventhal & Martel 2006, Cockerham).

Currently, the common usage of pharmacotherapy to treat mental illness signals the dominance of the medical model within psychiatry and general medicine (Leventhal & Martel, 2006). The medical model of mental illness continues to dominate in part due to the success of pharmacotherapy to relieve symptoms, which allows patients with mental illness to live in their communities rather than in hospitals (Cockerham, 2006).

2.5.5 Patient Factors

Patient factors include characteristics and cues which physicians take into consideration during patient care, willfully or otherwise. Certain factors are readily apparent to physicians, such as gender and age, while others need to be elicited (employment status and treatment preferences) (Schaik et al., 2004). Physicians take into account an average of two patient factors concerning symptoms, gender and patient preference for treatment, before deciding whether or not to prescribe an antidepressant (Smith et al., 2003). About half of primary care doctor-patient

interactions include at least one factor relating to patients' psychological and family issues (Levinson et al., 2000).

Studies largely agree patient factors play a role in physicians' diagnosis and treatment of depression and anxiety in everyday practice. For instance, women are more likely than men to be diagnosed with anxiety (Smolders et al., 2008) and with depression (Borowsky et al., 2000; Harman et al., 2001; Lecrubier, 1998; Schwenk et al., 1996), and are more likely to receive treatment for anxiety disorders (Linden et al., 1999). Also, older individuals are more likely than younger individuals to receive depression diagnoses (Borowsky et al.; Bower et al., 2000; Klinkman et al., 1998; Lecrubier) and pharmacological treatment for anxiety disorders (Harris et al., 1996; Smolders et al.). Socioeconomic status may also influence a diagnosis of depression if physicians assign more weight to the physical rather than emotional problems presented by patients of lower status, or believe that such patients are less able to afford the service of mental health professionals (Dew et al., 2005; Harris et al.; Linden et al.).

2.5.6 Perceived Requirements for Effective Management

Given the number of factors proposed to account for differences between patients who are and are not accurately diagnosed in family practice, it is not surprising that physicians cite a number of requirements to provide effective patient management. These requirements include better access to mental health professionals (Smith et al., 2004) and psychiatrists' (Ansseau et al., 2004; Clatney et al., 2008; Dew et al., 2005, Docherty, 1997; Hartley et al., 1998); affordable medication (Simon et al., 2004); patient time (Dew et al.; Hartley et al.; Wong et al., 2006); counselling training (Telford et al., 2002); personal experience (Baik et al., 2005; Wong et al.); and information on effective pharmacological (Katerndahl & Ferrer, 2004; Lin et al., 2001; Tiemens et al., 1999) and non-pharmacological treatments (Goldman et al., 1999).

2.6 Conceptual Model

The conceptual framework for this study is presented in Figure 1. Family physicians respond to psychiatric disorders presented by patients (i.e. diagnose, treat, and follow-up), within the context of societal attitudes, the medical profession, and physicians' organizational settings. Ultimately, physicians' particular responses emerge at the intersection of professional attributes, personal attributes, characteristics (beliefs/attitudes, knowledge/skills, and attributes), and the information and resources at hand. These factors are diagrammed in the following figure and discussed in the following sections of the proposal.
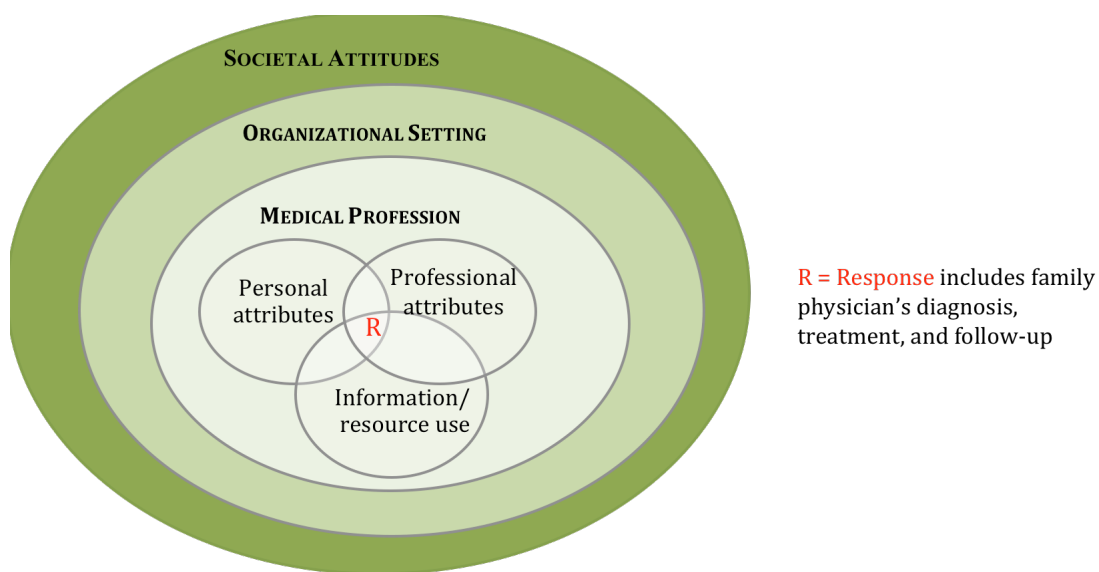
Figure 2.1: Conceptual Framework of Family Physicians' Responses to Depression and Anxiety Presented by Patients

2.7 Summary

Based on an examination of the literature as provided in this chapter, a number of observations can be made. First, family physicians do not effectively care for patients with depression and anxiety. That is, mood and anxiety disorders are insufficiently detected,

ineffectively treated, and inadequately followed up in more than 50% *of patients* who present with these disorders. However, more than 50% *of physicians* typically detect depression and anxiety in their patients in everyday practice. Further, family physicians provide treatment to only slightly more than half of patients they detect with depression and anxiety. When treatment is provided, the recommended dosage may be inadequate and the course of treatment too short. Follow-up to diagnosis visits generally occur too late to be effective, as only 50%-60% of physicians typically recommend follow-up to occur within two weeks of initial visit.

Second, factors proposed to account for inappropriate depression and anxiety care include the *medical profession* as a whole, which still relies mainly on the use of clinical judgement rather than evidence-based clinical guidelines; physicians' *organizational setting*, particularly heavy case loads, short visit durations, solo versus group practice, and urban versus rural practices; *information and resource use*, with the implication that physicians who use a greater number of informal (non-research based) sources, or with greater frequency, are more likely to provide ineffective care; and *professional attributes*, specifically physician resistance to formal diagnosis, as well as insufficient knowledge regarding appropriate care and ambivalent attitudes toward depressed and anxious patients.

3. METHODS

This chapter outlines the methodology for the main study, including details of the study

design and population and the pilot study conducted to evaluate initial drafts of the survey

questionnaires and data collection procedures. The chapter also provides details of the main

study conducted in early 2008, including data collection procedures, the final survey

questionnaire measures, a discussion of validity and reliability of the surveys, and data analysis.

3.1 Study Population

The study population included all Saskatchewan family physicians actively practicing in

Saskatchewan as of December, 2007, as identified by the Canadian Medical Directory and

verified against the College of Physicians and Surgeons of Saskatchewan mailing list (N=892),

less 100 family physicians included in the 2007 pilot study for this project (N=792).

3.2 Study Design

Data were collected using a cross-sectional mail survey of family physicians actively

practicing in Saskatchewan, using Dillman's Tailored Design Method (Dillman, 2007) with

repeated and personalized contacts. Physicians who responded to the first mailout received three

mailings, and physicians who did not respond at all received a maximum of six mailings.

3.3 Ethical Considerations

This study received approval from the Behavioural Research Ethics Board of the University

of Saskatchewan (BEH #07-41, Appendix A).

3.4 Questionnaire Evaluation

First drafts of the two questionnaires were reviewed for content validity by four family

physicians, two of whom were practicing in Saskatchewan, one in Nova Scotia, and one in New

Zealand. Two of the four physicians reviewed the Anxiety Questionnaire, and two reviewed the Depression Questionnaire. On the basis of these evaluations (Appendix B), the questionnaires were modified to reduce response burden and increase response rate in the pilot study phase. Subsequently, the second drafts of the two questionnaires were used in the pilot study.

3.5 Pilot Study

The purposes of the pilot study were to assess the mail survey procedures for the main study (Appendices C-L), test the second drafts of the two questionnaires (Appendices M and N) provide an estimate of the response rate for the main study, and assess the impact of an incentive ($5) on the rate of return. The pilot study of 100 Saskatchewan family physicians was conducted during a four-month period, from June to October, 2007 (see Chapter 4 for a full description of the pilot study methods and results).

The pilot study sample was drawn from a contact list of 950 family physicians created by verifying a customized list of Saskatchewan family physicians provided by the Canadian Medical Directory, against the College of Physicians and Surgeons of Saskatchewan mailing list updated to May, 2007. The contact list was sorted by physicians' last names, and every tenth person was selected in order to create the pilot study sample.

Of 100 physicians surveyed, 78 were eligible to participate, and 22 physicians were deemed ineligible, had moved, or retired. Of the 78 eligible physicians, 15 refused (19%), 33 did not respond (42%), and 30 returned completed questionnaires (38% response rate).

Based on the results of the pilot study, the third drafts of the questionnaires were reprinted in color for the main study data collection, and contained fewer and modified questions. In order to improve the response rate in the main study, the incentive to participate was increased from $5 to $10, and data collection took place prior to summer holidays. In addition, the clinical scenarios

and additional measures were interchanged for the main study. The rationale for this decision was to minimize the possibility of cuing phyicians to the correct responses regarding the clinical scenarios. Specifically, whereas the Depression Questionnaire in the pilot study contained an MDE clinical scenario and measures of caring for patients with depression (Appendix M), the Depression Questionnaire in the main study contained a GAD clinical scenario and measures concerning caring for patients with depression (Appendix V).

3.6 Data Sources

In 2006, 32,241 physicians were eligible to practice in general practice and family medicine in Canada (Canadian Medical Association, 2006). In Saskatchewan, 1,093 family physicians were eligible to practice (CMA, 2006), including 297 physicians in rural settings of fewer than 10,000 population (CMA, 2006; Society of Rural Physicians of Canada, 2005), and 796 in urban settings of 10,000 or greater population.
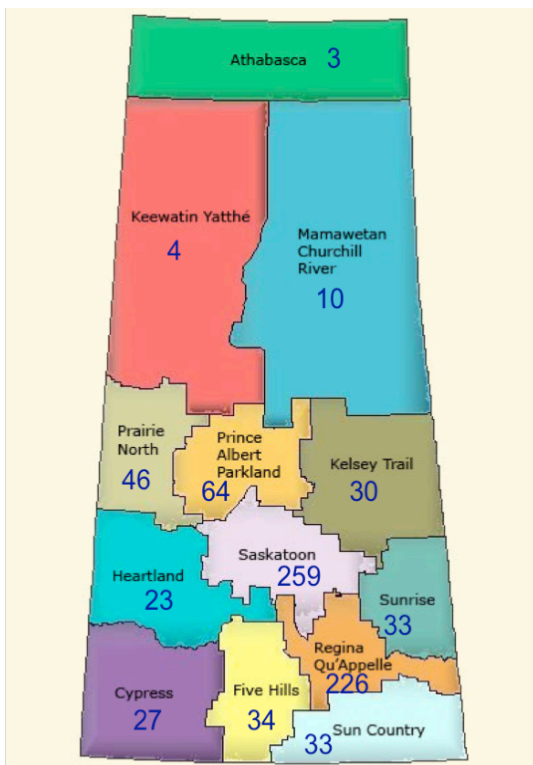
Figure 3.1: Health Regions of Study Population (N = 792)

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Contact information was available for only 950 Saskatchewan family physicians. The contact

list of 950 family physicians used to create the pilot study sample of 100 physicians was verified

against and updated with the College of Physicians and Surgeons of Saskatchewan mailing list

monthly updates up to December 2007, leaving a population of 892 physicians with contact

information. After removing the 100 pilot study physicians from this updated list, 792 names and

addresses remained. One in three physicians (33%, n = 259/792) practiced in Saskatoon Health

Region, 28% (n = 226/792) in Regina Qu'Appelle Health Region, and 39% (n = 307/792)

practiced in one of the other 11 health regions (Figure 3.1).

3.7 Data Collection

Data collection occurred January through April of 2008. Eligible physicians were family

physicians or locum tenens, in full-time or part-time medical practice, currently practicing/on

leave of absence in Saskatchewan. Ineligible persons were specialists, medical students,

residents, retired, employed primarily in medically related fields (i.e. administration, teaching,

research), and those who were included in the pilot study sample.

Of 792 family physicians surveyed, 666 were deemed eligible to participate and 126

physicians were ineligible, had moved, retired, or were deceased. Of the 666 eligible physicians,

129 refused (19%), 206 did not respond (31%), and 331 returned completed questionnaires

(49.7% response rate).

Mail data collection procedures followed Dillman's Tailored Design Method (Dillman, 2007),

which emphasizes repeated and personalized contacts for the purpose of improving the rate of

response. The first contact mailing invited physicians to participate in a study of diagnosis and

treatment of mood and anxiety disorders in Saskatchewan family practice (Appendix O). The

initial letter further described the purpose of the study, detailed the author's methods of obtaining

their contact information, and emphasized confidentiality and anonymity of responses. The second contact occurred two weeks later with the first questionnaire package, which included a cover letter with guidelines for participation and non-participation, a questionnaire, a self-addressed stamped envelope, and a $10 incentive to participate (Appendix P). One month after the first contact, the third contact mailing included a letter that thanked physicians who had responded by this time, and served as a reminder to those who had not yet responded (Appendix Q). Six weeks after the first contact, the second questionnaire package was the fourth contact with physicians (Appendix R). This package included a cover letter thanking physicians who had responded and providing guidelines for those who chose to not participate, a questionnaire, and a self-addressed stamped envelope. The fifth contact mailing was sent 10 weeks after the first contact. In this mailing, non-participants received a package which included a cover letter indicating that this would be the last invitation to participate, as well as a questionnaire and a self-addressed stamped envelope (Appendix S). Participants who had returned a completed survey received a letter thanking them for their participation (Appendix T).

3.8 Questionnaires

Respondents received either an Anxiety Questionnaire (Appendix U) or a Depression Questionnaire (Appendix V). Each questionnaire contained a clinical scenario and relevant measures, including tentative diagnosis, treatment plan, follow-up return, and barriers to care (Table 3.1). The Depression Questionnaire included a clinical scenario of a patient presenting with Generalized Anxiety Disorder; the Anxiety Questionnaire contained a clinical scenario of a patient presenting with Major Depressive Episode[1]. Each questionnaire also contained

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[1] In order to minimize the possibility of cuing physicians to the correct responses regarding the clinical scenarios, the GAD scenario was included in the Depression Questionnaire, and the MDE scenario was included in the Anxiety Questionnaire.

professional attribute measures specific to providing care to patients with either depression or anxiety. Specifically, the Depression Questionnaire contained professional attribute measures relevant to providing care to patients with depression; the Anxiety Questionnaire contained professional attribute measures relevant to providing care to patients with anxiety. In addition,

Table 3.1
Study Questionnaire Measures

Depression Questionnaire	Anxiety Questionnaire
GAD clinical scenario - tentative diagnosis, treatment plan, follow-up return, barriers to care	**MDE clinical scenario** - lab tests, tentative diagnosis, treatment plan, follow-up return, barriers to care
Personal attributes	Personal attributes
Organizational setting	Organizational setting
Information/resource use	Information/resource use
Professional attributes (regarding patients with **depression)** - duration of visits, average weekly number of visits, requirements for effective management, diagnosis resistance, depression attitude scale, depression knowledge scale, patient factors in treatment decisions	Professional attributes (regarding patients with **anxiety)** - typical treatment, consideration of patient cues, duration of visits, average weekly number of visits, depression attitude scale, diagnosis resistance, resources required for effective management, depression knowledge scale, anti-anxiety prescriptions

Different measures	Identical measures

each questionnaire contained identical measures of respondents' personal attributes, organizational setting, and information and resource use.

3.8.1 Clinical Scenarios

On the basis of one of two clinical scenarios, physicians were asked to list their specific tentative diagnoses, offer an initial treatment plan, specify when they would like the patient to return for their first follow-up (number of weeks after 1st visit), and list one or more reasons they might not be able to provide the best possible care for the clinical scenario patient (barriers to

care). The measures of tentative diagnosis and initial treatment plan were adapted from an early study by Yager and colleagues (1986).

3.8.1.1 Generalized Anxiety Disorder (GAD) Clinical Scenario

The GAD scenario was adapted from two studies (Kielbasa et al., 2004; Yager et al., 1986). The scenario presented a patient with symptoms that characterize GAD, as according to the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders IV, 1994). These underlined symptoms include worries that have lasted longer than 6 months, restlessness, edginess, and apprehension, with aching muscles and joints, multiple worries, concentration problems, and difficulty controlling these worries. The scenario included additional information regarding age, marital status and physical symptoms, and physical exam results to help respondents rule out physical causes.

History
- 31 year-old man
- married, 2 young children
- muscle and joint discomfort, heart palpitations, dizziness of more than one year duration
- restless and edgy most of the time, believes he's "losing it" because he's constantly apprehensive
- mind races and he "can't seem to pin them (the thoughts) down"
- concerned that his health is deteriorating to the point that sometimes he has to leave work when the symptoms become intolerable
- has given up many social contacts aside from family and close friends
- has cut coffee intake to 1 cup/day

Physical exam
- General - alert and oriented
- Skin - moist, Color - good
- HEENT (head, eyes, ears, nose, throat) - unremarkable
- Chest - grade II murmur
- Abdomen - unremarkable, extremities – unremarkable
- Reflexes - brisk bilaterally

3.8.1.2 Major Depressive Episode (MDE) Clinical Scenario

The MDE scenario was adapted from four studies (Kielbasa et al., 2004; Price, 2002; Farid, 2000; Yager et al., 1986). The scenario presented a patient with MDE as defined in the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders IV, 1994). Underlined symptoms include loss of pleasure, fatigue, insomnia, loss of appetite, and decreased concentration, lasting more than two weeks. Additional information includes age, marital status, physical symptoms, and brief physical exam results.

History
- 42 year-old employed woman
- married 21 years, 2 adult children
- four-week history of fatigue, insomnia, headache and abdominal pain generalized over the abdomen, constant in nature
- denies signs and symptoms of an acute infectious process and was in relatively good health before the previous month
- has obtained intermittent relief from headache by using acetaminophen, and takes a multivitamin regularly
- complains "food just doesn't taste good anymore"
- finding it harder to concentrate at work, and to socialize with friends and family
- wonders if she will ever feel normal again, yet denies any stress or significant problems in her life.
- non-smoker, drinks 2 cups of coffee/day, denies alcohol intake.

Physical exam
- General - tired but in no acute distress
- Skin - normal, color - good
- HEENT (head, eyes, ears, nose, throat) - unremarkable
- Pelvic exam - normal
- Abdomen - generalized tenderness
- Extremities – unremarkable

3.8.2 Clinical Scenario Measures

The Depression Questionnaire included a clinical scenario of a patient presenting with symptoms of generalized anxiety disorder (GAD) and the Anxiety Questionnaire presented a clinical scenario of a patient presenting with symptoms of major depressive episode (MDE). As

detailed in the following sections, each scenario was followed by questions regarding tentative diagnosis, treatment plan, follow-up return, and barriers to care concerning the scenario patient.

3.8.2.1 Tentative Diagnosis

Based on the clinical scenario of a patient presenting with either GAD or MDE, this open-ended question asked respondents to list the specific tentative diagnoses they were considering. Accurate tentative diagnoses of the GAD clinical scenario patient included one or more of the following terms: anxiety, anxiety disorder, generalized anxiety disorder, GAD, panic, panic disorder, or panic attack. Accurate tentative diagnoses of the MDE clinical scenario patient included one or more of the following terms: depression, major depression, depressive disorder, depressive illness, major depressive disorder, MDD, MDE, mood, mood disorder, or dysthymia.

3.8.2.2 Treatment Plan

Based on the clinical scenario of a patient presenting with either GAD or MDE, this open-ended question asked family physicians to describe the treatment plan they would initiate at this point. Responses which referred to delaying treatment until lab results were received, delaying a decision regarding treatment, or mention of 'none', were considered indicative of ineffective (delayed/no) treatment. Statements that did not refer to delayed/no treatment indicated effective (immediate) treatment.

3.8.2.3 Follow-up Return

Respondents were asked to specify the time of first follow-up (number of weeks after the first visit), of the clinical scenario patient. Follow-up two weeks or sooner was considered effective; follow-up was considered ineffective if the physician wanted to see the patient return more than two weeks after the initial visit.

3.8.2.4 Barriers to Care

In an open-ended formatted question, respondents were asked to provide one or more reasons they may not be able to provide the best possible care for the clinical scenario patient. Responses fell into one of three themes: system access, physician issues, and patient issues.

3.8.3 Additional Questionnaire Measures

Measures of physicians' personal attributes, organizational setting, information and resource use, and professional attributes are summarized in Table 3.1, and detailed in the following sections. Complete details regarding all additional questionnaire measures, including those not analysed in the present study, are available in Appendix W.

3.8.3.1 Personal Attributes

Personal attributes of physicians included gender, age, and three attributes sourced from the National Physician Survey (College of Family Physicians of Canada, 2004): years in practice as a family physician, country of undergraduate medical training, and country of postgraduate medical training. 'Age' was coded as a continuous as well as categorical variable (<35, 35-39, 40-49, 50-59, 60-69, and 70 and over). Years in practice was also coded as both a continuous and categorical variable (<10, 10-19, 20-29, 30-39, and 40 and over). For multivariate analysis purposes, country of medical training was recoded as 'in Canada' and 'outside Canada'.

3.8.3.2 Organizational Setting

The National Physician Survey (College of Family Physicians of Canada, 2004) served as the basis for the measure of main patient care setting. The original 11 categories of main patient care setting detailed in the NPS survey were reduced to seven in this study; for multivariate analysis purposes, these seven were further reduced to two categories (private office/clinic vs. other office). The NPS also provided the measure of solo, group, or other practice, which were reduced

to two categories for the purposes of multivariate analysis (solo and group/other). Solo practice has been found to be negatively associated with accurate diagnosis of five types of psychiatric illness (Fitzpatrick et al., 1997). Additional measures included internet access (access or no access), internet access during patient consultations (Mousseau, personal communication, November 13, 2007), and the population of the main patient care setting (for multivariate analysis purposes, urban >10,000, rural ≤10,000). Hartley et al. (1998) found that among rural physicians, knowledge and attitudes were significant barriers to effective management of patients with depression.

3.8.3.3 Information and Resource use

To evaluate physicians' use of information and resources, this study asked respondents to identify those specific sources they regularly used (at least once per month) for two separate purposes: to update general medical knowledge and to make specific clinical decisions. Physicians indicated regular use by checking items from a list of 14 sources (identified as information sources preferred by physicians in previous research (Coumou & Meijman, 2006; Dovey et al., 2006; Haug, 1997). Responses were coded as 'use regularly' or 'do not use regularly'.

Given this same list (with the addition of 'CME/CPD/CPL courses/programs, and the removal of 'other'), physicians were asked to indicate information sources and resources which demonstrated reliability, ease of access, relevance, and ease of understanding. Responses were coded as 'reliable' or 'not reliable', 'easy to access' or 'not easy to access', 'relevant' or 'not relevant', and 'easy to understand' or 'not easy to understand' (Connelly et al., 1990).

Respondents were asked to indicate the actions that they might take to confirm their decision if they were unsure about diagnosing a patient (with depression or anxiety). These actions

comprised conducting a thorough patient interview, using a screening instrument, consulting a diagnostic manual, consulting a colleague, consulting a psychiatrist, consulting a mental health professional, and basing their decision on experience. Responses were coded as 'use' or 'do not use'. Five of these choices were further recoded into two categories for multivariate analysis purposes: explicit information ('use' or 'do not use' either a screening instrument or diagnostic manual) and tacit information ('use' or 'do not use' a colleague, psychiatrist, or mental health professional).

3.8.3.4 Professional Attributes

Length of time in new and follow-up consultations

Martin-Agueda et al. (2005) reported that general practitioners spend a greater amount of time with depressed patients in initial visits than in follow-up consultations. Based on this research, this study included an open-ended question asking physicians to report the average length of time (minutes) spent with patients presenting with symptoms of anxiety or depression in new and follow-up consultations. Given the question's open-ended structure, respondents were free to indicate the average range of minutes they spent with patients. For this reason, the results for these measures are presented as discrete categories rather than as means (1-14, 15-29, 30-44, 45 and longer). Responses that fell across these ranges were coded accordingly (e.g. '10-15' as 1-14, '10-20' as 15-29, '15-30' as 15-29, and '20-30' as 15-29).

Number of patients diagnosed and treated on weekly basis

These open-ended questions allowed physicians to indicate a range for the number of patients they diagnosed and treated/managed for anxiety or depression on a weekly basis (Wright et al., 2005), as well as the total number of patient visits per week. Responses with a discernible midpoint were recoded accordingly (e.g. '1-3' as 2); otherwise, responses were recoded

conservatively (e.g. '1-2' as 1). Recodes included only whole values. For multivariate analysis purposes, the total number of patient visits per week were recoded as low (<100), medium (100-150), and high (151-450). These measures allowed a calculation of the estimated proportion of patients diagnosed and treated on a weekly basis (number of patients diagnosed or treated per week divided by the total number of patients per week) [Hartley et al., 1998].

Requirements for effective management

Family physicians were asked to indicate their level of agreement with 10 requirements to manage patients presenting with symptoms of anxiety or depression. Physicians indicated their agreement on a five-point scale ranging from 'strongly agree' to 'strongly disagree'.

While the full 10-item scale is unique to this study, most of the individual items were derived from previous research regarding factors associated with effective diagnosis and treatment of psychiatric disorders: 'improved access to psychiatrists' (Clatney et al., 2008); 'to be able to prescribe affordable medication' (Simon et al., 2004); 'more time to spend with my patients' (Hartley et al., 1998; Dew et al., 2005); 'improved access to mental health professionals other than psychiatrists' (Smith et al., 2004); 'more training on counselling techniques' (Telford et al., 2002); 'more personal experience managing patients with mental disorders' (Baik et al., 2005; Wong et al., 2006); 'up-to-date information on effective pharmacological treatments' (Tiemens et al., 1999; Lin et al., 2001; Katerndahl & Ferrer, 2004); and 'up-to-date information on effective non-pharmacological treatments' (Goldman et al., 1999).

Resistance to formal diagnosis of patient

This study asked physicians to indicate whether nine possible reasons might contribute to their decision to not make a formal diagnosis of a patient presenting with symptoms of depression. Responses were coded as 'yes, reason for not making formal diagnosis' or 'no, not a

reason for not making formal diagnosis'. For multivariate analysis purposes, 'yes' responses to eight of these nine items ('other' was excluded) were summed to calculate an overall summary score of diagnostic resistance.

Knowledge

The depression knowledge questionnaire (DKQ) (Meredith et al., 1999, 2000, 2007) was a 12-item scale designed to measure physicians' knowledge of depression on four dimensions, including knowledge of effective treatment (e.g. phases, duration), types of treatment (e.g. antidepressant medication, cognitive behavior therapy, and psychotherapy), types of antidepressant medication (e.g. SSRIs, tricyclics, and tranquilizers), and general knowledge. Physicians indicated their response to each item on a 5-point scale from 'definitely true', to 'mostly true', 'don't know', 'mostly false', and 'definitely false'.

An overall summary score was calculated by summing correct responses on 11 of the 12 items (i.e. item #6 was excluded, since the author judged that it was not an appropriate measure of knowledge). Correct items were scored as '1', incorrect as '0', and missing items as '0'. This summary score was then divided by 11 (i.e. the number of possible correct responses) to compute a final depression knowledge score based on a 100-point scale.

The anxiety knowledge scale (AKQ) was a 12-item scale designed by the author to measure physicians' knowledge of anxiety based on the Canadian Psychiatric Association's Clinical Practice Guidelines for Management of Anxiety Disorders (2006). Similar to the DKQ, the AKQ measured physicians' knowledge of anxiety on four dimensions: effective treatment, types of treatment, types of medication, and general knowledge.

An overall summary scale was computed by summing correct responses to all 12 items, with correct items scored as '1', incorrect as '0', and missing as '0'. The summary score was then

divided by 12 (i.e. the number of possible correct responses) to arrive at a final anxiety knowledge scale based on a 100-point scale.

Attitudes

The depression attitude questionnaire (scale) was designed by Botega and Silveira (1996) and adapted for use in studies of various health professionals, including nurses in the USA (Haddad et al., 2007); general practitioners in Australia (Richards et al., 2004), general practitioners in Scotland (Ross et al., 1999), nurses in the UK (Payne et al., 2002), and general practitioners in the UK (Dowrick et al., 2000; King et al., 2002; Oladinni, 2002). A psychometric analysis of a 20-item version of the depression attitude scale administered to 189 nurses resulted in Cronbach's alpha 0.68 (Haddad et al., 2007). Haddad et al.'s study (2007) is the only published study to report a measure of internal scale consistency for the depression attitude scale.

The anxiety attitude scale was created for this study by modifying the depression attitude questionnaire. The terms 'depressive', 'depression', 'depressed' were replaced with the terms 'anxiety' and 'anxious'. Where the original depression attitude scale referred to treatment, similar treatment for anxiety disorders was substituted (e.g. 'pharmacotherapy' for 'antidepressants').

In this study, the depression attitude scale (22-items) and the anxiety attitude scale (22-items) asked respondents to indicate their agreement with 22 statements. Responses included 'strongly agree', 'agree', 'neutral', 'disagree', or 'strongly disagree'. For multivariate analysis purposes, only respondents with valid responses to all 13 items in the final four-factor model of depression attitudes were included in the analysis. Likewise, only respondents with valid responses to all 13 items in the final four-factor model of anxiety attitudes were included in the analysis.

3.8.3.5 Patient Factors

Physicians were asked to indicate those patient factors they used (all, most, some, a little, none of the time) when deciding on the best treatment for a patient (with depression or anxiety). Patient factors included age, gender, marital status, children, employment status, preference for treatment, and (patient's) family's preference for treatment.

3.9 Validity and Reliability

Content validity of the surveys was reinforced in several ways. First, the surveys employed clinical scenarios adapted from previous studies, and standardized scales where possible. For instance, the surveys included demographic measures used in the National Physician Survey (College of Family Physicians of Canada, 2004), a depression knowledge questionnaire used in a previous study (Meredith et al., 1999, 2000, 2007), and a Depression Attitude Questionnaire used in several international studies (Botega & Silveira, 1996; Dowrick et al., 2000; Haddad et al., 2007; Payne et al., 2002; Richards et al., 2004). Second, drafts of the surveys were reviewed by family physicians prior to a pilot study, and their comments included in further revisions. Third, a pilot study of 100 Saskatchewan family physicians was conducted, the results of which were incorporated into the methodology for the main study.

3.10 Data Analysis

Data analysis included simple univariate descriptives, as well as bivariate analyses with nonparametric tests of significance and binary logistic regression tests of significance, exploratory factor analyses, and multivariate analysis with binary logistic regression.

Simple univariate descriptives were generated for respondents' personal attributes and organizational settings (frequencies and means). These descriptives were compared with the most recent information from the Saskatchewan component of the 2007 National Physician

Survey (College of Family Physicians of Canada, 2007). This comparison allowed for an evaluation of sample representativeness. Simple descriptive analysis was also used to describe physicians' responses to the clinical scenarios, their information and resource use, and their professional attributes.

Bivariate analyses of associations between each independent variable and each of the three outcome variables (*tentative diagnosis*, *treatment plan*, and *follow-up return*) were conducted. These analyses included chi-square nonparametric tests of significance for associations between categorical independent variables (e.g. gender and internet access) and the three categorical dependent variables (*tentative diagnosis*, *treatment plan*, and *follow-up return*); Mann-Whitney nonparametric tests of significance for associations between continuous independent variables (e.g. age, knowledge scores, attitude scores) and two of the three categorical dependent variables (*tentative diagnosis* and *follow-up return*); and binary logistic regression tests of significance for associations between continuous independent variables (e.g. age, knowledge score, attitude scores) and one of the three categorical dependent variables (*treatment plan*).

Exploratory factor analysis of the 22-item depression attitude scale and the 22-item anxiety attitude scales allowed for the identification of particular attitude dimensions (subscales) within each scale. Support for the use of factor analysis for these two scales was evaluated with the Kaiser-Meyer-Olkin measure, and Bartlett's Test of Sphericity. This analysis includes a discussion of the percent of variance accounted for by each subscale, the cumulative percent of variance accounted for by the reduced models, Cronbach's alpha to evaluate internal consistency reliability for each subscale, as well as Cronbach's alpha for the reduced subscales (Dixon, 2005).

Multivariate analysis of the association between each of the independent variables significantly associated with *treatment plan* at the bivariate level ($p<.05$) involved use of binary logistic regression. This analysis employed the enter method, in which all variables significantly associated with *treatment plan* at the bivariate level were entered simultaneously. The fit of each model was assessed with the Hosmer and Lemeshow goodness-of-fit chi-square and Nagelkerke R-square test.

4. PILOT STUDY

4.1 Introduction

The pilot study of 100 Saskatchewan family physicians had four main purposes: to test the survey questionnaire, to evaluate the mail survey procedures for the main study, to estimate the response rate of the main study, and to evaluate the impact of an incentive to participate on the response rate. The pilot study was conducted to improve the quality of the main study by revealing shortcomings in the research design, such as deficiencies in the mail-out procedures and the survey instrument. One of two questionnaire versions was mailed to each physician (Appendix M and N). Each version of the questionnaire contained a clinical scenario of a patient presenting with symptoms of MDE or GAD plus queries regarding physician response to the scenarios, as well as measures of physician attributes (personal and professional), organizational setting, patient cues, and information and resource use.

Testing the survey questionnaire involved examining whether the questions were understood in the manner intended; whether instructions to respondents lacked clarity; whether some questions had a high rate of non-response; whether the questionnaire could be improved by transforming some open-ended questions into closed-ended questions; and whether some questions could be eliminated without losing important information.

The mail survey procedures to be followed in the main study were followed in the pilot study. The design of the pilot study followed Dillman's Tailored Design Method, which applies the concept of social exchange to ultimately reduce survey error and attain high response rates (Dillman, 2007). Specifically, respondents received a minimum of three and a maximum of six contacts. These contacts included one pre-letter (Appendix D); one initial survey package including a consent form (Appendix C), letter (E), and questionnaire (Appendix M or N); one

thank you letter (Appendix F or H), two replacement packages with reminder letters (Appendices I and K) and a questionnaire (Appendix M or N); and a final thank-you letter (Appendix L).

The rate of response to the pilot study was 38%, with surveys completed by 30 of 78 eligible family physicians. This response rate is low, even in light of notoriously low response rates observed among physicians targeted by previous mail surveys (Kellerman & Herod, 2001). Furthermore, a recent survey of the entire Saskatchewan family physician population, also concerning mental health, had a higher response rate of 48% (Clatney et al., 2008). However, the pilot study response rate was targeted for improvement in the main study by revising and eliminating survey questions to shorten the survey length, printing the survey instrument with color pages, revising aspects of the mail survey procedures, and including the incentive to respond in earlier rather than later survey packages.

4.2 Questionnaire Development

Two questionnaires were developed for the pilot study in anticipation of their implementation in the main study. The content domains of the dependent variables were effective diagnosis decision, work knowledge and technical knowledge. The domains of the independent variables were organizational setting, patient cues, physician characteristics, and information and resource use. The two questionnaires had many identical items of organizational setting and information use, as well as questions specific to caring for patients with either depression or anxiety. Where possible, relevant items from published studies of physician surveys were included in the questionnaires, without modifications. Other questionnaire measures were developed specifically for this project. All of the measures included in the two questionnaires are described in Table 4.1.

Table 4.1
Measures included in Pilot Study Questionnaire

Content Domain	Depression Questionnaire with clinical scenario of patient with Major Depressive Episode (MDE)	Anxiety Questionnaire with clinical scenario of patient with Generalized Anxiety Disorder (GAD)
Dependent Variables		
Effective Diagnosis Decision	Correct diagnosis (based on clinical scenario of MDE)	Correct diagnosis (based on clinical scenario of GAD)
Work Knowledge	Correct treatment and management (based on clinical scenario of MDE	Correct treatment and management (based on clinical scenario of GAD)
Technical Knowledge	Effective Treatment of Depression (ETD) - 12 item Index (Meredith et al., 1999)	Effective Treatment of Anxiety (ETA) - 12 item Index developed for this study based on Clinical Practice Guidelines for the Management of Anxiety Disorders (Canadian Psychiatric Association, 2006)
	Two treatment interventions used for severe vs moderate depression (choice of 7 treatment interventions) First choice of medication to treat depression, starting dosage and duration of treatment, stratified by age group (based on study of psychotropic prescribing practices) (Tinsley et al. 1998)	Two treatment interventions used for severe vs moderate anxiety (choice of 7 treatment interventions) First choice of medication to treat anxiety, starting dosage and duration of treatment, stratified by age group (based on study of psychotropic prescribing practices) (Tinsley et al. 1998)
Independent Variables		
Organizational setting	Practice setting · Main patient care setting is private office vs 6 other types · Solo or group practice · Urban (population ≥ 10,000) vs Rural (population < 10,000) · Internet access in main patient care setting and during patient consultations Collegial network · Disciplines, number, accessibility, and primary mode of contact · Patient care is shared with other health professionals	
Patient cues	· Patient symptoms considered in clinical scenario diagnosis decision · Patient factors considered in decision of best treatment (age, gender, marital status, children, employment status, patient preference for treatment, and family preference for treatment)	

Content Domain	Depression Questionnaire with clinical scenario of patient with Major Depressive Episode (MDE)	Anxiety Questionnaire with clinical scenario of patient with Generalized Anxiety Disorder (GAD)
Physician characteristics		
Attitudes and beliefs	Depression Attitude Questionnaire [DAQ] (Botega and Silveira, 1996) Depression – 22 item index	Anxiety Attitude Questionnaire [adapted from the DAQ, for this study] (Botega and Silveira, 1996) – 22 item index
	Resistance to diagnosis of depression · Choice of 7 reasons for not diagnosing depression (Yes/No)	Resistance to diagnosis of anxiety · Choice of 7 reasons for not diagnosing anxiety (Yes/No)
Attributes	Socio-demographics · Gender · Age · Years in practice as a family physician Education – undergraduate and postgraduate medical	
Information and Resource Use	Purpose is to update general medical knowledge · 13 information sources and resources – regular use in past month (Yes/No) Purpose is to make specific clinical decision · 13 information sources and resources – regular use in past month (Yes/No) Purpose is to confirm decision regarding depression diagnosis · 6 information sources and resources (Yes/No) Physical accessibility (easy to access in general) · 14 information sources and resources (Yes/No) Intellectual accessibility (easy to understand in general) · 14 information sources and resources (Yes/No) Reliability (trustworthy in general) · 14 information sources and resources (Yes/No) Relevance (to physician's needs in general) 14 information sources and resources (Yes/No)	

The two clinical scenarios were adapted from vignettes originally used in a study concerning the effect of payment method on choice of diagnostic categories by American psychologists (Kielbasa et al., 2004). Kielbasa et al.'s original anxiety vignette did not require significant modification, beyond changing details regarding the patient's age, occupation, and the criterion of generalized anxiety disorder relating to worrying about more than one thing. Patient details in

the Kielbasa and colleagues' original depression vignette were also modified to completely

satisfy the criteria of major depressive episode; the most significant modifications were the

addition of two symptoms and the specification of 4-week symptom duration.

