DISSERTATION

FAMILY MEDICINE PATIENTS AND MENTAL HEALTH REFERRALS

IMPLICATIONS FOR PRIMARY CARE PHYSICIANS

Submitted by

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In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Summer 2003

COLORADO STATE UNIVERSITY

July 2, 2003

WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY RACHEL TAMIKO KAYA TORGERSON ENTITLED FAMILY MEDICINE PATIENTS AND MENTAL HEALTH REFERRALS: IMPLICATIONS FOR PRIMARY CARE PHYSICIANS BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

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ABSTRACT OF DISSERTATION

FAMILY MEDICINE PATIENTS AND MENTAL HEALTH REFERRALS

IMPLICATIONS FOR PRIMARY CARE PHYSICIANS

This was an exploratory investigation of the likelihood of compliance by family medicine patients if their Primary Care Physician (PCP) referred them to mental health treatment. Participants were 116 adults who were at the Family Medicine Center (FMC) in Fort Collins, Colorado, for medical appointments. Participants completed a questionnaire which measured demographic information, socioeconomic and health insurance status, relationship with physician and FMC, past mental health treatment, interest in treatment modalities, perceived mental health problems, importance of decision-making factors, likelihood of complying with a mental health referral by their PCP, and reasons they would not comply with such a referral. Objectives were to describe the sample and to explore which variables were related to participants agreeing to comply with therapy referrals. Participants were classified as either "compliers" or "noncompliers" based upon their responses to the four items measuring likelihood of complying with their physician's referral. Five independent variables were significantly related to the compliance dependent variable.

Those more likely to comply were those who had attended more than one therapy session in the past, those whose PCP had more strongly urged them to attend therapy in the past, those who believed that they had more serious mental health problems, those who placed more importance in decision-making factors, and those who had been FMC patients longer. A forward stepwise multiple regression analysis with compliance as the dependent variable indicated that perceived mental health problems (49.7% of variance, standardized ß=0.71) and number of times the participant had attended therapy in the past (23.9% of variance, standardized ß=0.52) predicted compliance, R^2=0.736, p<.01. Most participants reported that they would comply with their PCP's referral to therapy. Demographic characteristics were not related to likelihood of complying, nor were income level or having private insurance. Conclusions included the important role of the PCP in linking medical patients with mental health treatment. Recommendations for PCPs are provided.

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ACKNOWLEDGEMENTS

As this project *finally* draws to an end, I would like to take this opportunity to acknowledge some of the many folks who were essential in making it happen. I received great technical support from questionnaire guru Dawn Watson of the University Testing Service, computer guru Donna DeMaranville with the Psychology Department, and statistics gurus Ken Lahti and Dr. Jerry Deffenbacher. Dr. Calvin Kaya read early versions and helped with proofreading and editing. The hardworking and dedicated front desk staff at FMC were invaluable in making this project happen.

I would like to thank my committee for their patience and support through these years. Dr. Scott Hamilton, my adviser, was always available with practical advice, thorough feedback, and unlimited helpfulness. Dr. Carol Pfaffly went far beyond the call of duty in helping me connect with the data collection site. Dr. Evelinn Borrayo provided roots in the existing literature and Dr. Bill Boyer cheerfully agreed to step in at a moment of need.

Personally, there are so many friends and family (both by birth and marriage) who helped me with inspiration, motivation, and the time and space to get work done that I am not able to name them all here. My predoctoral

internship cohort provided support and a healthy dose of competitiveness; thank-you Drs. Case, Ginsberg, and Smith. My husband Mikal provided every kind of support there is; including emotional, household and childcare, financial, and computer/printer related troubleshooting. I owe much gratitude to my parents, by whom I was privileged to be raised to value education and to believe that I am capable. Finally, thanks to my beautiful children, without whom this project would have been finished long ago, but certainly without the meaning and perspective on life with which they have imbued my very existence.

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INTRODUCTION

The current trend towards managed health care and the related health care crisis have spurred a great deal of scholarly interest. Many medical and mental health providers appear to be struggling to provide adequate care for their patients with fewer resources and fewer covered benefits. At the same time, many individuals with mental health concerns find themselves needing to pay for these services "out of pocket" because they are not covered by their health insurance plan. The overall objective of this investigation is to examine the process of medical patients obtaining psychological services. Literature will be presented documenting the large number of people seeking services from their primary care physician (PCP) suffering from psychological rather than, or in addition to, organic problems[1]. This medical-service utilization may not be in the best interest of the patient and often becomes a financial burden on the medical

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[1] The distinction between organic/physical and psychological/psychiatric problems is not clear. One author (Burvill, 1990) suggests that psychiatric and physical disease can interact in three ways: the psychiatric disturbance may be a result of or reaction to the physical problem, the psychiatric disturbance may be presented as physical symptoms (also known as somaticization), or both may co-exist, with psychiatric distress exacerbating the physical problem. DiMatteo (1991) defines the psychological role in physical disease as operating along a continuum. At one end of the continuum are conditions with strictly psychological origins, such as illness or death caused by self-starvation in anorexia nervosa. At the other end are illnesses thought to be unrelated to psychological factors, such as appendicitis. The vast majority of physical complaints generally lie somewhere in-between the extreme ends of the continuum, and it may be that with advances in technology, researchers will someday find a gene that increases propensity for eating disorders or an anxiety risk factor for appendicitis. Given that the distinction, if one exists, is difficult to see, the current investigation will operationally define organic illness as one that is diagnosable through standard medical procedures.

system. For many of these patients, psychological interventions by mental health providers are a cost-effective solution, but mental-health issues are commonly either not identified by the physician or not referred to a mental health specialist. Finally, this investigation will examine the willingness to accept a referral by those patients who are referred by their physicians to mental health providers and will explore likelihood of successful referrals.

Description of the Problem

Extent of the problem. Many authors have attempted to quantify the proportion of medical patients that report psychological symptoms. The typical study is one in which a large number of patients at a clinic or series of clinics are evaluated. These evaluations have generally consisted of standardized questionnaires, interviews, or computer programs. The researchers classify patients as having a psychological disorder if their self-report scores on a given measure meet or exceed the scores typically found in a population known to suffer from that disorder. In many of these studies, the patient's medical chart is also examined to determine whether the physician has also identified the person as having a psychological disorder.

Some general trends are evident in the literature. First, the frequency with which patients present with diagnosable mental disorders at primary care clinics is often twice as large as that which can be expected given similar prevalence rates in the general population (Arolt, Driessen, & Dilling, 1997; Silverstone, 1996; Simon & VonKorff, 1997a). The percentage of patients with

diagnosable psychological disorders has varied from study to study, with rates ranging from 27% (Silverstone) to 47% (Arolt, et al.). Finally, rates of specific diagnoses have varied widely, although depression, anxiety, and alcohol abuse are generally the most frequently diagnosed conditions. Rates of current major depression have varied from 5% (Silverstone) to 15% (Arolt, Driessen, & Dilling) and prevalence of current alcohol abuse or dependence have varied from 5% (Silverstone) to 8% (Arolt, et al.). Fourteen percent of patients have been found to have adjustment disorders (Silverstone), 6% to 33% have anxiety disorders (Barlow, Lerner, & Esler, 1996; Silverstone), and 5% met the diagnostic criteria for dysthymic disorder (Browne et al., 1999). Reports of major or severe insomnia have ranged from 9% to 19% (Hohagen et al., 1993; Morin & Wooten, 1996; Simon & VonKorff, 1997b).

In addition to patients with psychological diagnoses, medical patients with organic problems can also benefit from mental health services. Sobel's (1995) review of the literature addresses the psychosocial needs of medical patients, including social support, the development of coping skills, and instilling a sense of personal control. Sobel presents ample evidence documenting the emotional distress (resulting in adjustment disorders) experienced by patients with medical conditions and that addressing those issues can be both in the best interest of the patient and also cost-effective. Sobel points out that while 10% to 20% of medical patients have diagnosable psychological disorders, 80% or more experience significant emotional distress related to having a medical condition.

Not only do a significant number of primary care patients suffer from psychological problems, PCPs are often the only source of treatment. Large sample studies (e.g., Katon, 1995) have shown that half of all people with mental disorders are treated solely by their primary care physician. Barlow, et al. (1996) reported that only about 32% of individuals with anxiety disorders actually seek treatment, but half of those who do seek help go to their primary care doctor for treatment. Of the 28% of the general population who have a yearly occurrence of mental or substance use disorders, about 45% are treated in medical settings and 43% are treated in mental health settings (Simon & VonKorff, 1997a).

Katon (1995) has argued that in medical school, physicians are trained to treat the 10% to 15% of primary care patients with organic explanations for their symptoms, rather than the majority of patients whose symptoms have no known organic cause. Up to 60% of physician visits may be for somaticized complaints, or complaints that are psychological in nature (Cummings, 1996), but are presented as a physical illness (i.e., a person who suffers from panic attacks and describes rapid heart rate, dizziness, and sweating; or a person with depression who describes fatigue and stomachache). Depression tends to be underdiagnosed in primary care settings (Panzarino, 1998) and many (i.e., 50% or more) primary care patients have no diagnosable medical conditions. This includes many patients with the most commonly reported symptoms (chest pain, fatigue, dizziness, headache, edema, back pain, insomnia, abdominal pain, and

numbness). Other studies have found that high utilizers of medical services have a high incidence of psychiatric diagnoses, including a 68% lifetime prevalence of depression. Kroenke and Mangelsdorff (1989) examined the 14 most common symptoms in an internal medicine clinic. They found that 16% of the patients had medical problems with probable organic causes while 74% had symptoms and conditions with "unknown" etiology. Ten percent of the patients had complaints that were clearly psychological in nature, but the authors conjectured that many of the "unknowns" were also related to psychological factors. According to Barlow, et al. (1996), some patients with psychological disorders somaticize their symptoms and then refer themselves to their primary care physician for treatment. That is, they express their psychological distress as physical symptoms. One study indicated that of the patients reporting "vague" or ill-defined medical symptoms, 38% to 45% were later found to have a psychological disorder. Of those patients with specific and clearly defined biological symptoms, only 15% were later found to have a psychological disorder.

Financial burden. Research has shown that medical patients with psychological disorders use more medical resources than those without. Morin and Wooten (1996) suggested that people with insomnia are more preoccupied with their health and use health-care services more frequently than people without insomnia. Simon, VonKorff, and Barlow (1995) used large matched samples of patients with and without depression to show that patients with

depression had significantly higher annual health care costs and higher costs in each category of health care, including primary care, medical specialty, medical inpatient, pharmacy, and laboratory. According to Rehn (1996), pharmacy costs for the depressed group were three times greater than for the non-depressed control group, and that this difference could not be entirely accounted for by the cost of antidepressant medications.

Panzarino (1998) found that depression increases the number of visits for other medical problems and adds to the number of days for hospital stays. Simon, Ormel, VonKorff, and Barlow (1995) compared the overall health care costs for primary care patients with and without depression or anxiety disorders. Results indicated that patients with diagnoses of anxiety or depressive disorders had higher overall medical costs than either those with no diagnosable disorder or those with subthreshold disorders. The cost difference persisted even after controlling for medical morbidity and indicated higher medical service utilization as opposed to higher mental health treatment costs. Although many of the patients with anxiety or depression showed improvements at 12-month follow-up, their medical costs remained high.