One set of questions included in both questionnaires concerned the physician's first choice of

medication to treat depression, and duration of treatment (weeks) by three patient age groups

(10-17, 18-65, and >65 years). This item was based on a study of family physicians' and

psychiatrists' psychotropic prescribing practices (Tinsley et al., 1998), which examined group

differences in starting dosage stratified by patient's age. For the present study, duration of

treatment was added.

In the depression questionnaire, a 12-item index measuring Effective Treatment of Depression

(ETD) (Meredith et al., 1999) was included verbatim. This index was created by Meredith and

colleagues to measure physicians' knowledge of effective pharmacologic and psychological

treatment approaches to major depression. To include an equivalent index for the Effective

Treatment of Anxiety (ETA), a 12-item index based on Clinical Practice Guidelines for the

Management of Anxiety Disorders (Canadian Psychiatric Association, 2006) was created

specifically for this study. Similar to the ETD, the ETA was created to measure knowledge of

treatment approaches. In addition, one item regarding the knowledge of the epidemiology of

anxiety disorders was created.

The depression questionnaire also included The Depression Attitude Questionnaire (DAQ)

Index (Botega & Silveira, 1996), with a wording change in one item, and two completely new

questions added to the original 20 items. The DAQ was further modified and incorporated into

the anxiety questionnaire as the Anxiety Attitude Questionnaire (AAQ). In 16 of the 22

questions, the modifications simply involved changing the wording to refer to patients presenting

with anxiety rather than depression. The remaining six questions required further re-wording to refer to treatments specific to patients with anxiety disorder.

Four questions based on the National Physician Survey (The College of Family Physicians of Canada, 2004) were also slightly modified and incorporated into the questionnaires. These questions concerned status as a physician (e.g. full-time, student, on a leave of absence), type of main patient care setting (e.g. private office, community clinic, emergency department), organization of main patient care setting (e.g. solo, group, other), and sharing patient care with other health professionals (e.g. psychiatrists, nurse practitioners, and occupational therapists).

4.3 Questionnaire Evaluation Prior to Pilot Study Data Collection

Prior to the pilot study, questionnaire evaluation began with distribution of the questionnaires by a faculty member of the Department of Psychiatry to two Saskatchewan family physicians with a known interest in managing patients with psychiatric disorders. Draft questionnaires were also distributed to family physicians who were fellow TUTOR-PHC students (Transdisciplinary Training and Understanding on Research in Primary Care). In total, four questionnaires were returned. Of the four, two questionnaires were completed by physicians practicing in Saskatoon, one practicing in Nova Scotia, and one practicing in New Zealand.

Based on these four completed questionnaires, measures were added, modified, or eliminated altogether, trimming the questionnaires from 11 to eight pages. The first added measure dealt with the two most popular treatment interventions used for patients presenting with moderate and severe depressive or anxiety disorders. The second added measure asked physicians to report their first choice of medication to treat depression, and duration of treatment (weeks) by three patient age groups (10-17, 18-65, and >65 years).

Several small modifications were also made to reduce response burden and in turn, reduce

item non-response. For instance, some items were compacted to reduce the overall page count.

Other items were trimmed, in order to require the physician to offer fewer examples. The

following comments arose from an open-ended question which was modified to one that asked

the physician when s/he would like the patient to return for 1st, 2nd, 3rd, and 4th follow-ups:

> Survey: If you have recommended treatment, what are the reasons for your
> recommendations? (Regarding clinical scenario patient presenting with depression).
> Physician #3: *All have been suggested to improve symptoms.*
> Physician #4: *Odd question. Obviously because of illness.*

Modifications were also made to the measure which asked physicians to provide five

examples each of specialist and other health professional colleagues available to call on for

consultation. Physicians provided the following comments when they came upon this section:

> Survey: Please indicate the profession(s) of colleagues in your support network, their level of
> accessibility, and your primary mode of contact with these professionals.
> Physician #3: *Can't say #.*
> Physician #4: *Too much information to ask for. Need to streamline.*

These comments prompted a trimming of the number of the maximum number of expected

examples, within each category, from five to two colleagues.

Although many questions were trimmed and compacted to lower the response burden upon

physicians, the two sets of measures which were added required balance by the eliminating two

sets in turn. For this reason, the entire section regarding patients exhibiting mental distress was

eliminated. Contained in this section was a set of measures which asked respondents to estimate

the average number of minutes spent with patients with mental distress for new and follow-up

visits, and the average number of patients/week recognized, diagnosed, and treated for

depression or anxiety. This section also contained eight items which asked physicians to indicate

their level of agreement with statements regarding the resources they required to effectively

manage patients exhibiting mental distress.

At the end of the questionnaire, physicians were given an opportunity to provide comments

about the questionnaire. Physicians responded with the following comments:

Survey: Do you have any comments about this questionnaire?
Physician #3: *Info use questions hard to answer eg some (journals CMS/CPGs) better
than others. Search engines again vary. Easy to read Qs. Easy to understand Qs.*
Physician #4: *Too long for most family docs. Some redundancies.*

4.4 Sample

The pilot study population of 100 physicians was drawn from the Canadian Medical Directory

(CMD), and verified against information from the College of Physicians and Surgeons of

Saskatchewan mailing list. The CMD Directory was accessed via a CD-ROM purchased from

MD:Select, and customized by the vendor to contain contact and other information for

Saskatchewan family physicians only. Given that the CMD purchase did not include ongoing

updates, and the College's mailing list is updated monthly, it was logical to combine the two

resources. The information contained in the Directory which was relevant for the pilot and main

studies included first and last names, mailing addresses, gender, and year of graduation for all

Saskatchewan family physicians.

The Directory contained information for a total of 918 individuals. Based on the College's

mailing list, I added 36 family physicians identified as locum tenens and removed four

physicians identified as no longer actively practicing. The total population prior to deriving the

pilot study list was 950 individuals. The pilot study population of 100 physicians was derived by

sorting the larger file alphabetically by physicians' last names, and selecting every tenth person.

Once the list of 100 persons was created, the College's updates were consulted to ensure that the physicians were actively practicing and that their contact information was current.

Characteristics of the physicians comprising the pilot study population are summarized in Table 4.2. Sixty percent of the population were male and 73% practiced in urban settings. Half of the population (50%) received a depression questionnaire concerning the topic of depression; the other half received an anxiety questionnaire.

Table 4.2
Gender and Setting of Pilot Study Population

Characteristic	Physicians N
Gender	
Male	60
Female	40
Practice location	
Urban (<10,000)	73
Rural (≥10,000)	27
Questionnaire topic	
Anxiety	50
Depression	50
Total	**100**

In order to classify physicians as either rural (<10,000) or urban (≥10,000) on the basis of their practice location, I accessed the populations of their cities/towns using the 2007 Saskatchewan Population Report (Statistics Canada, 2007). The majority of the sample practiced in urban locations (n=73); 27 practiced in rural settings (Table 4.3). Physicians from 25 communities were surveyed. Fifty-four of the physicians practiced in either Saskatoon (n=33) or Regina (n=21). The remaining 46 physicians practiced in one of 23 communities.

Table 4.3
Location of Practice of Pilot Study Population, Based on 2006 Census

Location of Practice	Physicians Surveyed n	Population	Rural n	Urban n
Battleford	1	3,685	1	
Beechy	1	243	1	
Cabri	1	439	1	
Esterhazy	1	2,336	1	
Fort Qu'Appelle	1	1,919	1	
Humboldt	2	4,998	2	
Indian Head	1	1,634	1	
Kamsack	1	1,713	1	
Kelvington	1	866	1	
Kindersley	1	4,412	1	
Lloydminster	3	8,118	3	
Meadow Lake	3	4,771	3	
Melfort	1	5,192	1	
Moose Jaw	8	32,132		8
Moosomin	1	2,257	1	
Nipawin	1	4,061	1	
North Battleford	2	13,190		2
Paradise Hill	1	483	1	
Prince Albert	6	34,138		6
Regina	21	179,246		21
Saskatoon	33	202,340		33
Shellbrook	1	1,215	1	
Swift Current	3	14,946		3
Unity	1	2,147	1	
Weyburn	4	9,433	4	
Total	**100**		**27**	**73**

4.5 Data Collection

Pilot study data collection spanned 4 months, beginning June 14, 2007 with a pre-letter and ending October 10th with a thank-you letter to respondents to the last wave of surveys. The survey involved a maximum of six contacts with physicians, from pre-letter, to the first package, thank-you or reminder, thank-you or second package, thank-you or third package, and reminder letter (Table 4.4). Physicians selected for the pilot study were contacted two to six times, depending upon the point at which they responded to the survey.

Table 4.4
Dates and Description of Contacts With Pilot Study Population

	Description of Contact					
Date	First	Second	Third	Fourth	Fifth	Sixth
June 14	Pre-letter					
June 21		1st Package invitation				
July 6			Thank-you & and reminder			
July 20				Thank-you & 2nd package		
August 29					Thank-you & 3rd package (w/ $5)	
October 10						Thank-you

All letters were printed on University of Saskatchewan letterhead signed by the author, supervisor, and representative for the Head of the Department of Psychiatry. Additionally, all letters and envelopes were personalized with the physician's name and address. Each package contained a self-addressed stamped envelope without return address to protect the identity of physicians responding to the survey. No incentives to respond were used until the 3rd survey package. At that point, $5 was enclosed with each package to physicians who had not yet responded.

4.6 Response Rate

Figure 4.1 presents a summary of the number of contacts with physicians, and the number of respondents and non-respondents after each contact. Of the original 100 physicians surveyed, 30 physicians returned completed questionnaires, 15 refused to participate, 22 were ineligible/moved/retired, and 33 did not respond (Table 4.5).

In total, 78 physicians were eligible for this study (100 – 22). The response rate for this study was 38%, based on 30 of 78 eligible physicians returning completed questionnaires. The rate of refusal to participate was 19% (15/78), and the non-response rate was 42% (33/78). The total non-response rate was 62% (48/78).
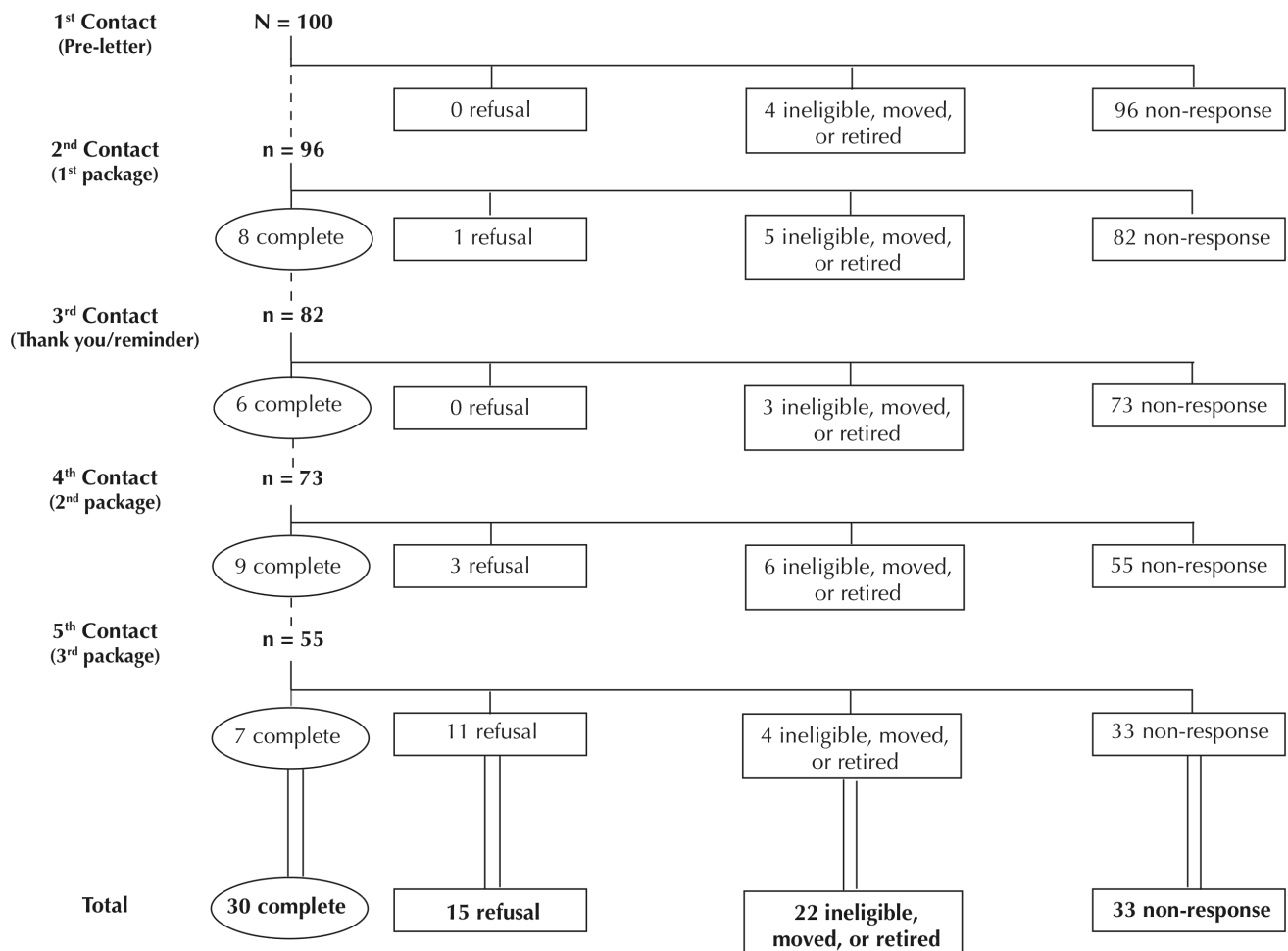
Figure 4.1
Description of Contact with Pilot Study Population

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Table 4.5 indicates that of the physicians surveyed, men accounted for 60% and women for 40%. However, women constituted a greater proportion of respondents (57% vs. 43%). Correspondingly, a greater proportion of non-respondents were men (63% vs. 37%). Furthermore, urban physicians comprised 73% and rural physicians accounted for 27% of the original sample. In the end, 67% of respondents were urban and 33% were rural. Lastly, an equal number of anxiety and depression questionnaires were distributed, and an equal number of each was returned completed (n=15).

Table 4.5
Characteristics of Pilot Study Respondents and Non-respondents

Characteristic	Population N=100 N	Respondent N=30 n (%)	Non-respondents N=48		
			Refusal N=15 n (%)	Non-response N=33 n (%)	Total N=48 n (%)
Gender					
Male	60	13 (43)	6 (40)	24 (73)	48 (63)
Female	40	17 (57)	9 (60)	9 (27)	18 (37)
Practice location					
Urban (<10,000)	73	20 (67)	14 (93)	26 (79)	40 (83)
Rural (≥10,000)	27	10 (33)	1 (7)	7 (21)	8 (17)
Questionnaire topic					
Anxiety	50	15 (50)	6 (40)	20 (61)	26 (54)
Depression	50	15 (50)	9 (60)	13 (39)	22 (46)
Number of contacts					
(1st package)		8 (27)	1 (7)		1 (2)
3 (Thank-you/ reminder)		6 (20)	0		0
4 (Thank-you/ 2nd package)		9 (30)	3 (20)		3 (6)
5 (Thank-you/ 3nd package)		7 (23)	11 (73)	33 (100)	44 (92)

Nearly half (47%) of all respondents returned their completed questionnaires after three contacts (i.e. before the second package was sent); 53% (16/30) of respondents were contacted four to five times before they returned their completed questionnaires.

Rural physicians were more likely to complete the survey than their urban counterparts. For instance, 37% (10/27) of rural physicians completed the survey, compared to 27% (20/73) of urban physicians. Likewise, 55% (40/73) of urban physicians refused to participate/did not respond, compared to 30% (8/27) of rural physicians.

4.7 Respondent Comments

Physicians who chose not to complete and return their questionnaires were encouraged to indicate the reason on the front cover, or first inside page, of their returned questionnaires. Only one of the 15 physicians who refused to participate indicated their reasoning (i.e. she did not like the questionnaire and did not want to skew the results by participating). Of the 22 individuals who indicated their ineligibility, one had retired, one had never practiced in the location on record, eight had moved, and 12 were not family physicians.

On the last page of the questionnaire, respondents were asked to provide general comments about the questionnaire. The basis for this question was to give respondents a legitimate space in which to note what they did or did not like about the survey. Six of the 29 respondents took this opportunity to provide comments. For the purposes of revising questionnaire content with a view to the main study, the comments related to survey length and the difficulty of providing concise survey responses in comparison to actual practice. Specific comments regarding survey length were as follows:

> Survey: Do you have any general comments about this questionnaire?
> Physician: *…Took 15-20 minutes (made me depressed).*
> Physician: *It was too long.*
> Physician: *…You deceived us with the time it takes to do this long questionnaire. It took over 30 mins for me.*

Comments regarding the difficulty of answering survey questions based on actual practice included the following:

Survey: Do you have any general comments about this questionnaire?
Physician: *At times difficult to answer esp. compared to actual practise...*
Physician: *Some poor questions – not enough information to provide proper answers (i.e. the case, weeks to follow-up, first choice in medication. There are many variables that need to be evaluated prior to selection.*

4.8 Pilot Study Results

One hundred percent of physicians diagnosed the clinical scenario patient correctly. Physicians reported that they may not be able to provide the best possible care to the clinical scenario patient due to cost barriers for patients to access medication and counseling, patient non-compliance, physicians' lack of skill, training, or interest in psychiatric problems, and time constraints to give adequate counseling and instructions regarding medication use. Medical journals were the most frequently used information source to update general medical knowledge, and colleagues was the information source most frequently used by physicians when making a specific clinical decision. Physicians were asked to rate information sources on reliability (trust), ease of access, relevance, and ease of understanding. CME courses and psychiatrists consistently ranked in the top three on all criteria, with the exception of ease of access. The majority of physicians indicated medication as their first choice of treatment intervention for patients with severe anxiety or depressive disorders, as well as for patients with moderate depressive disorders. Counselor/psychological referral was the first treatment choice for patients with moderate anxiety disorders.

4.9 Revisions to Main Study

To summarize, the pilot study aided tremendously in identifying weaknesses and strengths in the survey method and instrument. The main weaknesses of the pilot study were questionnaire design and failing to include an incentive to participate earlier in the survey process. The primary strength of the pilot study was the low rate of survey item non-response. That is, nearly all

physicians completed the questionnaires in their entirety without skipping a single question; only one physician skipped two full pages of questions.

For the main study, the first issue addressed subsequent to the pilot study was questionnaire revision. Specifically, the questionnaires were revised by trimming the overall survey length and adding color to improve the attractiveness of the survey. The second issue addressed was the inclusion of the incentive to participate ($10) in the 1st package. When the incentive was included in the 3rd package of the pilot study, the number of physicians who replied to the survey increased, regardless of whether they completed the survey, refused, or were ineligible. For this reason, it was logical to offer this incentive to physicians as early in the process as possible.

The secondary weaknesses of the pilot study concerned the overlap with summer holidays and the inclusion of locum tenens in the pilot sample. Consequently, the main study began with pre-letters mailed during the second week of January, 2008. It was hoped that a greater number of physicians would respond in some fashion if the main study did not coincide with summer holidays. In addition, given that only one of the five locum tenens added to the pilot study sample completed the survey, locum tenens were excluded from the main study population.

Lastly, the clinical scenarios and additional measures within the questionnaires were interchanged for the main study. Specifically, whereas the Depression Questionnaire in the pilot study contained an MDE clinical scenario and measures of caring for patients with depression (Appendix M), the Depression Questionnaire in the main study was revised to contain a GAD clinical scenario and measures concerning caring for patients with depression (Appendix V). Given that 100% of pilot study respondents diagnosed the clinical scenario patient correctly, the rationale for this decision was to minimize the possibility of cuing physicians to the correct responses regarding the clinical scenarios in the main study.

5.0 MAIN STUDY RESULTS

This chapter presents the results of the main study, including a description of the study response rate, personal and professional attributes of respondents, their organizational settings, and information and resource use. In addition, this chapter explores family physicians' responses to depression and anxiety clinical scenarios included in the survey questionnaire, and presents bivariate analyses of responses to the clinical scenarios by personal and professional attributes, organizational setting, and information/resource use. The chapter concludes with a logistic regression analysis of respondents' treatment plan (of clinical scenario patients) by personal and professional attributes, organizational setting, and information/resource use.

5.1 Response Rate

Of the 792 family physicians initially contacted to participate in the main study, 87 were ineligible, 30 had incorrect addresses on record, eight were retired, and one physician was deceased (Figure 5.1). Of the remaining 666 eligible physicians, 129 (19%) refused to participate and 206 (31%) did not respond. A total of 331 eligible family physicians completed and returned surveys, for a response rate of 49.7 percent (331/666).

The rate of response for this study (49.7%, N=331) compares favorably to the rate of response to the 2007 National Physician Survey, Saskatchewan sample (NPSSS), of 29.25% (N=303/1036), and to the response rate of 48% obtained by a mail survey of Saskatchewan family physicians' regarding their mental health care perspectives (Clatney et al., 2008). The response rate was highest among physicians in the province's three remote health regions, 53% of whom (n=9/17) completed the survey (Figure 5.2). The lowest response rates were contributed by physicians in the Heartland (n=7/23) and Sunrise (n=10/33) health regions, 30% of whom completed the survey.

1st Contact
(Pre-letter Jan 4/08) N = 792

19 responses | 0 complete | 0 Refusal | 10 Ineligible | 9 Incorrect address | 0 Retired | 0 Deceased

2nd Contact
(Q1 Jan 23/08) n = 775

455 responses | 279 complete | 106 Refusal | 54 Ineligible | 12 Incorrect address | 3 Retired | 1 Deceased

3rd Contact
(Thank you/reminder Feb 6/08) n = 512

14 responses | 0 complete | 3 Refusal | 5 Ineligible | 4 Incorrect address | 2 Retired | 0 Deceased

4th Contact
(Q2 Feb 22/08) n = 373

62 responses | 32 complete | 12 Refusal | 16 Ineligible | 3 Incorrect address | 0 Retired | 0 Deceased

5th Contact
(Q3 Mar 14/08) n = 275

36 responses | 20 complete | 8 Refusal | 2 Ineligible | 2 Incorrect address | 3 Retired | 0 Deceased

Total 586 responses | 331 complete | 129 Refusal | 87 Ineligible | 30 Incorrect address | 8 Retired | 1 Deceased

Figure 5.1
Description of Contact With Main Study Population
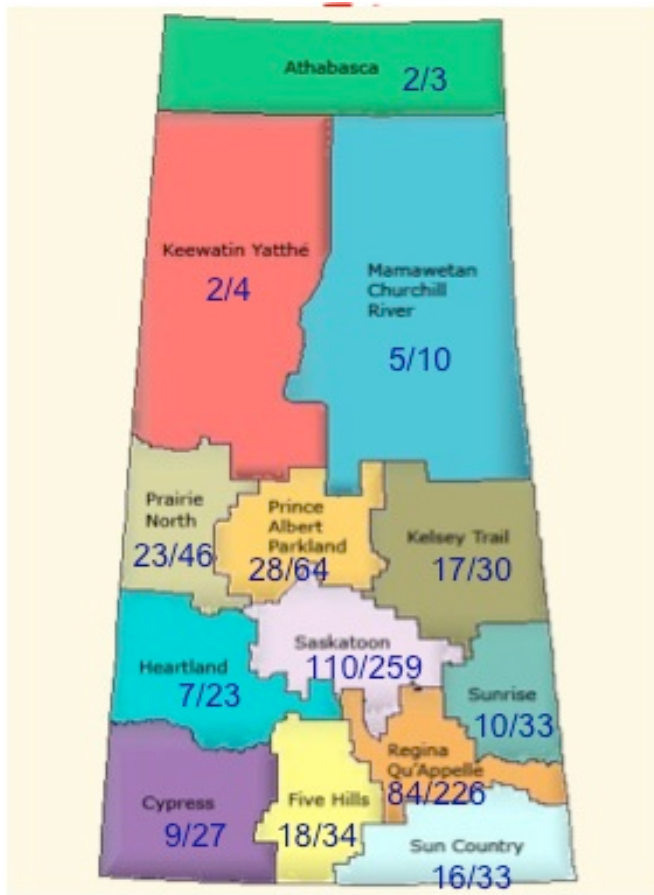
Figure 5.2 Health Regions of Respondents (N=331/792)

5.2 Demographics of Respondents

Comparison with the 2007 National Physician Survey NPS, Saskatchewan sample (NPSSS), indicates that the current study slightly under-represented male physicians and physicians who completed their undergraduate and postgraduate training outside Canada. Furthermore, this study over-represented physicians who had been in practice for a longer period of time. However, this study was fairly representative in terms of physicians' age.

According to the 2007 NPSSS Masterfile, 72.1% of Saskatchewan's family physicians in 2007 were men, and 27.9% were women; in comparison, this study had fewer men (69.8%) and more women (29.6%). Men comprised a greater proportion of Depression Questionnaire (DQ)

respondents than Anxiety Questionnaire (AQ) respondents (Table 5.1). Specifically, 74.4% of

DQ respondents were men, compared to 65.5% of AQ respondents. Conversely, a greater

proportion of women responded to the AQ than to the DQ (33.9% vs. 25.0%). However, the

gender difference in respondents was not significant (p=.076).

According to the 2007 NPSSS, the average age of Saskatchewan's family physicians was 50.1

years (27-77, SD=11.3). In comparison, the average age of physicians in this study was 49.6

years (28-88, SD=11.8). This comparison indicates that the average age of respondents in this

study was representative of the age of Saskatchewan family physicians as a whole. Overall,

11.2% of respondents were under 35 years of age, 20.5% were 60 years and over, and 65.3%

were 35 to 60 years of age. DQ respondents were slightly older (M=50.4) than AQ respondents

(M=48.8); however, this difference was not significant (p=.287).

Table 5.1
Personal Attributes of Respondents

	Anxiety Questionnaire (N=171)	Depression Questionnaire (N=160)	Total N=331
Personal Attribute	n (n%)	n (n%)	n (n%)
Gender			
Male	112 (65.5)	119 (74.4)	231 (69.8)
Female	58 (33.9)	40 (25.0)	98 (29.6)
Missing	1 (0.6)	1 (0.6)	2 (0.6)
Age mean (range, sd)	48.8 (28-81, 11.6)	50.4 (28-88, 12.0)	49.6 (28-88, 11.8)
<35	21 (12.3)	16 (10.0)	37 (11.2)
35-39	21 (12.3)	12 (7.5)	33 (10.0)
40-49	49 (28.7)	47 (29.4)	96 (29.0)
50-59	43 (25.1)	44 (27.5)	87 (26.3)
60-69	26 (15.2)	26 (16.3)	52 (15.7)
70 and over	6 (3.5)	10 (6.3)	16 (4.8)
Missing	5 (2.9)	5 (3.1)	10 (3.0)
Years in practice mean (range, sd)	18.1 (1-43, 11.4)	20.3 (1-50, 11.8)	19.2 (1-50, 11.6)
<10	48 (28.1)	34 (21.2)	82 (24.8)
10-19	39 (22.8)	34 (21.3)	73 (22.1)
20-29	45 (26.3)	47 (29.4)	92 (27.8)
30-39	30 (17.5)	31 (19.4)	61 (18.4)
40+	6 (3.5)	9 (5.6)	15. (4.5)
Missing	3 (1.8)	5 (3.1)	8 (2.4)
Education undergraduate			
In Canada	71 (41.5)	66 (41.3)	137 (41.4)
Outside Canada	84 (49.1)	84 (52.5)	168 (50.8)
Missing	16 (9.4)	10 (6.3)	26 (7.9)
Education postgraduate			
In Canada	72 (42.1)	60 (37.5)	132 (39.9)
Outside Canada	56 (32.7)	57 (35.6)	113 (34.1)
Missing	43 (25.1)	43 (26.9)	86 (26.0)

5.3 Personal Attributes

In addition to the personal attributes of age and gender, this analysis considered additional personal attributes such as years in practice as a family physician, country of undergraduate education, and country of postgraduate education (Table 5.1).

The 2007 NPSSS indicated that Saskatchewan family physicians had been in practice an average of 15.4 years (1-49, SD=12.0). In comparison, physicians in this study had been in practice an average of 19.2 years (1-50, SD=11.6). This comparison indicates that family physicians included in the present study had been in practice an average four years longer than family physicians included in the NPSSS.

Family physicians responding to the AQ had been in practice an average of 18.1 years (SD=11.4), compared to an average of 20.3 years (SD=11.8) for DQ respondents; this difference was not significant (p=.112). The proportion of physicians who had been in practice fewer than 20 years (AQ 50.9%, DQ 42.5%) was roughly equivalent to the proportion who had been in practice more than 20 years (AQ 47.3%, DQ 54.4%).

According to the 2007 NPSSS, 58.2% completed their undergraduate medical training outside Canada, and 42.4% completed their postgraduate medical training outside Canada. In contrast, 50.8% of physicians in this study obtained their undergraduate education outside Canada, and 34.1% obtained their postgraduate education outside Canada. These comparisons indicate that this study under-represents physicians who completed their undergraduate and postgraduate training outside Canada.

A minority of physicians (AQ 41.5%, DQ 41.3%) completed their undergraduate education in Canada; approximately half received their undergraduate education outside Canada (AQ 49.1%, DQ 52.5%). Of those physicians who completed their undergraduate training outside of Canada,

53% completed their training in Africa, 23% in Europe, 18% in Asia, and 6% in other or multiple countries.

Similar proportions of respondents (AQ 42.1%, DQ 37.5%) indicated that they completed their postgraduate education in Canada, while fewer noted that their postgraduate degree was obtained in a country other than Canada (AQ 32.7%, DQ 35.6%). Of note is the large proportion of respondents (AQ 25.1%, DQ 26.9%) who did not indicate the country of their postgraduate education.

5.4 Organizational Setting

With respect to organizational setting, this analysis considered physicians' practice setting (private office or other setting); practice type (solo or otherwise); population of practice setting (urban or otherwise); and internet access (Table 5.2).

5.4.1 Practice Setting and Practice Type

Most family physicians practiced in private offices (AQ 66.1%, DQ 66.9%), while a minority practiced in community clinics (AQ 9.9%, DQ 10.0%), or other settings (AQ 17.5%, DQ 16.3%). Physicians were most likely to practice in group settings (Q 78.9%, DQ 76.3%); a sizable minority were in solo practice (Q 15.8%, DQ 20.2%).

Approximately 7 of 10 physicians practiced in urban environments with populations of 10,001 or greater (AQ 68.4%, DQ 71.9%), and 3 in 10 practiced in small towns (AQ 27.5%, DQ 22.5%) or rural settings (AQ 4.1%, DQ 5.6%).

5.4.2 Internet Access

A large majority of physicians had internet access in their main patient care setting (AQ 86.0%, DQ 78.8%); however, a smaller proportion had internet access during patient consultations (AQ 45.6%, DQ 40.0%).

Table 5.2
Organization of Main Patient Care Setting

	Anxiety Questionnaire (N=171)	Depression Questionnaire (N=160)	Total N=331
Organizational setting	n (n%)	n (n%)	n (n%)
Practice setting			
Private office	113 (66.1)	107 (66.9)	220 (66.5)
Community clinic	17 (9.9)	16 (10.0)	33 (10.0)
Walk-in clinic	2 (1.2)	5 (3.1)	7 (2.1)
Academic health sciences centre	8 (4.7)	4 (2.5)	12 (3.9)
Community hospital	0 (0)	2 (1.3)	2 (0.6)
Other[a]	30 (17.5)	26 (16.3)	56 (16.9)
Missing	1 (0.6)	0 (0)	1 (0.3)
Practice type			
Solo	27 (15.8)	32 (20.2)	59 (17.8)
Group	135 (78.9)	122 (76.3)	257 (77.6)
Other[b]	7 (4.1)	6 (3.8)	13 (3.9)
Missing	2 (1.2)	0 (0)	2 (0.6)
Practice setting			
Rural ($\leq$ 1,000)	7 (4.1)	9 (5.6)	16 (4.8)
Small town (1,001-10,000)	47 (27.5)	36 (22.5)	83 (25.1)
Urban ($\geq$10,001)	117 (68.4)	115 (71.9)	232 (70.1)
Internet access			
Yes	147 (86.0)	126 (78.8)	273 (82.5)
No	22 (12.9)	34 (21.3)	56 (16.9)
Missing	2 (1.2)	0 (0)	2 (0.6)
Internet access during patient consultations			
Yes	78 (45.6)	65 (40.0)	142 (42.9)
No	91 (53.2)	96 (60.0)	187 (56.5)
Missing	2 (1.2)	0 (0)	2 (0.6)

[a]Included multiple and unspecified practice settings
[b]Included multiple, solo with one other physician or non-physician colleague, and unspecified types of practice

5.4.3 Duration of New and Follow-up Consultations

Family physicians generally reported spending more time with patients with anxiety and depression in new visits than in follow-up visits. Specifically, a large proportion of physicians reported spending 30 minutes or longer in new visits with anxious (31.6%) and depressed (40.0%) patients, compared with follow-up visits with anxious (8.2%) and depressed patients (12.5%). Likewise, physicians generally spent less time in follow-up visits than in new visits with patients. Specifically, a greater proportion of physicians spent 1 to 14 minutes with anxious (35.7%) and depressed (30.6%) patients in follow-up visits, compared with new visits with anxious (8.8%) and depressed (3.8%) patients. Overall, physicians were equally likely to spend 15 to 29 minutes in new visits with anxious (59.6%) and depressed (55.0%) patients and in follow-up visits with anxious (55.6%) and depressed (55.6%) patients.

Table 5.3
Duration of New and Follow-up Visits

Minutes	New visit n (n%)	Follow-up n (n%)
Anxiety Questionnaire (N=171)		
1-14	15 (8.8)	61 (35.7)
15-29	102 (59.6)	95 (55.6)
30-44	49 (28.7)	12 (7.0)
45 and longer	5 (2.9)	2 (1.2)
Missing	0	1 (0.6)
Depression Questionnaire (N=160)		
1-14	6 (3.8)	49 (30.6)
15-29	88 (55.0)	89 (55.6)
30-44	55 (34.4)	17 (10.6)
45 and longer	9 (5.6)	3 (1.9)
Missing	2 (1.3)	2 (1.3)

5.4.4 Number of Patients Diagnosed and Treated on Weekly Basis

Physicians reported treating more patients with anxiety and depression than they diagnosed, on a weekly basis (Table 5.4). Physicians diagnosed an average of 4.3 patients per week with anxiety, and treated an average of 8.0 patients. Patients diagnosed with anxiety accounted for approximately 4.1% of total weekly patient visits, and patients treated for anxiety accounted for 7.3% of their total patient visits.

Similarly, physicians reported diagnosing an average of 3.7 patients per week with depression, and treated an average of 8.6 patients. Patients diagnosed with depression comprised 3.0% of total weekly patient visits, and those treated for depression accounted for 7.4% of total patient visits.

Table 5.4
Average Number of Diagnosis, Treatment, and Total Patient Visits per Week

Number	Anxiety Questionnaire (N=171) n (n%)	Depression Questionnaire (N=160) n (n%)
Diagnosis visits		
0	3 (17.5)	5 (3.1)
1-5	132 (77.2)	120 (75.0)
6-10	23 (13.5)	18 (11.3)
11-15	7 (4.1)	4 (2.5)
16-20	3 (1.8)	3 (1.9)
More than 20	1 (0.6)	1 (0.6)
Missing	2 (1.2)	9 (5.6)
Diagnosis visits mean (range, sd)	4.3 (0-25, 4.3)	3.7 (0-30, 4.3)
Treatment Visits		
0	1 (0.6)	3 (1.9)
1-5	92 (53.8)	66 (41.3)
6-10	43 (25.1)	45 (28.1)
11-15	17 (9.9)	19 (11.9)
16-20	9 (5.3)	9 (5.6)
More than 20	7(4.1)	8 (5.0)
Missing	2 (1.7)	10 (6.3)
Treatment visits mean (range, sd)	8.0 (0-60, 8.8)	8.6 (0-50, 8.0)
Total patient visits		
Fewer than 50	15 (8.8)	11 (6.9)
50-99	25 (14.6)	21 (13.1)

	Anxiety Questionnaire (N=171) n (n%)	Depression Questionnaire (N=160) n (n%)
Number		
100-149	38 (22.2)	40 (25.0)
150-199	39 (22.8)	34 (21.3)
200 and more	31 (18.1)	24 (15.0)
Missing	24 (14.0)	30 (18.8)
Total patient visits mean (range, sd)	137.5 (20-450, 69.1)	133.3 (20-350, 64.3)
Diagnosis visits as proportion of total patient visits		
0.1-0.9	17 (9.9)	22 (13.8)
1.0-1.9	37 (21.6)	32 (20.0)
2.0-2.9	32 (18.7)	25 (15.6)
3.0-3.9	11 (6.4)	13 (8.0)
4.0-4.9	6 (3.5)	6 (3.8)
5.0 -9.9	27 (15.8)	19 (11.9)
10.0 and over	12 (7.0)	7 (4.4)
Missing	28 (16.4)	36 (22.5)
Diagnosis visits as proportion mean (range, sd)	4.1 (0-40.0, 5.3)	3.0 (0-14.3, 3.0)
Treatment visits as proportion of total patient visits		
0.1-0.9	9 (5.3)	4 (2.5)
1.0-1.9	17 (9.9)	7 (4.4)
2.0-2.9	21 (12.3)	16 (10.0)
3.0-3.9	10 (5.8)	8 (5.0)
4.0-4.9	12 (7.0)	10 (6.3)
5.0 -9.9	44 (25.7)	43 (26.9)
10.0 and over	33 (19.3)	36 (22.5)
Missing	25 (14.6)	36 (22.5)
Treatment visits as proportion mean (range, sd)	7.3 (0-66.7, 8.8)	7.4 (0-33.3, 6.1)

5.5 Responses to Clinical Scenarios

Family physicians were asked to consider a clinical scenario of a patient presenting with symptoms of either generalized anxiety disorder (Anxiety Patient, N=160) or major depressive episode (Depression Patient, N=171). With respect to the patient presented in the clinical scenario, physicians were asked to respond to the following statements presented in open-ended format: the tentative diagnosis(es) they were considering; the treatment plan they would initiate; the number of weeks until they required the scenario patient to return for the first follow-up; and

one or more reasons they may not be able to provide the best possible care for the scenario

patient. Physician responses are outlined in Table 5.5; effective and appropriate responses are

highlighted (also see Chapter 3 for complete descriptions of the two clinical scenarios and the

following measures based on these scenarios).

Table 5.5
Responses to Clinical Scenarios

	Anxiety Patient (AP) N=160	Depression Patient (DP) N=171
Physician Response	n (n%)	n (n%)
TD - Tentative Diagnosis		
Accurate[a,b]	**138 (86.3)**	**146 (85.4)**
Inaccurate	16 (10.0)	21 (12.3)
Missing	6 (3.8)	4 (2.3)
TP – Treatment Plan		
Immediate[c]	**105 (65.6)**	**95 (55.6)**
Delayed/No treatment	48 (30.0)	71 (41.5)
Missing	7 (4.4)	5 (2.9)
FR – Follow-up Return		
Two weeks or sooner	**127 (79.4)**	**141 (82.5)**
After two weeks	18 (11.3)	18 (10.5)
Missing	15 (9.4)	12 (7.0)
BTC – Barriers to Care		
Any response[d]	107 (66.9)	111 (64.9)
System	30 (18.8)	36 (21.1)
Physician	63 (39.4)	68 (39.8)
Patient	40 (25.0)	38 (22.2)
No response	53 (33.1)	60 (35.1)

[a]An accurate diagnosis of the generalized anxiety disorder clinical scenario patient included one or more of the following: anxiety, anxiety disorder, generalized anxiety disorder, GAD, panic, panic disorder, or panic attack.
[b]An accurate diagnosis of the major depressive epidsode clinical scenario patient included one or more of the following: depression, major depression, depressive disorder, depressive illness, major depressive disorder, MDD, MDE, mood, mood disorder, or dysthymia.
[c]Statements which *did not* refer to delaying treatment, delaying a decision regarding treatment, or awaiting lab results, were considered indicative of 'immediate' treatment.
[d]Respondents may have noted more than one barrier. Therefore, categories of 'any response' do not total 100 percent.

5.5.1 Tentative Diagnosis

A significant majority of physicians accurately detected depression and anxiety in the clinical scenario patients (Table 5.5). Specifically, 85.4% of physicians provided an accurate tentative diagnosis of depression, and 86.3% provided an accurate tentative diagnosis of anxiety. One in ten physicians suggested an inaccurate tentative diagnosis of the anxiety patient (10.0%) and of the depression patient (12.3%).

Given the open-ended nature of the question concerning tentative diagnosis, physicians were free to list more than one possible diagnosis (Table 5.6). Accurate tentative diagnoses of the clinical scenario patient presenting with symptoms of generalized anxiety disorder included mention of one of the following: anxiety, anxiety disorder, generalized anxiety disorder, GAD, panic, panic disorder, or panic attack. Accurate tentative diagnosis of the clinical scenario patient presenting with symptoms of major depressive episode included mention of one of the following: depression, major depression, depressive disorder, depressive illness, major depressive disorder, MDD, MDE, mood, or mood disorder.

With respect to the patient presenting with symptoms of generalized anxiety disorder, the five most popular tentative diagnoses offered by physicians (Table 5.6) included anxiety (82.5%), hyperthyroid (48.1%), depression (38.1%), panic disorder (20.6%), and bipolar disorder (16.9%). For the patient depicted in the clinical scenario as presenting with symptoms of major depressive episode, the five most popular tentative diagnoses included depression (84.2%), anxiety (32.7%), other (31.6%), hypothyroid (29.8%), and irritable bowel syndrome (22.2%).

Table 5.6
Tentative Diagnosis of Clinical Scenario Patients

Tentative diagnosis	Anxiety Patient N=160 n (n%)	Depression Patient N=171 n (n%)
Anxiety[a]	132 (82.5)	56 (32.7)
Panic disorder	33 (20.6)	0
Depression[b]	61 (38.1)	144 (84.2)
Dysthymia	0	8 (4.7)
Bipolar disorder	27 (16.9)	1 (0.6)
Schizophrenia	3 (1.9)	0
Other psychiatric disorder[c]	12 (7.5)	0
Hyperthyroid	77 (48.1)	2 (1.7)
Hypothyroid	8 (5.0)	51 (29.8)
Thyroid	7 (4.4)	5 (2.9)
Drug use	19 (11.9)	3 (1.8)
Alcohol use	6 (3.8)	1 (0.6)
Menopause	0	15 (8.8)
Irritable bowel syndrome	0	38 (22.2)
Abdominal pain not yet diagnosed	0	9 (5.3)
Anemia	7 (4.4)	24 (14.0)
Cardiac arrhythmia	20 (12.5)	0
Auto-immune disorder	4 (2.5)	0
Gastroesophageal reflux disease	0	7 (4.1)
Cancer	0	20 (11.7)
Diabetes	2 (1.3)	17 (9.9)
Somatization	0	10
Bacterial endocarditis	3 (1.9)	0
Rheumatoid arthritis	3 (1.9)	0
Mitral valve prolapse	6 (3.8)	0
Thyrotoxicosis	5 (3.1)	1 (0.6)
Other	27 (16.9)	54 (31.6)

[a]Included anxiety, anxiety disorder, generalized anxiety disorder, or GAD
[b]Included depression, major depression, depressive disorder, depressive illness, major depressive disorder, MDD, MDE, mood, or mood disorder
[c]Included attention-deficit hyperactivity disorder, agoraphobia, hypochondria, mania, obsessive compulsive disorder, phobic disorder, post traumatic stress disorder, seasonal affective disorder, schizoaffective disorder, and social phobia.

5.5.2 Treatment Plan

Only a slight majority of physicians suggested effective (immediate) versus delayed/no treatment for the clinical scenario patients (Table 5.5). A slightly greater proportion suggested effective treatment for the anxious than for the depressed patient. Specifically, 65.6% of physicians indicated that they would immediately initiate treatment for the anxious patient, compared to 55.6% of physicians who would immediately initiate treatment for the depressed patient. In contrast, 30.1% reported that they would delay treatment until follow-up or offer no treatment to the anxious patient, and 41.5% would delay or offer no treatment to the depressed patient.

Physicians were asked to detail the treatment plan they would initiate 'at this point' for the clinical scenario patient presenting with symptoms of either generalized anxiety disorder or major depressive episode (Table 5.7). Responses were considered indicative of 'delayed/no treatment' if they contained mention of: delaying treatment until lab results were received, delaying a decision regarding treatment, or 'none'.

Of those physicians who offered delayed/no treatment (AP 30.1%, DP 41.5%), most indicated that they would await the results of lab tests before deciding how to treat (AP 15.6%, DP 24.0%). A smaller proportion of physicians would await the results of lab tests before implementing a specific treatment (AP 12.6%, DP 10.6%), or would offer no treatment (AP 1.9%, DP 7.0%).

Physicians' immediate treatment plans for the AP patient most frequently included pharmacology (26.3%) or pharmacology and counseling combined (25.0%). Immediate treatment plans for the DP patient most frequently referred to pharmacology and counseling combined (15.8%) or pharmacology (12.9%). Delayed treatment plans most often specified pharmacology, regardless of the patient under consideration (AP 7.5%, DP 4.1%).

Table 5.7
Treatment Plan for Clinical Scenario Patients

Treatment plan	Anxiety Patient N=160 n (n%)	Depression Patient N=171 n (n%)
Immediate[a]		
Pharmacology	42 (26.3)	22 (12.9)
Pharmacology and other	2 (1.3)	0
Counselling	6 (3.8)	12 (7.0)
Counselling and other	4 (2.5)	8 (4.7)
Pharmacology and counselling	40 (25.0)	27 (15.8)
Pharmacology and counseling and other	8 (5.0)	10 (5.8)
Other	3 (1.9)	16 (9.4)
Total Immediate	**105 (65.6)**	**95 (55.6)**
Delayed (await results before implementing)		
Pharmacology	12 (7.5)	7 (4.1)
Pharmacology and other	0	1 (0.6)
Counselling	3 (1.9)	1 (0.6)
Counselling and other	2 (1.3)	1 (0.6)
Pharmacology and counselling	3 (1.9)	6 (3.5)
Pharmacology and counseling and other	0	1 (0.6)
Other	0	1 (0.6)
Total Delayed (await results before implementing)	20 (12.6)	18 (10.6)
Delayed (await results before deciding how to treat)	25 (15.6)	41 (24.0)
No treatment	3 (1.9)	12 (7.0)
Delayed/no treatment	**48 (30.1)**	**71 (41.5)**
Missing	**7 (4.4)**	**5 (2.9)**

[a]Statements which *did not* refer to delaying treatment, delaying a decision regarding treatment, or awaiting lab results, were considered indicative of 'immediate' treatment.

A significant majority of family physicians who accurately diagnosed the clinical scenario patients reported that they would initiate immediate treatment, while a minority indicated that they would offer delayed/no treatment (Table 5.8). Furthermore, the results indicate that family physicians who accurately diagnosed the anxiety patient were somewhat more likely than physicians who accurately diagnosed the depressed patient, to immediately initiate treatment. Specifically, 71.7% of physicians who accurately diagnosed the anxiety patient reported that they would immediately treat the patient; 28.3% of those physicians would delay/offer no treatment. In addition, 59.6% of physicians who accurately diagnosed the depressed patient reported that they would immediately treat the patient (39.7% of those physicians would delay/offer not treatment.

Table 5.8
Treatment Plan for Clinical Scenario Patients, by Accurate versus Inaccurate Diagnosis

Treatment plan	Accurate tentative diagnosis n (n%)	Inaccurate tentative diagnosis n (n%)
	Anxiety Patient (N = 160)	
Immediate	99 (71.7)	6 (37.5)
Delayed/no treatment	39 (28.3)	9 (56.3)
Missing	0	1 (6.3)
	Depression Patient (N =171)	
Immediate	87 (59.6)	8 (38.1)
Delayed/no treatment	58 (39.7)	13 (61.9)
Missing	1 (0.7)	0

5.5.3 Follow-up Return

Physicians were asked to indicate the time of first follow-up (weeks after first visit) of the

clinical scenario patient. Overall, approximately eight in 10 physicians noted that they would like

the clinical scenario patient to return for their first follow-up within two weeks of their initial

visit (AP 79.4%, DP 82.5%) [Table 5.5]. One in 10 physicians suggested that the patients should

return for follow-up after two weeks (AP 11.3%, DP 10.5%).

Although a significant majority of physicians suggested that the patients should return within

two weeks, most physicians suggested returning within one to two weeks (AP 45.0%, DP 48.0%)

rather than within one week (AP 34.3%, DP 34.5%) [Table 5.9].

Table 5.9
Follow-up Return for Clinical Scenario Patients

	Anxiety Patient N=160	Depression Patient N=171
Time elapse until first follow-up	n (n%)	n (n%)
1 week or sooner	55 (34.3)	59 (34.5)
1 week to 2 weeks	72 (45.0)	82 (48.0)
3 weeks to 4 weeks	8 (5.0)	7 (4.1)
4 weeks to 5 weeks	10 (6.3)	10 (5.8)
6 weeks	0	1 (0.6)
Missing	15 (9.4)	12 (7.0)

5.5.4 Barriers to Care

Several issues emerged in physicians' responses regarding to an open-ended question regarding barriers to providing the best possible care for the clinical scenario patient. These responses were grouped into categories of system access, physician issues, and patient issues (Table 5.5). Physicians referred to issues concerning themselves more frequently (physician issues) than they referred to other issues (AP 39.4%, DP 39.8%). An equivalent proportion of respondents referred to patient issues (AP 25.0%, DP 22.2%) and system access issues (AP 18.8%, DP 21.1%), while a notable proportion offered no response (AP 33.1%, DP 35.1%) to the question of barriers to providing the best possible care to the clinical scenario patient.

System access issues noted by physicians as barriers to care included lack of services, limited access to services, and long wait times for services (Table 5.10). System barriers with respect to services included those associated with counseling (AP 8.8%, DP 9.4%) and psychiatrists (AP 4.4%, DP 4.7%). Physicians considered themselves barriers to care insofar as they were 'too busy' (AP 17.5%, DP 15.8%), required specialist referral/consult (AP 7.5%, DP 6.4%), and might lack knowledge/skills/experience to provide the best possible care (AP 6.3%, DP 0.6%). Patient issues regarded as barriers to providing care involved non-compliance (AP 7.5%, DP 5.8%), resistance to treatment (AP 2.5%, DP 6.4%), and resistance to diagnosis (AP 3.8%, DP 5.3%).

Table 5.10
Barriers to Care of Clinical Scenario Patients

	Anxiety Patient N=160	Depression Patient N=171
Barriers to Care	n (n%)	n (n%)
Any barrier mentioned[a]	107 (66.9)	111 (64.9)
System access	30 (18.8)	36 (21.1)
Counselling	14 (8.8)	16 (9.4)
Psychiatrist	7 (4.4)	8 (4.7)
Specialist	1 (0.6)	4 (2.3)
CBT provider	3 (1.9)	2 (1.2)
Lab results	3 (1.9)	8 (4.7)
Other	6 (3.8)	7 (4.1)
Physician	63 (39.4)	68 (39.8)
Too busy	28 (17.5)	27 (15.8)
Cannot immediately diagnose	1 (0.6)	9 (5.3)
Diagnostic uncertainty	3 (1.9)	3 (1.8)
Need to rule out organic cause	2 (1.3)	5 (2.9)
Needs more information	4 (2.5)	7 (4.1)
Lack of knowledge /skills/ experience	10 (6.3)	1 (0.6)
Require specialist referral/consult	12 (7.5)	11 (6.4)
Does not provide counseling	8 (5.0)	6 (3.5)
Other	7 (4.4)	14 (8.2)
Patient	40 (25.0)	36 (21.1)
History incomplete	2 (1.3)	3 (1.8)
Resists diagnosis	6 (3.8)	9 (5.3)
Non-compliant	12 (7.5)	10 (5.8)
Resists treatment	4 (2.5)	11 (6.4)
Wants physical diagnosis	2 (1.3)	1 (0.6)
Condition is co-morbid	2 (1.3)	1 (0.6)
Condition is complex	6 (3.8)	2 (1.2)
Condition persists	3 (1.9)	6 (3.5)
Has drug addiction	7 (4.4)	1 (0.6)
Cannot afford treatment	5 (3.1)	7 (4.1)
Suicidal	4 (2.5)	3 (1.8)
Other	1 (0.6)	3 (1.8)
No response	53 (33.1)	60 (35.1)

[a]Respondents may have noted more than one barrier. Therefore, categories of 'any response' do not total 100 percent.

5.6 Information and Resource Use

Respondents were asked to identify those specific sources they regularly used (at least once per month) to 1) update their general medical knowledge and 2) make specific clinical decisions. This study asked physicians to indicate regular use of information sources and resources from a list of fourteen items. Based on this list, respondents were further asked whether these sources and resources exhibited four dimensions thought to increase the likelihood of their use.

5.6.1 Information/Resource Use to Update General Medical Knowledge

To update their general medical knowledge, physicians most frequently used medical journals (93.0%) [Table 5.11]. A much smaller proportion of physicians updated their general medical knowledge by using clinical practice guidelines (70.0%), a favorite internet website (49.4%), medical textbooks (47.3%), and pharmaceutical sales representatives (45.5%).

5.6.2 Information/Resource Use to Make Specific Clinical Decisions

To make specific clinical decisions, physicians were most likely to use medical textbooks (66.4%), followed closely by colleagues in their main patient care setting (62.4%), psychiatrist(s) (59.7%), clinical practice guidelines (56.7%), and colleagues outside their main patient care setting (53.0%) [Table 5.11].

5.6.3 Characteristics of Information Sources/Resources

This study asked physicians to consider their perceptions of 14 information sources/resources on each of four separate dimensions. These dimensions included reliability (trustworthiness), physical accessibility (easy to access), applicability (relevance), and intellectual accessibility (easy to understand). Given a list of 14 specific information sources/resources, physicians indicated those information sources and resources which they found, in general, exhibited each of these dimensions (Table 5.12).

Table 5.11
Regular Use of Information Sources and Resources

Information Source/Resource	To update general medical knowledge n (n%)	To make specific clinical decisions n (n%)
Medical journals	307 (93.0)	83 (25.2)
Medical textbooks	156 (47.3)	219 (66.4)
Colleagues in main patient care setting	145 (43.9)	206 (62.4)
Colleagues outside main patient care setting	124 (37.6)	175 (53.0)
Pharmaceutical sales representatives	150 (45.5)	14 (4.2)
Clinical practice guidelines	231 (70.0)	187 (56.7)
Personal digital assistant	104 (31.5)	114 (34.5)
Other decision aids	62 (18.8)	60 (18.2)
Drug manuals	126 (38.2)	161 (48.8)
Psychiatrists	107 (32.4)	197 (59.7)
Mental health professionals (other than psychiatrists)	72 (21.8)	128 (38.8)
Pharmacist(s)	96 (29.1)	132 (40.0)
Favorite internet website	163 (49.4)	123 (37.3)
Other	29 (9.3)	28 (8.9)

The 14 information sources/resources are ranked by the frequency of physicians who perceived the particular information source/resource to generally exhibit each of four dimensions. The top three information sources/resources in terms of reliability were medical textbooks (82.7%), CME/CPD/CPL courses/programs (80.9%), and medical journals (76.4%). With respect to physical accessibility, the top three information sources/resources were colleagues in the main patient care setting (69.1%), medical journals (64.5%), and medical textbooks (63.6%). The top three information sources/resources with respect to applicability were CME/CPD/CPL courses/programs (73.6%), medical journals (64.8%), and clinical practice guidelines (63.8%). Regarding intellectually accessibility, the top three information sources/resources were CME/CPD/CPL courses/programs (69.4%), medical journals (65.2%), and clinical practice guidelines (61.0%).

Table 5.12
Dimensions of Information Sources and Resources

Information/Resource	Reliability n (n%)	Rank	Physical accessibility n (n%)	Rank	Applicability n (n%)	Rank	Intellectual accessibility n (n%)	Rank
Medical journals	252 (76.4)	3	213 (64.5)	2	214 (64.8)	2	215 (65.2)	2
Medical textbooks	273 (82.7)	1	210 (63.6)	3	204 (61.8)	4	189 (57.3)	5
CME/CPD/CPL	267 (80.9)	2	135 (40.9)	8	243 (73.6)	1	229 (69.4)	1
Colleagues in main patient care setting	187 (56.7)	6	228 (69.1)	1	189 (57.3)	5	196 (59.4)	4
Colleagues outside main patient care setting	167 (50.6)	7	63 (19.1)	11	161 (48.8)	7	132 (40.0)	8
Pharmaceutical sales representatives	35 (10.6)	13	88 (26.7)	10	81 (24.5)	13	101 (30.6)	12
Clinical practice guidelines	238 (75.6)	4	184 (58.4)	4	201 (63.8)	3	192 (61.0)	3
Personal digital assistant	122 (37.0)	12	130 (39.4)	9	119 (36.1)	12	103 (31.2)	11
Other decision aids	27 (8.2)	14	38 (11.5)	14	36 (10.9)	14	24 (7.3)	14
Drug manuals	165 (50.0)	8	150 (45.5)	7	143 (43.3)	10	106 (32.1)	10
Psychiatrists	204 (61.8)	5	55 (16.7)	13	167 (50.6)	6	119 (36.1)	9
Mental health professionals (other than psychiatrists)	107 (32.4)	11	62 (18.8)	12	121 (36.7)	11	89 (27.0)	13
Pharmacist(s)	164 (49.7)	9	179 (54.2)	5	151 (45.8)	8	144 (43.6)	7
Favorite internet website	154 (46.7)	10	172 (52.1)	6	148 (44.8)	9	147 (44.5)	6

5.6.4 Information/Resource Use During Diagnostic Uncertainty

Respondents were asked to indicate the actions that they might take to confirm their decision if they were unsure about diagnosing a patient (with depression or anxiety). These actions comprised conducting a thorough patient interview, using a screening instrument, consulting a diagnostic manual, consulting a colleague, consulting a psychiatrist, consulting a mental health professional, and basing their decision on experience.

When faced with uncertainty when diagnosing a patient, the majority of physicians reported that they would conduct a thorough patient interview (AQ 95.3%, DQ 93.1%) [Table 5.13]. With respect to diagnostic uncertainty regarding a patient with anxiety, after conducting a thorough patient interview, respondents indicated that they would consult a psychiatrist (67.3%), consult a mental health professional (48.5%), and base their diagnosis on experience (46.2%).

Regarding diagnostic uncertainty faced when considering a patient with depression, after conducting a thorough patient interview, respondents were most likely to consult a psychiatrist (77.5%), use a screening instrument (50.6%), and base the diagnosis on experience (43.1%).

Table 5.13
Information Use During Diagnostic Uncertainty

	Yes	No
Action	n (n%)	n (n%)
Anxiety Questionnaire (N = 171)		
Conduct thorough patient interview	163 (95.3)	8 (4.7)
Use screening instrument	48 (28.1)	123 (71.9)
Consult diagnostic manual	38 (22.2)	133 (77.8)
Consult colleague	57 (33.3)	114 (66.7)
Consult psychiatrist	115 (67.3)	56 (32.7)
Consult mental health professional	83 (48.5)	88 (51.5)
Base on experience	79 (46.2)	92 (53.8)
Other	8 (4.7)	163 (95.3)
Depression Questionnaire (N =160)		
Conduct thorough patient interview	149 (93.1)	11 (6.9)
Use screening instrument	81 (50.6)	79 (49.4)
Consult diagnostic manual	44 (27.5)	116 (72.5)
Consult colleague	39 (24.4)	121 (75.6)
Consult psychiatrist	124 (77.5)	36 (22.5)
Consult mental health professional	63 (39.4)	97 (60.6)
Base on experience	69 (43.1)	91 (56.9)
Other	13 (8.1)	147 (91.9)

5.7 Professional Attributes

This analysis considered three professional attributes of physicians, and the associations between these attributes and physicians' responses to mood and anxiety disorders (detection, treatment, and follow-up). These professional attributes included physician resistance to formal diagnosis, knowledge regarding depression and anxiety, and attitudes regarding depression and anxiety.

5.7.1 Resistance to Formal Diagnosis

Physicians indicated the reasons that accounted for their decisions to *not* formally diagnose a patient with depression or anxiety. The most popular reason, when ranked by frequency of response, was that physical causes first need to be completely ruled out (AQ 88.3%, DQ 88.1%) [Table 5.14]. In addition, a sizable proportion of respondents cited patient refusal to accept diagnosis (AQ 53.2%, DQ 63.1%), patient non-compliance (AQ 34.5%, DQ 24.4%), and the low likelihood that a patient would be seen in time if referred to a specialist (AQ 22.2%, DQ 14.4%) as reasons for not diagnosing their patients with depression and anxiety. Approximately one in 10 physicians indicated that they might not make a formal diagnosis on account of the stigma of such a diagnosis (AQ 11.7%, DQ 12.5%). A further one in twenty physicians noted that they might not diagnose because they did not want the diagnosis to appear on the patient's medical record (AQ 5.8%, DQ 4.4%), and they believed that patients work through it on their own (AQ 7.0%, DQ 5.0%).

Table 5.14
Reasons for Resistance to Formal Diagnosis

Reasons	Yes n (n%)	No n (n%)
	Anxiety Questionnaire (N = 171)	
Physical causes need to be completely ruled out first	151 (88.3)	20 (11.7)
Patient refusal to accept diagnosis	91 (53.2)	80 (46.8)
Patient noncompliance	59 (34.5)	112 (64.5)
Patient will work through it on their own	12 (7.0)	159 (93.0)
Unlikely that patient will be seen in time if referred to specialist	38 (22.2)	133 (77.8)
Patient lives too far away from mental health specialist	19 (11.1)	152 (88.9)
I don't want the diagnosis to show up on patient's medical record	10 (5.8)	161 (94.2)
Stigma that patient may suffer	20 (11.7)	151 (88.3)
Other	16 (9.4)	155 (90.6)
	Depression Questionnaire (N =160)	
Physical causes need to be completely ruled out first	141 (88.1)	19 (11.9)
Patient refusal to accept diagnosis	101 (63.1)	59 (36.9)
Patient noncompliance	39 (24.4)	121 (75.6)
Patient will work through it on their own	8 (5.0)	152 (95.0)
Unlikely that patient will be seen in time if referred to specialist	23 (14.4)	137 (85.6)
Patient lives too far away from mental health specialist	7 (4.4)	153 (95.6)
I don't want the diagnosis to show up on patient's medical record	7 (4.4)	153 (95.6)
Stigma that patient may suffer	20 (12.5)	150 (93.8)
Other	13 (8.1)	147 (91.9

5.7.2 Knowledge

5.7.2.1 Depression Knowledge Scale

Correct responses on 11 of the 12 items in the depression knowledge scale were summed to calculate an overall depression knowledge score (item #6 was excluded, since it was judged to not be an appropriate measure of knowledge). Correct items were scored as '1', incorrect as '0', and missing items as '0'. This summary score was then divided by 11 (i.e. the number of possible correct responses) to compute a final depression knowledge score based on a 100-point scale.

The mean depression knowledge score was 72.8 (range 27-100, sd 14.5). Most physicians identified 8 of the 11 knowledge statements correctly (Table 5.15). Of the 11 items included in the depression knowledge score, physicians were most knowledgeable about the purpose of the treatment maintenance phase, the appropriate length of treatment with antidepressants, and the efficacy of medication and psychotherapy in the elderly (items 1, 3, and 5). Physicians were least likely to have knowledge of the approximate proportion of patients who experience side effects from antidepressants, the definition of dysthymic disorder, and when psychotherapy with a trained therapist is appropriate (items 4, 7, and 11).

Cronbach's alpha of the 11-item depression knowledge scale was .46, which is inadequate. An alpha co-efficient greater than .70 generally demonstrates acceptable reliability and internal consistency of a scale (Cortina, 1993).

Table 5.15
Responses to the Depression Knowledge Scale (N=160)

Statement	True n (n%)	Do not know n (n%)	False n (n%)	Missing n (n%)
1. The maintenance phase of treatment for major depression focuses on preventing recurrence.	146 (91.3)	5 (3.1)	7 (4.4)	2 (1.3)
2. If psychotherapy for major depression has no effect within 6 weeks of regular sessions, medication is recommended.	104 (65.0)	31 (19.4)	23 (14.4)	2 (1.3)
3. An appropriate trial of antidepressant medication for major depressive disorder requires use of therapeutic dosages daily for at least 4-6 weeks.	151 (94.4)	3 (1.9)	6 (3.8)	0
4. **Side effects occur only in a small percentage of patients taking any antidepressant medication.**	77 (48.1)	10 (6.3)	73 (45.6)	0
5. Medication and psychotherapy are efficacious for depression in elderly adults as well as for the non-elderly.	140 (87.5)	11 (6.9)	8 (5.0)	1 (0.6)
6[a] **Evidence suggests that primary care clinicians prescribe appropriate dosages of antidepressants to fewer than a third of patients with a current major depressive disorder.**	72 (45.0)	76 (47.5)	10 (6.3)	2 (1.3)
7. **Dysthymic disorder is mild, brief depression.**	47 (29.4)	16 (10.0)	91 (56.9)	6 (3.8)
8. The goal of cognitive therapy is to remove symptoms of depression by identifying and correcting patients' distorted, negatively biased thinking.	111 (69.4)	26 (16.3)	21 (13.1)	2 (1.3)
9 In general, antidepressant medication can be discontinued after 4-9 months for patients with a single major depressive episode who no longer have symptoms of depression.	99 (61.9)	9 (5.6)	50 (31.3)	2 (1.3)
10. **Anxiolytics and sedatives (minor tranquilizers) have equivalent efficacy in major depression as antidepressant medications.**	8 (5.0)	13 (8.1)	138 (86.3)	1 (0.6)
11. Psychotherapy with a trained therapist is appropriate as the sole treatment for moderate major depression that is not chronic, psychotic or melancholic.	77 (48.1)	23 (14.4)	46 (28.8)	4 (2.5)
12. **Tricyclic antidepressants and SSRIs have equivalent side effect profiles.**	13 (8.1)	11 (6.9)	133 (83.1)	2 (1.3)

Note. Statements in **bold** are false.
[a]Statement not included in Depression Knowledge Score

5.7.2.2 Anxiety Knowledge Scale

An anxiety knowledge score was computed by summing correct responses to 12 items, with correct items scored as '1', incorrect as '0', and missing as '0'. The summary score was then divided by 12 (i.e. the number of possible correct responses) to arrive at a final anxiety knowledge score based on a 100-point scale.

Physicians' mean anxiety knowledge score was 73.1 (range 42 to 100; sd 13.3). Most physicians identified 11 of the 12 statements correctly (Table 5.16). Most physicians were knowledgeable about the length of time patients should be monitored, when it is best to combine pharmacotherapy and psychotherapy treatments, the purpose of CBT, and the length of time for an SSRI to take effect (items 2, 4, 5, and 6). Physicians were least likely to be knowledgeable about the relative efficacy of pharmacotherapy and psychotherapy, waiting to refer a patient to a specialist after more than one trial of a first line agent, and the appropriate length of time to wait to follow up a patient receiving pharmacotherapy (items 7, 8, and 9).

Cronbach's alpha of the 12-item anxiety knowledge scale was .57, which is inadequate in light of the general understanding that an alpha co-efficient greater than .70 generally demonstrates acceptable reliability and internal consistency of a scale (Cortina, 1993).

Table 5.16
Responses to the Anxiety Knowledge Scale (N=171)

Statement	True n (n%)	Do not know n (n%)	False n (n%)	Missing n (n%)
1. **Anxiety disorders, with the exception of OCD, are more common in men than women.**	24 (14.0)	27 (15.8)	117 (68.4)	3 (1.8)
2. Monitoring and follow-up of an anxiety disorder should occur for at least 12 months, regardless of whether treatment is pharmacological or psychological.	152 (88.9)	10 (5.8)	7 (4.1)	2 (1.2)
3. **Elderly patients are no more sensitive than adult patients to the side effects of benzodiazepines.**	39 (22.8)	1 (0.6)	128 (74.9)	3 (1.8)
4. Pharmacotherapy and psychotherapy approaches to anxiety may be combined when a single treatment method is not effective.	163 (95.3)	2 (1.2)	3 (1.8)	3 (1.8)
5. Cognitive behavior therapy (CBT) focuses on intervening in the patient's thoughts and behaviours that have a strong influence on their experience of emotion.	152 (88.9)	13 (7.6)	2 (1.2)	4 (2.3)
6. Relief of anxiety symptoms takes 2 to 4 weeks when the average patient is treated with a selective serotonin reuptake inhibitor (SSRI).	151 (88.3)	2 (1.2)	16 (9.4)	2 (1.2)
7. **Pharmacotherapy and psychotherapy approaches are *not* equivalent in effectiveness for the average patient undergoing treatment for anxiety.**	47 (27.5)	62 (36.3)	59 (34.5)	3 (1.8)
8. **When a patient fails to respond to a first-line agent, s/he should be referred to a specialist.**	55 (32.2)	17 (9.9)	95 (55.6)	4 (2.3)
9. **The first follow-up for a patient receiving pharmacotherapy for an anxiety disorder should be at one month.**	64 (37.4)	7 (4.1)	98 (57.3)	2 (1.2)
10. Full response to pharmacotherapy for an anxiety disorder can be expected after 12 weeks.	117 (68.4)	15 (8.8)	36 (21.1)	3 (1.8)
11. Cognitive behaviour therapy for a patient with an anxiety disorder includes weekly contact with a therapist for about 12 to 20 weeks.	103 (60.2)	52 (30.4)	12 (7.2)	4 (2.3)
12. The most common side effects of SSRIs are gastrointestinal and sleep disturbances.	141 (82.5)	5 (2.9)	18 (10.5)	7 (4.1)

Note. Statements in **bold** are false

5.7.3 Attitudes

5.7.3.1 Depression Attitude Scale

Twenty-two items comprised the depression attitude scale (Table 5.17). Most physicians reported that the number of patients presenting with depressive symptoms had increased in the last 5 years (73%), and agreed that the "community nurse could be a useful person to support depressed patients" (84%). With respect to their ease in dealing with patients with mental disorders, the majority of respondents felt "comfortable in dealing with depressed patients' needs" (78%). However, the majority of physicians also found that "working with depressed patients is heavy going" (67%), and only 56% of physicians found it "rewarding to spend time looking after depressed patients". Physicians were fairly split on the belief that "depressed patients are more likely to have experienced deprivation in early life" (31%), and that most cases of depression are the result of "patients' recent misfortunes" (29%). In sum, physicians agreed with eight of the 22 items (1, 3, 8, 11, 13, 15, 18, and 20), disagreed with eight items (6, 9, 10, 14, 16, 17, 19, and 21), and were neutral on six items (2, 4, 5, 7, 12, and 22).

Table 5.17
Responses to the Full 22-Item Depression Attitude Scale (N=160)

Statement	Strongly Agree/ Agree n (n%)	Neutral n (n%)	Strongly Disagree/ Disagree n (n%)	Missing n (n%)
1. During the past 5 years I have seen an increase in the number of patients presenting with depressive symptoms.	117 (73.1)	36 (22.3)	6 (3.8)	1 (0.6)
2. The majority of depression seen in general practice originates from patients' recent misfortunes.	47 (29.4)	48 (30.0)	65 (40.6)	0
3. An underlying biochemical abnormality is the basis of severe cases of depression.	119 (74.4)	30 (18.8)	11 (6.9)	0
4. It is difficult to differentiate whether patients are presenting with unhappiness or a clinical depressive disorder that needs treatment.	59 (36.9)	29 (18.1)	72 (45.0)	0
5. It is possible to distinguish two main groups of depression, one psychological in origin and the other caused by biochemical mechanisms.	41 (25.6)	51 (31.9)	68 (42.5)	0
6. Becoming depressed is a way that people with poor stamina deal with life difficulties.	15 (9.4)	24 (15.0)	120 (75.0)	1 (0.6)
7. Depressed patients are more likely to have experienced deprivation in early life than other people.	50 (31.3)	52 (32.5)	58 (36.3)	0
8. I feel comfortable in dealing with depressed patients' needs.	125 (78.1)	25 (15.6)	9 (56.3)	1 (0.6)
9. Depression reflects a characteristic response in patients that is not amenable to change.	16 (10.0)	27 (16.9)	115 (71.9)	2 (1.3)
10. Becoming depressed is a natural part of being old.	7 (4.4)	15 (9.4)	138 (86.3)	0
11. The community nurse could be a useful person to support depressed patients.	135 (84.4)	16 (10.0)	7 (4.4)	1 (0.6)
12. Most depressive disorders seen in general practice improve without medication.	39 (24.4)	47 (29.4)	73 (45.6)	1 (0.6)
13. Working with depressed patients is heavy going.	107 (66.9)	25 (15.6)	28 (17.5)	0
14. There is little to be offered to those depressed patients who do not respond to what general practitioners do.	18 (11.3)	18 (11.3)	123 (76.9)	1 (0.6)
15. It is rewarding to spend time looking after depressed patients.	90 (56.3)	47 (29.4)	21 (13.1)	2 (1.3)
16. Psychotherapy tends to be unsuccessful with anxious patients.	15 (9.4)	24 (15.0)	118 (74.8)	3 (1.9)

Statement	Strongly Agree/ Agree n (n%)	Neutral n (n%)	Strongly Disagree/ Disagree n (n%)	Missing n (n%)
17. If depressed patients need antidepressants, they should be started on tricyclics as first-line treatment.	6 (3.8)	15 (9.4)	136 (85.0)	3 (1.9)
18. If depressed patients need antidepressants, they should be started on selective serotonin reuptake inhibitors as first-line treatment.	125 (78.1)	19 (11.9)	4 (2.5)	2 (1.3)
19. If depressed patients need antidepressants, they are better off with a psychiatrist than with a general practitioner.	11 (6.9)	29 (18.1)	118 (73.8)	1 (0.6)
20. Antidepressants usually produce a satisfactory result in the treatment of depression in general practice.	126 (78.8)	27 (16.9)	5 (3.1)	2 (1.3)
21. Psychotherapy for depressed patients should be left to a specialist.	36 (22.5)	34 (21.2)	88 (55.0)	2 (1.3)
22. If psychotherapy were freely available, this would be more beneficial than antidepressants for most depressed patients.	65 (40.6)	53 (33.1)	40 (25.0)	2 (1.3)

After principal components analysis (exploratory factor analysis), the four-factor model which best fit these data explained 57.2% of the variance. These four factors included 13 of the original 22 items (Table 5.18). Mean scores above 2.5 on individual items suggested agreement with the item, and scores below suggested disagreement. Consequently, higher mean scores on the following factors suggested stronger agreement with each attitude dimension represented by the factor.