In general, the psychological and psychiatric literature shows that not only are health costs higher for those with mental disorders, it also indicates that patients with the highest medical utilization are more likely to experience psychological distress (i.e., symptoms of depression or anxiety). Katon et al. (1990) examined distressed high utilizers of medical services to evaluate mental

health diagnoses and treatment needs. High utilizers of a Health Maintenance Organization (HMO) in Washington State were defined as those who were in the top 10% for the number of yearly ambulatory health care visits within age and sex groupings. Of the 767 high utilizers, 392 were classified as "distressed." Results indicated that the distressed high utilizers, when compared to the larger HMO population, tended to have more depression, anxiety, and somaticization; more chronic conditions; and a more pessimistic view of their health. Approximately 20% of the distressed high utilizers met the diagnostic criteria for somaticization disorder, while only 16% were totally free of symptoms listed in DSM as necessary for a somaticization diagnosis. In comparison, only .1% of the general population have somaticization disorders. Of the distressed high utilizers, 23.5% met the criteria for current major depression and 68% met lifetime criteria for major depression.

One study has demonstrated that medical costs can be reduced with more accessible mental health services. In this study (Pallak, Cummings, Dorken, & Henke, 1995), two thirds of Medicaid recipients in Hawaii were randomly assigned to receive an additional benefit of managed mental health care. The remaining third continued with the standard fee-for-service mental health option (i.e., the traditional indemnity form of health insurance in which clinicians are reimbursed per service provided, not capitated for managing an assigned patient population). Investigators compared the medical costs of four groups: those who utilized managed mental health care, those who used fee-for

service care, those who used both, and those who used neither. Results indicated that patients who accessed the new managed mental health benefit reduced their medical costs by 9 to 21%. The cost reductions remained stable at 6, 12, and 18 months following treatment. Those who used the standard fee-for service benefit showed a reduction in medical costs of 12% at the 18-month follow-up. Those choosing to not access any mental health care had their annual medical costs increase by 15%. The costs of operating the managed mental health care service were recovered by savings in medical costs after 6 to 22 months.

Other investigators have argued that reducing overall health care costs should not be the only criteria for providing mental health coverage and that the overall value for patient well-being of each dollar spent should be considered. Sturm and Wells (1995) used data from the Medical Outcomes study, a large federally funded mental health epidemiological study, to analyze and simulate differences in care for depression. The authors concluded that appropriate care for depression (e.g., psychological counseling, prescription of antidepressant medications, and avoiding tranquilizers) improved patient ability to function. This approach, however, increases the costs of care over a standard PCP treatment plan of medications only. The authors argue that the value of the money spent is larger because of increased "quality of life" benefits for patients and that the current trend of general practitioners providing psychiatric care reduces costs but may not maximize potential positive outcomes for patients.

Increased patient risk. Katon (1995) reviewed the literature related to improving clinical outcomes of primary care patients suffering from major depression. He argued that it is important to integrate mental health services into primary care settings in order to provide more comprehensive services, improve patient outcomes and satisfaction, and to decrease medical costs. Furthermore, Katon argued that it could be harmful to patients to have psychological symptoms treated as purely medical problems. He points out that patients who somaticize their psychological symptoms put themselves at risk for "iatrogenic harm," caused by unnecessary medical and surgical procedures. Along these lines, Smith, Monson, and Ray (1986) described a group of 41 patients who believed themselves to be chronically physically ill and were all diagnosed with somaticization disorder. They were functionally disabled (i.e., 34 of 41 had stopped working because of their health), spent an average of 7 days in bed per month, and viewed themselves as severely ill. The patients were willing to undergo multiple hospitalizations, diagnostic tests, and operations at extraordinary health care costs. The authors point out that PCPs can identify this type of patient by their multiple complaints with physical examination revealing no organic explanations and a history of numerous medical examinations.

Some patients may not receive the opportunity to obtain effective psychological treatments if their PCP treats their symptoms with medications only. In their review of treatments for insomnia, Morin and Wooten (1996) described reliable and durable improvements in sleep for 60-80% of patients

following psychological interventions, primarily cognitive-behavioral in nature. Although pharmacological interventions are effective for short-term relief of insomnia, they prove to be ineffective for durable symptom reduction following drug tapering. According to Morin and Wooten, combined psychological and pharmacological approaches are more effective than drugs alone, but not necessarily more effective than psychological treatment alone. Simon and VonKorff (1997b) found that insomnia was significantly related to functional impairment, days of disability due to health problems, and greater health service utilization. Additionally, Hohagen et al. (1993) found that more than half of their sample of patients with insomnia reported nightly hypnotic use (i.e., mostly benzodiazepines) for longer than a year, but that use of those drugs was unrelated to alleviation of symptoms 2 years later. In general, the literature indicates that insomnia is debilitating, that medications provide only short-term relief, and that psychological interventions may lead to improved long-term outcomes with resulting reductions in health care costs.

Panzarino (1998) points out that when depression is comorbid with other medical problems, the mortality, morbidity and medical expense are all greatly increased. For example, one study found that nursing home patients with diagnosable depression had survival rates that were 10% lower than nondepressed patients at 6 months and 15% lower than nondepressed patients at one year. Another study found that among myocardial infarction patients, those who were clinically depressed had mortality rates 10% greater at 3 months

and 15% greater at 6 months than nondepressed patients. One possible explanation for these findings is that patients who are depressed or experiencing a sense of hopelessness are not as likely to comply with medical interventions (i.e., taking prescribed medications regularly) and exercise recommendations.

In terms of psychological and physical morbidity, Sobel (1995) reported that depression results in more days in bed than any other common illness except coronary artery disease; causes more pain than other diseases except arthritis; and is more debilitating than diabetes, arthritis, gastrointestinal disorders, back problems, and hypertension in terms of physical functioning, role functioning, and social functioning. Even less severe forms of depression (i.e., dysthymic disorder) could have an adverse impact on medical health. Browne et al. (1999) point out that research has clearly linked dysthymia with impaired functional status, poor general medical health, and high medical service utilization.

Many Patients do not Receive Beneficial Psychological Interventions

PCP awareness of psychological issues. An examination of the research literature provides ample evidence that some PCPs are insufficiently aware of their patients' psychological disorders. For example, Silverstone (1996) found that of medical hospital inpatients with mental health diagnoses, nurses identified 61% of the cases as having psychological disorders while medical staff identified only 41%. Additionally, Vazquez-Barquero, et al. (1997) found that 33% of a large sample of primary care patients in Spain suffered from

diagnosable mental disorders, but the percentage of patients who were identified by their physician as having psychiatric problems was only 14%. Two other studies (Joukamaa, Lehtinen, & Karlsson, 1995; Joukamaa, Lehtinen, Karlsson, & Rouhe, 1994) reported on a large patient sample in which only 14% of men and 17% of women with mental disorders were recognized as having psychological problems by their physician. Finally, Barlow, et al. (1996) found that approximately half of the primary care patients with mood or anxiety disorders failed to be identified by their physicians as having psychological disorders.

Whether the physician is aware of the psychological symptoms experienced by patients is generally dependent on how much information the patient discloses. For example, in Hohagen et al.'s (1993) patient survey, more than 50% of individuals with insomnia were not recognized by their PCPs as having sleep problems. In a more recent review, Morin and Wooten (1996) found that in spite of the large number of people with insomnia (up to 20% of the population), fewer than 15% of chronic insomnia patients had received treatment. Results from Morin and Wooten's study indicate that only 5% of patients make an appointment with their physician specifically about their insomnia problems and 26% only mention it to their physician during a visit for another medical problem.

Studies have consistently shown that PCPs miss anxiety diagnoses (Aikens, Wagner, Lickerman, Chin, & Smith, 1998), misdiagnose anxiety by

confusing it with other psychiatric disorders (Den Boer & Dunner, 1999), or treat the patient without making a diagnosis or by making a diagnosis based purely on physical causes (Shahabudin, Almashoor, Edariah, & Khairuddin, 1994). PCP recognition of depression is less likely if the patients are men, married, have high levels of physical disability, are visually impaired, or have less education (Crawford, Prince, Menezes, & Mann, 1998). Conversely, Pini et al. (1997) reported that PCPs were three times more likely to identify psychiatric distress in mentally healthy patients who were retired than those who were employed. Moreover, patients with poorer health self-perception were more likely to be identified as having psychiatric problems, regardless of whether or not they were experiencing significant depression.

In addition to problems with patient disclosure of emotional problems, there are many, sometimes contradictory, explanations for why PCPs fail to identify psychological problems. Physicians in Howe's (1996) qualitative study provided reasons that fall into three categories: Doctor factors (attitude, previous experience, and consultation behavior), patient factors (background, pattern of presentation, and consultation behavior), and structural factors (time, time of the week or year, type of appointment, general levels of distress in the geographic area, and the medical practice's culture). Freeling (1993) proposed two other factors related to failure to recognize and diagnose depression by PCPs: presence or absence of a concurrent organic illness or somaticization of the depression and presenting the physician with physical complaints only.

Additionally, PCPs who correctly made an anxiety diagnosis asked significantly more questions during patient history taking than those who did not.

Giron, Manjon-Arce, Puerto-Barber, Sanchez-Garcia, and Gomez-Beneyto (1998) examined which variables were related to a PCP's ability to recognize emotional disorders in their patients. Results indicated that the physicians' active listening and ability to ask psychologically relevant questions were associated with the ability to recognize psychological problems. Factors that were not significantly related included physician characteristics (gender, age, training, experience), patient demographics (gender, age, socioeconomic status, marital status), amount of time spent with the patient, and the severity of the psychological disorder.

In other studies (e.g., Joukamaa, Lehtinen, & Karlsson, 1995; Joukamaa, Lehtinen, Karlsson, & Rouhe, 1994), physicians with higher recognition rates of psychological problems were more likely to have had postgraduate training in psychiatry. Interestingly, in the Joukamaa et al. studies, those with Balint group training, a method designed to improve management of patients' mental health problems, were found to have poorer recognition ability than those physicians without such training. Balint groups traditionally provide groups of medical residents or physicians a setting in which to work on problematic doctor-patient relationships (Botelho, McDaniel, & Jones, 1990). However, according to Brock and Stock (1990), goals of groups are most often to provide support, to resolve "professional role conflict," to understand emotional reactions to patients, and to

enhance professional self-worth. Since the groups tend to be process-oriented and facilitated, rather than didactic and content-based, improving physician identification of psychological diagnoses does not seem to be an objective.

Gender of the physician, patient, or both have also been implicated by some researchers as factors related to recognition of psychological problems. In Badger et al.'s (1999) investigation, using "confederate patients," male physicians tended to explore symptoms and probe for signs of depression more frequently and more methodologically with female as compared to male patients. Farmer and Griffiths' (1992) study using patient case vignettes also found that PCPs, but not psychiatrists, were influenced by gender and the presence of a previously diagnosed psychiatric condition.

PCP referral to mental health providers. Interestingly, few empirical studies were found which specifically addressed the decision process of whether or not PCPs would choose to refer patients to mental health professionals if a patient is identified as having a mental health problem. However, some information can be gleaned by examining the treatment recommendations for patients from studies focusing on assessment of mental illness in primary care settings. For example, in Aikens, et al.'s (1998) panic disorder vignette study, which found that many PCPs fail to make an anxiety diagnosis, PCPs rated immediate treatment with medications as more necessary than further medical testing or a mental health referral. Of the participating physicians, 78% suggested a benzodiazepine and 35% recommended treatment with an

antidepressant. Half of the respondents thought that a mental health referral was at least "somewhat required" for patients with panic symptoms. Also, in Crawford, et al.'s (1998) investigation of depressed, elderly, English patients, only 38% of the patients who were considered to be depressed by their doctors were prescribed medications or referred for mental health services.