Table 5.18

Responses to the Reduced 13-Item Depression Attitude Scale (n = 152)

Statement	Strongly Agree/ Agree n (n%)	Neutral n (n%)	Strongly Disagree/ Disagree n (n%)	Mean (SD)
3. An underlying biochemical abnormality is the basis of severe cases of depression.	113 (74.3)	29 (19.1)	10 (6.6)	4.0 (1-5, 0.90)
4. It is difficult to differentiate whether patients are presenting with unhappiness or a clinical depressive disorder that needs treatment.	53 (34.9)	28 (18.4)	71 (46.7)	2.9 (1-5, 1.00)
6. Becoming depressed is a way that people with poor stamina deal with life difficulties.	14 (9.2)	20 (13.2)	118 (77.6)	1.9 (1-5, 1.03)
8. I feel comfortable in dealing with depressed patients' needs.	121 (79.6)	23 (15.1)	8 (5.3)	3.9 (2-5, 0.68)
9. Depression reflects a characteristic response in patients that is not amenable to change.	15 (9.9)	26 (17.1)	111 (73.0)	2.1 (1-5, 0.91)
10. Becoming depressed is a natural part of being old.	6 (3.9)	15 (9.9)	131 (86.3)	1.7 (1-5, 0.84)
12. Most depressive disorders seen in general practice improve without medication.	37 (24.3)	45 (29.6)	70 (46.0)	2.7 (1-5, 0.97)
14. There is little to be offered to those depressed patients who do not respond to what general practitioners do.	18 (11.8)	16 (10.5)	118 (77.6)	2.1 (1-5, 1.01)
15. It is rewarding to spend time looking after depressed patients.	87 (57.2)	46 (30.3)	19 (12.5)	3.5 (2-5, 0.83)
17. If depressed patients need antidepressants, they should be started on tricyclics as first-line treatment.	5 (3.3)	15 (9.9)	132 (86.8)	1.7 (1-4, 0.77)
18. If depressed patients need antidepressants, they should be started on selective serotonin reuptake inhibitors as first-line treatment.	130 (85.5)	18 (11.8)	4 (2.6)	4.1 (1-4, 0.70)
20. Antidepressants usually produce a satisfactory result in the treatment of depression in general practice.	123 (80.9)	24 (15.8)	5 (3.3)	3.9 (2-5, 0.61)
22. If psychotherapy were freely available, this would be more beneficial than antidepressants for most depressed patients.	62 (40.8)	50 (32.9)	40 (26.3)	3.2 (1-5, 0.99)

Note. No items in this table have been reversed

Factor 1, "Social context view of depression not amenable to intervention" represented the attitude that depression is a natural outcome of difficult experiences and becoming old that is not readily responsive to treatment. A sum mean of 7.8 (range 4-17) on this subscale indicated that *physicians strongly disagreed with the social context view of depression* (Table 5.19). Factor 2, "Professional ease" indicated confidence in diagnosing and managing patients with depression. A sum mean of 10.5 (range 6-15) is evidence that *physicians were neutral in their confidence in caring for patients* with depression. The third factor, "Psychotherapy and no treatment are more effective than pharmacology" reflected the beliefs that severe depression is rooted in causes other than biochemical abnormalities, and that psychotherapy or no treatment at all are more effective than medication. A sum mean of 8.0 (range 3-14) suggested that *physicians strongly disagreed with the suggestion that psychotherapy or no treatment at all were superior to pharmacology.* Factor 4, "Pharmacologic treatment knowledge" indicated knowledge of current guidelines for treating depression with antidepressants. A sum mean of 12.2 (range 7-15) is evidence that *physicians were knowledgeable about current antidepressant treatment guidelines*.

Table 5.19
Rotated Component Matrix of the Reduced 13-Item Depression Attitude Scale

Statement	Factor			
	1	2	3	4
Factor 1 Social context view of depression not amenable to intervention				
6. Becoming depressed is a way that people with poor stamina deal with life difficulties.	**.658**	-.234	2.81	.073
9. Depression reflects a characteristic response in patients that is not amenable to change.	**.737**	-.087	.109	.012
10. Becoming depressed is a natural part of being old.	**.668**	-.188	.127	-.125
14. There is little to be offered to those depressed patients who do not respond to what general practitioners do.	**.665**	.009	-.019	.097
Factor 2 Professional ease				
4. It is difficult to differentiate whether patients are presenting with unhappiness or a clinical depressive disorder that needs treatment.	.206	**-.722**	.045	.101
8. I feel comfortable in dealing with depressed patients' needs.	-.212	**.728**	-.027	.189
15. It is rewarding to spend time looking after depressed patients.	.038	**.757**	-.005	.192
Factor 3 Pharmacologic treatment is not entirely effective				
3. An underlying biochemical abnormality is the basis of severe cases of depression.	-.105	-.103	**-.671**	.193
12. Most depressive disorders seen in general practice improve without medication.	.207	-.042	**.770**	-.025
22. If psychotherapy were freely available, this would be more beneficial than antidepressants for most depressed patients.	.028	-.125	**.728**	.082
Factor 4 Pharmacologic treatment knowledge				
17. If depressed patients need antidepressants, they should be started on tricyclics as first-line treatment.	.429	.079	.131	**-.635**
18. If depressed patients need antidepressants, they should be started on selective serotonin reuptake inhibitors as first-line treatment.	.220	.079	-.007	**.807**
20. Antidepressants usually produce a satisfactory result in the treatment of depression in general practice.	.044	.224	-.024	**.694**
% Variance	**17.2**	**13.9**	**13.1**	**13.0**
Eigenvalue	**2.2**	**1.8**	**1.7**	**1.7**
Cronbach's α	**.68**	**.62**	**.58**	**.57**
Sum Mean (range, SD)	**7.8**	**10.5**	**8.0**	**12.2**
	(4-17, 2.7)	**(6-15, 2.0)**	**(3-14, 2.1)**	**(7-15, 1.5)**

Note. The initial 22-factor scale had a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of .72, and a significant Bartlett's Test of Sphericity (<.001). Although the KMO measure is lower than that recommended to support factor analysis (.80 to 1.0 is recommended by Munro, 2005), Bartlett's Test supports the use of factor analysis (a low probability is recommended by Munro, 2005). The number of respondents in this sample (n=152) falls within the recommended range of 100 to 200 respondents (Munro, 2005). Cronbach's α for the 13-item scale was .45. To perform the factor analysis, for all variables 1=Strongly Disagree, 5=Strongly Agree. To calculate the mean and perform the reliability analysis, reversed items included 3, 4, and 17, so that for these three variables, 1=Strongly Agree, 5=Strongly Disagree.

5.7.3.2 Anxiety Attitude Scale

The Depression Attitude Questionnaire was adapted for this study to develop the Anxiety Attitude Questionnaire. The 22 items contained within the subscales examined attitudes and knowledge regarding anxiety, similar to those with respect to depression (Table 5.20). For the most part, physicians agreed that the number of patients presenting with symptoms of anxiety had risen in the past 5 years (66%), and agreed that the community nurse could be useful in supporting anxious patients (78%). Most respondents felt "comfortable in dealing with anxious patients' needs" (78%). However, the majority of physicians also found that "working with anxious patients is heavy going" (75%), and only 47% of physicians found it "rewarding to spend time looking after depressed patients". Physicians were fairly split on the belief that "anxious patients are more likely to have experienced deprivation in early life", and that most cases of anxiety are the result of "patients' recent misfortunes". In sum, of the 22 items, a majority of physicians agreed with nine (1, 3, 4, 8, 11, 13, 17, 20, and 22), disagreed with seven (6, 9, 10, 14, 16, 19, and 21), and were neutral on six (2, 5, 7, 12, 15, and 18).

Table 5.20
Responses to the Full 22-item Anxiety Attitude Scale (N=171)

Statement	Strongly Agree/ Agree n (n%)	Neutral n (n%)	Strongly Disagree/ Disagree n (n%)	Missing n (n%)
1. During the past 5 years I have seen an increase in the number of patients presenting with symptoms of anxiety.	112 (65.5)	38 (22.2)	18 (10.5)	3 (1.8)
2. The majority of anxiety seen in general practice originates from patients' recent misfortunes.	64 (37.4)	53 (31.0)	51 (29.8)	3 (1.8)
3. An underlying biochemical abnormality is the basis of severe cases of anxiety.	104 (60.8)	43 (25.1)	23 (13.5)	1 (0.6)
4. It is difficult to differentiate whether patients are presenting with stress or a clinical anxiety disorder that needs treatment.	92 (53.8)	36 (21.1)	42 (24.6)	1 (0.6)
5. It is possible to distinguish two main groups of anxiety, one psychological in origin and the other caused by biochemical mechanisms.	50 (29.2)	67 (39.2)	53 (31.0)	1 (0.6)
6. Becoming anxious is a way that people with poor stamina deal with life difficulties.	32 (18.7)	24 (14.0)	111 (64.9)	4 (2.3)
7. Anxious patients are more likely to have experienced deprivation in early life than other people.	49 (28.7)	66 (38.6)	54 (31.6)	2 (1.2)
8. I feel comfortable in dealing with anxious patients' needs.	134 (78.4)	26 (15.2)	11 (6.4)	0
9. Anxiety reflects a characteristic response in patients that is not amenable to change.	19 (11.1)	24 (14.0)	126 (73.7)	2 (1.2)
10. Becoming anxious is a natural part of being old.	19 (11.1)	24 (14.0)	127 (74.3)	1 (0.6)
11. The community nurse could be a useful person to support anxious patients.	134 (78.4)	29 (17.0)	8 (4.7)	0
12. Most anxiety disorders seen in general practice improve without medication.	77 (45.0)	46 (26.9)	47 (27.5)	1 (0.6)
13. Working with anxious patients is heavy going.	128 (74.9)	24 (14.0)	19 (11.1)	0
14. There is little to be offered to those anxious patients who do not respond to what general practitioners do.	18 (10.3)	30 (17.5)	121 (70.8)	2 (1.2)
15. It is rewarding to spend time looking after anxious patients.	81 (47.4)	56 (32.7)	32 (18.7)	2 (1.2)
16. Cognitive-behaviour therapy tends to be unsuccessful with anxious patients.	19 (11.1)	34 (19.9)	116 (67.8)	2 (1.2)
17. If anxious patients need pharmacologic management, they should be started on	136 (79.5)	25 (14.6)	10 (5.8)	0

Statement	Strongly Agree/ Agree n (n%)	Neutral n (n%)	Strongly Disagree/ Disagree n (n%)	Missing n (n%)
selective serotonin reuptake inhibitors as first-line treatment.				
18. If anxious patients need pharmacologic management, benzodiazepines are considered second-line treatment.	90 (52.6)	34 (19.9)	45 (26.3)	2 (1.2)
19. If anxious patients need pharmacologic management, they are better off with a psychiatrist than with a general practitioner.	11 (6.4)	35 (20.5)	124 (72.5)	1 (0.6)
20. Pharmacotherapy usually produces a satisfactory result in the treatment of anxiety in general practice.	114 (66.7)	37 (21.6)	20 (11.7)	0
21. Psychotherapy for anxious patients should be left to a specialist.	40 (23.4)	25 (14.6)	104 (60.8)	2 (1.2)
22. If psychotherapy were freely available, this would be more beneficial than pharmacotherapy for most anxious patients.	107 (62.6)	47 (27.5)	17 (9.9)	0

Twelve of the original 22 items remained after principal components analysis (factor analysis). The four-factor model which best fit these data explained 59.4% of the variance, and included 13 of the original 22 items (Table 5.21). Mean scores above 2.5 on individual items indicated agreement with the item, and scores below suggest disagreement. Higher scores on each of the four factors suggested stronger agreement with each attitude dimension represented by the factor.

Table 5.21
Responses to the Reduced 12-item Anxiety Attitude Scale (n = 162)

Statement	Strongly Agree/ Agree n (n%)	Neutral n (n%)	Strongly Disagree/ Disagree n (n%)	Mean (SD)
5. It is possible to distinguish two main groups of anxiety, one psychological in origin and the other caused by biochemical mechanisms.	47 (29.0)	64 (39.5)	51 (31.5)	2.99 (1-5, 0.90)
6. Becoming anxious is a way that people with poor stamina deal with life difficulties.	30 (18.5)	23 (14.2)	109 (67.3)	2.36 (1-5, 1.05)
7. Anxious patients are more likely to have experienced deprivation in early life than other people.	46 (28.4)	64 (39.5)	52 (32.1)	2.93 (1-5, 1.00)
8. I feel comfortable in dealing with anxious patients' needs.	128 (79.0)	23 (14.2)	11 (6.8)	3.84 (1-5, 0.74)
9. Anxiety reflects a characteristic response in patients that is not amenable to change.	19 (11.7)	23 (14.2)	120 (74.1)	2.28 (1-5, 0.86)
13. Working with anxious patients is heavy going.	121 (74.7)	22 (13.6)	19 (11.7)	3.84 (1-5, 0.91)
14. There is little to be offered to those anxious patients who do not respond to what general practitioners do.	17 (10.5)	30 (18.5)	115 (71.0)	2.30 (1-5, 0.91)
15. It is rewarding to spend time looking after anxious patients.	77 (47.5)	53 (32.7)	32 (19.8)	3.30 (1-5, 0.94)
16. Cognitive-behaviour therapy tends to be unsuccessful with anxious patients.	17 (10.5)	33 (20.4)	112 (69.1)	2.32 (1-5, 0.90)
19. If anxious patients need pharmacologic management, they are better off with a psychiatrist than with a general practitioner.	10 (61.7)	31 (19.1)	121 (74.7)	2.18 (2-5, 0.76)
20. Pharmacotherapy usually produces a satisfactory result in the treatment of anxiety in general practice.	108 (66.7)	35 (21.6)	19 (11.7)	3.61 (1-5, 0.77)
21. Psychotherapy for anxious patients should be left to a specialist.	38 (23.5)	24 (14.8)	100 (61.7)	2.57 (1.10)

Note. There has been no reversing for this table

Factor 1, "Social context view of anxiety amenable to intervention" represented the attitude that anxiety is a natural outcome of difficult experiences, yet is amenable to pharmacologic intervention. A sum mean of 8.9 (range 4-15) on this subscale indicated that *physicians disagreed with the social context view of anxiety* (Table 5.22). Factor 2, "Professional ease" indicated confidence in diagnosing and managing patients with anxiety. A sum mean of 10.1 (range 5-15) suggested that *physicians were neutral in their confidence in caring for patients with anxiety*. The third factor, "Professional disinterest" indicated a tendency to minimize one's role in caring for patients with anxiety, and to shift the burden of care to the patients. A sum mean of 6.8 (range 3-15) was evidence that *physicians strongly disagreed with minimizing their role in managing patients with anxiety*. Factor 4, "Professional inefficacy" encompassed the view that management of patients with anxiety is difficult, and best left to other professionals. A sum mean of 8.7 (range 4-15) was evidence that *physicians did not exhibit professional inefficacy in caring for patients with anxiety.*

Table 5.22

Rotated Component Matrix of the Reduced 12-Item Anxiety Attitude Scale

Statement	Factor			
	1	2	3	4
Factor 1 Social context view of anxiety amenable to intervention				
6. Becoming anxious is a way that people with poor stamina deal with life difficulties.	**.711**	-.015	.311	.107
7. Anxious patients are more likely to have experienced deprivation in early life than other people.	**.744**	.019	.127	.095
20. Pharmacotherapy usually produces a satisfactory result in the treatment of anxiety in general practice.	**.592**	.278	-.110	-.059
Factor 2 Professional ease				
5. It is possible to distinguish two main groups of anxiety, one psychological in origin and the other caused by biochemical mechanisms.	.356	**.540**	-.032	.463
8. I feel comfortable in dealing with anxious patients' needs.	-.023	**.746**	.118	-.160
15. It is rewarding to spend time looking after anxious patients.	.116	**.802**	-.129	-.147
Factor 3 Professional disinterest				
9. Anxiety reflects a characteristic response in patients that is not amenable to change.	.501	-.041	**.615**	.128
14. There is little to be offered to those anxious patients who do not respond to what general practitioners do.	.175	-.073	**.824**	-.113
19. If anxious patients need pharmacologic management, they are better off with a psychiatrist than with a general practitioner.	-.152	.207	**.595**	.357
Factor 4 Professional efficacy				
13. Working with anxious patients is heavy going.	.117	-.433	.004	**.527**
16. Cognitive-behaviour therapy tends to be unsuccessful with anxious patients.	.173	-.121	.498	**.515**
21. Psychotherapy for anxious patients should be left to a specialist.	-.002	-.129	.083	**.757**
% Variance	**15.8**	**15.4**	**15.2**	**13.0**
Eigenvalue	**1.9**	**1.9**	**1.8**	**1.6**
Cronbach's α	**.57**	**.58**	**.59**	**.548**
Sum Mean (range, SD)	**8.9**	**10.1**	**6.8**	**8.7**
	(4-15, 2.1)	**(5-15, 3.6)**	**(3-15, 1.9)**	**(4-15, 2.1)**

Note. The initial 22-factor scale had a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of .69, and a significant Bartlett's Test of Sphericity (<.001). While the KMO measure is lower than .80 (.80 to 1.0 is recommended by Munro, 2005), Bartlett's Test supports the use of factor analysis (significant test is recommended by Munro, 2005). The number of respondents in

this sample (n=162) falls within the recommended range of 100 to 200 respondents (Munro, 2005). Cronbach's α for the 12-item scale was .64. For all of the analyses including Cronbach's alpha, 1=Strongly Disagree, 5=Strongly Agree. For the Cronbach's alpha, I did not reverse any variables.

5.8 Patient Factors

The proportion of physicians who considered specific patient factors, when deciding upon the best treatment for a patient with anxiety or depression, varied according to the patient factor under consideration (Table 5.23). The greatest proportion of physicians considered patients' preference for treatment (AQ 85.4%, DQ 81.3%) and age (AQ 84.8%, DQ 87.5%), followed by employment status (AQ 73.1%, DQ 71.3%) and children (AQ 62.6%, DQ 58.1%). However, relatively few physicians considered patients' gender (AQ 52.0% DQ 45.6%) and the treatment preferences of patients' families (AQ 32.7%, DQ 40.0%) when deciding upon the best treatment for their patients.

Table 5.23
Patient Factors Considered when Deciding on Best Treatment

Patient factor	All/most of the time n (n%)	Some/a little of the time n (n%)	None of the time n (n%)	Missing n (n%)
	Anxiety Questionnaire (N = 171)			
Age	145 (84.8)	21 (12.3)	4 (2.3)	1 (0.6)
Gender	89 (52.0)	57 (33.3)	22 (12.9)	3 (1.8)
Marital status	106 (62.0)	50 (29.2)	12 (7.0)	3 (1.8)
Children	107 (62.6)	56 (32.7)	6 (35.1)	2 (1.2)
Employment status	125 (73.1)	36 (21.1)	5 (2.9)	5 (2.9)
Preference for treatment	146 (85.4)	21 (12.3)	1 (0.6)	3 (1.8)
Family's preference for treatment	56 (32.7)	104 (60.8)	8 (4.7)	3 (1.8)
	Depression Questionnaire (N =160)			
Age	140 (87.5)	16 (10.0)	2 (1.3)	2 (1.3)
Gender	73 (45.6)	57 (35.6)	27 (16.9)	3 (1.9)
Marital status	77 (48.1)	57 (35.6)	22 (13.8)	4 (2.5)
Children	93 (58.1)	50 (31.3)	14 (8.8)	3 (1.9)
Employment status	114 (71.3)	36 (22.5)	8 (0.5)	3 (1.9)
Preference for treatment	130 (81.3)	27 (16.9)	1 (0.6)	2 (1.3)
Family's preference for treatment	64 (40.0)	80 (50.0)	11 (6.9)	5 (3.1)

5.9 Perceived Requirements for Effective Management

This study asked physicians to indicate their level of agreement with nine requirements to more effectively manage patients (presenting with anxiety or depression). Regardless of whether physicians were considering their requirements to more effectively manage patients with anxiety or patients with depression, approximately eight in 10 physicians agreed that they required four conditions (Table 5.24). Specifically, respondents required improved access to mental health professionals (other than psychiatrists) (AQ 87.7%, DQ 88.1%); ability to prescribe affordable medication (AQ 80.1%, DQ 88.0%); more time to spend with patients (AQ 87.1%, DQ 86.9%); and up-to-date information on effective non-pharmacological treatments (AQ 88.3%, DQ 81.3%).

Table 5.24
Perceived Requirements to More Effectively Manage Patients

Requirement	Strongly Agree/ Agree	Neutral	Strongly Disagree/ Disagree	Missing
	n (n%)	n (n%)	n (n%)	n (n%)
Anxiety Questionnaire (N = 171)				
Improved access to psychiatrists	117 (68.4)	28 (16.4)	21 (12.3)	5 (2.9)
Able to prescribe affordable medication	137 (80.1)	19 (11.1)	13 (7.6)	2 (1.2)
More time to spend with patients	149 (87.1)	16 (9.4)	6 (3.5)	0
Improved access to mental health professionals (other than psychiatrists)	150 (87.7)	13 (7.6)	5 (2.9)	3 (1.8)
More training on counseling techniques	130 (76.0)	24 (14.0)	16 (9.4)	1 (0.6)
More personal experience managing patients with mental disorders	76 (44.4)	57 (33.3)	35 (20.5)	3 (1.8)
Up-to-date information on effective pharmacological treatments	129 (75.4)	31 (18.1)	8 (4.7)	3 (1.8)
Up-to-date information on effective non-pharmacological treatments	151 (88.3)	15 (8.8)	2 (1.2)	3 (1.8)
More time to spend on accessing and reading research on mental disorders	96 (56.1)	44 (25.7)	25 (14.6)	6 (3.8)
Depression Questionnaire (N =160)				
Improved access to psychiatrists	128 (80.0)	20 (12.5)	11 (6.9)	1 (0.6)
Able to prescribe affordable medication	140 (88.0)	14 (8.8)	5 (3.1)	1 (0.6)
More time to spend with patients	139 (86.9)	16 (10.0)	4 (2.5)	1 (0.6)
Improved access to mental health professionals (other than psychiatrists)	141 (88.1)	15 (9.4)	3 (1.9)	1 (0.6)
More training on counseling techniques	109 (68.1)	39 (24.4)	9 (5.6)	3 (1.8)
More personal experience managing patients with mental disorders	81 (50.6)	51 (31.9)	21 (13.1)	7 (4.4)
Up-to-date information on effective pharmacological treatments	126 (78.8)	22 (13.8)	8 (5.0)	4 (2.5)
Up-to-date information on effective non-pharmacological treatments	130 (81.3)	20 (12.5)	6 (3.8)	4 (2.5)
More time to spend on accessing and reading research on mental disorders	91 (56.9)	51 (31.9)	10 (6.3)	8 (5.0)

5.10 Bivariate Analysis of Responses to Clinical Scenarios by Attributes, Organizational Setting, and Information/Resource Use

The following analyses compare physicians on attributes (personal and professional), organizational setting, information/resource use, and perceived barriers to care with respect to responses to the clinical scenarios which indicated 1) inaccurate tentative diagnosis, 2) delayed/no treatment, and 3) follow-up after two weeks.

5.10.1 Tentative Diagnosis

Physicians who provided an inaccurate tentative diagnosis of the major depressive episode clinical scenario patient (DP) did not include at least one of the following terms in their response: depression, major depression, depressive disorder, depressive illness, major depressive disorder, MDD, MDE, mood, mood disorder, or dysthymia.

Twelve percent (n=21/171, 12.3%) of physicians provided an inaccurate tentative diagnosis of depression; 85% of physicians (n=146/171, 85.4%) provided an accurate tentative diagnosis. Bivariate analysis determined that none of the variables hypothesized as associated with inaccurate tentative diagnosis of depression were associated with this particular outcome at a 0.05 significance level (Table 5.25).

Table 5.25
Tentative Diagnosis of Clinical Scenario Patient (Depression), by Selected Characteristics

Factor	Inaccurate (n=21) n (Row %)	Accurate (n=146) n (Row %)	P value
FP personal attributes			
Gender			
Male	15 (13.6)	95 (86.4)	0.592
Female	6 (10.7)	50 (89.3)	
Age	51.0 (28-71, 10.5)	48.3 (28-81, 11.7)	0.247[e]
Number of years in practice	21.2 (2-42, 11.7)	17.6 (1-43, 11.2)	0.200[e]
Education			
Undergraduate training in Canada	5 (7.2)	64 (92.8)	0.311
Undergraduate training outside Canada	10 (12.2)	72 (87.8)	
Postgraduate training in Canada	7 (10.0)	63 (90.0)	0.869
Postgraduate training outside Canada	6 (10.9)	49 (89.1)	
Organizational setting			
Number of total patient visits/week			
Low (<100)	6 (10.9)	49 (89.1)	0.675
Medium (100-150)	6 (9.8)	55 (90.2)	
High (151-450)	7 (15.2)	39 (84.8)	
Private office/clinic	11 (10.0)	99 (90.0)	0.150
Other[b] office	10 (17.9)	46 (82.1)	
Solo practice	3 (11.5)	23 (88.5)	
Group and other practice type	18 (12.9)	122 (87.1)	
Internet access in main patient setting	18 (12.3)	128 (87.7)	0.480[a]
No internet access in main patient setting	3 (15.0)	17 (85.0)	
Internet access during patient consultations	12 (15.6)	65 (84.4)	0.290
No internet access during patient		80 (89.9)	
consultations	9 (10.1)		
Urban main patient setting (>10,000)	16 (13.9)	99 (86.1)	0.438
Rural main patient setting (≤10,000)	5 (9.6)	47 (90.4)	
FP professional attributes			
Resistance to diagnosis of anxiety	2.6 (0-7, 1.7)	2.3 (0-8, 1.3)	0.573[e]
Knowledge regarding anxiety disorders	68.3 (42-100, 15.3)	73.8 (42-100, 12.8)	0.120[e]
Anxiety attitude Factor 1	9.0 (4-13, 2.5)	8.9 (4-15, 2.0)	0.833[e]
Anxiety attitude Factor 2	10.0 (5-13, 2.0)	10.2 (5-15, 1.8)	0.923[e]
Anxiety attitude Factor 3	6.9 (4-11, 1.7)	6.8 (3-15, 1.9)	0.501[e]
Anxiety attitude Factor 4	8.7 (4-12, 1.9)	8.7 (4-15, 2.1)	0.742[e]
Information/resource use to update GMK			
Medical journals	20 (12.8)	136 (87.2)	0.586[a]
Do not use medical journals	1 (9.1)	10 (90.9)	
Medical textbooks	10 (13.0)	67 (87.0)	0.882
Do not use medical textbooks	11 (12.2)	79 (87.8)	
Colleagues in main patient setting	9 (13.4)	58 (86.6)	0.784
Do not use inside colleagues	12 (12.0)	88 (88.0)	
Colleagues outside main patient setting	4 (6.9)	54 (93.1)	0.106
Do not use outside colleagues	17 (15.6)	92 (84.4)	
Pharmaceutical sales representatives	8 (10.5)	68 (89.5)	0.466
Do not use pharmaceutical sales reps	13 (14.3)	78 (85.7)	
Clinical practice guidelines	13 (11.1)	104 (88.9)	0.383
Do not use clinical practice guidelines	8 (16.0)	42 (84.0)	
Personal Digital Assistance (PDA)	6 (10.5)	51 (89.5)	0.565
Do not use PDA	15 (13.6)	95 (86.4)	
Other decision aids	4 (10.8)	33 (89.2)	0.482[a]
Do not use other decision aids	17 (13.1)	113 (86.9)	

Factor	Inaccurate (n=21) n (Row %)	Accurate (n=146) n (Row %)	P value
Drug manuals	5 (8.6)	53 (91.4)	0.261
Do not use drug manuals	16 (14.7)	93 (85.3)	
Psychiatrist(s)	5 (10.2)	44 (89.8)	0.552
Do not use psychiatrist(s)	16 (13.6)	102 (86.4)	
MH professional(s)	1 (3.3)	29 (96.7)	0.074[a]
Do not use MH professional(s)	20 (14.6)	117 (85.4)	
Pharmacist(s)	8 (16.0)	42 (84.0)	0.383
Do not use pharmacist(s)	13 (11.1)	104 (88.9)	
Favorite internet site	13 (17.3)	62 (82.7)	0.094
Do not use favorite internet site	8 (8.7)	84 (91.3)	
Information/resource use to make specific clinical decisions			
Medical journals	7 (18.4)	31 (81.6)	0.168[a]
Do not use medical journals	14 (10.9)	115 (89.1)	
Medical textbooks	15 (12.4)	106 (87.6)	0.910
Do not use medical textbooks	6 (13.0)	40 (87.0)	
Colleagues in main patient setting	13 (11.9)	96 (88.1)	0.729
Do not use inside colleagues	8 (13.8)	50 (86.2)	
Colleagues outside main patient setting	11 (12.1)	80 (87.9)	0.835
Do not use outside colleagues	10 (13.2)	66 (86.8)	
Pharmaceutical sales representatives	2 (33.3)	4 (66.7)	0.166[a]
Do not use pharmaceutical sales reps	19 (11.8)	142 (88.2)	
Clinical practice guidelines	11 (12.0)	81 (88.0)	0.790
Do not use clinical practice guidelines	10 (13.3)	65 (86.7)	
Personal Digital Assistance (PDA)	6 (10.7)	50 (89.3)	0.607
Do not use PDA	15 (13.5)	96 (86.5)	
Other decision aids	5 (15.2)	28 (84.8)	0.402[a]
Do not use other decision aids	16 (11.9)	118 (88.1)	
Drug manuals	8 (9.6)	75 (90.4)	0.255
Do not use drug manuals	13 (15.5)	71 (84.5)	
Psychiatrist(s)	11 (11.1)	88 (88.9)	0.491
Do not use psychiatrist(s)	10 (14.7)	58 (85.3)	
MH professional(s)	8 (11.4)	62 (88.6)	0.704
Do not use MH professional(s)	13 (13.4)	84 (86.6)	
Pharmacist(s)	8 (10.5)	68 (89.5)	0.466
Do not use pharmacist(s)	13 (14.3)	78 (85.7)	
Favorite internet site	8 (13.6)	51 (86.4)	0.777
Do not use favorite internet site	13 (12.0)	95 (88.0)	
Information/resource use during diagnostic uncertainty			
Explicit[c] information	7 (10.0)	63 (90.0)	0.380
Do not use explicit[c] information	14 (14.6)	82 (85.4)	
Tacit[d] information	17 (11.9)	126 (88.1)	0.326[a]
Do not use tacit[d] information	4 (17.4)	19 (82.6)	
Barriers to Care			
System issue(s)	3 (8.3)	33 (91.7)	0.290[a]
No system issue(s)	18 (13.7)	113 (86.3)	
Patient issue(s)	6 (15.8)	32 (84.2)	0.333[a]
No patient issue(s)	15 (11.6)	114 (88.4)	
Physician issue(s)	8 (11.8)	60 (88.2)	0.794
No physician issue(s)	13 (13.1)	86 (86.9)	

[a] Based on Fisher's Exact Test of significance, given expected cell count of less than five.
[b] Community clinic, community health centre, free-standing walk-in clinic, academic health sciences centre, community hospital, emergency department, and other type of organized practice.
[c] Screening instrument or diagnostic manual
[d] Colleague, psychiatrist, or mental health professional (other than a psychiatrist)
[e] Based on Mann –Whitney 2-tailed test of significance. Using a Bonferroni correction, differences between the two comparison groups are considered significant if < 0.025 (.05/2).

Physicians who provided an inaccurate tentative diagnosis of the generalized anxiety disorder clinical scenario patient (AP) did not include at least one of the following terms in their response: anxiety, anxiety disorder, generalized anxiety disorder, GAD, panic, panic disorder, or panic attack.

Ten percent (n=16/160, 10.0%) of physicians provided an inaccurate tentative diagnosis of anxiety; 86% of physicians (n=138/160, 86.3%) provided an accurate tentative diagnosis. According to bivariate analysis, none of the variables hypothesized as associated with inaccurate tentative diagnosis of anxiety was associated with this particular outcome at a 0.05 level of significance (Table 5.26).

Table 5.26
Tentative Diagnosis of Clinical Scenario Patient (Anxiety) by Selected Characteristics

Factor	Inaccurate (n=16) n (Row %)	Accurate (n=138) n (Row %)	P value
FP personal attributes			
Gender			
Male	11 (9.6)	104 (90.4)	0.360[a]
Female	5 (13.2)	33 (86.8)	
Age	55.1 (33-88, 15.8)	49.9 (28-81, 11.5)	0.225[e]
Number of years in practice	24.1 (4-43, 13.0)	20.1 (1-50, 11.7)	0.206[e]
Education			
Undergraduate training in Canada	7 (10.9)	57 (89.1)	0.994
Undergraduate training outside Canada	9 (11.0)	73 (89.0)	
Postgraduate training in Canada	5 (8.6)	53 (91.4)	0.359
Postgraduate training outside Canada	8 (14.0)	49 (86.0)	
Organizational setting			
Number of total patient visits/week			
Low (<100)	6 (11.8)	45 (88.2)	0.295
Medium (100-150)	7 (11.9)	52 (88.1)	
High (151-450)	1 (2.9)	34 (97.1)	
Private office/clinic	12 (11.8)	90 (88.2)	0.433
Other[b] office	4 (7.7)	48 (92.3)	
Solo practice	12 (9.8)	111 (90.2)	0.407[a]
Group and other practice type	4 (12.9)	27 (87.1)	
Internet access in main patient setting	12 (9.8)	110 (90.2)	0.435[a]
No internet access in main patient setting	5 (9.6)	47 (90.4)	
Internet access during patient consultations	6 (9.7)	56 (90.3)	0.812
No internet access during patient consultations	10 (10.9)	82 (89.1)	
Urban main patient setting (>10,000)	11 (10.0)	99 (90.0)	0.503[a]
Rural main patient setting (≤10,000)	5 (11.4)	39 (88.6)	
FP professional attributes			
Resistance to diagnosis of depression	1.9 (0-5, 1.3)	1.9 (0-8, 1.3)	0.908[e]
Knowledge regarding depression	70.5 (27-100, 18.9)	73.4 (27-100, 13.7)	0.824[e]
Depression attitude Factor 1	8.1 (4-12, 2.4)	8.0 (4-17, 2.7)	0.782[e]
Depression attitude Factor 2	9.7 (8-13, 1.7)	10.5 (6-15, 2.0)	0.095[e]
Depression attitude Factor 3	8.1 (4-11, 2.3)	7.9 (3-14, 2.1)	0.794[e]
Depression attitude Factor 4	12.6 (10-15, 1.7)	12.2 (7-15, 1.5)	0.341
Information/resource use to update GMK			
Medical journals	14 (9.7)	130 (90.3)	0.239[a]
Do not use medical journals	2 (22.2)	7 (77.8)	
Medical textbooks	8 (10.5)	68 (89.5)	0.978
Do not use medical textbooks	8 (10.4)	69 (89.6)	
Colleagues in main patient setting	9 (12.7)	62 (87.3)	0.404
Do not use inside colleagues	7 (8.5)	75 (91.5)	
Colleagues outside main patient setting	8 (12.5)	56 (87.5)	0.484
Do not use outside colleagues	8 (9.0)	81 (91.0)	
Pharmaceutical sales representatives	6 (8.6)	64 (91.4)	0.484
Do not use pharmaceutical sales reps	10 (12.0)	73 (88.0)	
Clinical practice guidelines	14 (12.6)	97 (87.4)	0.129[a]
Do not use clinical practice guidelines	2 (4.8)	40 (95.2)	
Personal Digital Assistance (PDA)	5 (10.9)	41 (89.1)	0.559[a]
Do not use PDA	11 (10.3)	96 (89.7)	
Other decision aids	1 (4.0)	24 (96.0)	0.222[a]

Factor	Inaccurate (n=16) n (Row %)	Accurate (n=138) n (Row %)	P value
Do not use other decision aids	15 (11.7)	113 (88.3)	
Drug manuals	6 (9.4)	58 (90.6)	0.711
Do not use drug manuals	10 (11.2)	79 (88.8)	
Psychiatrist(s)	7 (13.7)	44 (86.3)	0.350
Do not use psychiatrist(s)	9 (8.8)	93 (91.2)	
MH professional(s)	4 (9.5)	38 (90.5)	0.540[a]
Do not use MH professional(s)	12 (10.8)	99 (89.2)	
Pharmacist(s)	5 (11.1)	40 (88.9)	0.534[a]
Do not use pharmacist(s)	11 (10.2)	97 (89.8)	
Favorite internet site	12 (14.3)	72 (85.7)	0.088
Do not use favorite internet site	4 (5.8)	65 (94.2)	
Information/resource use to make specific clinical decisions			
Medical journals	4 (9.3)	39 (90.7)	0.515[a]
Do not use medical journals	12 (10.9)	98 (89.1)	
Medical textbooks	10 (10.8)	83 (89.2)	0.882
Do not use medical textbooks	6 (10.0)	54 (90.0)	
Colleagues in main patient setting	10 (10.9)	82 (89.1)	0.838
Do not use inside colleagues	6 (9.8)	55 (90.2)	
Colleagues outside main patient setting	9 (11.3)	71 (88.8)	0.737
Do not use outside colleagues	7 (9.6)	66 (90.4)	
Pharmaceutical sales representatives	0	8 (100.0)	0.404[a]
Do not use pharmaceutical sales reps	16 (11.0)	129 (89.0)	
Clinical practice guidelines	9 (10.2)	79 (89.8)	0.914
Do not use clinical practice guidelines	7 (10.8)	58 (89.2)	
Personal Digital Assistance (PDA)	6 (10.3)	52 (89.7)	0.972
Do not use PDA	10 (10.5)	85 (89.5)	
Other decision aids	0	27 (100.0)	0.037[a]
Do not use other decision aids	16 (12.7)	110 (87.3)	
Drug manuals	9 (11.7)	68 (88.3)	0.617
Do not use drug manuals	7 (9.2)	69 (90.8)	
Psychiatrist(s)	11 (12.1)	80 (87.9)	0.425
Do not use psychiatrist(s)	5 (8.1)	57 (91.9)	
MH professional(s)	4 (7.4)	50 (92.6)	0.363
Do not use MH professional(s)	12 (12.1)	87 (87.9)	
Pharmacist(s)	5 (9.1)	50 (90.9)	0.679
Do not use pharmacist(s)	11 (11.2)	87 (88.8)	
Favorite internet site	8 (12.9)	54 (87.1)	0.414
Do not use favorite internet site	8 (8.8)	83 (91.2)	
Information/resource use during diagnostic uncertainty			
Explicit[c] information	8 (8.5)	86 (91.5)	0.339
Do not use explicit[c] information	8 (13.3)	52 (86.7)	
Tacit[d] information	12 (9.4)	116 (90.6)	0.273[a]
Do not use tacit[d] information	4 (15.4)	22 (84.6)	
Barriers to Care			
System issue(s)	1 (3.3)	29 (96.7)	0.158[a]
No system issue(s)	15 (12.1)	109 (87.9)	
Patient issue(s)	7 (17.5)	33 (82.5)	0.087[a]
No patient issue(s)	9 (7.9)	105 (92.1)	
Physician issue(s)	8 (11.8)	60 (88.2)	0.794
No physician issue(s)	13 (13.1)	86 (86.9)	

5.10.2 Treatment Plan

Physicians' treatment plans for the major depressive episode clinical scenario patient (DP) were considered ineffective if their responses included mention of delaying treatment until lab results were received, delaying a decision regarding treatment, or mention of 'none'. Statements which did not refer to delayed/no treatment indicated effective (immediate) treatment.

Forty-two percent (n=71/171, 41.5%) of physicians suggested an ineffective treatment plan (delayed/no treatment) for the depressed patient; 56% of physicians (n=95/171, 55.6%) provided an effective treatment plan (immediate treatment). Bivariate analysis established that five of the variables hypothesized as associated with delayed/no treatment were associated with this outcome at a 0.05 level of significance (Table 5.27). Specifically, physicians were more likely than their counterparts to recommend delayed/no treatment of the DP patient if they were female, had completed their undergraduate training in Canada, scored lower on anxiety attitude factor 1 (social context view of anxiety amenable to intervention), saw fewer than 100 patients on a weekly basis, and used medical textbooks to make specific clinical decisions.

Table 5.27
Treatment Plan for Clinical Scenario Patient (Depression) by Selected Characteristics

Factor	Delayed/ no treatment (n=71) n (Row %)	Immediate treatment (n=95) n (Row %)	P value
FP personal attributes			
Gender			
Male	40 (36.7)	69 (63.3)	0.038
Female	30 (53.6)	26 (46.4)	
Age	48.1 (28-81, 11.0)	48.8 (28-76, 11.9)	0.678[e]
Number of years in practice	17.5 (2-42, 10.0)	18.4 (1-43, 12.3)	0.644[e]
Education			
Undergraduate training in Canada	35 (51.5)	33 (48.5)	0.047
Undergraduate training outside Canada	29 (35.4)	53 (64.6)	
Postgraduate training in Canada	32 (46.4)	37 (53.6)	0.232
Postgraduate training outside Canada	21 (38.2)	34 (61.8)	
Organizational setting			
Number of total patient visits/week			
Low (<100)	30 (54.5)	25 (45.5)	0.004
Medium (100-150)	27 (44.3)	34 (55.7)	
High (151-450)	10 (22.2)	35 (77.8)	
Private office/clinic	41 (37.6)	68 (62.4)	0.050
Other[b] office	30 (53.6)	26 (46.4)	
Solo practice	13 (50.0)	13 (50.0)	0.434
Group and other practice type	58 (41.7)	81 (58.3)	
Internet access in main patient setting	62 (42.8)	83 (57.2)	0.815
No internet access in main patient setting	8 (40.0)	12 (60.0)	
Internet access during patient consultations	31 (40.8)	45 (59.2)	0.695
No internet access during patient consultations	39 (43.8)	50 (56.2)	
Urban main patient setting (>10,000)	46 (40.4)	68 (59.6)	0.351
Rural main patient setting (≤10,000)	25 (48.1)	27 (51.9)	
FP professional attributes			
Resistance to diagnosis of anxiety	2.5 (0-7, 1.3)	2.3 (0-8, 1.4)	0.264[e]
Anxiety attitude Factor 1	8.6 (4-13, 1.9)	9.2 (5-15, 2.1)	0.044[e]
Anxiety attitude Factor 2	9.8 (5-14, 1.9)	10.4 (5-15, 1.9)	0.093[e]
Anxiety attitude Factor 3	6.7 (3-11, 1.7)	6.9 (4-15, 2.0)	0.568[e]
Anxiety attitude Factor 4	8.8 (5-13, 1.6)	8.7 (4-15, 2.4)	0.668[e]
Knowledge regarding anxiety disorders	71.1 (42-100, 11.8)	74.7 (42-100, 14.1)	0.085[e]
Information/resource use to update GMK			
Medical journals	65 (41.9)	90 (58.1)	0.305[a]
Do not use medical journals	6 (54.5)	5 (45.5)	
Medical textbooks	32 (42.1)	44 (57.9)	0.873
Do not use medical textbooks	39 (43.3)	51 (56.7)	
Colleagues in main patient setting	28 (42.4)	38 (57.6)	0.942
Do not use inside colleagues	43 (43.0)	57 (57.0)	
Colleagues outside main patient setting	23 (40.4)	34 (59.6)	0.649
Do not use outside colleagues	48 (44.0)	61 (56.0)	
Pharmaceutical sales representatives	31 (40.8)	45 (59.2)	0.635
Do not use pharmaceutical sales reps	40 (44.4)	50 (55.6)	
Clinical practice guidelines	51 (44.0)	65 (56.0)	0.636
Do not use clinical practice guidelines	20 (40.0)	30 (60.0)	
Personal Digital Assistance (PDA)	22 (38.6)	35 (61.4)	0.432
Do not use PDA	49 (45.0)	60 (55.0)	
Other decision aids	12 (32.4)	25 (67.6)	0.149

Factor	Delayed/ no treatment (n=71) n (Row %)	Immediate treatment (n=95) n (Row %)	P value
Do not use other decision aids	39 (30.7)	88 (69.3)	
Drug manuals	23 (39.7)	35 (60.3)	0.552
Do not use drug manuals	48 (44.4)	60 (55.6)	
Psychiatrist(s)	24 (50.0)	24 (50.0)	0.230
Do not use psychiatrist(s)	47 (39.8)	71 (60.2)	
MH professional(s)	10 (33.3)	20 (66.7)	0.248
Do not use MH professional(s)	61 (44.9)	75 (55.1)	
Pharmacist(s)	24 (49.0)	25 (51.0)	0.295
Do not use pharmacist(s)	47 (40.2)	70 (59.8)	
Favorite internet site	28 (37.3)	47 (62.7)	0.199
Do not use favorite internet site	43 (47.3)	48 (52.7)	
Information/resource use to make specific clinical decisions			
Medical journals	17 (44.7)	21 (55.3)	0.780
Do not use medical journals	54 (42.2)	74 (57.8)	
Medical textbooks	57 (47.5)	63 (52.5)	0.047
Do not use medical textbooks	14 (30.4)	32 (69.6)	
Colleagues in main patient setting	44 (40.7)	64 (59.3)	0.471
Do not use inside colleagues	27 (46.6)	31 (53.4)	
Colleagues outside main patient setting	39 (43.3)	51 (56.7)	0.873
Do not use outside colleagues	32 (42.1)	44 (57.9)	
Pharmaceutical sales representatives	1 (16.7)	5 (83.3)	0.188[a]
Do not use pharmaceutical sales reps	70 (43.8)	90 (56.3)	
Clinical practice guidelines	37 (40.2)	55 (59.8)	0.458
Do not use clinical practice guidelines	34 (45.9)	40 (54.1)	
Personal Digital Assistance (PDA)	27 (48.2)	29 (51.8)	0.312
Do not use PDA	44 (40.0)	66 (60.0)	
Other decision aids	11 (33.3)	22 (66.7)	0.221
Do not use other decision aids	60 (45.1)	73 (54.9)	
Drug manuals	36 (43.4)	47 (56.6)	0.875
Do not use drug manuals	35 (42.2)	48 (57.8)	
Psychiatrist(s)	41 (41.8)	57 (58.2)	0.770
Do not use psychiatrist(s)	30 (44.1)	38 (55.9)	
MH professional(s)	25 (35.7)	45 (64.3)	0.117
Do not use MH professional(s)	46 (47.9)	50 (52.1)	
Pharmacist(s)	35 (46.7)	40 (53.3)	0.357
Do not use pharmacist(s)	36 (39.6)	55 (60.4)	
Favorite internet site	23 (39.0)	36 (61.0)	0.464
Do not use favorite internet site	48 (44.9)	59 (55.1)	
Information/resource use during diagnostic uncertainty			
Explicit[c] information	34 (48.6)	36 (51.4)	0.217
Do not use explicit[c] information	37 (38.9)	58 (61.1)	
Tacit[d] information	63 (44.4)	79 (55.6)	0.389
Do not use tacit[d] information	8 (34.8)	15 (65.2)	
Barriers to Care			
System issue(s)	18 (50.0)	18 (50.0)	0.322
No system issue(s)	53 (40.8)	77 (59.2)	
Patient issue(s)	17 (44.7)	21 (55.3)	0.780
No patient issue(s)	54 (42.2)	74 (57.8)	
Physician issue(s)	31 (45.6)	37 (54.4)	0.541
No physician issue(s)	40 (40.8)	58 (59.2)	

[a] Based on Fisher's Exact Test of significance, given expected cell count of less than five.
[b] Community clinic, community health centre, free-standing walk-in clinic, academic health sciences centre, community hospital, emergency department, and other type of organized practice.
[c] Screening instrument or diagnostic manual
[d] Colleague, psychiatrist, or mental health professional (other than a psychiatrist)
[e] Mean (range, sd) based on Mann –Whitney 2-group comparison test with the continuous variable as the dependent variable; p-value based on logistic regression test, with the continuous variable as the independent variable.

Physicians' treatment plans for the generalized anxiety disorder clinical scenario patient (AP) were considered ineffective if their responses included mention of delaying treatment until lab results were received, delaying a decision regarding treatment, or mention of 'none'. Statements which did not refer to delayed/no treatment indicated effective (immediate) treatment.

Thirty percent (n=48/160, 30.0%) of physicians suggested an ineffective treatment plan (delayed/no treatment) for the anxious patient; 66% of physicians (n=105/160, 65.6%) provided an effective treatment plan (immediate treatment). According to bivariate analysis, six of the variables hypothesized as associated with delayed/no treatment were associated with this outcome at a 0.05 level of significance (Table 5.28). Specifically, physicians were more likely than their counterparts to recommend delayed/no treatment of the AP patient if they had completed their undergraduate training in Canada, had completed their postgraduate training in Canada, saw fewer than 100 patients on a weekly basis, were not in a private office/clinic, used colleagues in their main patient care setting to update their general medical knowledge, and used colleagues outside of their main patient care setting to update their general medical knowledge.

Table 5.28
Treatment Plan for Clinical Scenario Patient (Anxiety) by Selected Characteristics

Factor	Delayed/ no treatment (n=48) n (Row %)	Immediate treatment (n=105) n (Row %)	P value
FP personal attributes			
Gender			
Male	33 (28.9)	81 (71.1)	0.227
Female	15 (39.5)	23 (60.5)	
Age	51.5 (30-88, 12.9)	49.9 (28-81, 11.7)	0.461[e]
Number of years in practice	21.0 (1-50, 12.1)	20.0 (1-50, 11.8)	0.628[e]
Education			
Undergraduate training in Canada	26 (41.3)	37 (58.7)	0.020
Undergraduate training outside Canada	19 (23.2)	63 (76.8)	
Postgraduate training in Canada	25 (43.1)	33 (56.9)	0.005
Postgraduate training outside Canada	11 (19.3)	46 (80.7)	
Organizational setting			
Number of total patient visits/week			
Low (<100)	21 (42.0)	29 (58.0)	0.047
Medium (100-150)	13 (22.0)	46 (78.0)	
High (151-450)	8 (22.9)	27 (77.1)	
Private office/clinic	25 (24.8)	76 (75.2)	0.014
Other[b] office	23 (44.2)	29 (55.8)	
Solo practice	39 (31.7)	84 (68.3)	0.587
Group and other practice type	9 (30.0)	21 (70.0)	
Internet access in main patient setting	40 (32.8)	82 (67.2)	0.454
No internet access in main patient setting	87 (25.8)	23 (74.2)	
Internet access during patient consultations	19 (30.6)	43 (69.4)	0.873
No internet access during patient consultations	29 (31.9)	62 (68.1)	
Urban main patient setting (>10,000)	38 (34.5)	72 (65.5)	0.176
Rural main patient setting (≤10,000)	10 (23.3)	33 (76.7)	
FP professional attributes			
Resistance to diagnosis of depression	1.9 (0-6, 1.4)	1.9 (0-8, 1.3)	0.992[e]
Depression attitude Factor 1	8.0 (4-15, 2.3)	8.0 (4-17, 2.9)	0.954[e]
Depression attitude Factor 2	10.2 (6-13, 1.8)	10.6 (6-15, 2.0)	0.892[e]
Depression attitude Factor 3	7.8 (3-12, 2.1)	8.0 (3-14, 2.1)	0.544[e]
Depression attitude Factor 4	11.9 (7-15, 1.5)	12.3 (8-15, 1.5)	0.129[e]
Knowledge regarding depression	72.0 (2-100, 16.5)	73.7 (27-100, 13.2)	0.491[e]
Information/resource use to update GMK			
Medical journals	46 (31.9)	98 (68.1)	0.510[a]
Do not use medical journals	2 (25.0)	6 (75.0)	
Medical textbooks	26 (34.2)	50 (65.8)	0.485
Do not use medical textbooks	22 (28.9)	54 (71.1)	
Colleagues in main patient setting	29 (40.8)	42 (59.2)	0.021
Do not use inside colleagues	19 (23.5)	62 (76.5)	
Colleagues outside main patient setting	26 (40.6)	38 (59.4)	0.041
Do not use outside colleagues	22 (25.0)	66 (75.0)	
Pharmaceutical sales representatives	18 (25.7)	52 (74.3)	0.151
Do not use pharmaceutical sales reps	30 (36.6)	52 (63.4)	
Clinical practice guidelines	34 (30.6)	77 (69.4)	0.679
Do not use clinical practice guidelines	14 (34.1)	27 (65.9)	
Personal Digital Assistance (PDA)	15 (32.6)	31 (67.4)	0.857
Do not use PDA	33 (31.1)	73 (68.9)	
Other decision aids	9 (36.0)	16 (64.0)	0.603

Factor	Delayed/ no treatment (n=48) n (Row %)	Immediate treatment (n=105) n (Row %)	P value
Do not use other decision aids	39 (30.7)	88 (69.3)	
Drug manuals	19 (29.7)	45 (70.3)	0.669
Do not use drug manuals	29 (33.0)	59 (67.0)	
Psychiatrist(s)	19 (37.3)	32 (62.7)	0.285
Do not use psychiatrist(s)	29 (28.7)	72 (71.3)	
MH professional(s)	14 (33.3)	28 (66.7)	0.774
Do not use MH professional(s)	34 (30.9)	76 (69.1)	
Pharmacist(s)	14 (31.1)	31 (68.69)	0.936
Do not use pharmacist(s)	34 (31.8)	73 (68.2)	
Favorite internet site	30 (36.1)	53 (63.9)	0.184
Do not use favorite internet site	18 (26.1)	51 (73.9)	
Information/resource use to make specific clinical decisions			
Medical journals	10 (23.3)	33 (76.7)	0.166
Do not use medical journals	38 (34.9)	71 (65.1)	
Medical textbooks	27 (29.0)	66 (71.0)	0.396
Do not use medical textbooks	21 (35.6)	38 (64.4)	
Colleagues in main patient setting	24 (26.1)	68 (73.9)	0.071
Do not use inside colleagues	24 (40.0)	36 (60.0)	
Colleagues outside main patient setting	22 (27.5)	58 (72.5)	0.254
Do not use outside colleagues	26 (36.1)	46 (63.9)	
Pharmaceutical sales representatives	1 (12.5)	7 (87.5)	0.218[a]
Do not use pharmaceutical sales reps	47 (32.6)	97 (67.4)	
Clinical practice guidelines	26 (29.5)	62 (70.5)	0.527
Do not use clinical practice guidelines	22 (34.4)	42 (65.6)	
Personal Digital Assistance (PDA)	16 (27.6)	42 (72.4)	0.405
Do not use PDA	32 (34.0)	62 (66.0)	
Other decision aids	8 (29.6)	19 (70.4)	0.810
Do not use other decision aids	40 (32.0)	85 (68.0)	
Drug manuals	23 (29.9)	54 (70.1)	0.646
Do not use drug manuals	25 (33.3)	50 (66.7)	
Psychiatrist(s)	26 (28.6)	65 (71.4)	0.330
Do not use psychiatrist(s)	22 (36.1)	39 (63.9)	
MH professional(s)	15 (27.8)	39 (72.2)	0.454
Do not use MH professional(s)	33 (33.7)	65 (66.3)	
Pharmacist(s)	14 (25.5)	41 (74.5)	0.221
Do not use pharmacist(s)	34 (35.1)	63 (64.9)	
Favorite internet site	17 (27.9)	44 (72.1)	0.420
Do not use favorite internet site	31 (34.1)	60 (65.9)	
Information/resource use during diagnostic uncertainty			
Explicit[c] information	30 (31.9)	64 (68.1)	0.855
Do not use explicit[c] information	18 (30.5)	41 (69.5)	
Tacit[d] information	42 (32.8)	86 (67.2)	0.385
Do not use tacit[d] information	6 (24.0)	19 (76.0)	
Barriers to Care			
System issue(s)	9 (30.0)	21 (70.0)	0.857
No system issue(s)	39 (31.7)	84 (68.3)	
Patient issue(s)	13 (32.5)	27 (67.5)	0.858
No patient issue(s)	35 (31.0)	78 (69.0)	
Physician issue(s)	17 (27.0)	46 (73.0)	0.328
No physician issue(s)	59 (65.6)	31 (34.4)	

[a] Based on Fisher's Exact Test of significance, given expected cell count of less than five.
[b] Community clinic, community health centre, free-standing walk-in clinic, academic health sciences centre, community hospital, emergency department, and other type of organized practice.
[c] Screening instrument or diagnostic manual
[d] Colleague, psychiatrist, or mental health professional (other than a psychiatrist)
[e] Mean (range, sd) based on Mann –Whitney 2-group comparison test with the continuous variable as the dependent variable; p-value based on logistic regression test, with the continuous variable as the independent variable.

5.10.3 Follow-up Return

Physicians were considered ineffective in their follow-up of the major depressive episode clinical scenario patient (DP) if they suggested the first follow-up to occur more than 2 weeks after the initial visit.

Eleven percent (n=18/171, 10.5%) of physicians were ineffective in their follow-up of the DP patient (follow-up after 2 weeks); 83% of physicians (n=141/171, 82.5%) suggested an effective follow-up (2 weeks or earlier). Bivariate analysis indicated that physicians in solo practices (26.9%) were more likely than their counterparts (8.3%) to suggest follow-up after 2 weeks (p=0.013) [Table 5.29]. Physicians who used drug manuals to update their general medical knowledge (20.0%) were also significantly more likely than those who did not use drug manuals (6.7%) to suggest follow-up after 2 weeks for the DP patient (p=0.012).

Table 5.29
Follow-up Return for Clinical Scenario Patient (Depression) by Selected Characteristics

Factor	Follow-up after 2 weeks (n=18) n (Row %)	Follow-up at 2 weeks or sooner (n=141) n (Row %)	P value
FP personal attributes			
Gender			
Male	14 (13.3)	91 (86.7)	0.280
Female	4 (7.5)	49 (92.5)	
Age	46.1 (28-71, 12.9)	49.1 (28-81, 11.5)	0.344[e]
Number of years in practice	15.7 (1-42, 13.1)	18.5 (1-43, 11.2)	0.264[e]
Education			
Undergraduate training in Canada	6 (9.5)	57 (90.5)	0.738
Undergraduate training outside Canada	9 (11.3)	71 (88.8)	
Postgraduate training in Canada	8 (12.5)	56 (87.5)	0.552
Postgraduate training outside Canada	5 (9.1)	50 (90.9)	
Organizational setting			
Number of total patient visits/week			
Low (<100)	7 (13.7)	44 (86.3)	0.632
Medium (100-150)	5 (8.5)	54 (91.5)	
High (151-450)	6 (13.3)	39 (86.7)	
Private office/clinic	11 (10.5)	94 (89.5)	0.871
Other[b] office	6 (11.3)	47 (88.7)	
Solo practice	7 (26.9)	19 (73.1)	0.013[a]
Group and other practice type	11 (8.3)	121 (91.7)	
Internet access in main patient setting	14 (10.1)	125 (89.9)	0.151[a]
No internet access in main patient setting	4 (21.1)	15 (78.9)	
Internet access during patient consultations	6 (8.5)	65 (91.5)	0.293
No internet access during patient consultations	12 (13.8)	75 (86.2)	
Urban main patient setting (>10,000)	13 (12.1)	94 (87.9)	0.636
Rural main patient setting (≤10,000)	5 (9.6)	47 (90.4)	
FP professional attributes			
Resistance to diagnosis of anxiety	2.1 (1-5, 1.1)	2.4 (0-8, 1.4)	0.287[e]
Anxiety attitude Factor 1	8.9 (7-12, 1.6)	9.0 (4-15, 2.1)	0.986[e]
Anxiety attitude Factor 2	10.0 (6-12, 1.8)	10.2 (5-15, 1.9)	0.889[e]
Anxiety attitude Factor 3	6.7 (4-10, 2.0)	6.9 (3-15, 1.9)	0.411[e]
Anxiety attitude Factor 4	8.6 (4-13, 2.2)	8.8 (4-15, 2.1)	0.961[e]
Knowledge regarding anxiety disorders	74.1 (50-92, 12.4)	73.2 (42-100, 13.4)	0.851[e]
Information/resource use to update GMK			
Medical journals	17 (11.4)	132 (88.6)	0.290[a]
Do not use medical journals	1 (10.0)	9 (90.0)	
Medical textbooks	9 (11.8)	67 (88.2)	0.843
Do not use medical textbooks	9 (10.8)	74 (89.2)	
Colleagues in main patient setting	7 (10.9)	57 (89.1)	0.900
Do not use inside colleagues	11 (11.6)	84 (88.4)	
Colleagues outside main patient setting	4 (7.1)	52 (92.9)	0.220
Do not use outside colleagues	14 (13.6)	89 (86.4)	
Pharmaceutical sales representatives	9 (12.2)	65 (87.8)	0.755
Do not use pharmaceutical sales reps	9 (10.6)	76 (89.4)	
Clinical practice guidelines	11 (9.7)	102 (90.3)	0.322
Do not use clinical practice guidelines	7 (15.2)	39 (84.8)	

Factor	Follow-up after 2 weeks (n=18) n (Row %)	Follow-up at 2 weeks or sooner (n=141) n (Row %)	P value
Personal Digital Assistance (PDA)	6 (11.3)	47 (88.7)	1.000
Do not use PDA	12 (11.3)	94 (88.7)	
Other decision aids	6 (17.1)	29 (82.9)	0.218[a]
Do not use other decision aids	12 (9.7)	112 (90.3)	
Drug manuals	11 (20.0)	44 (80.0)	0.012
Do not use drug manuals	7 (6.7)	97 (93.3)	
Psychiatrist(s)	5 (10.6)	42 (89.4)	0.860
Do not use psychiatrist(s)	13 (11.6)	99 (88.4)	
MH professional(s)	6 (20.0)	24 (80.0)	0.094[a]
Do not use MH professional(s)	12 (9.3)	117 (90.7)	
Pharmacist(s)	7 (14.3)	42 (85.7)	0.431
Do not use pharmacist(s)	11 (10.0)	99 (90.0)	
Favorite internet site	8 (11.0)	65 (89.0)	0.894
Do not use favorite internet site	10 (11.6)	76 (88.4)	
Information/resource use to make specific clinical decisions			
Medical journals	4 (11.1)	32 (88.9)	0.615
Do not use medical journals	14 (11.4)	109 (88.6)	
Medical textbooks	12 (10.4)	103 (89.6)	0.375[a]
Do not use medical textbooks	6 (13.6)	38 (86.4)	
Colleagues in main patient setting	12 (11.7)	91 (88.3)	0.859
Do not use inside colleagues	6 (10.7)	50 (89.3)	
Colleagues outside main patient setting	12 (14.0)	74 (86.0)	0.255
Do not use outside colleagues	6 (8.2)	67 (91.8)	
Pharmaceutical sales representatives	0	6 (100.0)	0.480
Do not use pharmaceutical sales reps	18 (11.8)	135 (88.2)	
Clinical practice guidelines	13 (14.9)	74 (85.1)	0.113
Do not use clinical practice guidelines	5 (6.9)	67 (93.1)	
Personal Digital Assistance (PDA)	7 (13.5)	45 (86.5)	0.553
Do not use PDA	11 (10.3)	96 (89.7)	
Other decision aids	4 (12.9)	27 (87.1)	0.482
Do not use other decision aids	14 (10.9)	114 (89.1)	
Drug manuals	8 (10.1)	71 (89.9)	0.637
Do not use drug manuals	10 (12.5)	70 (87.5)	
Psychiatrist(s)	13 (13.8)	81 (86.2)	0.230
Do not use psychiatrist(s)	5 (7.7)	60 (92.3)	
MH professional(s)	10 (15.2)	56 (84.8)	0.199
Do not use MH professional(s)	8 (8.6)	85 (91.4)	
Pharmacist(s)	11 (15.7)	59 (84.3)	0.121
Do not use pharmacist(s)	7 (7.9)	82 (92.1)	
Favorite internet site	6 (10.7)	50 (89.3)	0.859
Do not use favorite internet site	12 (11.7)	941 (88.3)	
Information/resource use during diagnostic uncertainty			
Explicit[c] information	7 (10.6)	59 (89.4)	0.792
Do not use explicit[c] information	11 (12.0)	81 (88.0)	
Tacit[d] information	16 (11.8)	120 (88.2)	0.526
Do not use tacit[d] information	2 (9.1)	20 (90.9)	
Barriers to Care			
System issue(s)	2 (5.7)	33 (94.3)	0.192[a]
No system issue(s)	16 (12.9)	108 (87.1)	

Factor	Follow-up after 2 weeks (n=18) n (Row %)	Follow-up at 2 weeks or sooner (n=141) n (Row %)	P value
Patient issue(s)	2 (5.7)	33 (94.3)	0.192[a]
No patient issue(s)	16 (12.9)	108 (87.1)	
Physician issue(s)	8 (12.3)	57 (87.7)	0.744
No physician issue(s)	10 (10.6)	84 (89.4)	

[a] Based on Fisher's Exact Test of significance, given expected cell count of less than five.
[b] Community clinic, community health centre, free-standing walk-in clinic, academic health sciences centre, community hospital, emergency department, and other type of organized practice.
[c] Screening instrument or diagnostic manual
[d] Colleague, psychiatrist, or mental health professional (other than a psychiatrist)
[e] Based on Mann –Whitney 2-tailed test of significance. Using a Bonferroni correction, differences between the two comparison groups are considered significant if < 0.025 (.05/2).

Physicians were considered ineffective in their follow-up of the generalized anxiety disorder clinical scenario patient (AP) if they indicated that the first follow-up would occur more than 2 weeks after the initial visit.

Eleven percent (n=18/160, 11.3%) of physicians were ineffective in their follow-up (follow-up after 2 weeks) of the AP patient; 79% of physicians (n=127/160, 79.4%) indicated an effective follow-up (follow-up 2 weeks or earlier). According to bivariate analysis, female physicians (23.5%) were more likely than male physicians (9.1%) to recommend follow-up of the AP patient after 2 weeks (p=0.032) [Table 5.30]. In addition, physicians who did not use mental health professionals to update their general medicial knowledge (16.0%) were more likely than those who used mental health professionals for this purpose (2.6%) to recommend follow-up after 2 weeks for the AP patient (p=0.023).

Table 5.30
Follow-up Return for Clinical Scenario Patient (Anxiety) by Selected Characteristics

Factor	After 2 weeks (n=18) n (Row %)	2 weeks or sooner (n=127) n (Row %)	P value
FP personal attributes			
Gender			
Male	10 (9.1)	100 (90.9)	0.032[a]
Female	8 (23.5)	26 (76.5)	
Age	51.3 (30-78, 13.6)	50.2 (28-88, 11.9)	0.771[e]
Number of years in practice	20.3 (1-42, 13.9)	20.4 (2-50, 11.7)	0.985[e]
Education			
Undergraduate training in Canada	8 (13.1)	53 (86.9)	0.822
Undergraduate training outside Canada	9 (11.8)	67 (88.2)	
Postgraduate training in Canada	9 (16.7)	45 (83.3)	0.792
Postgraduate training outside Canada	8 (14.8)	46 (85.2)	
Organizational setting			
Number of total patient visits/week			
Low (<100)	6 (12.8)	41 (87.2)	0.441[a]
Medium (100-150)	8 (14.3)	48 (85.7)	
High (151-450)	2 (5.7)	33 (94.3)	
Private office/clinic	11 (11.2)	87 (88.8)	0.531
Other[b] office	7 (14.9)	40 (85.1)	
Solo practice	2 (7.4)	25 (92.6)	0.305[a]
Group and other practice type	16 (13.6)	102 (86.4)	
Internet access in main patient setting	15 (13.0)	100 (87.0)	0.464[a]
No internet access in main patient setting	3 (10.0)	27 (90.0)	
Internet access during patient consultations	6 (10.2)	53 (89.8)	0.497
No internet access during patient consultations	12 (14.0)	74 (86.0)	
Urban main patient setting (>10,000)	15 (14.4)	89 (85.6)	0.243
Rural main patient setting (≤10,000)	3 (7.3)	38 (92.7)	
FP professional attributes			
Resistance to diagnosis of anxiety	1.9 (0-5, 1.3)	1.9 (0-8, 1.3)	0.756[e]
Depression attitude Factor 1	8.3 (4-17, 3.2)	7.9 (4-15, 2.6)	0.942[e]
Depression attitude Factor 2	10.5 (6-14, 2.5)	10.4 (6-15, 1.9)	0.774[e]
Depression attitude Factor 3	7.6 (4-11, 1.9)	8.1 (3-14, 2.1)	0.428[e]
Depression attitude Factor 4	12.1 (8.15, 1.9)	12.2 (7-15, 1.5)	0.855[e]
Knowledge regarding depression	72.2 (27-100, 16.0)	73.6 (27-100, 14.1)	0.902[e]
Information/resource use to update GMK			
Medical journals	18 (13.3)	117 (86.7)	0.290[a]
Do not use medical journals	0	9 (100.0)	
Medical textbooks	9 (12.7)	62 (87.3)	0.950
Do not use medical textbooks	9 (12.3)	64 (87.7)	
Colleagues in main patient setting	9 (13.4)	58 (86.6)	0.752
Do not use inside colleagues	9 (11.7)	68 (88.3)	
Colleagues outside main patient setting	4 (6.7)	56 (93.3)	0.074
Do not use outside colleagues	14 (16.7)	70 (83.3)	
Pharmaceutical sales representatives	6 (8.8)	62 (91.2)	0.207
Do not use pharmaceutical sales reps	12 (15.8)	64 (84.2)	
Clinical practice guidelines	10 (9.7)	93 (90.3)	0.108
Do not use clinical practice guidelines	8 (19.5)	33 (80.5)	
Personal Digital Assistance (PDA)	2 (4.5)	42 (95.5)	0.056
Do not use PDA	16 (16.0)	84 (84.0)	
Other decision aids	1 (4.0)	24 (96.0)	0.137[a]

Factor	After 2 weeks (n=18) n (Row %)	2 weeks or sooner (n=127) n (Row %)	P value
Do not use other decision aids	17 (14.3)	102 (85.7)	
Drug manuals	5 (8.3)	55 (91.7)	0.201
Do not use drug manuals	13 (15.5)	71 (84.5)	
Psychiatrist(s)	7 (14.9)	40 (85.1)	0.545
Do not use psychiatrist(s)	11 (11.3)	86 (88.7)	
MH professional(s)	1 (2.6)	37 (97.4)	0.023[a]
Do not use MH professional(s)	17 (16.0)	89 (84.0)	
Pharmacist(s)	4 (9.3)	39 (90.7)	0.449
Do not use pharmacist(s)	14 (13.9)	87 (86.1)	
Favorite internet site	9 (11.3)	71 (88.8)	0.612
Do not use favorite internet site	9 (14.1)	55 (85.9)	
Information/resource use to make specific clinical decisions			
Medical journals	3 (7.5)	37 (92.5)	0.621
Do not use medical journals	15 (14.4)	89 (85.6)	
Medical textbooks	9 (10.5)	77 (89.5)	0.369
Do not use medical textbooks	9 (15.5)	49 (84.5)	
Colleagues in main patient setting	11 (12.6)	76 (87.4)	0.949
Do not use inside colleagues	7 (12.3)	50 (87.7)	
Colleagues outside main patient setting	7 (9.3)	68 (90.7)	0.231
Do not use outside colleagues	11 (15.9)	58 (84.1)	
Pharmaceutical sales representatives	0	8 (100.0)	0.334[a]
Do not use pharmaceutical sales reps	18 (13.2)	118 (86.8)	
Clinical practice guidelines	10 (11.9)	74 (88.1)	0.798
Do not use clinical practice guidelines	8 (13.3)	52 (86.7)	
Personal Digital Assistance (PDA)	8 (15.1)	45 (84.9)	0.473
Do not use PDA	10 (11.0)	81 (89.0)	
Other decision aids	3 (11.5)	23 (88.5)	0.585[a]
Do not use other decision aids	15 (12.7)	103 (87.3)	
Drug manuals	8 (11.0)	65 (89.0)	0.571
Do not use drug manuals	10 (14.1)	61 (85.9)	
Psychiatrist(s)	10 (11.6)	76 (88.4)	0.700
Do not use psychiatrist(s)	8 (13.8)	50 (86.2)	
MH professional(s)	6 (11.5)	46 (88.5)	0.793
Do not use MH professional(s)	12 (13.0)	80 (87.0)	
Pharmacist(s)	6 (11.8)	45 (88.2)	0.843
Do not use pharmacist(s)	12 (12.9)	81 (87.1)	
Favorite internet site	10 (16.7)	50 (83.3)	0.201
Do not use favorite internet site	8 (9.5)	76 (90.5)	
Information/resource use during diagnostic uncertainty			
Explicit[c] information	11 (12.5)	77 (87.5)	0.969
Do not use explicit[c] information	7 (12.3)	50 (87.7)	
Tacit[d] information	14 (11.8)	105 (88.2)	0.409[a]
Do not use tacit[d] information	4 (15.4)	22 (84.6)	
Barriers to Care			
System issue(s)	6 (20.7)	23 (79.3)	0.118[a]
No system issue(s)	12 (10.3)	104 (89.7)	
Patient issue(s)	5 (13.2)	33 (86.8)	0.535[a]
No patient issue(s)	13 (12.1)	94 (87.9)	
Physician issue(s)	11 (18.0)	50 (82.0)	0.080
No physician issue(s)	7 (8.3)	77 (91.7)	

Based on Fisher's Exact Test of significance, given expected cell count of less than five.

Community clinic, community health centre, free-standing walk-in clinic, academic health sciences centre, community hospital, emergency department, and other type of organized practice.

Screening instrument or diagnostic manual

Colleague, psychiatrist, or mental health professional (other than a psychiatrist)

Based on Mann –Whitney 2-tailed test of significance. Using a Bonferroni correction, differences between the two comparison groups are considered significant if < 0.025 (.05/2).

5.11 Logistic Regression Analysis of Treatment Plan by Physician Attributes, Organizational Setting, and Information/Resource Use

Ideally, multivariable model-building begins with the selection of independent variables which demonstrate a bivariate association with the dependent variable at a significance level of 0.25, as well as those variables thought to be of importance (Hosmer & Lemeshow, 2000). However, the 'rule of 10' limits the number of independent variables allowed in the initial model, based on the magnitude of the sample size (Hosmer & Lemeshow). The 'rule of 10' requires the frequency of the least frequent outcome (i.e. in this analysis, the number of subjects offering delayed/no treatment) to be at least 10 times the number of covariates included in the model. In this analysis, the rule of 10 suggested that the model for the treatment plan for depression should contain a maximum of seven covariates, and the model for the treatment plan for anxiety should contain a maximum of five covariates. Based on the rule of 10, the independent variables associated with delayed/no treatment at a 0.05 level (Table 5.27 and 5.28) were included in the logistic regression models (Tables 5.31 and 5.32). Given that the model for the treatment plan for anxiety could contain a maximum of five covariates, one variable that was significantly associated with treatment plan for anxiety was excluded from logisitic regression analysis (number of total patient visits/week, $p=.047$).