Although this area of inquiry requires much further investigation, there are some preliminary factors that might be associated with whether or not the PCP will refer patients for mental health treatment. For example, gender of the patient may play a role in whether a referral will be made. In Badger et al.'s (1999) standardized patient (trained confederate) depression study, both male and female physicians who were presented with a somatic, minor depression recommended counseling more often for female than male patients. Female patients and patients presenting with a major depression also received more medical treatment and counseling recommendations. For male patients, male physicians infrequently prescribed medications and both male and female physicians rarely suggested counseling. Other investigators have found opposite results. For example, Farmer and Griffiths (1992) found that men and patients with a previous psychiatric diagnosis were more likely to be referred by their PCP, primarily to psychiatrists.

Ross and Hardy (1999) summarized the literature regarding patients who experience mental health problems and seek help from their PCPs. These authors presented a model that identified six factors that influence the process of

mental health referral and provided suggestions on steps that psychologists can take to facilitate this process. The factors included: patient help-seeking behavior and representation of mental health (i.e., likelihood of seeking help and beliefs about the success of psychological interventions), PCP ability to detect psychological problems, PCP attitude towards psychological problems and treatment (i.e., interest in psychotherapy, belief that adequate services are available), service criteria for referral (i.e., which practitioners offer what services and which referrals they will accept), and links with mental health services (i.e., physical and "social" accessibility).

Health services utilization model. There is a general model which has often been used to understand the use of medical services in this country. The Andersen-Newman behavioral model of health services utilization was developed in the 1960's (Andersen, 1995). The model describes how three types of individual characteristics, along with societal and health service system determinants, all contribute to health service utilization (Anderson & Newman, 1973). The three types of individual variables are: predisposing factors, enabling factors, and illness/need factors. Factors which predispose individuals to use services include demographic characteristics, socioeconomic characteristics, and health beliefs. Factors which enable individuals to use services include financial resources, transportation, and availability of medical services. Need for services variables include medical condition and evaluated illness status.

The Andersen-Newman model has been used to understand physician and dentist visits (Andersen and Newman, 1973), in-home services use by the elderly (Calsyn & Winter, 2000; de Klerk, Hujisman, & McDonnell, 1997; Hawranik, 2002), to compare service use among different ethnicities (Jackson & Mittelmark, 1997), for outpatient mental health services (Padgett, Patrick, Burns, & Schlesinger, 1994), and inpatient psychiatric services (Min, 2001). One very large study found that using specialized mental health services, rather than general medical services, is significantly related to predisposing, enabling, and need factors, but that need factors are the strongest predictors (Leaf, et al., 1988). Though the Andersen-Newman model has been used successfully with a variety of types of health services, its implications for the current study are unclear. The current study focuses on a very specific type of health service (i.e., mental health treatment when individuals have been referred by their primary care physician).

Patient Compliance with Referrals to Mental Health Providers

Although there is a relatively large body of literature examining the general attendance and compliance rates of individuals beginning mental health services, few studies are available which specifically address medical patients who are referred for mental health services by their physicians. Additionally, much of the available data is either equivocal or contradictory. Simon and VonKorff (1997a) reported that, in general, those less likely to use mental health services include: men, the elderly, those who are less educated, and non-whites.

Some studies have confirmed that patient demographic characteristics are significant in a successful referral, but others have not. The rate of medical patients, referred by their physicians, who do not attend their initial psychiatric appointment have ranged from 22% (Farid & Alapont, 1993) to 50% (Grunebaum, et al., 1996).

Suh and Gallo (1997) examined data from the NIMH Epidemiological Catchment Area study in order to compare characteristics of the 4,931 people who had visited a PCP in the previous 6 months with the 363 participants who had visited a mental health provider in the past 6 months. Those who saw a medical doctor were significantly more likely to present with fatigue or loss of sexual interest and less likely to present with dysphoria and feelings of worthlessness, sinfulness, or guilt than those who had seen a mental health professional. Additionally, those who used mental health services were more likely to be under 65, white, have more than 12 years of education, be married or partnered, employed, and to have comorbid psychiatric diagnoses.

Neeleman and Mikhail (1997) examined variables associated with non-attendance at first psychiatric outpatient appointments by patients referred by their PCPs. Non-attenders tended to be younger; have a history of substance abuse, legal problems, or "deliberate self-harm;" or an absence of a clear psychiatric diagnosis. There was a strong positive relationship between current social/relationship problems and nonattendance. Overall, the nonattendance rate at the first appointment was 26%. No differences were noted between the

two groups (attenders or non-attenders) for gender or delay between referral and appointment.

Grunebaum et al. (1996) found that 50% of patients referred for psychiatric consultations by primary care clinics missed these appointments. Results indicated three significant predictors of non-attendance: lower levels of emotional distress, significant patient resistance to seeing a psychiatrist, and longer delays between referral and the scheduled appointment. Also, those with non-psychotic cognitive impairment were less likely to miss their appointments than those with psychosis-related cognitive impairments. There were no significant differences for gender, ethnicity, language, education, or type of insurance.

Farid and Alapont (1993) analyzed all initial referrals to a British outpatient psychiatric clinic over one year. The first appointment nonattendance rate was 22%. Nonattenders were found to have had a referral letter with inadequate information about history or description of referral-related problems. Also, nonattenders tended to be younger, male, and of lower socio-economic class. Nonattenders were more likely to have a prior history of missing medical or psychiatric outpatient appointments. There were no differences for psychiatric history or waiting period for an appointment.

Patient Interest in Mental Health Services

While the previously mentioned studies examined the success rate after referring medical patients to mental health practitioners, few studies have

investigated the process from a more global perspective. In general, the literature tends to indicate that a significant number of primary care patients have psychological disorders of which their PCP is unaware. Even if the PCP identifies the psychological disorder, the majority of these patients are not referred for mental health treatment. Of those referred, many do not attend their initial appointment. Investigating only the minority of primary care patients who are both identified by their doctor as having a psychological disorder and successfully referred for mental health treatment may be limiting access to potentially useful data. The current investigation examines factors for a successful referral from the medical population at large. This study examines mental health referral factors for all adult medical patients, not merely those with current psychological distress or those who have already contacted the mental health system.

Arean and Miranda (1996) conducted what appears to be the first study examining the interest level of primary care patients for psychological treatments. They evaluated 131 patients at a general medical clinic in San Francisco with a high ethnic minority and lower socioeconomic status population. Each participant was approached by a trained researcher in the waiting room who verbally administered the SCL-90 (Derogatis, 1994; a standardized measure of a variety of types of psychological distress, normed on psychiatric inpatients and outpatients, as well as non-psychiatric samples) and a treatment and site preference questionnaire. The questionnaire asked whether

participants would attend groups for coping with depression, stress, or medical problems. Finally, participants' medical records were evaluated to determine the number of medical visits in the previous six months. Using an SCL-90 cutoff of t=60, indicating that the individual has more distress than 84% of the general, non-psychiatric population, results indicated that 62% had significant problems related to depression, 50% had serious anxiety problems, and 60% had somaticization symptoms that were of clinical concern. Only 18% of the sample were unwilling to attend the psychological services that were listed. Those who were psychologically/emotionally distressed, according to the SCL-90, were more interested in psychological treatment than those who were not. Somaticizers or high utilizers of medical services were as willing, at least based on self-report, as other patients to receive psychological services.

While the Arean and Miranda study indicated that many general medical patients are willing to participate in psychological treatment, there are limitations to the study. First, the psychological treatments were presented in a hypothetical manner and pragmatic issues such as the cost of treatment or logistical issues (e.g., transportation, childcare) were not addressed. Second, the authors failed to provide an analysis of the demographic characteristics of patients who would refuse psychological treatment and whether they differ from patients who were willing to receive psychological services. Also, the treatments offered were all "coping groups" and did not include other modalities such as individual therapy. Finally, the study did not take into account such factors as

relationship with the physician and whether the strength of the recommendation from the patient's physician would matter (i.e., if the PCP casually suggested or strongly insisted on the patient seeing a therapist).

A later study used a modified version of the 1996 study's survey instrument (Arean, Alvidrez, Barrera, Robinson, & Hicks, 2002). This time, low-income, elderly primary care patients were surveyed. Of the sample of 183, most were willing to talk to their physician, a nurse, or a social worker about their "everyday problems" (72%), to receive individual therapy (71%), or to participate in psychoeducational classes (68%). Only 34% were willing to receive group therapy. The researchers found no differences in treatment preference between elderly patients who were not distressed and those who were classified as distressed based on measures of psychological symptoms.

Other recent studies report conflicting results. In one study, researchers were able to select a large sample of primary care patients who all had symptoms of panic attacks (Hazlett-Stevens, et al., 2002). Of the 1,030 individuals in this sample, 67% responded that they would consider a psychosocial treatment for their panic; phrased in this study as "Would you be willing to meet with a specialist 6 times over 8 weeks to learn how to control these spells or attacks?" There were no demographic or physical health factors related to this willingness, though there were for willingness to take medications. The only significant predictors of willingness for the psychosocial treatment were other comorbid anxiety disorders. However, another recent large study

demonstrated significant predictors of treatment preferences for primary care patients with depression (Dwight-Johnson, Sherbourne, Liao, & Wells, 2000). Among the sample of over 1000, 83% were interested in some type of treatment for their depression, either medications (27%), individual therapy (29%), or group therapy (26%). Gender, ethnicity, paid sick leave, and knowledge about treatment were significant predictors of interest in counseling rather than medications, though there were also differences for those who had counseling recently and for those who would choose group counseling over individual counseling.

Purpose and Hypotheses

The current study was an exploratory examination of the willingness of family practice patients to accept psychological referrals from their physicians. The purpose of the present investigation was to examine the impact of the myriad of treatment options available to primary care patients who might someday experience psychological symptoms. The ultimate goal of this study was to provide PCPs with recommendations for making successful referrals for mental health treatment. Some of the factors predicted to be related to the success of a mental health referral included patient demographic factors; patient characteristics that include general emotional health, past help-seeking behavior, satisfaction with past treatment; and decision-making factors, including logistical, physician-related, and financial considerations.

METHOD

Participants

Participants were adult patients at the Family Medicine Center (FMC), a community-based family practice affiliated with the primary hospital serving patients from a medium-sized city in Colorado. According to Bailey (2000), the area's population includes 15% of families who are below the poverty level and 7% Hispanic (the largest minority group). The county in which FMC is located has been designated by the Department of Health and Human Services as "medically underserved." The health system that includes FMC and the hospital offers full-service health care, including primary and tertiary care, preventative care, and health promotion and education.

FMC provides full family medicine services, including free services for the indigent and low cost services for uninsured, self-pay, and low-income families. They provide preventative, primary care, and outreach care in the area, including about 1.65 million dollars annually in uncompensated care. The model of treatment is "integrated patient care" which treats "the whole person" within familial and cultural contexts (Bailey, 2000). For example, the clinic endorses a bio-psycho-social model of health care and the staff includes social workers, a licensed clinical psychologist, a marriage and family therapist, wellness

educators, a clinical pharmacist, as well as their medical staff. Medical residents are trained in an integrative model through such activities as Balint groups and regular consultation with behavioral medicine staff (C. J. Pfaffly, personal communication, August 2000).

Procedure

As they checked-in for medical appointments, front desk staff gave adult patients (i.e., 18 years and older) the research packet. Participants were told that the survey was voluntary and shown a locked box in the lobby/waiting area where forms were to be returned. The locked box was clearly marked "Research Forms." Data was collected daily for 8 ½ months, yielding a total of 139 completed questionnaires (see Appendix A).

Of the questionnaires returned to the "Research forms" box, 83% were at least partially completed and 17% were blank. However, a return rate was not able to be accurately calculated as anecdotal evidence suggested some patients were not offered the research packet, some patients refused to accept the research packet, and some took the research packet home or threw it away. Some of the questionnaires may have also been filed in the patient charts or otherwise misplaced. A total of 375 research packets were distributed and 167 were returned to the "Research Forms" box, suggesting a 45% return rate.

Although an accurate response rate can not be determined, the degree to which this sample represents the overall FMC population might be extrapolated by comparing some demographic data. Appendix B shows age, gender, and

payer class data for the research sample and for the FMC population. Data indicate that the research sample had a smaller percentage of noninsured (3% versus 25%) and male participants (22% versus 38%) than the clinic population at large. Also, the research sample had more participants over the age of 50 (30%) than the FMC population (23%). The research sample of 117 was approximately 4% of the total clinic population of 2799 during this period of time.

Materials

Each research packet consisted of the following: a two-page cover letter and a four-page survey (see Appendix C). The cover letter provided implied consent information and included statements concerning the risks, purpose, and benefits of participating in the study. Instructions for participation or non-participation and contact phone numbers were also provided. Please see Appendix D for Human Subjects approval information.

Appendix E contains a detailed variables list. The survey included a demographic information form that requested information on age, gender, marital status, parent status, socioeconomic status (i.e., self/partner occupation and education, family income, health insurance), and ethnicity. The demographic form also asked for information about the duration of the patient's relationship with FMC and their current PCP, and whether their medical appointment for that day was for themselves or someone else.

The mental health utilization form contained two sections. Section I requested information on the patient's past psychological treatment including

how they selected the therapist and how satisfied they were with the treatment received. The patients were asked which treatment modalities they were currently interested in (designed to replicate the Arean and Miranda, 1996 study) and whether they were experiencing any of the following problems: depression, anxiety, insomnia, stress, medically unexplainable symptoms, or alcohol or drug abuse. Section I also asked patients whether they perceived the mental health problems endorsed to be serious enough to warrant professional help, whether they have discussed these problems with their physician, and whether the doctor made a referral for therapy. If there had been a referral in the past, patients rated how specific and strongly encouraged that referral was, and how many times the patient attended treatment.

Section II asked patients to rate the importance (on a five-point scale) of decision-making factors if their physician were to make a referral for therapy. The factors included physician participation (meeting the therapist during a doctor's visit, seeing the therapist with the doctor present, seeing the therapist in the same building as doctor), demographic characteristics of the therapist (gender, age, ethnicity, religious and political beliefs), type of therapist (psychologist, psychiatrist, social worker, ministerial counselor, and marriage and family therapist), and practical factors (fees/insurance coverage, transportation, childcare, and time off work). Four items asked participants about the likelihood of complying with a physician's referral to mental health

treatment. Section II also asked participants who would not ever seek mental health services to indicate the main reasons for referral refusal.

Data Analyses

The main objectives to be achieved from the data analysis were to gain a description of the sample and to explore the variables related to participants agreeing that they would comply with their PCPs' referral to therapy. The first objective was to provide descriptions of the overall sample as far as likelihood of compliance with mental health referral, interest in various treatment modalities, perceived mental health issues, demographic characteristics, and past mental health treatment. The same information was explored for those among the sample who indicated they would comply with a referral, and those who would not. Descriptive statistics were provided for all items. Items that were answered on a nominal scale (e.g., most demographic items) were presented as frequencies and percentages. Items that were answered on a continuous scale (e.g., items with rating scales) were presented as means and standard deviations.

The second objective was to provide information about which medical patients (taking into account demographic characteristics, past treatment experience, perceived mental health, and relationship with their doctor and with the clinic) were more likely to comply with a referral from their physician. The analysis consisted of multiple regression, taking into consideration the relative contribution of both categorical and continuous data in predicting likelihood of

complying with a physician referral. A key explanatory variables model was used in which the strength of the relationships between the compliance dependent variables and the independent variables were first calculated and then the variables with the strongest correlations were entered into the regression equation.

There were four items representing the dependent variable (i.e., compliance with doctor's referral). Three of these items were scored on a five-point scale with a 5 indicating it was "very likely" the participant would comply. The fourth dependent variable item was a yes/no response with "yes" indicating that the participant would not see a therapist even if their doctor wanted them to. The internal consistency reliability for the comply variables was high (α=.85), so a COMPLY variable was created which is the sum of each individual's score on the three scaled items. Relationships between COMPLY and discrete dependent variables were calculated with chi-squares and relationships between COMPLY and continuous dependent variables were calculated via correlations.

Due to the large number of variables and levels of variables, attempts were made to collapse and consolidate data. Seven new variables were created. See Appendix E for a detailed variables list.

Of 139 completed questionnaires, 22 were excluded from the research sample, yielding a total sample of 117. Responses on three items were used to exclude a participant (see Appendix E for more information). Those who were under age 18 were excluded from the sample. Those who selected the item "I'm

not a patient" were excluded from the sample. Participants who completed a questionnaire but were not at FMC that day for their own medical appointment were also excluded.

Of the 117 participants, 98 (84%) were classified as "compliers" and 19 (16%) were classified as "noncompliers." The noncompliers are those participants that would probably not comply with a mental health referral from their physician. They were selected according to their responses on the four compliance items. Those who answered "yes" to the item "some people would not see a therapist even if their doctor wanted them to. Is this true for you?" were categorized as noncompliers. Also, participants who responded with a 1 or 2 on any of the scaled compliance items (indicating "not at all likely" or "a little likely" that they would comply with their doctor's referral for therapy) were placed in the noncomplier group.

RESULTS

Description of the Sample

Tables 1 though 9 provide descriptive data for the full sample, as well as the compliers and noncompliers. As shown in Table 1, this was a predominately female (78%), white (89%) sample whose mean age was 42 years and among whom 79% were presently (47%) or previously (31%) married. Although 75% had at least one child, only 51% still had at least one child living at home. The noncompliers were slightly younger (*M*=36 years) than the compliers (*M*=43 years).

Although the FMC is committed to serving underserved and lower income families, there was a wide range of responses for the measures of socioeconomic status. All income and education levels were represented (Table 2). More than a third (38%) had annual household incomes of $20,000 or less, while less than a fourth (24%) had incomes of more than $60,000. The median income range was $20,000 to $30,000. For the participant educational level, 98% had completed at least high school, 81% had gone beyond high school, and 40% had Bachelor's (26%) or graduate degrees (15%). About half of the sample had private insurance (53% of noncompliers and 48% of compliers).

Table 3 enumerates the sample participants' relationships with their physicians. In general, the noncompliers seem to have less established relationships with the clinic and their physician than the compliers. The average number of years at FMC was 2.80 for noncompliers and 6.94 for compliers. The average number of years with the same assigned physician was 1.85 for the noncompliers and 3.47 for the compliers. More noncompliers than compliers indicated that they were there for their first visit that day (26% versus 10%). Also, more noncompliers than compliers indicated that they do not have an assigned physician (37% versus 17%).

Among the sample, 63% said they had previously seen a mental health therapist (Table 4). Of the noncompliers, 42% had been in therapy compared to 68% of the compliers. Of these, the most commonly used method of selecting the mental health provider (46%) was from a professional recommendation. Their satisfaction with therapy averaged 3.39, on a scale of 1 to 5 with 5 indicating "very satisfied." Forty-four percent of the sample thought they had psychological problems serious enough to warrant mental health treatment and 42% of the sample had discussed the problem with their doctor. A smaller percentage of noncompliers than compliers had thought they needed help (38% versus 60%), and fewer were referred by their doctors for therapy (25% versus 46%). Of the 29 members of the sample who were referred to a therapist in the past, 28 attended at least one session. Those who had been referred by their doctor in the past had a mean score of 2.76 for how strongly they had been

urged them to see a therapist; this was on a five-point scale with 5 indicating "very strongly."

Participants were asked whether they had struggled with certain mental health issues in the past year. Ratings were on a five-point scale with 5 indicating an "extreme problem." As shown in Table 5, mean scores tended to fall in the "mild problem" range, with the most severe average score being for "Stress" (M = 2.75) and the least severe average score being for "Alcohol or drug abuse" (M = 1.14). The compliers tended to have higher scores than the noncompliers for depression, anxiety, stress, and somatic symptoms. The noncompliers tended to have higher scores for insomnia and alcohol or drug problems.

In an attempt to replicate the Arean and Miranda (1996) study, participants were asked whether or not they were interested in various individual and group treatment modalities. As shown in Table 6, most people were not interested in most modalities. For each specific type of treatment, the number of participants interested ranged from 9% ("Coping with Medical problems" group) to 36% (individual therapy). From the full sample, 54% were interested in at least one modality of treatment.

The participants were asked to rate the importance of eighteen potential decision-making factors in deciding whether they would follow their doctor's recommendation that they see a therapist. On the 5-point scale, 5 indicates "very important." The noncompliers were least concerned about political beliefs

(*M*=1.00) and the compliers were least concerned about seeing a male therapist (*M*=1.29). Both compliers and noncompliers rated cost ("finding out how much the therapist would charge and whether my insurance would cover it") as the most important decision making factor (*M*=3.30 for noncompliers and *M*=4.23 for compliers). The compliers rated all decision-making factors higher than or similar to the noncompliers. In particular, the compliers seemed to place more importance on therapist qualification than noncompliers.

The questionnaire included four items to determine the willingness of participants to comply with their physician's recommendation to see a therapist. Three items have a five point scale of likelihood of complying with the referral, with a 5 indicating "very likely." These mean scores ranged from 3.80 to 4.07 (Table 8). The fourth item was a yes/no response option and only 8% of the sample said that they would not see a therapist, even if their doctor wanted them to. As expected by the nature of the process by which participants were classified into groups of compliers and noncompliers, the complier group had higher mean scores on all items than the noncomplier group.

The final items on the questionnaire asked those who would not comply with their physician's referral to therapy to indicate the reasons for not doing so. As shown in Table 9, few participants endorsed these items. No member of the sample indicated that the reason for not complying was that "I don't think my doctor is correct." The most frequently endorsed item (4%) for the compliers was "My insurance wouldn't cover it." The most frequently endorsed item (21%)

for the noncompliers was "I know someone who had a bad experience." More of the noncompliers (53%) than compliers (9%) endorsed at least one of these items.

Predicting Compliance with Physician Referrals

Table 10 shows the relationships between the independent variables and compliance with doctor referral. Significant correlations were between COMPLY and ATTEND, URGED, AVG MH, AVG FACTORS, and YEARS PT. All correlations were positive, indicating that those more likely to comply were those who attended more than one therapy session in the past, those who were more strongly urged to attend therapy in the past, those who believe they have more serious mental health problems, those who place more importance in the decision-making factors, and those who have been at FMC longer. No categorical variables had significant relationships with COMPLY.

The five significant independent variables (URGED, AVG MH, YEARS PT, ATTEND, and AVG FACTORS) were entered into a forward stepwise multiple regression analysis with COMPLY as the dependent variable. AVG MH (49.7% of variance, standardized ß=0.71) and ATTEND (23.9% of variance, standardized ß=0.52) predicted COMPLY, R^2=0.736, p<.01. Overall, it appears as though the best predictors of whether or not a patient will comply with their physician's referral to mental health treatment were how serious participants considered their current mental health problems and how many times they attended therapy when their physician referred them in the past. Together, the

responses to ATTEND and AVG MH accounted for 74% of the variance in the COMPLY score.