This analysis used the enter method, in which all variables were entered simultaneously rather than in a stepwise forward or backward fashion. The fit of each model was assessed with the

Hosmer and Lemeshow goodness-of-fit chi-square and Nagelkerke R-square test. The

significance levels for the Hosmer and Lemeshow chi-square (DP = 13.37, *p*=.100; AP = 4.48,

p=.723) were greater than .05, therefore the null hypothesis that there was no difference between

the observed and predicted values was rejected (Munro, 2005). These values indicated that the

models fit the data well. The Nagelkerke R-square test indicated that the model explained 14% of

the variation in the outcome of delayed/no treatment for the DP patient, and 19% of the variation

in the case of the AP patient.

The first model (Table 5.31) contains the significant (*p*<.05) unadjusted odds of family

physicians offering delayed/no treatment to the DP patient, on the basis of gender, undergraduate

education, anxiety attitude, number of total patient visits per week, and whether the physician

used medical textbooks to make specific clinical decisions. Before controlling for the effects of

all other variables in this model, the unadjusted odds of delayed/no treatment were greater for

physicians who were female, educated at the undergraduate level in Canada, scored lower on

anxiety attitude factor 1 (social context view of anxiety amenable to intervention), saw fewer

than 100 patients on a weekly basis, and used medical textbooks to make specific clinical

decisions.

This model also contains the adjusted odds of delayed/no treatment to the DP patient, holding

the effects of all other variables in the model constant. However, the only covariate with

significant adjusted odds of offering delayed/no treatment was the number of total patient visits

per week. The odds of physicians offering delayed/no treatment were 3.14 greater for those who

saw fewer than 100 patients on a weekly basis (<100) than for those who saw many patients

(151-450) (*p*=.026)

The second model (Table 5.32) contains the significant ($p<.05$) unadjusted odds of family physicians offering delayed/no treatment to the AP patient, with respect to knowledge of undergraduate education, postgraduate education, whether physicians practiced in a private office/clinic, and whether physicians used colleagues to update their general medical knowledge. Prior to holding the effects of all other variables in the model constant, the unadjusted odds of offering delayed no treatment were greater for physicians who received their undergraduate training in Canada, their postgraduate training in Canada, did not practice in a private office/clinic, used colleagues within their main patient care setting to update their general medical knowledge, as well as colleagues outside of their main patient care setting to update their general medical knowledge.

This model also contains the adjusted odds of delayed/no treatment to the AP patient, controlling for the effects all other variables in the model. However, the only covariate with significant adjusted odds of offering delayed/no treatment was postgraduate training in Canada versus elsewhere. The odds of physicians offering delayed/no treatment were 4.94 greater for physicians who obtained their postgraduate training in Canada than for physicians who obtained their postgraduate training in a country other than Canada ($p=.048$).

Table 5.31

Unadjusted and Adjusted Odds Ratios for Family Physicians' <u>Delayed/No Treatment</u> for Clinical Scenario Patient (with Depression), by Selected Characteristics

Factor	Unadjusted odds ratio (95% CI)	95% confidence interval	P value	Adjusted odds ratio (95% CI)	95% confidence interval	P value
FP personal attributes						
Gender						
Male	1.00			1.00		
Female	1.99	1.04-3.82	0.039	1.44	0.66-3.16	0.36
Education						
Undergraduate training in Canada	1.94	1.00-3.74	0.048	1.38	0.65-2.93	0.41
Undergraduate training outside Canada	1.00			1.00		
Organizational setting						
Number of total patient visits per week						
Low (<100)	4.20	1.74-10.13	0.001	3.14	1.15-8.55	0.026
Moderate (100-150)	2.78	1.17-6.61	0.021	2.35	0.91-6.09	0.078
High (151-450)	1.00			1.00		
FP professional attributes						
Anxiety attitude Factor 1[a]	0.85	0.73-0.99	0.044	0.89	0.75-1.11	0.21
Information/resource use to make specific clinical decisions						
Use medical textbooks	2.07	1.00-4.26	0.049	1.98	0.85-4.60	0.11
Do not use medical textbooks	1.00			1.00		

Note: Hosmer and Lemeshow chi-square = 13.37; p = 0.100; Nagelkerke R-square = .142.

[a]The unadjusted odds ratio is the decrease in odds of 'delayed/no treatment' that corresponds to a one-unit increase in Anxiety attitude Factor 1 ('social context view of anxiety amenable to intervention', range 4-15 .

Table 5.32

Unadjusted and Adjusted Odds Ratios for Family Physicians' <u>Delayed/No Treatment</u> for Clinical Scenario Patient (with Anxiety), by Selected Characteristics

	Unadjusted odds ratio (95% CI)	95% confidence interval	P value	Adjusted odds ratio (95% CI)	95% confidence interval	P value
Factor						
Personal attributes						
Education						
Undergrad training in Canada	2.33	1.14-4.78	0.021	1.79	0.37-8.68	0.468
Undergrad training outside Canada	1.00			1.00		
Education						
Postgrad training in Canada	3.17	1.37-7.33	0.007	4.94	1.02-23.96	0.048
Postgrad training outside Canada	1.00			1.00		
Organizational setting						
Private office/clinic	1.00			1.00		
Other	2.41	1.19-4.90	0.015	2.19	0.91-5.26	0.081
Information/resource use to update GMK						
Colleagues within main patient setting	2.25	1.12-4.53	0.023	2.08	0.81-5.33	0.127
Do not use colleagues within	1.00			1.00		
Colleagues outside main patient setting	2.05	1.03-4.11	0.042	1.22	0.46-3.20	0.693
Do not use outside colleagues	1.00	0.24-0.98		1.00		

Note: Hosmer and Lemeshow chi-square = 4.48; p = .723; Nagelkerke R-square = .189

6.0 DISCUSSION AND CONCLUSION

The expanding role of family physicians in mental health care service provision cannot be understated. Although fewer than half of those who suffer from mental or substance dependence disorders ultimately seek help from service and support providers (Lesage et al., 2006), those who do use health services for mental health reasons more often consult family physicians than any other service provider (Vasiliadis et al., 2005). Given the prominence of family practice in mental health care provision, it is worthwhile to examine whether family physicians provide appropriate responses to patients presenting with mental health issues.

A common theme throughout several studies concerning diagnosis and treatment of mood and anxiety disorders is that family physicians fail to appropriately respond to patients with anxiety and depression. This conclusion is based on many studies which have found accurate recognition of depression to range considerably, from a low of 9% to a high of 75% of patients seen in general practice, according to two systematic literature reviews (Cepoiu et al., 2007; Kosteniuk, unpublished). Accurate recognition of anxiety has been found to range from 34% to 50% of patients in general practice (Ormel et al., 1991; Wittchen et al., 2002). On the basis of these many studies, researchers in the field of psychiatric under-diagnosis generally agree that fewer than half *of patients* presenting with depression are recognized by family physicians (Seelig & Katon, 2008; Simon, 2002; Tylee & Jones, 2005). Furthermore, on average, only slightly more than half of diagnosed patients receive some form of treatment (Harris et al., 1996; Linden et al., 1999; Olsson et al., 2006b; Ormel et al., 1991).

However, another method used to gauge whether family physicians generally respond appropriately to patients with mood and anxiety disorders is to estimate the proportion *of physicians* who accurately recognize and treat such patients. When examined from this

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perspective, most studies found that more than 50% of physicians accurately detected mood and anxiety disorders in their patients, from a low of 47% to a high of 100 percent (Andersen & Hawthorn, 1989; Badger et al., 1994; Carney et al., 1999; Kales et al., 2005; Yager et al., 1986).

The central purposes of this thesis were to 1) estimate the proportion of family physicians who provided appropriate responses (detection, treatment, and follow-up) to patients with depression or anxiety in family practice, 2) examine the associations between these responses and physicians' personal attributes, organizational setting, professional attributes, and information/resource use, and 3) determine whether significant associations remained when controlling for the associations between physician response and all factors.

6.1 Review of Hypotheses

Hypothesis 1

The majority of family physicians will respond appropriately to mood and anxiety disorders in clinical scenario patients. Specifically, physicians will accurately detect depression and anxiety, suggest effective treatment, and recommend adequate follow-up care.

Tentative Diagnosis

A significant majority of physicians tentatively diagnosed depression and anxiety in the clinical scenario patients, with approximately the same proportion providing accurate tentative diagnoses of both disorders. Specifically, 85.4% of physicians provided an accurate tentative diagnosis of depression, and 86.3% provided an accurate tentative diagnosis of anxiety. These results were comparable to the findings of previous research, the majority of which found that more than 80% of physicians accurately recognized patients' depression (Carney et al., 1999; Kales et al., 2005; Yager et al., 1986), and 49%-78% accurately recognized anxiety (Andersen & Harthorn, 1989; Yager et al.).

Treatment Plan

Only a slight majority of physicians suggested effective (immediate) treatment for the clinical scenario patients, with a greater proportion suggesting effective treatment for the anxious than for the depressed patient. Specifically, 65.6% of physicians indicated that they would immediately initiate treatment for the anxious patient, while 30.1% reported that they would delay treatment until follow-up or offer no treatment (4.4% did not respond to the question of treatment). For the depressed patient, 55.6% of physicians reported that they would immediately initiate treatment, while 41.5% would delay or offer no treatment (2.9% did not respond to the question of treatment).

The finding that 85.4% of family physicians accurately detected depression in the clinical scenario patient, and 59.6% of those physicians subsequently reported that they would immediately treat the patient (versus 39.7% of those physicians would delay/offer no treatment), indicates that most physicians preferred not to wait until follow-up to start the depression patient on treatment. A similar finding developed for the anxiety patient; however, physicians were even more likely to immediately begin treatment. Specifically, this study found that 86.3% of family physicians accurately detected anxiety in the clinical scenario patient, and 71.7% of those physicians reported that they would immediately treat the patient (versus 28.3% of those physicians would delay/offer no treatment).

Heneghan et al. (2009: p. 1005) suggests that the final stage in the three-stage model of diagnostic reasoning (initiation, refinement, and defining) does not require diagnostic certainty before general practitioners initiate treatment. That is, during the final stage of 'defining the final diagnosis', physicians may follow one of several strategies: rely on the 'test of time' or order further tests to rule diagnoses in or out ('wait and see' approaches); or start treatment based on

diagnostic certainty or use their patient's response to treatment to reject or confirm diagnosis ('test of treatment' approaches). The present study indicates that family physicians who tentatively diagnosed depression in the clinical scenario patient presenting with depression were slightly more likely to follow the test of treatment approach than the wait and see approach; family physicians who tentatively diagnosed anxiety in the clinical scenario patient presenting with anxiety were notably more likely to follow the test of treatment approach than the wait and see approach.

Follow-up Return

A significant majority of physicians recommended adequate follow-up care for the clinical scenario patients, with approximately the same proportion recommending adequate follow-up for the depressed patient as for the anxious patient. Specifically, 82.5% recommended that the depressed patient return within two weeks, and 79.4% suggested that the anxious patient return within two weeks. These findings indicate that physicians were more likely to provide swift follow-up care than previous research suggested. For example, Williams and colleagues (1999) found that only 50% of physicians scheduled a follow-up within a 2-week period for patients with newly diagnosed major depression. Further, Carney et al. (1999) found that follow-up within 2 weeks for patients with recognized major depressive disorder was recommended by only 60% of physicians.

Hypothesis 2

Physician attributes, organizational setting, and information/resource use will be directly associated with physicians' responses to mood and anxiety disorders.

Neither tentative diagnosis of depression nor tentative diagnosis of anxiety was significantly associated with any of the tested measures.

Effective (immediate) treatment of the clinical scenario patients was significantly associated with measures of personal attributes, professional attributes, organizational setting, and information/resource use. Specifically, physicians significantly more likely to ineffectively treat the depressed patient were female, had completed their undergraduate medical training in Canada (versus elsewhere), were less likely to hold a social context view of anxiety amenable to intervention, had a low patient load (<100 /week), and used medical texts to make specific clinical decisions. Physicians significantly more likely to ineffectively treat the anxious patient had completed their undergraduate and postgraduate medical training in Canada (versus elsewhere), had a low patient load (<100 /week), did not practice in a private office/clinic, and used colleagues inside and outside their practice setting to update their general medical knowledge.

Adequate follow-up was significantly associated with measures of personal attributes, organizational setting, and information/resource use. In particular, physicians significantly more likely to provide inadequate follow-up care to the depressed patient were in solo practice and used drug manuals to update their general medical knowledge. Physicians significantly more likely to provide inadequate follow-up care to the anxious patient were female and did not use mental health professionals to update their general medical knowledge.

In sum, these findings suggest that physicians' provision of care to patients with anxiety and depression was more likely to be significantly associated with their personal attributes, organizational setting, and information/resource use than with their professional attributes. Particularly surprising was the association between ineffective (delayed/no) treatment and low patient load, in light of contrary previous research which inferred that physicians with heavy patient loads were more likely to provide inappropriate care (Baik et al., 2005; Dew et al., 2005;

Hartley et al., 1998; Martin-Agueda et al., 2005). Also unexpected was the association between ineffective treatment and gender and country of medical education, given that the linkages between personal physician attributes and appropriate care have not often been addressed within the mood and anxiety literature. When these factors have been investigated, the accuracy of physicians in diagnosing depression has not been found to be associated with either gender (Fitzpatrick et al., 1997; Thompson et al., 2001) or university attended (Fitzpatrick et al.).

Hypothesis 3

The best fitting model of factors that predicts family physicians' responses to mood and anxiety disorders will include physician attributes, organizational setting, and information/resource use.

   Of the three physician responses examined (detection, treatment, and follow-up), effective treatment of the clinical scenario patients was the only measure with a sufficient number of cases to build a multivariate model. When controlling for the effects of other factors, physicians with low patient loads (<100/week) were three times more likely to provide ineffective treatment of the depressed patient than physicians with high patient loads (151-450/week). When holding the effects of all other factors constant, physicians who had completed postgraduate training in Canada were approximately five times more likely to provide ineffective treatment of the anxious patient than physicians who had completed their postgraduate training outside of Canada.

6.2 Secondary Analyses

   In addition to testing hypotheses regarding family physicians' general responses to patients with mood and anxiety disorders, this study investigated a number of other issues. These issues included physicians' particular treatment plans with respect to the clinical scenario patients, as well as the duration of new and follow-up patient consultations, number of patients regularly

diagnosed and treated with depression and anxiety (weekly), their knowledge and attitudes with respect to depression and anxiety, barriers to care, perceived requirements for effectively managing patients with depression and anxiety, physician resistance to formal diagnosis, and information and resource use.

Physicians' immediate treatment plans for the clinical scenario patient with generalized anxiety disorder most frequently included pharmacology, followed closely by a combination treatment of pharmacology and counseling. Immediate treatment plans for the depressed clinical scenario patient most frequently referred to a combination treatment of pharmacology and counseling, followed closely by pharmacology. The propensity of physicians to prefer pharmacology to counseling to treat mood and anxiety disorders is supported by the literature (Ormel et al., 1991; Kroenke et al., 2007; Wittchen et al., 2002). For this reason, it was somewhat surprising to find that family physicians preferred to immediately treat the depressed clinical scenario patient with a combination of pharmacology and counseling.

According to this study, the average duration of new visits with anxious and depressed patients was longer than the average duration of follow-up visits. That is, 32% to 40% of physicians spent 30 minutes or longer in new visits with patients with anxiety and depression, whereas only 8% to 13% of physicians spent 30 minutes or longer in follow-up visits with similar patients.

Physicians treated approximately twice the number of patients with anxiety and depression (8-8.6) that they diagnosed every week with these disorders (3.7-4.3). Overall, patients diagnosed with these disorders made up 3.0% to 4.1% of total weekly visits, while patients treated with these disorders made up 7.3% to 7.4% of total patient visits.

The results of this study indicated that physicians are generally quite knowledgeable about depression and anxiety, attaining an average score of 72.8 (over 100) on a depression knowledge scale, and 73.1 (over 100) on an anxiety knowledge scale.

Physicians held a range of attitudes toward anxiety and depression. In particular, physicians strongly disagreed with the social context view of depression and anxiety. These findings were consistent with previous research which indicated that most physicians held a medical etiology perspective of mental disorders (Andersson et al., 2005; Dowrick et al., 2000), yet somewhat contradictory of research which found physicians to hold multiple conceptualization of mental disorders and their causes (Andersson et al.; Chew-Graham et al., 2002; Thomas-MacLean & Stoppard, 2004). This study found that physicians were knowledgeable of current antidepressant treatment guidelines for patients with depression, strongly disagreed with the suggestion that psychotherapy or no treatment at all were superior to pharmacology, strongly disagreed with minimizing their role in managing patients with anxiety, and were neutral in their confidence in caring for patients with depression and anxiety yet did not exhibit professional inefficacy in caring for patients with anxiety.

Physicians raised a host of issues with respect to barriers they encountered when caring for patients with anxiety and depression. The majority of such barriers were physician-related rather than patient and system-related. In particular, physician-related barriers included perceptions of themselves as too busy, requiring specialist referral/consult, and lacking sufficient knowledge /skills/experience to provide the best possible care. Patient-related barriers referred to the problems of patient non-compliance and resistance to diagnosis and treatment. Physicians noted system-related issues such as lack of services, limited access to services, and long wait times for services.

This study found that more than eight in ten physicians identified four requirements to effectively manage patients with depression and anxiety. These requirements included improved access to mental health professionals other than psychiatrists, an ability to prescribe affordable medication, more time to spend with patients, and up-to-date information on effective non-pharmacological treatments.

With respect to resistance to formally diagnosing patients with depression or anxiety, by far the most popular reason was that physical causes first needed to be completely ruled out. Furthermore, more than one of every two physicians reported that they would not formally diagnose patients on the basis of patient refusal to accept such a diagnosis. More than one in five physicians also indicated that patient non-compliance and the low likelihood that a patient would be seen in time if referred to a specialist would cause them to not make a formal diagnosis.

With respect to updating their general medical knowledge, more than one in every two physicians reported that they used medical journals or clinical practice guidelines. Slightly fewer than one in two physicians used a favorite internet website, medical textbooks, and pharmaceutical sales representatives to update their general medical knowledge. In order to make specific clinical decisions, more than one in every two physicians used medical textbooks, colleagues in their main patient care setting, psychiatrists, clinical practice guidelines, and colleagues outside their main patient care setting.

6.3 Study Limitations

The methodologies and measures used in this study are not without their limitations. First, this study achieved a low response rate (49.7%). However, this rate of response is comparable to response rates obtained by other published survey studies of Canadian family physicians, which ranged from a low of 29% (College of Family Physicians of Canada, 2007), 36% (Hillmer et al.,

2006), 48% (Clatney et al., 2008; Arnold et al., 2005), and 53% (Singh et al., 2006), to a high of 64% (Miller and Russell, 2004) and 75% (Ferrari et al., 2004).

Second, generalizability of study results to Saskatchewan family physicians may be limited by over-representation of family physicians who had been in practice for a longer period of time, and by under-representation of male physicians and physicians who completed their undergraduate and postgraduate training outside of Canada (College of Family Physicians of Canada, 2007).

Third, the use of clinical scenarios to measure physicians' diagnostic practices may limit external validity (Epstein et al. 2001). For instance, Fortinsky and Wasson (1997) suggest that responses to clinical scenarios may differ from actual diagnostic practices. However, scenarios allow researchers an inexpensive method to effectively measure quality of care by controlling for the confounding effects of patient characteristics (Dresselhaus et al., 2004). Scenarios may also "produce better measures of quality of care than medical record reviews when used to measure differential diagnosis, selection of tests, and treatment decisions" (Veloski et al., 2005, p. 151). Furthermore, clinical scenarios have been found superior to medical chart abstraction, when compared to the gold standard of standardized patient checklists (Peabody et al., 2004).

Fourth, measures created specifically for use in this study may have low reliability. For instance, family physicians' information and resource use was measured by self-reported items that required a check mark to indicate 'yes'. Respondents who did not check the items were assumed to have replied 'no'. This measure, and other similar measures throughout the survey, was employed to minimize the bias of non-response. However, it is possible that family physicians did not intend to answer 'no' when they did not place a check mark next to an item. For this reason, this study may have underestimated non-response by respondents.

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6.4 Future Directions

The field of psychiatric diagnosis would benefit from attention to three issues. First, future studies of psychiatric under-diagnosis must attempt to obtain representative samples of both physicians and their patients. Past studies of psychiatric under-diagnosis have typically used large samples of patients (>200), but small samples of physicians (<100). Such small physician samples make it difficult to generalize to the larger population, and to obtain reliable estimates of the actual proportion of patients who are under-diagnosed. Second, future studies would benefit from employing longitudinal designs to explore the diagnostic process that unfolds over several visits. A small contingent of psychiatric diagnosis researchers have suggested that final diagnoses of psychiatric disorders, such as depression, are products of negotiation between patients and physicians. Final diagnoses should therefore be expected to emerge only after several visits, rather than after one visit as is currently the expectation by the majority of psychiatric diagnosis researchers. Third, the field of psychiatric diagnosis would benefit from a review of studies that more fully explores the issue of under-diagnosis within family practice. Such a review would likely provide evidence to suggest that psychiatric under-diagnosis attracts more attention than under-diagnosis of other common conditions in family practice.

6.5 Conclusion

This study revealed that patients presenting to their family physicians with depression and anxiety generally received appropriate care with respect to recognition of their disorder and follow-up care; however, a notable proportion of physicians did not provide effective (immediate) treatment. That is, a significant majority of family physicians accurately detected depression and anxiety in clinical scenario patients, and recommended adequate follow-up (≤ 2

weeks) depression and anxiety care. However, only a slight majority of physicians suggested effective (immediate) treatment of clinical scenario patients.

With 5.4% of adult Canadians soliciting help for mental health reasons every year from family physicians and medical specialists other than psychiatrists and psychologists (Vasiliadis et al. 2005), appropriate and effective care is critical. Research is required which more fully describes the process of care, from recognition to diagnosis, treatment and compliance, to follow-up. A better understanding of the care process may eventually lead to improved care for those individuals with mental disorders who look first to their family physician for help.

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APPENDIX A – Ethics Approval

_____

UNIVERSITY OF SASKATCHEWAN

Behavioural Research Ethics Board (Beh-REB)

Certificate of Approval

PRINCIPAL INVESTIGATOR Carl D'Arcy	DEPARTMENT Psychiatry	BEH# 07-41

INSTITUTION(S) WHERE RESEARCH WILL BE CONDUCTED (STUDY SITE)
University of Saskatchewan
Saskatoon SK

SUB-INVESTIGATOR(S)
Debra Morgan

STUDENT RESEARCHERS
Julie Kosteniuk

SPONSOR
CANADIAN INSTITUTES OF HEALTH RESEARCH (CIHR)
UNIVERSITY OF SASKATCHEWAN - ALFRED G. MOLSTAD TRUST

TITLE
Diagnosis and Treatment of Mood and Anxiety Disorders in Family Practice

APPROVAL DATE	EXPIRY DATE	APPROVAL OF
13-Mar-2007	12-Mar-2008	Application Consent Form Questionnaire

CERTIFICATION
The University of Saskatchewan Behavioural Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol or consent process or documents.

Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

ONGOING REVIEW REQUIREMENTS
In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month of the current expiry date each year the study remains open, and upon study completion. Please refer to the following website for further instructions:
http://www.usask.ca/research/ethics_review/

John Rigby, Chair
University of Saskatchewan
Behavioural Research Ethics Board

March 13/07
Signature Date

Please send all correspondence to: Ethics Office
University of Saskatchewan
Room 306 Kirk Hall, 117 Science Place
Saskatoon SK S7N 5C8
Telephone: (306) 966-2084   Fax: (306) 966-2069

Dear Family Physician,

Thank you for agreeing to help evaluate this survey instrument "Diagnosing and Treating Patients in Family Practice". Your answers will help to refine the questionnaire before it is distributed to family physicians in the pilot study phase.

Please do not identify yourself when returning the questionnaire. Your evaluation is completely anonymous, and is intended for the sole purpose of instrument development. It would be most helpful if you answered the survey as you would answer any other survey.

If you find that a question or a section could be improved upon, please note this directly in the questionnaire. I welcome any ideas that you might like to share about how to improve this questionnaire.

Please return the questionnaire with your comments by enclosed self-addressed envelope <u>or</u> by fax to the attention of: Julie Kosteniuk (1.306.966.8774). Alternatively, email your comments to kosteniuk@usask.ca.

Your help is greatly appreciated.

Thank you,

Julie Kosteniuk
Applied Research/Psychiatry
Royal University Hospital
103 Hospital Drive
Saskatoon, SK S7N 0W8
Phone: 1.306.966.8773 collect
Fax: 1.306.966.8774
Email: kosteniuk@usask.ca

APPENDIX C – Pilot Study Consent Form

Diagnosis and Treatment of Common Psychiatric Disorders in Family Practice

CONSENT TO PARTICIPATE IN STUDY

You are invited to participate in a study entitled **Diagnosis and Treatment of Common Psychiatric Disorders in Family Practice**. Please read this form carefully, and feel free to contact us with any questions you might have.

The study researchers are: Julie Kosteniuk, MA and Carl D'Arcy, PhD., Applied Research, Department of Psychiatry, and Dr. Raymond Tempier, MD, FRCPC, Department of Psychiatry, University of Saskatchewan, Saskatoon, Saskatchewan.

This survey is part of a research project to learn more about how family physicians diagnose and treat common psychiatric disorders in their patients, and what their information and resource needs are to care for such patients. It will take approximately 15 minutes to complete.

There are no known risks to you associated with completing this survey. The potential benefit of responding to this survey is an increase in our knowledge regarding the information and resources that physicians need to effectively diagnose and treat patients presenting with common psychiatric disorders. This benefit is not necessarily guaranteed.

Analysis of the study results will take place in Applied Research, Department of Psychiatry, University of Saskatchewan, Saskatoon, Saskatchewan. The findings will be made available to the public and the media in a summary report, peer-reviewed scientific journal articles, and conference presentations. The study results will also be used as part of a doctoral thesis.

Survey responses will be kept strictly confidential; only grouped or aggregate data from which individuals' answers cannot be identified will ever be released. Direct quotations from participants' answers will be used when reporting survey results; however, any information that may identify a participant or a participant's community will be removed.

Your participation is completely voluntary, and you may withdraw from the study for any reason, at any time. Answer only the questions with which you are comfortable. The sequence number on the questionnaire is used to delete your name from the mailing list for the survey. The mailing information and the survey data are kept in two separate files. Your name is never connected to your answers in any way. The survey data will be stored on a stand-alone computer in a locked room in Applied Research, Department of Psychiatry, at the University of Saskatchewan, for a period of five years upon completion of the study. This computer is not attached to the internet. No participants' names will appear in any publication of results. If you withdraw from the study at any time, any data that you have contributed will be destroyed at your request.

This study has received ethical approval from the University of Saskatchewan Behavioural Research Ethics Board (March 13, 2007). Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (306-966-2084). Out of town participants may call collect.

If you have any questions concerning the study, please feel free to contact the project coordinator, at Applied Research, Department of Psychiatry, University of Saskatchewan, by calling collect 1-306-966-8767. Alternatively, you may call collect or email any of the project principals.

I have read and understood the description provided above; I acknowledge that I have been provided with an opportunity to ask questions. I consent to participate in the study described above, understanding that I may withdraw this consent at any time.

_____

_____
(Name of Participant)   **(Date)**

_____   _____
(Signature of Participant)   **(Signature of Researcher)**

APPENDIX D - Pilot Study Preletter

«Dr» «Lastname»   June 14, 2007
«Address1»
«City», «SK»
«Postcode»

Dear «Dr» «Lastname»,

We are writing to invite you to participate in a study of Saskatchewan family physicians. Your survey will be arriving in the mail within the next two weeks. The purpose of this study is to learn more about the information and resources that physicians use and need to effectively diagnose and treat patients with common mental health problems.

This survey is completely voluntary and will take approximately 15 minutes to complete. Your name and address were selected at random from the Canadian Medical Directory and the College of Physicians and Surgeons of Saskatchewan mailing list.

Your answers are strictly confidential. Only aggregate data will be reported; as such, your answers cannot be identified. The findings will be made available directly to the study participants, and will also be available to the public and the media in a summary report. Peer-reviewed scientific journal articles and conference presentations will also result from the successful completion of the study.

If you have questions or comments about this study, we would be happy to discuss them with you. Please feel free to contact any of the investigators involved in this survey, by emailing or calling collect to any of the phone numbers listed below.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
Saskatoon, SK S7N 0W8   Phone: 1-306-966-8767
Phone: 1-306-966-8767   carl.darcy@usask.ca
julie.kosteniuk@usask.ca

Dr. Raymond Tempier, MD, MSc, FRCPC, Professor and Director
Department of Psychiatry and Mental Health Services of Saskatoon Health Region
Room 119 Ellis Hall
Royal University Hospital
103 Hospital Drive
Saskatoon, SK S7N 0W8
Phone: 1-306-966-8223
raymond.tempier@usask.ca

APPENDIX E – Pilot Study First Package Letter

«Dr» «Lastname»   June 21, 2007
«Address1»
«City», «SK»
«Postcode»

Dear «Dr» «Lastname»,

About a week ago we sent you a letter inviting you to participate in a study of Saskatchewan family physicians. This enclosed package contains the study consent form, the study survey, and a stamped envelope for mailing the survey back to our office at Royal University Hospital.

We hope that this study will improve our knowledge regarding information and resources physicians require to effectively diagnose and treat patients with common psychiatric disorders in family practice. Your participation in this study is important for achieving results representative of our province. The survey will take approximately 15 minutes to complete. Your answers are completely confidential. Answer only the questions with which you are comfortable.

Your name and address came from the Canadian Medical Directory and the College of Physicians and Surgeons of Saskatchewan mailing list. Only aggregate data will be reported. Your individual answers cannot be identified. Please complete and return the questionnaire in the enclosed stamped envelope. The sequence number on the envelope is used to delete your name from the mailing list for the survey. Your name is never connected to your answers in any way. If you prefer not to respond, please let us know by returning the blank questionnaire in the enclosed stamped envelope.

The survey data will be stored on a stand-alone computer in a locked room in Applied Research, Department of Psychiatry, at the University of Saskatchewan. This computer is not attached to the internet. No information from this survey will be sold.

If you would like to receive a summary report of the study results, please indicate this by answering 'yes' to this question on the front page of the questionnaire. The findings will be made available to the public and the media in a summary report, peer-reviewed scientific journal articles, and conference presentations.

If you have questions or comments about this study, we would be happy to discuss them with you. Please feel free to contact any of the investigators involved in this survey, by emailing or calling collect to any of the phone numbers listed below.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
Saskatoon, SK S7N 0W8   Phone: 1-306-966-8767
Phone: 1-306-966-8767   carl.darcy@usask.ca
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Dr. Raymond Tempier, MD, MSc, FRCPC, Professor and Director
Department of Psychiatry and Mental Health Services of Saskatoon Health Region
Room 119 Ellis Hall
Royal University Hospital
103 Hospital Drive
Saskatoon, SK S7N 0W8
Phone: 1-306-966-8223
raymond.tempier@usask.ca

APPENDIX F – Pilot Study First Thank You Letter

«Dr» «Lastname»   July 6, 2007
«Address1»
«City», «SK»
«Postcode»

Dear «Dr» «Lastname»,

About two weeks ago a questionnaire was mailed to you asking for your opinions about common psychiatric disorders and the information and resources necessary to effectively diagnose and treat patients with such disorders.

Please accept our sincere thanks for returning the questionnaire. We are particularly grateful for your help because your contribution allows us to gain an understanding that is representative of family physicians in our province as a whole.

Thank you again for your support of this important research.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
Saskatoon, SK S7N 0W8   Phone: 1-306-966-8767
Phone: 1-306-966-8767   carl.darcy@usask.ca
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Room 119 Ellis Hall
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103 Hospital Drive
Saskatoon, SK S7N 0W8
Phone: 1-306-966-8223
raymond.tempier@usask.ca

APPENDIX G – Pilot Study First Reminder Letter

«Dr» «Lastname»   July 6, 2007
«Address1»
«City», «SK»
«Postcode»

Dear «Dr» «Lastname»,

About two weeks ago a questionnaire was mailed to you asking for your opinions about common psychiatric disorders and the information and resources necessary to effectively diagnose and treat patients with such disorders.

If you have already completed and returned the questionnaire to us, please accept our sincere thanks. We are particularly grateful for your help because your contribution allows us to gain an understanding that is representative of family physicians in our province as a whole.

If your questionnaire was misplaced, please call 1-306-966-8767 (collect) or email julie.kosteniuk@usask.ca and we will get another in the mail to you today.

Thank you again for your support of this important research.

If you have questions or comments about this study, we would be happy to discuss them with you. Please feel free to contact any of the investigators involved in this survey, by emailing or calling collect to any of the phone numbers listed below.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
Saskatoon, SK S7N 0W8   Phone: 1-306-966-8767
Phone: 1-306-966-8767   carl.darcy@usask.ca
julie.kosteniuk@usask.ca

Dr. Raymond Tempier, MD, MSc, FRCPC, Professor and Director
Department of Psychiatry and Mental Health Services of Saskatoon Health Region
Room 119 Ellis Hall
Royal University Hospital
103 Hospital Drive
Saskatoon, SK S7N 0W8
Phone: 1-306-966-8223
raymond.tempier@usask.ca

APPENDIX H – Pilot Study Second Thank You Letter

«Dr» «Lastname»   July 20, 2007
«Address1»
«City», «SK»
«Postcode»

Dear «Dr» «Lastname»,

Recently, you completed a survey which asked for your opinions about common psychiatric disorders and the information and resources necessary to effectively diagnose and treat patients with such disorders.

Please accept our sincere thanks for returning the questionnaire. We are particularly grateful for your help because your contribution allows us to gain an understanding that is representative of family physicians in our province as a whole.

Thank you again for your support of this important research.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
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103 Hospital Drive
Saskatoon, SK S7N 0W8
Phone: 1-306-966-8223
raymond.tempier@usask.ca

APPENDIX I – Pilot Study Second Reminder Letter

«Dr» «Lastname»   July 20, 2007
«Address1»
«City», «SK»
«Postcode»

Dear «Dr» «Lastname»,

About a month ago a questionnaire was mailed to you asking for your opinions about common psychiatric disorders and the information and resources necessary to effectively diagnose and treat patients with such disorders.

We are writing again because of the importance that your questionnaire has for helping to attain accurate results that are representative of family physicians in our province as a whole.

Other physicians across the province who have already completed and returned their questionnaires have contributed tremendously to our understanding of this significant issue.

A few physicians have contacted us with questions regarding their eligibility to participate.
   •   We would like you to participate if you are a family physician in full-time or part-time practice, or if you are a locum tenens, or on a leave of absence from active patient care.
   •   If you are not a family physician, or if you are a retired family physician or a resident and received a questionnaire by mistake, please let us know on the cover of the questionnaire and return it in the enclosed envelope so that we can delete your name from the mailing list.

If you have questions or comments about this study, we would be happy to discuss them with you. Please feel free to contact any of the investigators involved in this survey, by emailing or calling collect to any of the phone numbers listed below.

We hope that you will fill out and return the questionnaire soon, but if for any reason you prefer not to participate, please let us know by returning a note or blank questionnaire in the enclosed envelope.

If you have already completed and returned the questionnaire to us, please accept our sincere thanks.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
Saskatoon, SK S7N 0W8   Phone: 1-306-966-8767
Phone: 1-306-966-8767   carl.darcy@usask.ca
Fax: 1-306-966-8774
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Saskatoon, SK S7N 0W8
Phone: 1-306-966-8223
raymond.tempier@usask.ca

APPENDIX J – Pilot Study Third Thank You Letter

August 29, 2007

«Dr» «Lastname»
«Address1»
«City», «SK»
«Postcode»

Dear «Dr» «Lastname»,

Recently, you completed a survey which asked for your opinions about common psychiatric disorders and the information and resources necessary to effectively diagnose and treat patients with such disorders.

Please accept our sincere thanks for returning the questionnaire. We are particularly grateful for your help because your contribution allows us to gain an understanding that is representative of family physicians in our province as a whole.

Thank you again for your support of this important research.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
Saskatoon, SK S7N 0W8   Phone: 1-306-966-8767
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103 Hospital Drive
Saskatoon, SK S7N 0W8
Phone: 1-306-966-8223
raymond.tempier@usask.ca

APPENDIX K – Pilot Study Third Reminder Letter

August 29, 2007

«Dr_»«Last_Name»
«Address_Line_1»
«Address_Line2»
«City», «Prov»
«Postal_Code»

Dear «Dr_»«Last_Name»,

Last month we sent you a questionnaire regarding your opinions about common psychiatric disorders.

Other physicians across the province who have already completed and returned their questionnaires have contributed tremendously to our understanding of this significant issue. Your response is important. You can help us obtain accurate results that are representative of family physicians in our province as a whole.

A few physicians have contacted us with questions regarding their eligibility to participate.
·   We would like you to participate if you are a family physician in full-time or part-time practice, or if you are a locum tenens, or on a leave of absence from active patient care.
·   If you are not a family physician, or if you are a retired family physician or a resident and received a questionnaire by mistake, please let us know on the cover of the questionnaire and return it in the enclosed envelope so that we can delete your name from the mailing list.

We have enclosed a small token of appreciation as a way of saying thanks for your help.

We hope that you will fill out and return the questionnaire soon, but if for any reason you prefer not to participate, please let us know by returning a note or blank questionnaire in the enclosed envelope.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
Saskatoon, SK S7N 0W8   Phone: 1-306-966-8767
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Room 119 Ellis Hall
Royal University Hospital
103 Hospital Drive
Saskatoon, SK S7N 0W8
Phone: 1-306-966-8223
raymond.tempier@usask.ca

APPENDIX L – Pilot Study Final Letter

October 10, 2007

«Dr_»«Last_Name»
«Address_Line_1»
«Address_Line2»
«City», «Prov»
«Postal_Code»

Dear «Dr_»«Last_Name»,

Recently, you completed a survey which asked for your opinions about common psychiatric disorders and the information and resources necessary to effectively diagnose and treat patients with such disorders.

Please accept our sincere thanks for returning the questionnaire. We are particularly grateful for your help because your contribution allows us to gain an understanding that is representative of family physicians in our province as a whole.

Thank you again for your support of this important research.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
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Phone: 1-306-966-8767   carl.darcy@usask.ca
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Phone: 1-306-966-8223
raymond.tempier@usask.ca

Sequence No: D

SASKATCHEWAN FAMILY PRACTICE SURVEY

DIAGNOSING AND TREATING PATIENTS IN FAMILY PRACTICE

Would you like a copy of our study results mailed to you? ☐ Yes ☐ No

If you have any questions regarding this survey, please contact:
Dr. Carl D'Arcy (carl.darcy@usask.ca)
Julie Kosteniuk (julie.kosteniuk@usask.ca)
Phone: 1-306-966-8767 (collect)
Fax: 1-306-966-8774

Applied Research
Box 92, Royal University Hospital
103 Hospital Drive
Saskatoon, Saskatchewan
Canada   S7N 0W8

UNIVERSITY OF
SASKATCHEWAN

<u>Please take a moment to ensure that you are eligible to complete this survey:</u>

If you fall into one of the categories below, please indicate your status by checking (✔) the appropriate category. Then, **please return your <u>completed</u> questionnaire in the enclosed stamped, self-addressed envelope.**

☐ In full-time or part-time medical practice.

☐ A locum tenens. *Please complete the questionnaire in relation to the last practice that you served, or are currently serving.*

☐ On a leave of absence or sabbatical from active patient care. *Please complete the questionnaire in relation to your most recent medical practice.*

OR

If you fall into one of the categories below, please indicate your status by checking (✔) the appropriate category. Then, **please return your <u>uncompleted</u> questionnaire in the enclosed stamped, self-addressed envelope. Thank you.**

☐ Medical student
☐ Resident
☐ Employed in a medical or medically related field (e.g. administration, teaching, research)
☐ Retired
☐ Other (please specify): _____

Please use pen or pencil to complete the questionnaire.

A. **CLINICAL SCENARIO**

The following is a hypothetical clinical scenario of a patient whom you may encounter in your practice. We are interested in how you would treat this patient. Please read the scenario and respond to the questions below.

> **Your patient is a 52 year-old woman, married for 26 years with 2 adult children. She has worked part-time as a receptionist for a small local business for the past 15 years. She typically takes art classes one evening a week, but has not felt like going to the class in a while. A detailed history reveals that for the past 4 weeks, she has been feeling a loss of interest in her usual daily activities. Also, she cannot think clearly and has difficulty concentrating. Your patient complains that she cannot sleep through the night, and feels little energy to do her daily tasks. She has lost 12 lbs. since she started feeling this way, and feels that her situation is hopeless. She has no significant past medical or psychiatric history.**

1. After reading the above scenario, what kind of diagnosis (if any) would you make?

2. What factors from the case scenario did you take into consideration in your diagnosis decision?

3. What treatment would you recommend to this patient (if any)?

4. If you recommended treatment to this patient, when would you like the patient to return for:

   a) 1st follow-up?

   b) 2nd follow-up?

   c) 3rd follow-up?

   d) 4th follow-up?

5. List one or more reason that you may not be able to provide the best possible care for this patient.

B. INFORMATION USE

1. Using check marks (✔) where applicable, indicate the information sources that you use on a regular basis (at least once per month) to <u>update your general medical knowledge</u> and to <u>make specific clinical decisions</u>.

Specific Purpose of Using the Information Source

	To update your general medical knowledge	To make a specific clinical decision
Example: Medical journals	☑	☑

Information Source

a. Medical journals	☐	☐
b. Clinical practice guidelines	☐	☐
c. Colleagues in your <u>main patient care setting</u>	☐	☐
d. Colleagues outside of your <u>main patient care setting</u>	☐	☐
e. Pharmaceutical sales representatives	☐	☐
f. Medical textbooks	☐	☐
g. Drug manuals	☐	☐
h. Decision aids	☐	☐
i. Psychiatrist(s)	☐	☐
j. Mental health professional(s) (other than psychiatrist)	☐	☐
k. Favorite internet search engine (please specify) _____	☐	☐
l. Favorite internet website (please specify) _____	☐	☐
m. Other (please specify): _____	☐	☐

2. Using check marks (✔) where applicable, please indicate whether you find the following information sources to be (in general): reliable, easy to access, relevant to your needs, and easy to understand.

	Reliable (You trust this source)	Easy to access	Relevant (to your needs)	Easy to understand
Example: Medical journals	☑	☑	☑	☑

Information Source

a. Medical journals	☐	☐	☐	☐
b. Clinical practice guidelines	☐	☐	☐	☐
c. CME/CPD/CPL courses/programs	☐	☐	☐	☐
d. Colleagues in your <u>main patient care setting</u>	☐	☐	☐	☐
e. Colleagues outside of your <u>main patient care setting</u>	☐	☐	☐	☐
f. Pharmaceutical sales representatives	☐	☐	☐	☐
g. Medical textbooks	☐	☐	☐	☐
h. Drug manuals	☐	☐	☐	☐
i. Decision aids	☐	☐	☐	☐
j. Psychiatrist(s)	☐	☐	☐	☐
k. Mental health professional(s) (other than psychiatrist)	☐	☐	☐	☐
l. Favorite internet website	☐	☐	☐	☐

C. COLLEGIAL NETWORK

Do you have colleagues whom you can call on for consultation and/or professional support?

      ☐ No → Please skip to Section D.

      ☐ Yes → Please complete the chart below:

Profession	Number of colleagues	Average level of accessibility					Primary mode of contact		
		Very accessible				Very inaccessible	Telephone	Internet	Face-to-face
Family physicians in your main patient care setting	_____	☐	☐	☐	☐	☐	☐	☐	☐
Family physicians outside of your main patient care setting	_____	☐	☐	☐	☐	☐	☐	☐	☐
Mental health professionals Please specify the type, (e.g. psychiatrists, psychologist, etc.) _____	_____	☐	☐	☐	☐	☐	☐	☐	☐
_____	_____	☐	☐	☐	☐	☐	☐	☐	☐
_____	_____	☐	☐	☐	☐	☐	☐	☐	☐
Other medical (please specify the type, eg: pharmacist) _____	_____	☐	☐	☐	☐	☐	☐	☐	☐
_____	_____	☐	☐	☐	☐	☐	☐	☐	☐

D. PATIENTS WITH DEPRESSION

1. Please indicate the two treatment interventions that you currently use most often for patients with depressive disorders that are moderate and severe. Indicate your first choice with "1" and second choice with "2".

If depressive disorder is:

Treatment	Moderate	Severe
Exercise/recreation	_____	_____
Counselor/psychological referral	_____	_____
Medication	_____	_____
Watchful waiting	_____	_____
Psychiatric referral	_____	_____
Psychotherapy provided by self	_____	_____
Other (please specify): _____	_____	_____

2. When deciding on the best treatment for a patient with depression, do you consider the following factors?   Please mark **ALL** that apply with a check (✔) mark.

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
age	☐	☐	☐	☐	☐
gender	☐	☐	☐	☐	☐
marital status	☐	☐	☐	☐	☐
children	☐	☐	☐	☐	☐
employment status	☐	☐	☐	☐	☐
preference for treatment	☐	☐	☐	☐	☐
family's preference for treatment	☐	☐	☐	☐	☐

The patient's: {

3. Please check (✔) the square that is closest to your level of agreement with the following statements:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
a. During the past 5 years I have seen an increase in the number of patients presenting with depressive symptoms.	☐	☐	☐	☐	☐
b. The majority of depression seen in general practice originates from patients' recent misfortunes.	☐	☐	☐	☐	☐
c. An underlying biochemical abnormality is the basis of severe cases of depression.	☐	☐	☐	☐	☐
d. It is difficult to differentiate whether patients are presenting with unhappiness or a clinical depressive disorder that needs treatment.	☐	☐	☐	☐	☐
e. It is possible to distinguish two main groups of depression, one psychological in origin and the other caused by biochemical mechanisms.	☐	☐	☐	☐	☐
f. Becoming depressed is a way that people with poor stamina deal with life difficulties.	☐	☐	☐	☐	☐
g. Depressed patients are more likely to have experienced deprivation in early life than other people.	☐	☐	☐	☐	☐
h. I feel comfortable in dealing with depressed patients' needs.	☐	☐	☐	☐	☐
i. Depression reflects a characteristic response in patients that is not amenable to change.	☐	☐	☐	☐	☐
j. Becoming depressed is a natural part of being old.	☐	☐	☐	☐	☐
k. The community nurse could be a useful person to support depressed patients.	☐	☐	☐	☐	☐
l. Most depressive disorders seen in general practice improve without medication.	☐	☐	☐	☐	☐
m. Working with depressed patients is heavy going.	☐	☐	☐	☐	☐
n. There is little to be offered to those depressed patients who do not respond to what general practitioners do.	☐	☐	☐	☐	☐
o. It is rewarding to spend time looking after depressed patients.	☐	☐	☐	☐	☐

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
p.	Psychotherapy tends to be unsuccessful with depressed patients.	☐	☐	☐	☐	☐
q.	If depressed patients need antidepressants, they should be started on tricyclics as first-line treatment.	☐	☐	☐	☐	☐
r.	If depressed patients need antidepressants, they should be started on selective serotonin reuptake inhibitors as first-line treatment.	☐	☐	☐	☐	☐
s.	If depressed patients need antidepressants, they are better off with a psychiatrist than with a general practitioner.	☐	☐	☐	☐	☐
t.	Antidepressants usually produce a satisfactory result in the treatment of depression in general practice.	☐	☐	☐	☐	☐
u.	Psychotherapy for depressed patients should be left to a specialist.	☐	☐	☐	☐	☐
v.	If psychotherapy were freely available, this would be more beneficial than antidepressants for most depressed patients.	☐	☐	☐	☐	☐

4. Please list your first choice of medication to treat depression, starting dosage, and duration of treatment for patients in these 3 age groups.

Patient's age	Medication	Starting Dosage	Duration of Treatment
10-17 yrs	_____	_____ (mg)	_____ (wks)
19-65 yrs	_____	_____ (mg)	_____ (wks)
66+ yrs	_____	_____ (mg)	_____ (wks)

5. Although a patient may present with signs or symptoms of depression, you may choose not to make a formal diagnosis. Do any of the following reasons contribute to your decision?
Please mark **ALL** that apply with a check (✔) mark.

☐   The stigma that the patient may suffer.

☐   It is unlikely that the patient will be seen in time if I refer him/her to a specialist.

☐   The patient is not likely to follow a course of treatment even if I prescribe it.

☐   The patient will work through it on his/her own.

☐   I don't want it to show up on his/her medical record.

☐   The patient lives too far away from a mental health specialist.

☐   Other (please specify): _____

6. To what extent do you believe each of the following statements is true or false?
   Please check (✔) the circle that is closest to your answer.

	Definitely True	Mostly True	Don't know	Mostly False	Definitely False
a. The maintenance phase of treatment for major depression focusses on preventing recurrence.	☐	☐	☐	☐	☐
b. If psychotherapy for major depression has no effect within 6 weeks of regular sessions, medication is recommended.	☐	☐	☐	☐	☐
c. An appropriate trial of antidepressant medication for major depressive disorder requires use of therapeutic dosages daily for at least 4-6 weeks.	☐	☐	☐	☐	☐
d. Side effects occur only in a small percentage of patients taking any antidepressant medication.	☐	☐	☐	☐	☐
e. Medication and psychotherapy are efficacious for depression in elderly adults as well as for the non-elderly.	☐	☐	☐	☐	☐
f. Evidence suggests that primary care clinicians prescribe appropriate dosages of antidepressants to fewer than a third of patients with a current major depressive disorder.	☐	☐	☐	☐	☐
g. Dysthymic disorder is mild, brief depression.	☐	☐	☐	☐	☐
h. The goal of cognitive therapy is to remove symptoms of depression by identifying and correcting patients' distorted, negatively biased thinking.	☐	☐	☐	☐	☐
i. In general, antidepressant medication should be discontinued after 4-9 months for patients with a single major depressive episode who no longer have symptoms of depression.	☐	☐	☐	☐	☐
j. Anxiolytics and sedatives (minor tranquilizers) have equivalent efficacy in major depression as antidepressant medications.	☐	☐	☐	☐	☐
k. Psychotherapy with a trained therapist is appropriate as the sole treatment for moderate major depression that is not chronic, psychotic or melancholic.	☐	☐	☐	☐	☐
l. Tricyclic antidepressants and SSRIs have equivalent side effect profiles.	☐	☐	☐	☐	☐

7. Imagine that you are unsure about diagnosing a patient with depression. Which of the following actions might you take to confirm your decision? Please mark **ALL** that apply with a check (✔) mark.

   ☐ Conduct a thorough patient interview

   ☐ Use a screening instrument (please specify instrument): _____

   ☐ Consult a diagnostic manual (please specify the manual): _____

   ☐ Consult a colleague

   ☐ Base it on my experience

   ☐ Other (please specify): _____

F. MAIN PATIENT CARE SETTING

1. What is your <u>main patient care setting</u> (i.e. where you spend the most time providing patient care)?

☐ Private office/clinic (excluding free standing walk-in clinics)
☐ Community clinic/Community health centre
☐ Free-standing walk-in clinic
☐ Academic health sciences centre
☐ Community hospital
☐ Emergency department (community hospital or academic health sciences centre)
☐ Other (please specify): _____

2. How is your <u>main patient care setting</u> organized?

☐ Solo practice
☐ Group practice
☐ Other (please specify) _____

3. Do you have internet access in your <u>main patient care setting</u>?

☐ No   ☐ Yes

4. Do you have internet access during consultations with patients in your <u>main patient care setting</u>?

☐ No   ☐ Yes

5. What is the population of your <u>main patient care setting</u>?

☐ over 75,000
☐ 50,001 to 75,000
☐ 20,001 to 50,000
☐ 10,001 to 20,000
☐ 5,001 to 10,000
☐ 2,501 to 5,000
☐ 1,001 to 2,500
☐ less than 1,000

6. Indicate the types of health care providers with whom you share patient care within your <u>main patient care setting</u>. Please mark **ALL** that apply.

☐ Family physicians	☐ Occupational therapists	☐ Other (please specify below)
☐ Specialist physicians	☐ Physiotherapists	_____
☐ Psychiatrists	☐ Social workers	_____
☐ Nurse practitioners	☐ Pharmacists	_____
☐ Nurses (eg. RN, LPN, RPN)	☐ Technicians/Technologists	_____
☐ Dieticians/Nutritionists	☐ Psychologists	_____
☐ Midwives		

G. DEMOGRAPHICS

1. Gender: ☐ Male ☐ Female

2. Year of birth: 19 __ __

2. Number of years you have been in practice as a family physician? __ __

H. EDUCATION

1. Where and when did you complete your *UNDERGRADUATE MEDICAL* training?

Country	Graduation Year
_____	_____
_____	_____
_____	_____

2. Where and when did you complete your *POSTGRADUATE MEDICAL* training?

Country	Graduation Year
_____	_____
_____	_____
_____	_____

3. Other medical training (please specify):

_____

_____

_____

Do you have comments about caring for patients with depression?

Do you have any general comments about this questionnaire?

Thank you for your time.

NOTES AND COMMENTS

Sequence No: A

SASKATCHEWAN FAMILY PRACTICE SURVEY

DIAGNOSING AND TREATING PATIENTS IN FAMILY PRACTICE

Would you like a copy of our study results mailed to you?   ☐ Yes   ☐ No

If you have any questions regarding this survey, please contact:
Dr. Carl D'Arcy (carl.darcy@usask.ca)
Julie Kosteniuk (julie.kosteniuk@usask.ca)
Phone: 1-306-966-8767 (collect)
Fax: 1-306-966-8774

Applied Research
Box 92, Royal University Hospital
103 Hospital Drive
Saskatoon, Saskatchewan
Canada   S7N 0W8

UNIVERSITY OF SASKATCHEWAN

Please take a moment to ensure that you are eligible to complete this survey:

If you fall into one of the categories below, please indicate your status by checking (✓) the appropriate category. Then, **please return your <u>completed</u> questionnaire in the enclosed stamped, self-addressed envelope.**

☐ In full-time or part-time medical practice.

☐ A locum tenens. *Please complete the questionnaire in relation to the last practice that you served, or are currently serving.*

☐ On a leave of absence or sabbatical from active patient care. *Please complete the questionnaire in relation to your most recent medical practice.*

OR

If you fall into one of the categories below, please indicate your status by checking (✓) the appropriate category. Then, **please return your <u>uncompleted</u> questionnaire in the enclosed stamped, self-addressed envelope. Thank you.**

☐ Medical student
☐ Resident
☐ Employed in a medical or medically related field (e.g. administration, teaching, research)
☐ Retired
☐ Other (please specify): _____

Please use pen or pencil to complete the questionnaire.

A. <u>CLINICAL SCENARIO</u>

The following is a hypothetical clinical scenario of a patient whom you may encounter in your practice. We are interested in how you would treat this patient. Please read the scenario and respond to the questions below.

Your patient is a 30 year-old man, married with two young children. He is employed full-time as a construction worker, and has been with the same company for the past 6 years. He spends most of his time at work, and socializes mainly with his co-workers. He and his wife typically go out once or twice a month for dinner or with friends, and leave their two young children with a babysitter. A detailed history reveals that he has been feeling anxious, almost daily, for the past 7 months. He feels edgy, which has affected his ability to concentrate on the job. Your patient complains of dizziness, sweaty palms, and tense muscles all over his body, when he feels anxious. He cannot name one specific worry, but says that he often finds it difficult to control. He is concerned that he will put his co-workers or himself in danger on the job if his situation does not improve.

1. After reading the above scenario, what kind of diagnosis (if any) would you make?

2. What factors from the case scenario did you take into consideration in your diagnosis decision?

3. What treatment would you recommend to this patient (if any)?

4. If you recommended treatment to this patient, when would you like the patient to return for:

    a) 1st follow-up?

    b) 2nd follow-up?

    c) 3rd follow-up?

    d) 4th follow-up?

5. List one or more reason that you may not be able to provide the best possible care for this patient.

B. INFORMATION USE

1. Using check marks (✓) where applicable, indicate the information sources that you use on a regular basis (at least once per month) to <u>update your general medical knowledge</u> and to <u>make specific clinical decisions</u>.

Specific Purpose of Using the Information Source

	To update your general medical knowledge	To make a specific clinical decision
Example: Medical journals	☑	☑

Information Source

a. Medical journals	☐	☐
b. Clinical practice guidelines	☐	☐
c. Colleagues in your <u>main patient care setting</u>	☐	☐
d. Colleagues outside of your <u>main patient care setting</u>	☐	☐
e. Pharmaceutical sales representatives	☐	☐
f. Medical textbooks	☐	☐
g. Drug manuals	☐	☐
h. Decision aids	☐	☐
i. Psychiatrist(s)	☐	☐
j. Mental health professional(s) (other than psychiatrist)	☐	☐
k. Favorite internet search engine (please specify) _____	☐	☐
l. Favorite internet website (please specify) _____	☐	☐
m. Other (please specify): _____	☐	☐

2. Using check marks (✓) where applicable, please indicate whether you find the following information sources to be (in general): reliable, easy to access, relevant to your needs, and easy to understand.

	Reliable (You trust this source)	Easy to access	Relevant (to your needs)	Easy to understand
Example: Medical journals	☑	☑	☑	☑

Information Source

a. Medical journals	☐	☐	☐	☐
b. Clinical practice guidelines	☐	☐	☐	☐
c. CME/CPD/CPL courses/programs	☐	☐	☐	☐
d. Colleagues in your <u>main patient care setting</u>	☐	☐	☐	☐
e. Colleagues outside of your <u>main patient care setting</u>	☐	☐	☐	☐
f. Pharmaceutical sales representatives	☐	☐	☐	☐
g. Medical textbooks	☐	☐	☐	☐
h. Drug manuals	☐	☐	☐	☐
i. Decision aids	☐	☐	☐	☐
j. Psychiatrist(s)	☐	☐	☐	☐
k. Mental health professional(s) (other than psychiatrist)	☐	☐	☐	☐
l. Favorite internet website	☐	☐	☐	☐

C. COLLEGIAL NETWORK

Do you have colleagues whom you can call on for consultation and/or professional support?

    ☐ No →   Please skip to Section D.

    ☐ Yes →   Please complete the chart below:

Profession	Number of colleagues	Average level of accessibility					Primary mode of contact		
		Very accessible				Very inaccessible	Telephone	Internet	Face-to-face
Family physicians in your main patient care setting	_____	☐	☐	☐	☐	☐	☐	☐	☐
Family physicians outside of your main patient care setting	_____	☐	☐	☐	☐	☐	☐	☐	☐
Mental health professionals Please specify the type, (e.g. psychiatrists, psychologist, etc.) _____	_____	☐	☐	☐	☐	☐	☐	☐	☐
_____	_____	☐	☐	☐	☐	☐	☐	☐	☐
_____	_____	☐	☐	☐	☐	☐	☐	☐	☐
Other medical (please specify the type, eg: pharmacist) _____	_____	☐	☐	☐	☐	☐	☐	☐	☐
_____	_____	☐	☐	☐	☐	☐	☐	☐	☐

D. PATIENTS WITH ANXIETY

1.   Please indicate the two treatment interventions that you currently use most often for patients with anxiety disorders that are moderate and severe. Indicate your first choice with "1" and second choice with "2".

If anxiety disorder is:

Treatment	Moderate	Severe
Exercise/recreation	_____	_____
Counselor/psychological referral	_____	_____
Medication	_____	_____
Watchful waiting	_____	_____
Psychiatric referral	_____	_____
Psychotherapy provided by self	_____	_____
Other (please specify): _____	_____	_____

2. When deciding on the best treatment for a patient with anxiety, do you consider the following factors?   Please mark **ALL** that apply with a check (✔) mark.

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
age	☐	☐	☐	☐	☐
gender	☐	☐	☐	☐	☐
marital status	☐	☐	☐	☐	☐
children	☐	☐	☐	☐	☐
employment status	☐	☐	☐	☐	☐
preference for treatment	☐	☐	☐	☐	☐
family's preference for treatment	☐	☐	☐	☐	☐

The patient's: {

3.   Please check (✔) the square that is closest to your level of agreement with the following statements:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
a. During the past 5 years I have seen an increase in the number of patients presenting with symptoms of anxiety.	☐	☐	☐	☐	☐
b. The majority of anxiety seen in general practice originates from patients' recent misfortunes.	☐	☐	☐	☐	☐
c. An underlying biochemical abnormality is the basis of severe cases of anxiety.	☐	☐	☐	☐	☐
d. It is difficult to differentiate whether patients are presenting with stress or a clinical anxiety disorder that needs treatment.	☐	☐	☐	☐	☐
e. It is possible to distinguish two main groups of anxiety, one psychological in origin and the other caused by biochemical mechanisms.	☐	☐	☐	☐	☐
f. Becoming anxious is a way that people with poor stamina deal with life difficulties.	☐	☐	☐	☐	☐
g. Anxious patients are more likely to have experienced deprivation in early life than other people.	☐	☐	☐	☐	☐
h. I feel comfortable in dealing with anxious patients' needs.	☐	☐	☐	☐	☐
i. Anxiety reflects a characteristic response in patients that is not amenable to change.	☐	☐	☐	☐	☐
j. Becoming anxious is a natural part of being old.	☐	☐	☐	☐	☐
k. The community nurse could be a useful person to support anxious patients.	☐	☐	☐	☐	☐
l. Most anxiety disorders seen in general practice improve without medication.	☐	☐	☐	☐	☐
m. Working with anxious patients is heavy going.	☐	☐	☐	☐	☐
n. There is little to be offered to those anxious patients who do not respond to what general practitioners do.	☐	☐	☐	☐	☐
o. It is rewarding to spend time looking after anxious patients.	☐	☐	☐	☐	☐

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
p.	Cognitive-behaviour therapy tends to be unsuccessful with anxious patients.	☐	☐	☐	☐	☐
q.	If anxious patients need pharmacologic management, they should be started on selective serotonin reuptake inhibitors as first-line treatment.	☐	☐	☐	☐	☐
r.	If anxious patients need pharmacologic management, benzodiazepines are considered second-line treatment.	☐	☐	☐	☐	☐
s.	If anxious patients need pharmacologic management, they are better off with a psychiatrist than with a general practitioner.	☐	☐	☐	☐	☐
t.	Pharmacotherapy usually produce a satisfactory result in the treatment of anxiety in general practice.	☐	☐	☐	☐	☐
u.	Psychotherapy for anxious patients should be left to a specialist.	☐	☐	☐	☐	☐
v.	If psychotherapy were freely available, this would be more beneficial than pharmacotherapy for most anxious patients.	☐	☐	☐	☐	☐

4. Please list your first choice of medication to treat anxiety, starting dosage, and duration of treatment for patients in these 3 age groups.

Patient's age	Medication	Starting Dosage	Duration of Treatment
10-17 yrs	_____	_____ (mg)	_____ (wks)
19-65 yrs	_____	_____ (mg)	_____ (wks)
66+ yrs	_____	_____ (mg)	_____ (wks)

5. Although a patient may present with signs or symptoms of anxiety, you may choose not to make a formal diagnosis. Do any of the following reasons contribute to your decision?
   Please mark **ALL** that apply with a check (✓) mark.

   ☐ The stigma that the patient may suffer.

   ☐ It is unlikely that the patient will be seen in time if I refer him/her to a specialist.

   ☐ The patient is not likely to follow a course of treatment even if I prescribe it.

   ☐ The patient will work through it on his/her own.

   ☐ I don't want it to show up on his/her medical record.

   ☐ The patient lives too far away from a mental health specialist.

   ☐ Other (please specify): _____

6. To what extent do you believe each of the following statements is true or false?
Please check (✓) the circle that is closest to your answer.

	Definitely True	Mostly True	Don't know	Mostly False	Definitely False
a. Anxiety disorders, with the exception of OCD, are more common in men than women.	☐	☐	☐	☐	☐
b. Monitoring and follow-up of an anxiety disorder should occur for at least 12 months, regardless of whether treatment is pharmcological or psychological.	☐	☐	☐	☐	☐
c. Benzodiazepines for treatment of anxiety should be used with great caution in the elderly.	☐	☐	☐	☐	☐
d. Pharmacotherapy and psychotherapy approaches to anxiety may be combined when a single treatment method is not effective.	☐	☐	☐	☐	☐
e. Cognitive behavior therapy (CBT) focuses on intervening in the patient's thoughts and behaviours that have a strong influence on their experience of emotion.	☐	☐	☐	☐	☐
f. Relief of anxiety symptoms takes 2 to 4 weeks when the average patient is treated with a selective serotonin reuptake inhibitor (SSRI).	☐	☐	☐	☐	☐
g. Pharmacotherapy and psychotherapy approaches are *not* equivalent in effectiveness for the average patient.	☐	☐	☐	☐	☐
h. Patients who fail to respond to two different first-line agents should be referred to a specialist.	☐	☐	☐	☐	☐
i. The first follow-up for a patient receiving pharmacotherapy for an anxiety disorder should be at one week.	☐	☐	☐	☐	☐
j. Full response to pharmacotherapy for an anxiety disorder can be expected after 12 weeks.	☐	☐	☐	☐	☐
k. Cognitive behaviour therapy for a patient with an anxiety disorder includes weekly contact with a therapist for about 12 to 20 weeks.	☐	☐	☐	☐	☐
l. The most common side effects of SSRIs are gastrointestinal and sleep disturbances.	☐	☐	☐	☐	☐

7. Imagine that you are unsure about diagnosing a patient with anxiety. Which of the following actions might you take to confirm your decision? Please mark **ALL** that apply with a check (✓) mark.

☐ Conduct a thorough patient interview

☐ Use a screening instrument (please specify instrument): _____

☐ Consult a diagnostic manual (please specify the manual): _____

☐ Consult a colleague

☐ Base it on my experience

☐ Other (please specify): _____

F. MAIN PATIENT CARE SETTING

1.   What is your <u>main patient care setting</u> (i.e. where you spend the most time providing patient care)?

☐   Private office/clinic (excluding free standing walk-in clinics)
☐   Community clinic/Community health centre
☐   Free-standing walk-in clinic
☐   Academic health sciences centre
☐   Community hospital
☐   Emergency department (community hospital or academic health sciences centre)
☐   Other (please specify): _____

2.   How is your <u>main patient care setting</u> organized?

☐   Solo practice
☐   Group practice
☐   Other (please specify) _____

3. Do you have internet access in your <u>main patient care setting</u>?

☐   No   ☐   Yes

4. Do you have internet access during consultations with patients in your <u>main patient care setting</u>?

☐   No   ☐   Yes

5.   What is the population of your <u>main patient care setting</u>?

☐ over 75,000
☐ 50,001 to 75,000
☐ 20,001 to 50,000
☐ 10,001 to 20,000
☐ 5,001 to 10,000
☐ 2,501 to 5,000
☐ 1,001 to 2,500
☐ less than 1,000

6. Indicate the types of health care providers with whom you share patient care within your <u>main patient care setting</u>. Please mark **ALL** that apply.

☐ Family physicians   ☐ Occupational therapists   ☐   Other (please specify below)
☐ Specialist physicians   ☐ Physiotherapists   _____
☐ Psychiatrists   ☐ Social workers   _____
☐ Nurse practitioners   ☐ Pharmacists   _____
☐ Nurses (eg. RN, LPN, RPN) ☐ Technicians/Technologists   _____
☐ Dieticians/Nutritionists   ☐ Psychologists   _____
☐ Midwives

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G. DEMOGRAPHICS

1. Gender: ☐ Male ☐ Female

2. Year of birth: 19 __ __

2. Number of years you have been in practice as a family physician? __ __

H. EDUCATION

1. Where and when did you complete your *UNDERGRADUATE MEDICAL* training?

   Country   **Graduation Year**

   _____   _____

   _____   _____

   _____   _____

2. Where and when did you complete your *POSTGRADUATE MEDICAL* training?

   Country   **Graduation Year**

   _____   _____

   _____   _____

   _____   _____

3. Other medical training (please specify):

   _____

   _____

   _____

Do you have comments about caring for patients with anxiety?

Do you have any general comments about this questionnaire?

Thank you for your time.

NOTES AND COMMENTS

APPENDIX O – Main Study Preletter

«Dr» «Lastname»   January 4, 2008
«Address1»
«City», «SK»
«Postcode»

Dear «Dr» «Lastname»,

We are writing to invite you to participate in a study of Saskatchewan family physicians regarding the diagnosis and treatment of mood and anxiety disorders. Your survey will be arriving in the mail within the next two weeks.

This survey is completely voluntary and will take approximately 20 minutes to complete. All family physicians in Saskatchewan are being surveyed in order to have accurate results that are representative of our province as a whole. Your name and address were obtained from the Canadian Medical Directory and the College of Physicians and Surgeons of Saskatchewan mailing lists.

The findings of the survey will help us to learn more about the information and resources that physicians use and need to effectively diagnose and treat patients with mood and anxiety disorders.

Your answers are strictly confidential and anonymous. Only aggregate data will be reported; as such, your answers cannot be identified. The findings will be made available directly to the study participants, and will be publicly available in a summary report, peer-reviewed scientific journal articles, and conference presentations.

If you have questions or comments about this study, we would be happy to discuss them with you. Please feel free to contact either of the study investigators, by emailing or calling collect to the phone number listed below.

Sincerely,

Julie Kosteniuk, MA, Project Coordinator   Carl D'Arcy, PhD, Professor and Director
Applied Research   Applied Research
Royal University Hospital   Royal University Hospital
103 Hospital Drive   103 Hospital Drive
Saskatoon, SK S7N 0W8   Saskatoon, SK S7N 0W8
Phone: 1-306-966-8767   Phone: 1-306-966-8767
Fax: 1-306-966-8774   Fax: 1-306-966-8774
julie.kosteniuk@usask.ca   carl.darcy@usask.ca

APPENDIX P – Main Study First Package Letter

Dr. «Initial» «Last_Name»   January 23, 2008
«Address_Line_1»
«City», «Province»
«Postal_Code»

Dear Dr. «Initial» «Last_Name»,

About two weeks ago we sent you a letter inviting you to participate in a study of Saskatchewan family physicians regarding the diagnosis and treatment of mood and anxiety disorders. The enclosed package contains the study survey and a stamped envelope for mailing the survey back to our office at Royal University Hospital.

We hope that this study will improve our understanding of the information and resources physicians require to effectively diagnose and treat patients with mood and anxiety disorders in family practice. The survey will take approximately 20 minutes to complete. Your name and address came from the Canadian Medical Directory and the College of Physicians and Surgeons of Saskatchewan mailing lists.

Your participation in this study is completely voluntary. Your answers are strictly confidential. Answer only the questions with which you are comfortable. Only aggregate data will be reported. Your name is never connected to your answers in any way. Direct quotations from participants' answers will be used when reporting survey results; however, any information that may identify a participant or a participant's community will be removed. No participants' names will appear in any publication of results.

The sequence number on the envelope is used to delete your name from the mailing list for the survey. The survey data will be securely stored in a locked room in Applied Research at the University of Saskatchewan.

Please complete and return the questionnaire in the enclosed stamped envelope. Your participation in this study is important for achieving results representative of our province. The findings will be made available directly to study participants, and will be publicly available in a summary report, peer-reviewed scientific journal articles, and conference presentations.

If you prefer not to respond, please let us know by returning the blank questionnaire in the enclosed stamped envelope. If you have questions or comments about this study, we would be happy to discuss them with you. Please feel free to contact either of the study investigators, by emailing or calling collect to the phone number listed below.

This study has received ethical approval from the University of Saskatchewan Behavioural Research Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (306-966-2084).

We have enclosed a small token of appreciation as a way of saying thanks for your help.

Sincerely,

Julie Kosteniuk, MA, Project Coordinator   Carl D'Arcy, PhD, Professor and Director
Applied Research   Applied Research
Royal University Hospital   Royal University Hospital
103 Hospital Drive   103 Hospital Drive
Saskatoon, SK S7N 0W8   Saskatoon, SK S7N 0W8
Phone: 1-306-966-8767   Phone: 1-306-966-8767
Fax: 1-306-966-8774   Fax: 1-306-966-8774
julie.kosteniuk@usask.ca   carl.darcy@usask.ca

APPENDIX Q – Main Study First Followup Letter

Dr. «Initial» «Last_Name»   February 6, 2008
«Address_Line_1»
«City», «Province»
«Postal_Code»

Dear Dr. «Initial» «Last_Name»,

About two weeks ago a survey package was mailed to you asking you to participate in a study of Saskatchewan family physicians regarding the diagnosis and treatment of mood and anxiety disorders.

If you have already completed and returned the questionnaire to us, please accept our sincere thanks. We are particularly grateful for your help because your contribution allows us to gain an understanding that is representative of Saskatchewan family physicians as a whole.

If your questionnaire was misplaced, please call 1-306-966-8767 (collect) or email julie.kosteniuk@usask.ca and we will get another in the mail to you today.

This study has received ethical approval from the University of Saskatchewan Behavioural Research Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (306-966-2084).

If you have questions or comments about this study, we would be happy to discuss them with you. Please feel free to contact either of the study investigators by emailing or calling collect to the phone number listed below.

Thank you again for your support of this important research.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
Saskatoon, SK S7N 0W8   Phone: 1-306-966-8767
Phone: 1-306-966-8767   carl.darcy@usask.ca
julie.kosteniuk@usask.ca

APPENDIX R – Main Study Second Followup Letter

Dr. «Initial» «Last_Name»   February 22, 2008
«Address_Line_1»
«City», «Province»
«Postal_Code»

Dear Dr. «Initial» «Last_Name»,

About a month ago a questionnaire was mailed to you asking you to participate in a study of
Saskatchewan family physicians regarding the diagnosis and treatment of mood and anxiety disorders.
We are writing again because your participation in this study will help us to attain results that are
representative of your profession in this province as a whole.

If you have already completed and returned the questionnaire to us, please accept our sincere thanks.
You have contributed tremendously to our understanding of this significant issue.

If you are not in family practice, or if you are a retired family physician and received a questionnaire
by mistake, please let us know on the cover of the questionnaire and return it in the enclosed envelope.

We hope that you will fill out and return the questionnaire at your earliest convenience, *but if for any
reason you prefer not to participate*, please let us know by returning a note or blank questionnaire in the
enclosed envelope.

This study has received ethical approval from the University of Saskatchewan Behavioural Research Ethics
Board. Any questions regarding your rights as a participant may be addressed to that committee through the
Ethics Office (306-966-2084).

If you have questions or comments about this study, we would be happy to discuss them with you. Please
feel free to contact either of the investigators involved in this survey, by emailing, faxing or calling collect
to the phone number listed below.

Sincerely,

Julie Kosteniuk, MA, Project Coordinator   Carl D'Arcy, PhD, Professor and Director
Applied Research   Applied Research
Royal University Hospital   Royal University Hospital
103 Hospital Drive   103 Hospital Drive
Saskatoon, SK S7N 0W8   Saskatoon, SK S7N 0W8
Phone: 1-306-966-8767   Phone: 1-306-966-8767
Fax: 1-306-966-8774   Fax: 1-306-966-8774
julie.kosteniuk@usask.ca   carl.darcy@usask.ca

APPENDIX S – Main Study Third Followup Letter

Dr. «Initial» «Last_Name»   March 14, 2008
«Address_Line_1»
«City», «Province»
«Postal_Code»

Dear Dr. «Initial» «Last_Name»,

During the last two months we have sent you a number of mailings about a study we are conducting of
Saskatchewan family physicians regarding the diagnosis and treatment of mood and anxiety disorders. The
study is drawing to a close and this is the last contact that we will be making with physicians who have not
yet responded to the survey.