DISCUSSION

Research Findings

The most important piece of information obtained from this sample is their self-reported willingness to comply with their PCP's referral to mental health treatment. In fact, mean scale scores for compliance items ranged from 3.80 to 4.07, with a 4 indicating the patient is "quite likely" to follow their doctor's recommendation. Only 8% of the sample said they would not attend therapy (44% in the noncomplier group) even if their doctor wanted them to, compared to 18% found by Arean and Miranda (1996). Arean and Miranda, however, only offered groups; only 56% of the present sample were interested in groups with names similar to those in the Arean and Miranda study, in which 82% of the sample were interested. These data are consistent with previous studies that have also shown a general willingness to accept psychological treatments (Arean, et al., 2002; Dwight-Johnson, et al., 2000; Hazlett-Stevens, et al., 2002), though the previous studies varied in how they measured willingness or did not specify the doctor's recommendation. The reasons why a participant would not comply with their physician's therapy referral were all endorsed by only a very small portion of this sample. Also, 63% of this sample had previously been in therapy, which seems large compared to data previously cited.

In reference to the Andersen-Newman behavioral model of health services utilization (Andersen & Newman, 1975), this study's independent variables could be classified into the three contributing individual variables. Thus, predisposing variables would include age, gender, marital status, education, partner's education, number of children, and ethnicity. Enabling variables would include income and type of health insurance. Needs/illness variables might include the self-perceived ratings of mental health problems or the individual having realized in the past that the problem was serious enough to need professional help. As shown in Table 10, none of these predisposing or enabling variables were related to compliance, but perceived mental health problems were.

When the relationships were measured between the compliance variables and the predictor variables, some trends were noticed. It seems that, in general, clients were more likely to comply if they had participated in multiple sessions of mental health treatment in the past and believed they had more serious mental health issues. Participating in more than one session when they were previously referred may be related to a personality trait of being more compliant, it may be related to the seriousness of their past mental health condition, or it may just speak to the positive nature of previous experiences lending a more hopeful belief to a future encounter with therapy. Believing they had more serious mental health problems seems to fit with Andersen and Newman's need factor and creates an argument for physicians to be open with their patients in

describing their diagnosis, prognosis, or the seriousness of the mental health issue. It is also consistent with Arean and Miranda's (1996) finding that those with greater severity of mental health issues have greater interest in mental health treatment.

Previous researchers had found a variety of, and at times conflicting, predictors of attendance for mental health treatment. These included demographic or predisposing factors: age (Farid & Alapont, 1993; Neeleman & Mikhail, 1997; Suh & Gallo, 1997), ethnicity (Dwight-Johnson, et al., 2000; Simon & VonKorff, 1997a; Suh & Gallo), gender (Dwight-Johnson, et al; Farid & Alapont; Simon & VonKorff, 1997a), and marital status (Suh & Gallo). Need factors found significant in the past included: comorbid symptoms (Suh & Gallo) and amount of distress (Grunebaum, et al., 1996). Significant socioeconomic factors have also been found (Farid & Alapont) including education (Simon & VonKorff, 1997a; Suh & Gallo), employment (Suh & Gallo), and paid sick leave (Dwight-Johnson et al.). Resistance to mental health treatment has also found to be significant (Grunebaum et al.).

The current study replicated some of these past results but not others (See Table 10). As with previous studies, the current sample said they were more likely to comply with a therapy referral if they had more distress (AVG MH). Unlike previous studies, no significant relationships were found between the compliance variables and age, ethnicity, gender, marital status, or education. New predictors of compliance identified by the present study included number of

years at FMC (YEARS PT), how strongly the physician urged therapy in the past (URGED), number of times the patient attended therapy in the past (ATTEND), and the decision-making factors (AVG FACTORS).

It seems important to address cost/insurance factors. These would probably be classified as "enabling" under the Andersen-Newman model. Some previous studies did not take into account this very practical matter when asking their participants if they are interested in mental health treatment (Arean & Miranda, 1996). Others used limited samples, such as Dwight-Johnson, et al. (2000) whose entire sample had health insurance that would cover therapy. In the present study, finding out the charges for therapy and whether insurance would cover it was the most important decision-making factor. Also, "my insurance wouldn't cover it" was one of the most-often cited reasons why participants would not comply with their doctor's referral. However, neither private insurance nor income were significantly related to COMPLY. The reasons for this are not clear, though the explanation may be the resources available to this particular population. Almost half of the sample (49%) has private health insurance, which would presumably have some behavioral health care benefit. Another 30% participate in Medicaid or Medicare which offer no or low cost counseling. This leaves a minority of the sample with no therapy benefits and they are all patients in a clinic which serves the indigent and has counseling staff who are easily accessible.

The relationship patients have with their PCP was predicted to be related to compliance. The results indicated that the number of years with the same assigned physician was not related to compliance, though number of years at FMC was. This may be due to the transitional nature of many of the physicians at FMC; as a residency training program, many of the clients would have the same doctor for only 3 years and then be transferred when the doctor graduated. Another variable significantly related to compliance was how strongly the physician urged the therapy referral in the past. This may be an indicator of the seriousness of the need factor, or it may speak to more willingness to follow the doctor's referral knowing that the doctor had been very serious about it in the past. Also, no participant indicated that "I don't think my doctor is correct" would be a reason to not follow the referral the doctor made. Also, professional recommendation was the most-often used method of selecting a therapist. A reasonable conclusion would be that patients believe in their PCPs' abilities, listen to the strength of their referrals, and most of them indicate they would comply with the referral. The PCP, therefore, has a unique position of influence and authority, as well as the opportunity to link their medical patients with needed mental health treatment.

Recommendations for PCPs

As noted in the Introduction, PCPs are encouraged to work towards accurate assessment of psychological presenting problems and to consider increasing the frequency of mental health referrals in order to lessen the burden

of individuals with psychological issues seeking only medical intervention. It would be helpful for PCPs to be familiar with available community resources or to consider providing in-house mental health services. The results of this study suggest ways that PCPs can increase likeliness of successfully referring a medical patient to mental health services. While there is no way a PCP can change the number of times the patient attended therapy in the past, it may be helpful to be aware of this history when making a new referral. Also, in the present study participants rated the seriousness of their mental health problems. It may increase referral compliance if PCPs clearly communicate, in language the patient can understand, the severity of their mental health symptoms, diagnoses, or impairment of functioning. Belief that their mental health problems were more serious was correlated with increased compliance.

Limitations

Sample characteristics present many limitations to this study. The sample size of 117 may lack the power necessary to find significant results. For example, there were not enough non-white participants to illustrate potential differences in ethnicity that have been found in other, larger studies.

The research materials were originally designed to be distributed by nursing staff, giving the clients something to do as they waited in exam rooms, possibly increasing participation. The university Human Research Committee objected to this methodology, fearing that the physician's "sphere of influence" could harm participants or coerce them into participating. At that time, the

methodology was changed so that patients would be given the research packet at check-in. This process created a multitude of difficulties. The front office staff of this clinic experiences a great deal of stress from the competing demands of required paperwork, difficult clients, and at times extremely long waiting lines. All of this contributed to a situation where not only were not all clients given the research packet, but also there was no accurate way of calculating who or how many received the packet. There is no accurate way of calculating bias in the sample as far as which clients received the packet and which or how many chose not to participate.

Finally, this is a questionnaire based entirely on self report. Clients' estimation of severity of their own mental health issues may not be accurate. Nor necessarily are their accounts of how much they needed services in the past or how strongly their PCP urged them to attend therapy. While most clients report that they would comply with their PCP's referral to therapy, there was no way to determine whether their behavior would actually match self-report. And as a non-experimental design, the conclusions drawn from this data can not be causal in nature, and will always have the possibility of explanations other than the ones suggested here.

Future Directions

As the present study was exploratory in nature, many interesting areas for further research present themselves. Related to the sampling limitations of this study, future replications are encouraged with larger samples, populations with

different demographic characteristics, or other types of medical treatment facilities. Related to the limitations of questionnaire data, an experimental design would be very interesting. Finally, longitudinal follow-up of questionnaire participants is essential in truly understanding compliance variables. A patient feeling emotionally healthy who is in the clinic for a routine check-up may have answered hypothetical compliance questions very differently from the actual behavior they would exhibit if the situation were to present itself. A later follow-up study could answer whether the participant actions matched the way they answered the questionnaire.

Conclusion

This country has a health care crisis and it is exacerbated by overuse of medical services by patients who have mental health rather than organic symptoms. These individuals are not receiving the specialized mental health treatment that they may need, that may have empirical validity, and that may reduce their costs, their suffering, and their functional impairment. This part of the health care crisis seems intuitively solvable; there has been great progress in the standardization and validation of effective treatments for many mental illnesses (for example, see DeRubeis & Crits-Christoph, 1998). All members of the multi-disciplinary health care system should work together to provide accessible linkages between medical and mental health treatment settings for the benefit of overall client holistic well-being.

The process seems complicated yet possible. PCPs must improve their identification of mental health issues and to refer more patients to specialized treatment. Mental health clinics must be available, accessible, affordable, and able to demonstrate their ability to improve symptoms of mental illness. Therapists must create treatment settings which will be effective, maximize treatment compliance, and help PCPs to make the kinds of referrals that motivate patients. Individual patients must educate themselves about mental health signs and symptoms, their interventions, and how to explain themselves in order to get needs met. More research is needed in the area of failed referrals to therapy; barriers must be understood if they are to be overcome.

REFERENCES

Aikens, J. S., Wagner, L. I., Lickerman, A. J., Chin, M. H., & Smith, A. (1998). Primary care physician responses to a panic disorder vignette: Diagnostic suspicion and clinical management. International Journal of Psychiatry in Medicine, 28(2), 179-188.

Andersen, R. & Newman, J. F. (1973). Societal and individual determinants of medical care utilization in the United States. Milbank Quarterly, 51(1), 95-124.

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? Journal of Health and Social Behavior, 36(March), 1-10.

Arean, P. A., Alvidrez, J., Barrera, A., Robinson, G. S., & Hicks, S. (2002). Would older medical patients use psychological services? The Gerontologist, 42(3), 392-398.

Arean, P. A. & Miranda, J. (1996). Do primary care patients accept psychological treatments? General Hospital Psychiatry, 18, 22-27.

Arolt, V., Driessen, M., & Dilling, H. (1997). The Lubeck general hospital study. I: Prevalence of psychiatric disorders in medical and surgical inpatients. International Journal of Psychiatry in clinical practice, 1, 207-216.

Badger, L. W., Berbaum, M., Carney, P. A., Dietrich, A. J., Owen, M., Stem, J. T. (1999). Physician-patient gender and the recognition and treatment of depression in primary care. Journal of Social Service Research, 25(3), 21-39.

Bailey, A. (2000). Residency training in primary care: Collaborative and sensitive care of the underserved. Grant application, Department of Health and Human Services, Health Resources and Services Administration. Unpublished manuscript.

Barlow, D. H., Lerner, J. A., & Esler, J. L. (1996). Behavioral health care in primary care settings: Recognition and treatment of anxiety disorders. In R. J. Resnick & R. H. Rozensky (Eds.), Health psychology through the live span:

Practice and research opportunities (pp. 133-148). Washington, DC: American Psychological Association.

Botelho, R. J., McDaniel, S. H., & Jones, J. E. (1990). using a family systems approach in a Balint-style group: An innovative course for continuing medical education. Family Medicine, 22, 293-295.

Brock, C. D. & Stock, R. D. (1990). A survey of Balint group activities in U. S. family residency programs. Family Medicine, 22, 33-37.

Browne, G., Steiner, M., Roberts, J., Gafni, A., Byrne, C., Bell, B., Mills, M., Chalklin, L., Wallik, D., Kraemer, J., & Dunn, E. (1999). Prevalence of dysthymic disorder in primary care. Journal of Affective Disorders, 54, 303-308.

Burvill, P. W. (1990). The epidemiology of psychological disorders in general medical settings. In N. Sartorius, D. Goldberg, G. de Girolamo, J. Costa e Silva, Y. Lecrubier, and U. Wittchen (Eds.), Psychological Disorders in General Medical Settings (pp. 9-20). Lewiston, NY: Hogrefe & Huber Publishers.

Caslyn, R. J. & Winter, J. P. (2000). Predicting different types of service use by the elderly: The strength of the behavioral model and the value of interaction terms. The Journal of Applied Gerontology, 19(3), 284-303.

Crawford, M. J., Prince, M., Menezes, P., & Mann, A. H. (1998). The recognition and treatment of depression in older people in primary care. International Journal of Geriatric Psychiatry, 13, 172-176.

Cummings, N. A. (1996). The new structure of health care and a role for psychology. In R. J. Resnick & R. H. Rozensky (Eds.), Health psychology through the live span: Practice and research opportunities (pp. 27-38). Washington, DC: American Psychological Association.

De Klerk, M. M. Y., Huijsman, R., & McDonnell, J. (1997). The use of technical aids by elderly persons in the Netherlands: An application of the Andersen and Newman model. Gerontologist, 37(3), 365-373.

Den Boer, J. A. & Dunner, D. L. (1999). Physician attitudes concerning diagnosis and treatment of social anxiety disorder in Europe and North America. International Journal of Psychiatry in Clinical practice, 3(Suppl. 3), S13-S19.

Derogatis, L. R. (1994). SCL-90-R: Administration, scoring, and procedures manual – third edition. Minneapolis, MN: National Computer Systems, Inc.

DeRubeis, R. J. & Crits-Christoph, P. 1998. Empirically supported individual and group psychological treatments for adult mental disorders. Journal of Consulting & Clinical Psychology, 66(1), 37-52

DiMatteo, M. R. (1991). The psychology of health, illness, and medical care. Belmont, CA: Wadsworth, Inc.

Dwight-Johnson, M., Sherbourne, C. D., Liao, D. & Wells, K. K. (2000). Treatment preferences among depressed primary care patients. Journal of General Internal Medicine, 15(8), 527-534.

Farid, B. T. & Alapont, E. (1993). Patients who fail to attend their first psychiatric outpatient appointment: Nonattendance or inappropriate referral? Journal of Mental Health, 2(1), 81-83.

Farmer, A. E. & Griffiths, H. (1992). Labelling and illness in primary care: Comparing factors influencing general practitioners' and psychiatrists' decisions regarding patient referral to mental illness services. Psychological Medicine, 22, 717-723.

Freeling, P. (1993). Diagnosis and treatment of depression in general practice. British Journal of Psychiatry, 163(Suppl. 20), 14-19.

Giron, M, Manjon-Arce, P., Puerto-Barber, J., Sanchez-Garcia, E., & Gomez-Beneyto, M. (1998). Clinical interview skills and identification of emotional disorders in primary care. American Journal of Psychiatry, 155, 530-535.

Grunebaum, M., Luber, P., Callahan, M., Leon, A. C., Olfson, M., & Portera, L. (1996). Predictors of missed appointments for psychiatric consultations in a primary care clinic. Psychiatric Services, 47(8), 848-852.

Hawranik, P. (2002). Inhome service use by caregivers and their elders: Does cognitive status make a difference? Canadian Journal on Aging, 21(2), 257-271.

Hazlett-Stevens, H., Craske, M. G., Roy-Byrne, P. P., Sherbourne, C. D., Stein, M. B., & Bystritsky, A. (2002). Predictors of willingness to consider medication and psychosocial treatment for panic disorder in primary care patients. General Hospital Psychiatry, 24(5), 316-321.

Hohagen, F., Rink, K., Kappler, C., Schramm, E., Riemann, D., Weyerer, S., & Berger, M. (1993). Prevalence and treatment of insomnia in general practice: A longitudinal study. European Archives of Psychiatry and clinical neuroscience, 242, 329-336.

Howe, A. (1996). "I know what to do, but it's not possible to do it" – general practitioners' perceptions of their ability to detect psychological distress. Family Practice, 13(2), 127-132.

Jackson, S. A. & Mittlemark, M. B. (1997). Unmet needs for formal home and community services among African American and White older adults: The Forsyth county aging study. The Journal of Applied Gerontology, 16(3), 298-316.

Joukamaa, M., Lehtinen, V., & Karlsson, H. (1995). The ability of general practitioners to detect mental disorders in primary health care. Acta Psychiatrica Scandinavica, 91, 52-56.

Joukamaa, M., Lehtinen, V., Karlsson, H., & Rouhe, E. (1994). SCL-25 and recognition of mental disorders reported by in primary health care physicians. Acta Psychiatrica Scandinavica, 89, 320-323.

Katon, W. (1995). Collaborative care: Patient satisfaction, outcomes, and medical cost-offset. Family Systems Medicine, 13(3/4), 351-365.

Katon, W., Von Korff, M., Lin, E., Libscomb, P., Russo, J., Wagner, E., & Polk, E. (1990). Distressed high utilizers of medical care: DSM-III-R diagnoses and treatment needs. General Hospital Psychiatry, 12, 355-362.

Kroenke, K. & Mangelsdorff, A. D. (1989). Common symptoms in ambulatory care: Incidence, evaluation, therapy, and outcome. American Journal of Medicine, 86, 262-266.

Leaf, P. J., Bruce, M. L., Tischler, G. L., Freeman, D. H., Weissman, M. M., & Myers, J. K. (1988). Factors affecting the utilization of specialty and general medical mental health services. Medical Care, 26(1), 9-26.

Min, M. O. (2001). Factors related to psychiatric hospitalization and repeated crises service use of adults with a dual diagnosis of a mental illness and substance use disorder. Dissertation Abstracts International, 61(8-A), 3353.

Morin, C. M. & Wooten, V. (1996). Psychological and pharmacological approaches to treating insomnia: Critical issues in assessing their separate and combined effects. Clinical Psychology Review, 521-542.

Neeleman, J. & Mikhail, W. I. (1997). A case-control study of GP and patient-related variables associated with non-attendance at new psychiatric outpatient appointments. Journal of Mental Health, 6(3), 301-306.

Padgett, D. K., Patrick, C., Burns, B. J., & Schlesinger, H. J. (1994). Women and outpatient mental health services: Use by Black, Hispanic, and White women in a national insured population. The Journal of Mental Health Administration, 21(4), 347-360.

Pallak, M. S., Cummings, N. A., Dorken, H., & Henke, C. J. (1995). Effect of mental health treatment on medical costs. Mind/Body Medicine, 1(1), 7-12.

Panzarino, P. J. (1998). The costs of depression: Direct and indirect; treatment versus nontreatment. Journal of Clinical Psychiatry, 59(suppl 20), 11-14.

Pini, S., Berardi, D., Rucci, P., Piccinelli, M., Neri, C., Tansella, M., & Ferrari, G. (1997). Identification of psychiatric distress by primary care physicians. General Hospital Psychiatry, 19, 411-418.

Rehn, L. P. (1996). Catching depression in primary care physicians offices. In R. J. Resnick & R. H. Rozensky (Eds.), Health psychology through the live span: Practice and research opportunities (pp. 149-162). Washington, DC: American Psychological Association.

Ross, H. & Hardy, G. (1999). GP referrals for adult psychological services: A research agenda for promoting needs-led practice through the involvement of mental health clinicians. British Journal of Medical Psychology, 72, 75-91.

Shahabudin, S. H., Almashoor, S. H., Edariah, A. B., & Khairuddin, Y. (1994). Assessing the competence of general practitioners in diagnosing generalized anxiety disorder using standardized patients. Medical Education, 28, 432-440.

Silverstone, P. H. (1996). Prevalence of psychiatric disorders in medical inpatients. The Journal of Nervous and Mental Disease, 184(1), 43-51.

Simon, G., Ormel, J., VonKorff, M., & Barlow, W. (1995). Health care costs associated with depressive and anxiety disorders in primary care. American Journal of Psychiatry, 152(3), 352-357.

Simon, G. E. & VonKorff, M. (1997a). Is the integration of behavioral health into primary care worth the effort? In N. A. Cummings & J. N. Johnson (Eds.), Behavioral Health in primary care: A guide for clinical integration (pp. 145-162). Madison, CT: Psychological Press.

Simon, G. E. & VonKorff, M. (1997b). Prevalence, burden, and treatment of insomnia in primary care. American Journal of Psychiatry, 154(10), 1417-1423.

Simon, G. E., VonKorff, M., & Barlow, W. (1995). Health care costs of primary care patients with recognized depression. Archives of General psychiatry, 52, 850-856.

Smith, R., Monson, R. A., & Ray, D. C. (1986). Patients with multiple unexplained symptoms: Their characteristics, functional health, and health care utilization. Archives of Internal Medicine, 146, 69-72.

Sobel, D. S. (1995). Rethinking medicine: improving health outcomes with cost-effective psychosocial interventions. Psychosomatic Medicine, 57, 234-244.

Sturm, R. & Wells, K. B. (1995). How can care for depression become more cost-effective? Journal of the American Medical Association, 273(1), 51-58.

Suh, T. & Gallo, J. J. (1997). Symptom profiles of depression among general medical service users compared with specialty mental health service users. Psychological medicine, 27, 1051-1063.

Vazquez-Barquero, J. L., Garcia, J., Simon, J. A., Iglesias, C., Montejo, J., Herran, A., & Dunn, G. (1997). Mental health in primary care: An epidemiological study of morbidity and use of health resources. British Journal of Psychiatry, 170, 529-535.

Appendix A

Returned Questionnaires by Collection Date

Date	Completed	Blank
2-20-02	29	2
2-25-02	8	0
2-27-02	1	0
3-4-02	7	2
3-6-02	1	0
3-11-02	4	0
3-13-02	0	0
3-20-02	8	3
3-27-02	20	8
4-3-02	12	6
4-17-02	14	3
4-24-02	5	3
5-1-02	3	0
5-8-02	1	1
5-15-02	4	0
6-5-02	7	0
6-12-02	0	0
6-19-02	3	0
6-26-02	1	0
7-3-02	0	0
7-31-02	1	0
8-7-02	3	0
8-14-02	1	0
8-21-02	0	0
8-28-02	0	0
9-4-02	1	0
9-11-02	0	0
11-6-02	5	0
TOTAL	139 (83%)	28 (17%)

Appendix B

FMC and Sample Demographic Data

	FMC data		Sample data	
Item	Freq.	(%)	Freq	(%)
Age				
18-20	215	(8)	5	(5)
21-30	864	(31)	27	(26)
31-50	1060	(38)	40	(39)
51-61	302	(11)	20	(20)
62+	358	(13)	10	(10)
Total	2799		102	
Gender				
Female	1732	(62)	87	(78)
Male	1067	(38)	25	(22)
Total	2799		112	
Insurance type				
Private	1176	(42)	52	(49)
Medicaid or Medicare	717	(26)	32	(30)
CRDP	6	(6)	13	(12)
None	699	(25)	3	(3)
Other	34	(1)	7	(7)
Total	2799		107	

Note. FMC data is for all adult (age 18 and over) patients during the year 2002 (C. J. Pfaffly, personal communication, May 20, 2003). For FMC data, the "Private" category includes: AFFORDABLE/HEALTHCARE COM, BLUE CROSS BLUE SHIELD, CHAMPUS, CHILD HEALTH PLAN PLUS, CHOICE CARE NETWORK, CIGNA, COMMERCIAL INSURANCES, LARIMER COUNTY HEALTH DEPT, MOUNTAIN MEDICAL AFF, MUTUALLY PREFERRED, NO FAULT AUTO, ONE HEALTH PLAN, PACIFICARE, PHCS-PRIVATE HEALTHCARE S, PRUDENTIAL, SENIOR PLAN HMO, SLOANS LAKE, UNITED HEALTH CARE, and UNITED PHYSICIANS OF N CO. The "Medicaid or Medicare" category includes: COLORADO ACCESS, MEDICAID, and MEDICARE. The "Other" category includes: DO NOT USE THIS PLAN, FEDERAL PROGRAMS, HEALTH CARE INITIATIVE, OUTPATIENT CLINIC PROGRAM, and WORKMANS COMPENSATION.