We are making this one last attempt to contact everyone because we are concerned that physicians who
have not responded may have different opinions and experiences than those who have responded.
Hearing from everyone helps ensure that the survey results are as representative of your profession in
this province as possible.

If you have already completed and returned a questionnaire to us, please accept our sincere thanks.
You have contributed tremendously to our understanding of this significant issue.

If you are not in family practice, or if you are a retired family physician and received a questionnaire
by mistake, please let us know on the cover of the questionnaire and return it in the enclosed envelope.

We hope that you will fill out and return the enclosed questionnaire at your earliest convenience, *but if for
any reason you prefer not to participate*, please let us know by returning a note or the blank questionnaire
in the enclosed envelope.

This study has received ethical approval from the University of Saskatchewan Behavioural Research Ethics
Board. Any questions regarding your rights as a participant may be addressed to that committee through the
Ethics Office (306-966-2084).

If you have questions or comments about this study, we would be happy to discuss them with you. Please
feel free to contact either of the investigators involved in this survey, by emailing, faxing or calling collect
to the phone number listed below.

Sincerely,

Julie Kosteniuk, MA, Project Coordinator   Carl D'Arcy, PhD, Professor and Director
Applied Research   Applied Research
Royal University Hospital   Royal University Hospital
103 Hospital Drive   103 Hospital Drive
Saskatoon, SK S7N 0W8   Saskatoon, SK S7N 0W8
Phone: 1-306-966-8767   Phone: 1-306-966-8767
Fax: 1-306-966-8774   Fax: 1-306-966-8774
julie.kosteniuk@usask.ca   carl.darcy@usask.ca

APPENDIX T – Main Study Final Letter

March 14, 2008

«Dr_»«Last_Name»
«Address_Line_1»
«Address_Line2»
«City», «Prov»
«Postal_Code»

Dear «Dr_»«Last_Name»,

Recently, you completed a survey which asked for your opinions about common psychiatric disorders and the information and resources necessary to effectively diagnose and treat patients with such disorders.

Please accept our sincere thanks for returning the questionnaire. We are particularly grateful for your help because your contribution allows us to gain an understanding that is representative of family physicians in our province as a whole.

Thank you again for your support of this important research.

Sincerely,

Julie Kosteniuk, MA   Carl D'Arcy, PhD, Professor and Director
Project Coordinator   Applied Research/Psychiatry
Applied Research/Psychiatry   Royal University Hospital
Royal University Hospital   103 Hospital Drive
103 Hospital Drive   Saskatoon, SK S7N 0W8
Saskatoon, SK S7N 0W8   Phone: 1-306-966-8767
Phone: 1-306-966-8767   carl.darcy@usask.ca
julie.kosteniuk@usask.ca

Dr. Raymond Tempier, MD, MSc, FRCPC, Professor and Director
Department of Psychiatry and Mental Health Services of Saskatoon Health Region
Room 119 Ellis Hall
Royal University Hospital
103 Hospital Drive
Saskatoon, SK S7N 0W8
Phone: 1-306-966-8223
raymond.tempier@usask.ca

Sequence No: A

Mood and Anxiety Disorders in Saskatchewan Family Practice

**Completion of this questionnaire implies
consent to participate in this survey.**

Confidential when completed

If you have any questions regarding this survey, please contact:
Dr. Carl D'Arcy (carl.darcy@usask.ca)
Julie Kosteniuk (julie.kosteniuk@usask.ca)
Phone: 1-306-966-8767 (collect)
Fax: 1-306-966-8774

Applied Research
Box 92, Royal University Hospital
103 Hospital Drive
Saskatoon, Saskatchewan
Canada   S7N 0W8

UNIVERSITY OF
SASKATCHEWAN

INTRODUCTION

This survey concerns your practices regarding the diagnosis and treatment of patients with mood and anxiety disorders.

This survey is completely voluntary and will take approximately 20 minutes to complete. All family physicians in Saskatchewan are being surveyed in order to have accurate results that are representative of our province as a whole. Your name and address were obtained from the Canadian Medical Directory and the College of Physicians and Surgeons of Saskatchewan mailing list.

The findings of the survey will help us to learn more about the information and resources that physicians use and need to effectively diagnose and treat patients with mood and anxiety disorders.

Your answers are strictly confidential and anonymous. Only aggregate data will be reported; as such, your answers cannot be identified. The findings will be made available directly to the study participants, and will also be available to the public and the media in a summary report. Peer-reviewed scientific journal articles and conference presentations will also result from the successful completion of the study.

Your help is greatly appreciated

A. CLINICAL SCENARIO

The following is a clinical scenario of a patient whom you may encounter in your practice. We are interested in how you would treat this patient. Please read the scenario and respond to the questions below.

Your patient is a 42 year-old employed woman, married for 21 years with 2 adult children. She is being seen for a four-week history of fatigue, insomnia, headache and abdominal pain. The pain is generalized over the abdomen, constant in nature. She denies signs and symptoms of an acute infectious process and was in relatively good health before the previous month. She has obtained intermittent relief from headache by using acetaminophen, and takes a multivitamin regularly. She complains, "food just doesn't taste good anymore". She has been finding it harder lately to concentrate at work, and to get up the energy to socialize with friends and family. Your patient has reached a point where she wonders if she will ever feel normal again, yet denies any stress or significant problems in her life. She does not smoke, and drinks 2 cups of coffee/day. She denies alcohol intake. Physical exam: General - tired but in no acute distress. Skin - normal, color - good, HEENT - unremarkable. Pelvic exam - normal. Abdomen - generalized tenderness. Extremities - unremarkable.

1. What specific laboratory tests, medical procedures, and/or consults (if any) would you order at this point?

2. Although you may feel you need more information, please list the specific tentative diagnoses that you are considering <u>and</u> make a tentative diagnosis.

3. What treatment plan would you initiate at this point (if any)?

4. If you recommended treatment to this patient, when would you like the patient to return for:

    a) 1st follow-up?   _____ weeks after 1st visit

    b) Subsequent follow-up?   _____ weeks after 1st visit

                            _____ weeks after 1st visit

5. Please list one or more reasons that you may not be able to provide the best possible care for this patient.

B. INFORMATION USE

1. **Using check marks (✓) where applicable, indicate the information sources that you use on a regular basis (at least once per month) to <u>update your general medical knowledge</u> and to <u>make specific clinical decisions</u>.**

	Specific Purpose of Using the Information Source	
	To update your general medical knowledge	**To make a specific clinical decision**
Example: Medical journals	☑	☑
Information Source		
a. Medical journals	☐	☐
b. Medical textbooks	☐	☐
c. Colleagues in your <u>main patient care setting</u>	☐	☐
d. Colleagues outside of your <u>main patient care setting</u>	☐	☐
e. Pharmaceutical sales representatives	☐	☐
f. Clinical practice guidelines	☐	☐
g. PDA (Personal Digital Assistant programs)	☐	☐
h. Other decision aids	☐	☐
i. Drug manuals	☐	☐
j. Psychiatrist(s)	☐	☐
k. Mental health professional(s) (other than psychiatrist)	☐	☐
l. Pharmacist(s)	☐	☐
m. Favorite internet website (please specify) _____	☐	☐
n. Other (please specify): _____	☐	☐

2. **Using check marks (✓) where applicable, please indicate whether you find the following information sources to be (in general): reliable, easy to access, relevant to your needs, and easy to understand.**

	Reliable (You trust this source)	**Easy to access**	**Relevant (to your needs)**	**Easy to understand**
Example: Medical journals	☑	☑	☑	☑
Information Source				
a. Medical journals	☐	☐	☐	☐
b. Medical textbooks	☐	☐	☐	☐
c. CME/CPD/CPL courses/programs	☐	☐	☐	☐
d. Colleagues in your <u>main patient care setting</u>	☐	☐	☐	☐
e. Colleagues outside of your <u>main patient care setting</u>	☐	☐	☐	☐
f. Pharmaceutical sales representatives	☐	☐	☐	☐
g. Medical textbooks	☐	☐	☐	☐
h. PDA (Personal Digital Assistant programs)	☐	☐	☐	☐
i. Other decision aids	☐	☐	☐	☐
j. Drug manuals	☐	☐	☐	☐
k. Psychiatrist(s)	☐	☐	☐	☐
l. Mental health professional(s) (other than psychiatrist)	☐	☐	☐	☐
m. Pharmacist(s)	☐	☐	☐	☐
n. Favorite internet website	☐	☐	☐	☐

C. PATIENTS WITH ANXIETY

1. Please indicate the two treatment interventions that you currently use most often for patients with anxiety disorders that are <u>moderate</u> and <u>severe</u>. Indicate your first choice with "1" and second choice with "2".

	If anxiety disorder is:	
Treatment	**Moderate**	**Severe**
Exercise/recreation	_____	_____
Counselor/psychological referral	_____	_____
Medication	_____	_____
Watchful waiting	_____	_____
Psychiatric referral	_____	_____
Psychotherapy provided by you	_____	_____
Other (please specify): _____	_____	_____

2. When deciding on the best treatment for a patient with anxiety, do you consider the following factors? Please mark ALL that apply with a check (✓) mark.

The patient's:	All of the time	Most of the time	Some of the time	A little of the time	None of the time
age	☐	☐	☐	☐	☐
gender	☐	☐	☐	☐	☐
marital status	☐	☐	☐	☐	☐
children	☐	☐	☐	☐	☐
employment status	☐	☐	☐	☐	☐
preference for treatment	☐	☐	☐	☐	☐
family's preference for treatment	☐	☐	☐	☐	☐

3. Please estimate the following:

a. The length of time you spend with a patient presenting with anxiety for a **new** visit

Average number of **minutes** _____

b. The length of time you spend with a patient you are treating for anxiety for a **follow-up** visit

Average number of **minutes** _____

c. The number of patients per week you **recognize** as presenting with anxiety

Average number of patients/**week** _____

d. The number of patients per week you **diagnose** with anxiety

Average number of patients/**week** _____

e. The number of patients per week you **treat or manage** for anxiety

Average number of patients/**week** _____

f. EXCLUDING patient visits while on-call, please estimate the following:

Number of **TOTAL** patient visits per **week** _____

4. Please check (✓) the square that is closest to your level of agreement with the following statements:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
a. During the past 5 years I have seen an increase in the number of patients presenting with symptoms of anxiety.	☐	☐	☐	☐	☐
b. The majority of anxiety seen in general practice originates from patients' recent misfortunes.	☐	☐	☐	☐	☐
c. An underlying biochemical abnormality is the basis of severe cases of anxiety.	☐	☐	☐	☐	☐
d. It is difficult to differentiate whether patients are presenting with stress or a clinical anxiety disorder that needs treatment.	☐	☐	☐	☐	☐
e. It is possible to distinguish two main groups of anxiety, one psychological in origin and the other caused by biochemical mechanisms.	☐	☐	☐	☐	☐
f. Becoming anxious is a way that people with poor stamina deal with life difficulties.	☐	☐	☐	☐	☐
g. Anxious patients are more likely to have experienced deprivation in early life than other people.	☐	☐	☐	☐	☐
h. I feel comfortable in dealing with anxious patients' needs.	☐	☐	☐	☐	☐
i. Anxiety reflects a characteristic response in patients that is not amenable to change.	☐	☐	☐	☐	☐
j. Becoming anxious is a natural part of being old.	☐	☐	☐	☐	☐
k. The community nurse could be a useful person to support anxious patients.	☐	☐	☐	☐	☐
l. Most anxiety disorders seen in general practice improve without medication.	☐	☐	☐	☐	☐
m. Working with anxious patients is heavy going.	☐	☐	☐	☐	☐
n. There is little to be offered to those anxious patients who do not respond to what general practitioners do.	☐	☐	☐	☐	☐
o. It is rewarding to spend time looking after anxious patients.	☐	☐	☐	☐	☐
p. Cognitive-behaviour therapy tends to be unsuccessful with anxious patients.	☐	☐	☐	☐	☐
q. If anxious patients need pharmacologic management, they should be started on selective serotonin reuptake inhibitors as first-line treatment.	☐	☐	☐	☐	☐
r. If anxious patients need pharmacologic management, benzodiazepines are considered second-line treatment.	☐	☐	☐	☐	☐
s. If anxious patients need pharmacologic management, they are better off with a psychiatrist than with a general practitioner.	☐	☐	☐	☐	☐
t. Pharmacotherapy usually produces a satisfactory result in the treatment of anxiety in general practice.	☐	☐	☐	☐	☐
u. Psychotherapy for anxious patients should be left to a specialist.	☐	☐	☐	☐	☐
v. If psychotherapy were freely available, this would be more beneficial than pharmacotherapy for most anxious patients.	☐	☐	☐	☐	☐

5. Imagine that you are unsure about <u>diagnosing</u> a patient with anxiety. Which of the following actions might you take to confirm your decision? Please mark ALL that apply with a check (✓) mark.

☐ Conduct a thorough patient interview

☐ Use a screening instrument (please specify instrument): _____

☐ Consult a diagnostic manual (please specify the manual): _____

☐ Consult a colleague

☐ Consult a psychiatrist

☐ Consult a mental health professional (other than a psychiatrist)

☐ Base it on experience

☐ Other (please specify): _____

6. Although a patient may present with signs or symptoms of anxiety, you may choose not to make a formal diagnosis. Do any of the following reasons contribute to your decision?
Please mark ALL that apply with a check (✓) mark.

☐ Physical causes need to be completely ruled out first.

☐ Patient refusal to accept diagnosis.

☐ Patient noncompliance.

☐ The patient will work through it on his/her own.

☐ It is unlikely that the patient will be seen in time if I refer him/her to a specialist.

☐ The patient lives too far away from a mental health specialist.

☐ I don't want the diagnosis to show up on the patient's medical record.

☐ The stigma that the patient may suffer.

☐ Other (please specify): _____

7. Please complete the following statements by indicating your level of agreement with a check (✓) mark.

To more effectively <u>manage</u> patients presenting with symptoms of anxiety, I need...	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
a. Improved access to psychiatrists.	☐	☐	☐	☐	☐
b. To be able to prescribe affordable medication.	☐	☐	☐	☐	☐
c. More time to spend with my patients.	☐	☐	☐	☐	☐
d. Improved access to mental health professionals (other than psychiatrists).	☐	☐	☐	☐	☐
e. More training on counselling techniques.	☐	☐	☐	☐	☐
f. More personal experience managing patients with mental disorders.	☐	☐	☐	☐	☐
g. Up-to-date information on effective pharmacological treatments.	☐	☐	☐	☐	☐
h. Up-to-date information on effective *non*-pharmacological treatments.	☐	☐	☐	☐	☐
i. More time to spend on accessing and reading research on mental disorders.	☐	☐	☐	☐	☐
j. Other (please specify): _____	☐	☐	☐	☐	☐

8. To what extent do you believe each of the following statements is true or false?
Please check (✓) the circle that is closest to your answer.

	Definitely True	Mostly True	Don't know	Mostly False	Definitely False
a. Anxiety disorders, with the exception of OCD, are more common in men than women.	☐	☐	☐	☐	☐
b. Monitoring and follow-up of an anxiety disorder should occur for at least 12 months, regardless of whether treatment is pharmacological or psychological.	☐	☐	☐	☐	☐
c. Elderly patients are no more sensitive than adult patients to the side effects of benzodiazepines.	☐	☐	☐	☐	☐
d. Pharmacotherapy and psychotherapy approaches to anxiety may be combined when a single treatment method is not effective.	☐	☐	☐	☐	☐
e. Cognitive behavior therapy (CBT) focuses on intervening in the patient's thoughts and behaviours that have a strong influence on their experience of emotion.	☐	☐	☐	☐	☐
f. Relief of anxiety symptoms takes 2 to 4 weeks when the average patient is treated with a selective serotonin reuptake inhibitor (SSRI).	☐	☐	☐	☐	☐
g. Pharmacotherapy and psychotherapy approaches are *not* equivalent in effectiveness for the average patient undergoing treatment for anxiety.	☐	☐	☐	☐	☐
h. When a patient fails to respond to a first-line agent, s/he should be referred to a specialist.	☐	☐	☐	☐	☐
i. The first follow-up for a patient receiving pharmacotherapy for an anxiety disorder should be at one month.	☐	☐	☐	☐	☐
j. Full response to pharmacotherapy for an anxiety disorder can be expected after 12 weeks.	☐	☐	☐	☐	☐
k. Cognitive behaviour therapy for a patient with an anxiety disorder includes weekly contact with a therapist for about 12 to 20 weeks.	☐	☐	☐	☐	☐
l. The most common side effects of SSRIs are gastrointestinal and sleep disturbances.	☐	☐	☐	☐	☐

9. Please list your first choice of medication to treat anxiety, starting dosage, and duration of treatment for patients in these 3 age groups:

Patient's age	Medication	Starting Dosage	Duration of Treatment
10 - 17 yrs	_____	_____(mg)	_____(wks)
18 - 65 yrs	_____	_____(mg)	_____(wks)
66+ yrs	_____	_____(mg)	_____(wks)

D. MAIN PATIENT CARE SETTING

1. What is your <u>main patient care setting</u> (i.e. where you spend the most time providing patient care)?

   ☐ Private office/clinic (excluding free standing walk-in clinics)
   ☐ Community clinic/Community health centre
   ☐ Free-standing walk-in clinic
   ☐ Academic health sciences centre
   ☐ Community hospital
   ☐ Emergency department (community hospital or academic health sciences centre)
   ☐ Other (please specify): _____

2. How is your <u>main patient care setting</u> organized?

   ☐ Solo practice
   ☐ Group practice
   ☐ Other (please specify) _____

3. Do you have internet access in your <u>main patient care setting</u>?

   ☐ No   ☐ Yes

4. Do you have internet access during consultations with patients in your <u>main patient care setting</u>?

   ☐ No   ☐ Yes

5. What is the population of the town/city of your <u>main patient care setting</u>?

   ☐ over 75,000
   ☐ 50,001 to 75,000
   ☐ 20,001 to 50,000
   ☐ 10,001 to 20,000
   ☐ 5,001 to 10,000
   ☐ 2,501 to 5,000
   ☐ 1,001 to 2,500
   ☐ less than 1,000

E. DEMOGRAPHICS

1. Gender: ☐ Male   ☐ Female

2. Year of birth? 19 _____

3. Number of years you have been in practice as a family physician? _____ years

4. Your status:
   ☐ In full-time or part-time medical practice
   ☐ Locum tenens
   ☐ On a leave of absence or sabbatical from active patient care
   ☐ Medical student
   ☐ Resident
   ☐ Employed in a medically related field (e.g. administration, teaching, research)
   ☐ Retired
   ☐ Other (please specify): _____

F. EDUCATION

1. Where and when did you complete your *UNDERGRADUATE MEDICAL* training?

   Country   **Graduation Year**

   _____   _____

   _____   _____

2. Where and when did you complete your *POSTGRADUATE MEDICAL* training?

   Country   **Graduation Year**

   _____   _____

   _____   _____

3. Other medical training (please specify):

   _____

   _____

Do you have comments about caring for patients with anxiety?

Do you have any general comments about this questionnaire?

**Thank you for taking the time to complete this questionnaire.
Your help is greatly appreciated.**

Please return your completed questionnaire in the enclosed envelope to:

Applied Research
University of Saskatchewan
Box 92, Royal University Hospital
103 Hospital Drive
Saskatoon, SK
Canada S7N 0W8

Sequence No: D

Mood and Anxiety Disorders in Saskatchewan Family Practice

Completion of this questionnaire implies consent to participate in this survey.

Confidential when completed

If you have any questions regarding this survey, please contact:
Dr. Carl D'Arcy (carl.darcy@usask.ca)
Julie Kosteniuk (julie.kosteniuk@usask.ca)
Phone: 1-306-966-8767 (collect)
Fax: 1-306-966-8774

Applied Research
Box 92, Royal University Hospital
103 Hospital Drive
Saskatoon, Saskatchewan
Canada   S7N 0W8

UNIVERSITY OF SASKATCHEWAN

INTRODUCTION

This survey concerns your practices regarding the diagnosis and treatment of patients with mood and anxiety disorders.

This survey is completely voluntary and will take approximately 20 minutes to complete. All family physicians in Saskatchewan are being surveyed in order to have accurate results that are representative of our province as a whole. Your name and address were obtained from the Canadian Medical Directory and the College of Physicians and Surgeons of Saskatchewan mailing list.

The findings of the survey will help us to learn more about the information and resources that physicians use and need to effectively diagnose and treat patients with mood and anxiety disorders.

Your answers are strictly confidential and anonymous. Only aggregate data will be reported; as such, your answers cannot be identified. The findings will be made available directly to the study participants, and will also be available to the public and the media in a summary report. Peer-reviewed scientific journal articles and conference presentations will also result from the successful completion of the study.

Your help is greatly appreciated

A. CLINICAL SCENARIO

The following is a clinical scenario of a patient whom you may encounter in your practice. We are interested in how you would treat this patient. Please read the scenario and respond to the questions below.

Your patient is a 31 year-old man, married with two young children. He presents with muscle and joint discomfort, heart palpitations, and dizziness of more than one year duration. He complains of being restless and edgy most of the time and believes that he's "losing it" because he's constantly apprehensive. His mind races and he "can't seem to pin them (the thoughts) down". He has come to see you because he's concerned that his health is deteriorating to the point that sometimes he has to leave work when the symptoms become intolerable. As well, he has given up many social contacts aside from family and close friends. Shortly after he began feeling this way, he cut back his coffee intake to 1 cup/day. Physical exam: General - alert and oriented. Skin - moist, Color - good, HEENT - unremarkable, Chest - grade II murmur. Abdomen - unremarkable, Extremities - unremarkable. Reflexes - brisk bilaterally.

1. What specific laboratory tests, medical procedures, and/or consults (if any) would you order at this point?

2. Although you may feel you need more information, please list the specific tentative diagnoses that you are considering <u>and</u> make a tentative diagnosis.

3 What treatment plan would you initiate at this point (if any)?

4. If you recommended treatment to this patient, when would you like the patient to return for:

   a) 1st follow-up?   _____ weeks after 1st visit

   b) Subsequent follow-up?   _____ weeks after 1st visit

   _____ weeks after 1st visit

5. Please list one or more reasons that you may not be able to provide the best possible care for this patient.

B. INFORMATION USE

1. Using check marks (✓) where applicable, indicate the information sources that you use on a regular basis (at least once per month) to <u>update your general medical knowledge</u> and to <u>make specific clinical decsions</u>.

Specific Purpose of Using the Information Source

	To update your general medical knowledge	To make a specific clinical decision
Example: Medical journals	☑	☑

Information Source

	To update your general medical knowledge	To make a specific clinical decision
a. Medical journals	☐	☐
b. Medical textbooks	☐	☐
c. Colleagues in your <u>main patient care setting</u>	☐	☐
d. Colleagues outside of your <u>main patient care setting</u>	☐	☐
e. Pharmaceutical sales representatives	☐	☐
f. Clinical practice guidelines	☐	☐
g. PDA (Personal Digital Assistant programs)	☐	☐
h. Other decision aids	☐	☐
i. Drug manuals	☐	☐
j. Psychiatrist(s)	☐	☐
k. Mental health professional(s) (other than psychiatrist)	☐	☐
l. Pharmacist(s)	☐	☐
m. Favorite internet website (please specify) _____	☐	☐
n. Other (please specify): _____	☐	☐

2. Using check marks (✓) where applicable, please indicate whether you find the following information sources to be (in general): reliable, easy to access, relevant to your needs, and easy to understand.

	Reliable (You trust this source)	Easy to access	Relevant (to your needs)	Easy to understand
Example: Medical journals	☑	☑	☑	☑

Information Source

	Reliable (You trust this source)	Easy to access	Relevant (to your needs)	Easy to understand
a. Medical journals	☐	☐	☐	☐
b. Medical textbooks	☐	☐	☐	☐
c. CME/CPD/CPL courses/programs	☐	☐	☐	☐
d. Colleagues in your <u>main patient care setting</u>	☐	☐	☐	☐
e. Colleagues outside of your <u>main patient care setting</u>	☐	☐	☐	☐
f. Pharmaceutical sales representatives	☐	☐	☐	☐
g. Clinical practice guidelines	☐	☐	☐	☐
h. PDA (Personal Digital Assistant programs)	☐	☐	☐	☐
i. Other decision aids	☐	☐	☐	☐
j. Drug manuals	☐	☐	☐	☐
k. Psychiatrist(s)	☐	☐	☐	☐
l. Mental health professional(s) (other than psychiatrist)	☐	☐	☐	☐
m. Pharmacist(s)	☐	☐	☐	☐
n. Favorite internet website	☐	☐	☐	☐

C. PATIENTS WITH DEPRESSION

1. **Please indicate the two treatment interventions that you currently use most often for patients with depressive disorders that are <u>moderate</u> and <u>severe</u>. Indicate your first choice with "1" and second choice with "2".**

	If depressive disorder is:	
Treatment	**Moderate**	**Severe**
Exercise/recreation	_____	_____
Counselor/psychological referral	_____	_____
Medication	_____	_____
Watchful waiting	_____	_____
Psychiatric referral	_____	_____
Psychotherapy provided by you	_____	_____
Other (please specify): _____	_____	_____

2. **When deciding on the best treatment for a patient with depression, do you consider the following factors?   Please mark ALL that apply with a check (✓) mark.**

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
The patient's: age	☐	☐	☐	☐	☐
gender	☐	☐	☐	☐	☐
marital status	☐	☐	☐	☐	☐
children	☐	☐	☐	☐	☐
employment status	☐	☐	☐	☐	☐
preference for treatment	☐	☐	☐	☐	☐
family's preference for treatment	☐	☐	☐	☐	☐

3.   **Please estimate the following:**

a.   The length of time you spend with a patient presenting with depression for a **<u>new</u>** visit
Average number of **minutes** _____

b.   The length of time you spend with a patient you are treating for depression for a **<u>follow-up</u>** visit
Average number of **minutes** _____

c.   The number of patients per week you **<u>recognize</u>** as presenting with depression
Average number of patients/**week** _____

d.   The number of patients per week you **<u>diagnose</u>** with depression
Average number of patients/**week** _____

e.   The number of patients per week you **<u>treat or manage</u>** for depression
Average number of patients/**week** _____

f.   EXCLUDING patient visits while on-call, please estimate the following:
Number of **TOTAL** patient visits per **week** _____

4. Please check (✓) the square that is closest to your level of agreement with the following statements:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
a. During the past 5 years I have seen an increase in the number of patients presenting with depressive symptoms.	☐	☐	☐	☐	☐
b. The majority of depression seen in general practice originates from patients' recent misfortunes.	☐	☐	☐	☐	☐
c. An underlying biochemical abnormality is the basis of severe cases of depression.	☐	☐	☐	☐	☐
d. It is difficult to differentiate whether patients are presenting with unhappiness or a clinical depressive disorder that needs treatment.	☐	☐	☐	☐	☐
e. It is possible to distinguish two main groups of depression, one psychological in origin and the other caused by biochemical mechanisms.	☐	☐	☐	☐	☐
f. Becoming depressed is a way that people with poor stamina deal with life difficulties.	☐	☐	☐	☐	☐
g. Depressed patients are more likely to have experienced deprivation in early life than other people.	☐	☐	☐	☐	☐
h. I feel comfortable in dealing with depressed patients' needs.	☐	☐	☐	☐	☐
i. Depression reflects a characteristic response in patients that is not amenable to change.	☐	☐	☐	☐	☐
j. Becoming depressed is a natural part of being old.	☐	☐	☐	☐	☐
k. The community nurse could be a useful person to support depressed patients.	☐	☐	☐	☐	☐
l. Most depressive disorders seen in general practice improve without medication.	☐	☐	☐	☐	☐
m. Working with depressed patients is heavy going.	☐	☐	☐	☐	☐
n. There is little to be offered to those depressed patients who do not respond to what general practitioners do.	☐	☐	☐	☐	☐
o. It is rewarding to spend time looking after depressed patients.	☐	☐	☐	☐	☐
p. Psychotherapy tends to be unsuccessful with depressed patients.	☐	☐	☐	☐	☐
q. If depressed patients need antidepressants, they should be started on tricyclics as first-line treatment.	☐	☐	☐	☐	☐
r. If depressed patients need antidepressants, they should be started on selective serotonin reuptake inhibitors as first-line treatment.	☐	☐	☐	☐	☐
s. If depressed patients need antidepressants, they are better off with a psychiatrist than with a general practitioner.	☐	☐	☐	☐	☐
t. Antidepressants usually produce a satisfactory result in the treatment of depression in general practice.	☐	☐	☐	☐	☐
u. Psychotherapy for depressed patients should be left to a specialist.	☐	☐	☐	☐	☐
v. If psychotherapy were freely available, this would be more beneficial than antidepressants for most depressed patients.	☐	☐	☐	☐	☐

5. **Imagine that you are unsure about <u>diagnosing</u> a patient with depression. Which of the following actions might you take to confirm your decision? Please mark ALL that apply with a check (✓) mark.**

☐ Conduct a thorough patient interview

☐ Use a screening instrument (please specify instrument): _____

☐ Consult a diagnostic manual (please specify the manual): _____

☐ Consult a colleague

☐ Consult a psychiatrist

☐ Consult a mental health professional (other than a psychiatrist)

☐ Base it on experience

☐ Other (please specify): _____

6. **Although a patient may present with signs or symptoms of depression, you may choose not to make a formal diagnosis. Do any of the following reasons contribute to your decision?**
Please mark ALL that apply with a check (✓) mark.

☐ Physical causes need to be completely ruled out first.

☐ Patient refusal to accept diagnosis.

☐ Patient noncompliance.

☐ The patient will work through it on his/her own.

☐ It is unlikely that the patient will be seen in time if I refer him/her to a specialist.

☐ The patient lives too far away from a mental health specialist.

☐ I don't want the diagnosis to show up on the patient's medical record.

☐ The stigma that the patient may suffer.

☐ Other (please specify): _____

7. **Please complete the following statements by indicating your level of agreement with a check (✓) mark.**

To effectively <u>manage</u> patients presenting with symptoms of depression, I need...	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
a. Improved access to psychiatrists.	☐	☐	☐	☐	☐
b. To be able to prescribe affordable medication.	☐	☐	☐	☐	☐
c. More time to spend with my patients.	☐	☐	☐	☐	☐
d. Improved access to mental health professionals (other than psychiatrists).	☐	☐	☐	☐	☐
e. More training on counselling techniques.	☐	☐	☐	☐	☐
f. More personal experience managing patients with mental disorders.	☐	☐	☐	☐	☐
g. Up-to-date information on effective pharmacological treatments.	☐	☐	☐	☐	☐
h. Up-to-date information on effective *non*-pharmacological treatments.	☐	☐	☐	☐	☐
i. More time to spend on accessing and reading research on mental disorders.	☐	☐	☐	☐	☐
j. Other (please specify): _____	☐	☐	☐	☐	☐

8. **To what extent do you believe each of the following statements is true or false?**
Please check (✓) the square that is closest to your answer.

	Definitely True	Mostly True	Don't know	Mostly False	Definitely False
a. The maintenance phase of treatment for major depression focuses on preventing recurrence.	☐	☐	☐	☐	☐
b. If psychotherapy for major depression has no effect within 6 weeks of regular sessions, medication is recommended.	☐	☐	☐	☐	☐
c. An appropriate trial of antidepressant medication for major depressive disorder requires use of therapeutic dosages daily for at least 4-6 weeks.	☐	☐	☐	☐	☐
d. Side effects occur only in a small percentage of patients taking any antidepressant medication.	☐	☐	☐	☐	☐
e. Medication and psychotherapy are efficacious for depression in elderly adults as well as for the non-elderly.	☐	☐	☐	☐	☐
f. Evidence suggests that primary care clinicians prescribe appropriate dosages of antidepressants to fewer than a third of patients with a current major depressive disorder.	☐	☐	☐	☐	☐
g. Dysthymic disorder is mild, brief depression.	☐	☐	☐	☐	☐
h. The goal of cognitive therapy is to remove symptoms of depression by identifying and correcting patients' distorted, negatively biased thinking.	☐	☐	☐	☐	☐
i. In general, antidepressant medication can be discontinued after 4-9 months for patients with a single major depressive episode who no longer have symptoms of depression.	☐	☐	☐	☐	☐
j. Anxiolytics and sedatives (minor tranquilizers) have equivalent efficacy in major depression as antidepressant medications.	☐	☐	☐	☐	☐
k. Psychotherapy with a trained therapist is appropriate as the sole treatment for moderate major depression that is not chronic, psychotic or melancholic.	☐	☐	☐	☐	☐
l. Tricyclic antidepressants and SSRIs have equivalent side effect profiles.	☐	☐	☐	☐	☐

9. **Please list your first choice of medication to treat depression, starting dosage, and duration of treatment for patients in these 3 age groups:**

Patient's age	Medication	Starting Dosage	Duration of Treatment
10 - 17 yrs	_____	_____(mg)	_____(wks)
18 - 65 yrs	_____	_____(mg)	_____(wks)
66+ yrs	_____	_____(mg)	_____(wks)

D. MAIN PATIENT CARE SETTING

1. What is your <u>main patient care setting</u> (i.e. where you spend the most time providing patient care)?

   ☐ Private office/clinic (excluding free standing walk-in clinics)
   ☐ Community clinic/Community health centre
   ☐ Free-standing walk-in clinic
   ☐ Academic health sciences centre
   ☐ Community hospital
   ☐ Emergency department (community hospital or academic health sciences centre)
   ☐ Other (please specify): _____

2. How is your <u>main patient care setting</u> organized?

   ☐ Solo practice
   ☐ Group practice
   ☐ Other (please specify) _____

3. Do you have internet access in your <u>main patient care setting</u>?

   ☐ No   ☐ Yes

4. Do you have internet access during consultations with patients in your <u>main patient care setting</u>?

   ☐ No   ☐ Yes

5. What is the population of the town/city of your <u>main patient care setting</u>?

   ☐ over 75,000
   ☐ 50,001 to 75,000
   ☐ 20,001 to 50,000
   ☐ 10,001 to 20,000
   ☐ 5,001 to 10,000
   ☐ 2,501 to 5,000
   ☐ 1,001 to 2,500
   ☐ less than 1,000

E. DEMOGRAPHICS

1. Gender: ☐ Male   ☐ Female

2. Year of birth? 19 _____

3. Number of years you have been in practice as a family physician? _____ years

4. Your status:
   ☐ In full-time or part-time medical practice
   ☐ Locum tenens
   ☐ On a leave of absence or sabbatical from active patient care
   ☐ Medical student
   ☐ Resident
   ☐ Employed in a medically related field (e.g. administration, teaching, research)
   ☐ Retired
   ☐ Other (please specify): _____

F. EDUCATION

1. Where and when did you complete your *UNDERGRADUATE MEDICAL* training?

   Country   **Graduation Year**

   _____   _____

   _____   _____

2. Where and when did you complete your *POSTGRADUATE MEDICAL* training?

   Country   **Graduation Year**

   _____   _____

   _____   _____

3. Other medical training (please specify):

   _____

   _____

Do you have comments about caring for patients with depression?

Do you have any general comments about this questionnaire?

**Thank you for taking the time to complete this questionnaire.
Your help is greatly appreciated.**

Please return your completed questionnaire in the enclosed envelope to:

Applied Research
University of Saskatchewan
Box 92, Royal University Hospital
103 Hospital Drive
Saskatoon, SK
Canada S7N 0W8

Additional Questionnaire Measures

Measure (Section in Questionnaire)	Depression Questionnaire (clinical scenario of patient with GAD)	Anxiety Questionnaire (clinical scenario of patient with MDE)
Personal Attributes (E)	Demographics: Gender, age (open-ended), years in practice as a family physician (open-ended), country of undergraduate medical training (open-ended), country of postgraduate medical training (open-ended).	
Organizational Setting (D)	Private office vs. 6 other types; solo, group, or other practice; internet access; internet access during patient consultations; population of town/city	
Information and Resource Use (B1, B2, C5)	To update general medical knowledge (at least once per month): 14 items (yes/no) To make specific clinical decisions (use at least once per month): 14 items (yes/no) Reliability (trustworthy in general): 14 items (yes/no) Physical accessibility (generally easy to access: 14 items (yes/no) Applicability (generally relevant to physicians' needs): 14 items (yes/no) Intellectual accessibility (generally easy to understand: 14 items (yes/no)	
	During diagnostic uncertainty of patient with depression: 8 items (yes/no)	During diagnostic uncertainty of patient with anxiety: 8 items (yes/no)
Professional Attributes (C2-C4, C6-C8)	Length of time (minutes) in new and follow-up consultations of patients with depression Number of patients (average/week) diagnosed with depression and treated/managed for depression	Length of time (minutes) in new and follow-up consultations of patients with anxiety Number of patients diagnosed (average/week) with anxiety and treated/managed for anxiety
	Requirements for effective management of patients with symptoms of depression: 10 items (strongly agree, agree, neutral, disagree, strongly disagree)	Requirements for effective management of patients with symptoms of anxiety: 10 items (strongly agree, agree, neutral, disagree, strongly disagree)
	Resistance to formal diagnosis of patient with depression: 7 items (yes/no)	Resistance to formal diagnosis of patient with anxiety: 7 items (yes/no)
	Depression Attitude Scale: 22 items (strongly agree, agree, neutral, disagree, strongly disagree)	Anxiety Attitude Scale: 22 items (strongly agree, agree, neutral, disagree, strongly disagree)
	Depression Knowledge Scale: 11 items (definitely true, mostly true, don't know, mostly false, definitely false) Patient factors used in treatment decision for patients with depression: 7 items (all of the time, most of the time, some of the time, a little of the time, none of the time)	Anxiety Knowledge Scale: 12 items (definitely true, mostly true, don't know, mostly false, definitely false) Patient factors used in treatment decision for patients with anxiety: 7 items (all of the time, most of the time, some of the time, a little of the time, none of the time)
	Number of total patient visits per week	