Appendix C

Research Packet

FAMILY MEDICINE CENTER
Poudre Valley Hospital

Colorado State University

Department of Psychology
Fort Collins, Colorado 80523-1876
(970) 491-6363
FAX: (970) 491-1032
www.colostate.edu/Depts/Psychology/

Family Medicine Patients and Mental Health Referrals
Implications for Primary Care Physicians

What is the purpose of this project? This project is a research study that is being conducted with FMC and the Psychology Department at Colorado State University. We are trying to see if **adult (age 18 and over) patients** at FMC are interested in different services for emotional or psychological problems.

What is involved? If you would be willing to participate, we ask that you complete the attached survey during your visit here today. It will take approximately 10 to 15 minutes to complete. When you are finished, please return the survey to the locked box labeled "Research Forms" in the lobby. We will not contact you in any way after you complete the forms.

The types of questions on the survey include background information such as your type of insurance and ethnicity; mental health questions, such as whether you have ever seen a therapist; and ways in which you would decide whether or not you would see a therapist if your doctor told you to.

Why should I participate? Completing this survey will add to our understanding about which mental health services patients in this clinic are interested in and how to best make those services available. All information you provide will be used for research purposes only. There are typically no known direct benefits to participants after completing a survey.

Will my answers be confidential? No names will be used on this survey. Any information that you choose to provide will be kept confidential. Not even your doctor will know how you answered. Please do not put your name on any of the forms. The only people who will see your answers will be researchers at Colorado State University.

Are there any risks involved? It is possible that completing this survey will arouse uncomfortable emotions. The subject of mental health is a sensitive one and you may experience some distress while answering these questions. If, for any reason, you feel uncomfortable completing the questionnaire, you are free to stop at any time. If, after completing this survey, you feel you would like to know more about counseling or therapy services available to you, please tell your doctor during your visit today or phone us at the numbers provided below. Although we do not foresee any other risks, it is not possible to identify all potential risks in research procedures, but we have taken reasonable safeguards to minimize any known and potential, but unknown, risks.
Please take this sheet with you so that you can refer to it later, if necessary.

1025 Pennock Place
Fort Collins, Colorado 80524-3998
(970) 495-8800
Fax (970) 495-8891

What if I choose not to participate? Your participation is completely voluntary. If you do not want to participate, please return the blank survey to the box labeled "Research Forms" in the lobby. Even if you decide to participate, you may change your mind and stop at any time.

Who can I contact with questions or problems? Rachel Torgerson, M.S. 481-7431. At CSU, Scott Hamilton, Ph.D., at 491-2412. At FMC, Carol Pfaffly, Ph.D., at 495-8839.

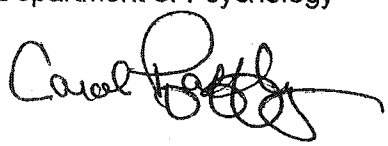
The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

If you have questions about how fairly you are being treated, call Celia S. Walker at (970) 491-1563.

If you have additional questions about this study and/or your rights as a participant, you may contact Mrs. Penny Reed (an impartial third party) at Poudre Valley Hospital, at 495-7342.

If you have already completed this information on a previous visit, please do not complete it again. Thank-you very much for your help!

Scott Hamilton, Ph.D.
Principal Investigator
Colorado State University
Department of Psychology



Carol Pfaffly, Ph.D.
Principal Investigator
Family Medicine Center
Director of Behavioral Medicine

Rachel Torgerson, M.S.
Co-Principal Investigator
Colorado State University
Department of Psychology

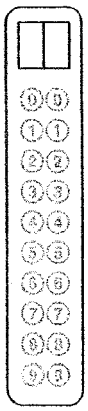
This survey asks you a number of questions related to mental health, whether or not you are interested in seeing a therapist or have in the past, and how you would respond if you doctor referred you to a therapist. If you are an adult (age 18 or over) and are here today for your own medical appointment, please respond to the questions on this survey as honestly as you can, and try to answer each question. **Please do not put your name anywhere on the survey. We want your answers to be completely anonymous, and at no time will we attempt to identify the people who complete these surveys.** Thank you for participating in this study.

MARKING INSTRUCTIONS

- **Use a No. 2 pencil or a blue or black ink pen only.**
- **Do not use pens with ink that soaks through the paper.**
- **Make solid marks that fill the response completely.**
- **Make no stray marks on this form.**

CORRECT: ● **INCORRECT:** ⊘ ⊠ ◒ ◔

1. Your age:



2. Gender:
- ◯ Male
- ◯ Female

3. Are you currently:
- ◯ Never Married
- ◯ Married
- ◯ Divorced/Separated
- ◯ Widowed
- ◯ Partnered/Living with Partner

4. How many children do you have?
- ◯ Zero
- ◯ One
- ◯ Two
- ◯ Three
- ◯ Four
- ◯ Five
- ◯ Six or More

5. How many of your children are living at home with you?
- ◯ Zero
- ◯ One
- ◯ Two
- ◯ Three
- ◯ Four
- ◯ Five
- ◯ Six or More

6. Your occupation? (Please be as specific as possible)

_____

Your current spouse/partner's occupation?

_____

(If retired, please also indicate the occupation before retirement.)

7. Your family's combined annual income (including all sources):
- ◯ $0 to $10,000
- ◯ $10,001 to $20,000
- ◯ $20,001 to $30,000
- ◯ $30,001 to $40,000
- ◯ $40,001 to $50,000
- ◯ $50,001 to $60,000
- ◯ $60,001 to $70,000
- ◯ $70,001 to $80,000
- ◯ $80,001 to $90,000
- ◯ $90,001 and above

8. Education:
What is the highest grade/degree that you completed?
- ◯ Grade school
- ◯ High school
- ◯ Some college
- ◯ Vocational certification
- ◯ Bachelor's degree
- ◯ Graduate degree

What is the highest grade/degree that your spouse or partner (if applicable) completed?
- ◯ Grade school
- ◯ High school
- ◯ Some college
- ◯ Vocational certification
- ◯ Bachelor's degree
- ◯ Graduate degree

9. For your medical treatment, are you covered by:
- ◯ Private insurance (Aetna, Prudential, BlueCross, etc.)
- ◯ Medicaid/Medicare
- ◯ Colorado Resident Discount Program
- ◯ No insurance
- ◯ Other: _____

How much, if any, is your yearly health insurance deductible?
- ◯ No deductible
- ◯ Under $1000
- ◯ $1000 to $3000
- ◯ Over $3000
- ◯ I don't know

How much, if any, is your copay for today's visit?
- ◯ No copay
- ◯ $1 to $10
- ◯ $11 or over
- ◯ I pay a percentage copay, _____%
- ◯ I don't know

10. How many years have you been a patient at FMC?

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

- ◯ This is my first visit
- ◯ I'm not a patient

How many years have you been with your current doctor here?

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

- ◯ I do not have an assigned doctor here

11. Who is today's visit for?

- ◯ Myself
- ◯ My child
- ◯ My spouse or partner
- ◯ Other: ____________

12. Ethnicity:

- ◯ White or Caucasian (non-Hispanic)
- ◯ Black or African American
- ◯ American Indian or Alaska Native, specify: ____________
- ◯ Latino or Hispanic, specify: ____________
- ◯ Asian, Asian-American, or Pacific Islander, specify: ____________
- ◯ Multiracial, specify: ____________
- ◯ Other, specify: ____________

Directions: Throughout this survey, we will use the general term "therapist." This could also mean a counselor, psychologist, psychiatrist, social worker, or other mental health professional. **Please remember that these questions apply only to <u>you</u>, not to your family members or other loved ones.**

1. Have you ever seen a therapist for mental or emotional problems?

- ◯ No
- ◯ Yes

If yes, how did you choose which therapist to see?

- ◯ Recommendation from my doctor or another professional
- ◯ Recommendation from a friend or family member
- ◯ Yellow pages or other advertising
- ◯ From my insurance list
- ◯ Other: ____________

If yes, how satisfied were you with the therapy?

- ◯ Very dissatisfied
- ◯ Dissatisfied
- ◯ Neither satisfied nor dissatisfied
- ◯ Satisfied
- ◯ Very satisfied

2. Which of the following, if any, are you interested in?

- ◯ Couples or marital therapy
- ◯ Family therapy
- ◯ Individual therapy
- ◯ None
- ◯ Other: ____________
- ◯ Groups, such as:
  - ◯ Coping with Depression
  - ◯ Coping with Stress
  - ◯ Coping with Medical Problems
  - ◯ Other group: ____________

3. In the past year have you had problems with any of the following?

	NOT A PROBLEM	MILD PROBLEM	CONSIDERABLE PROBLEM	MODERATE PROBLEM	EXTREME PROBLEM
Depression	○	○	○	○	○
Anxiety	○	○	○	○	○
Insomnia	○	○	○	○	○
Stress	○	○	○	○	○
Symptoms your doctor can't explain	○	○	○	○	○
Alcohol or drug abuse	○	○	○	○	○

4. If you thought any of the above were problems, did the problems ever become serious enough that you thought you might need professional help?

○ Yes
○ No

5. Did you discuss the problems with your doctor?

○ Yes
○ No

6. If you did discuss the problem with your doctor, did he or she refer you to a therapist?

○ Yes
○ No

If yes, how many times did you see that person?

○ Once
○ More than once

If no, you didn't because:

_____

7. If your doctor has made a referral for therapy in the past,

A. Did you get specific names of who to see?

○ Yes
○ No

If yes, how many names?

○ One
○ More than one

B. Did you get the phone number(s)?

○ Yes
○ No

C. Did someone at your doctor's office make an appointment made for you?

○ Yes
○ No

D. How strongly did your doctor urge you to see a therapist?

○ Not at all strongly
○ A little strongly
○ Somewhat strongly
○ Quite strongly
○ Very strongly

8. If your doctor recommended that you see a therapist, how important would each of the following factors be in deciding whether you would go to the first session?

	NOT IMPORTANT	A LITTLE IMPORTANT	SOMEWHAT IMPORTANT	QUITE IMPORTANT	VERY IMPORTANT
Meeting the therapist during my doctor's visit	○	○	○	○	○
Seeing the therapist with my doctor present at least sometimes	○	○	○	○	○
Seeing the therapist in the same building as my doctor's office	○	○	○	○	○
Seeing only a male therapist	○	○	○	○	○
Seeing only a female therapist	○	○	○	○	○
Seeing a therapist who is the same as me as far as:					
Age	○	○	○	○	○
Ethnicity or race	○	○	○	○	○
Religious beliefs	○	○	○	○	○
Political beliefs	○	○	○	○	○
Seeing a therapist with certain training:					
Psychologist	○	○	○	○	○
Psychiatrist	○	○	○	○	○
Social worker	○	○	○	○	○
Ministerial counselor	○	○	○	○	○
Marriage and family therapist	○	○	○	○	○
Finding out how much the therapist would charge and whether my insurance would cover it	○	○	○	○	○
Finding transportation	○	○	○	○	○
Finding childcare	○	○	○	○	○
Getting time off from work	○	○	○	○	○

	NOT AT ALL LIKELY	A LITTLE LIKELY	SOMEWHAT LIKELY	QUITE LIKELY	VERY LIKELY
9. Today, if your doctor strongly recommended that you see a therapist, how likely is it that you would follow that recommendation?	○	○	○	○	○
10. If your doctor felt that a therapist could help you deal with emotional or relationship problems, how likely is it that you would go and see a therapist?	○	○	○	○	○
11. If your doctor told you that it is necessary for you to see a mental health therapist in addition to his/her care, how likely is it that you would accept your doctor's recommendation that you see a therapist?	○	○	○	○	○

12. Some people would not see a therapist, even if their doctor wanted them to. Is this true for you?

○ Yes
○ No

If you said "yes," which of these (you may choose more than one) are the most important reasons for not seeing a therapist?

○ I don't believe in "shrinks"
○ I don't want medications that affect my mind
○ I know someone who had a bad experience
○ Religious beliefs
○ It takes too much time
○ Costs too much
○ My insurance wouldn't cover it
○ I'm afraid of what would happen
○ I do not think it would help me
○ It is a family problem not a personal problem
○ The problem isn't serious enough for me to need help
○ I don't think my doctor is correct
○ My doctor doesn't know me well enough to make that recommendation
○ No one can help me
○ Other: _____

Thank you for your help in this research study! Please leave these forms in the box labeled "Research Forms" in the lobby.

Appendix D

Human Subjects Approval Information

This project required human subjects research approval from two agencies. As a graduate student project, the Colorado State University Human Research Committee had jurisdiction. Also, the data was collected at a medical clinic which is a part of the Poudre Valley Health System in Fort Collins, Colorado. The timeline for research applications and approvals follows, as do copies of the approval letters.

Date	Description
7-30-01	Application submitted for protocol approval by Institutional Review Board of Poudre Valley Health System (IRB)
8-9-01	Application submitted for protocol approval by Human Research Committee of Colorado State University (HRC)
8-31-01	HRC returns list of changes which must be made before approval can be granted
9-11-01	IRB approval
10-11-01	Amendments submitted to HRC which address their list of changes
11-15-01	HRC approval
12-6-01	Application to IRB for approval of amendments to research protocol since the initial approval on 9-11-01
1-8-02	IRB approval of amendments

POUDRE VALLEY HOSPITAL
1024 South Lemay Avenue
Fort Collins, Colorado 80524-3998
(970) 495-7000
www.pvhs.org

September 21, 2001

Carol Pfaffly, PhD
PVH Family Medicine Center
1025 Pennock Place
Fort Collins, CO 80524

Dear Dr. Pfaffly:

On September 11, 2001 your protocol and consent form of **#01-523: "Family Medicine Patients and Mental Health Referrals: Implications for Primary Care Physicians", Consent form #01-523A,** were given IRB board approval.

Enclosed is the Approval Notification form. It is imperative that you review and follow the provisions outlined in this document. Available for your review through the IRB is a copy of the IRB minutes that serves as proof of the protocol approval. Your research can be initiated as of the date of this approval. Please keep us informed of your progress in yearly reports.

If I can be of further assistance, please do not hesitate to contact me at (970) 495-7333.

Sincerely,

K. Woods-McCormick BN MS

Kimberly Woods-McCormick, RN, MS
IRB Coordinator
Poudre Valley Health System

KWM:lf

Enclosures

Colorado State University

Office of Regulatory Compliance
Office of Vice President for Research
and Information Technology
Fort Collins, CO 80523-2046
(970) 491-1563
FAX: (970) 491-2293

MEMORANDUM

TO: Scott Hamilton, Psychology, 1876
FROM: Celia Walker, Administrator for the Human Research Committee
SUBJECT: **PROJECT APPROVAL**
Title: Family Medicine Patients and Mental Health Referrals: Implications for Primary Care Physicians.
Protocol No.: 01-244H
Funding Agency: N/A
Funding Agency Deadline: N/A
DATE: November 16, 2001

I am pleased to inform you that the above-referenced project was approved by the Human Research Committee on November 15, 2001 for the period November 15, 2001 to August 16, 2002. Because of the nature of this research, it will not be necessary to obtain a signed consent form. However, all subjects must receive a copy of the approved cover letter printed on department letterhead. The requirement of documentation of a consent form is waived under § __.117 (c) (2). Approval is for 1,000 subjects.

A status report of this project will be required within a 12-month period from the date of approval. You will be sent a reminder approximately two months before the protocol expires. The Principal Investigator will report on the numbers of subjects who have participated this year and project-to-date, about problems encountered, and provide a verifying copy of the consent form or cover letter used. The necessary form (H-101) is available from the Regulatory Compliance web page (see below). Should the protocol not be renewed before expiration, all activities must cease until the protocol has been re-reviewed.

It is the responsibility of the investigator to immediately inform the Committee of any serious complications, unexpected risks, or injuries resulting from this research. It is also the investigator's responsibility to notify the Committee of any changes in experimental design, participant population, or consent procedures or documents. This can be done with a memo which completely describes the changes and their consequences (new consent form or cover letter, or altered survey instrument, for example). Students serving as Co-Principal Investigators may not alter projects without first obtaining PI approval. The PI is ultimately responsible for the conduct of the project.

This approval is issued under Colorado State University's OHRP Federal Wide Assurance 00000647 issued July 1, 2001. If approval did not accompany a proposal when it was submitted to a sponsor, it is the researcher's responsibility to provide the sponsor with the approval notice.

Please direct any questions about the Committee's action on this project to me for routing to the Committee. Additional information is available from the Regulatory Compliance web site at www.research.colostate.edu/regulatory/

Attachment

xc: Rachel Torgerson w/attachment

POUDRE VALLEY HOSPITAL
1024 South Lemay Avenue
Fort Collins, Colorado 80524-3998
(970) 495-7000
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January 21, 2002

Carol Pfaffly
Rachel Torgerson
Family Medicine Center
1025 Pennock Place
Fort Collins, CO 80524

Dear Carol and Rachel:

On January 8, 2002, **Amendment #1, of protocol #01-523: ""Family Medicine Patients and Mental Health Referrals: Implications for Primary Care Physicians"**, was given full Board approval by the IRB.

Now that your work has received IRB approval, your research can be continued at this time. Please keep us informed of your progress in yearly reports.

If I can be of further assistance, please do not hesitate to contact me at (970) 495-7333.

Sincerely,

K. Woods-McCormick RN MS

Kimberly Woods-McCormick, RN, MS
IRB Coordinator
Poudre Valley Health System

A Magnet Hospital For Nursing Excellence

Appendix E

Variables

Variable short name	Questionnaire item	Location in questionnaire	Type of data
	Demographic items		
Age	Your age (Participants who were under age 18 were excluded from the sample)	Page 1, item 1	Continuous
Gender	Gender	Page 1, item 2	Categorical
Marital	Are you currently:	Page 1 item 3	Categorical
Children	How many children do you have?	Page 1, item 4	Categorical
Home children	How many of your children are living at home with you?	Page 1, item 5	Categorical
Ethnicity	Ethnicity:	Page 2, item 12	Categorical
White		Collapsed Ethnicity item	Categorical
	Socioeconomic status/insurance items		
Income	Your family's combined annual income (including all sources):	Page 1, item 7	Categorical
Education	What is the highest grade/degree that you completed?	Page 1 item 8	Categorical
Partner ed.	What is the highest grade/degree that your spouse or partner (if applicable) completed?	Page 1 item 8	Categorical
Insurance	For your medical treatment, are you covered by:	Page 1, item 9	Categorical
Deductible	How much, if any, is your yearly health insurance deductible?	Page 1, item 9	Categorical
Copay	How much, if any, is your copay for today's visit?	Page 1, item 9	Categorical
Private ins.		Collapsed Insurance item	Categorical
	Relationship with physician items		
YEARS PT	How many years have you been a patient at FMC?	Page 2, item 10	Continuous
Years Doc	How many years have you been with your current doctor here?	Page 2, item 10	Continuous
First visit	This is my first visit	Page 2, item 10	Categorical
No doc	I do not have an assigned doctor here	Page 2, item 10	Categorical
Satisfied	If yes, how satisfied were you with the therapy?	Page 2, item 1	Continuous
URGED	How strongly did your doctor urge you to see a therapist?	Page 3, item 7D	Continuous
Prev. Tx.	Have you ever seen a therapist for mental or emotional problems?	Page 2, item 1	Categorical

Chosen	If yes, how did you choose which therapist to see?	Page 2, item 1	Categorical
Needed help	If you thought any of the above were problems, did the problems ever become serious enough that you thought you might need professional help?	Page 3, item 4	Categorical
Discuss	Did you discuss the problem with your doctor?	Page 3, item 5	Categorical
Referred	If you did discuss the problem with your doctor, did he or she refer you to a therapist?	Page 3, item 6	Categorical
ATTEND	If yes, how many times did you see that person?	Page 3, item 6	Categorical
Names	If your doctor has made a referral for therapy in the past, did you get specific names of who to see?	Page 3, item 7A	Categorical
#names	If yes, how many names?	Page 3, item 7A	Categorical
Phone	Did you get phone numbers?	Page 3, item 7B	Categorical
Made apt	Did someone at your doctor's office make an appointment for you?	Page 3, item 7C	Categorical
	Perceived mental health problem items: In the past year have you had problems with any of the following?		
Depression	Depression	Page 3, item 3	Continuous
Anxiety	Anxiety	Page 3, item 3	Continuous
Insomnia	Insomnia	Page 3, item 3	Continuous
Stress	Stress	Page 3, item 3	Continuous
Somatic	Symptoms your doctor can't explain	Page 3, item 3	Continuous
Aod	Alcohol or drug abuse	Page 3, item 3	Continuous
AVG. MH		Average of above 6 scores	Continuous
	Interest in treatment modalities items: Which of the following, if any, are you interested in?		
Couples	Couples or marital therapy	Page 2, item 2	Categorical
Family	Family therapy	Page 2, item 2	Categorical
Individual	Individual therapy	Page 2, item 2	Categorical
Other	Other:_____	Page 2, item 2	Categorical
Depression grp	Groups, such as Coping with Depression	Page 2, item 2	Categorical
Stress grp	Coping with Stress	Page 2, item 2	Categorical
Medical grp	Coping with Medical Problems	Page 2, item 2	Categorical
Other grp.	Other group: _____	Page 2, item 2	Categorical
Any interest		Indication of at least one of the 8 items above	Categorical
	Decision-making factors items: If your doctor recommended that you see a therapist, how important would each of the following factors be in deciding whether you would go to the first session?		
Factor 1	Meeting the therapist during my doctor's visit	Page 4, item 8	Continuous
Factor 2	Seeing the therapist with my doctor present at least sometimes	Page 4, item 8	Continuous
Factor 3	Seeing the therapist in the same building as my doctor's office	Page 4, item 8	Continuous

Factor 4	Seeing only a male therapist	Page 4, item 8	Continuous
Factor 5	Seeing only a female therapist	Page 4, item 8	Continuous
Factor 6	Seeing a therapist who is the same as me as far as: age	Page 4, item 8	Continuous
Factor 7	Seeing a therapist who is the same as me as far as: ethnicity or race	Page 4, item 8	Continuous
Factor 8	Seeing a therapist who is the same as me as far as: religious beliefs	Page 4, item 8	Continuous
Factor 9	Seeing a therapist who is the same as me as far as: political beliefs	Page 4, item 8	Continuous
Factor 10	Seeing a therapist with certain training: psychologist	Page 4, item 8	Continuous
Factor 11	Seeing a therapist with certain training: psychiatrist	Page 4, item 8	Continuous
Factor 12	Seeing a therapist with certain training: social worker	Page 4, item 8	Continuous
Factor 13	Seeing a therapist with certain training: ministerial counselor	Page 4, item 8	Continuous
Factor 14	Seeing a therapist with certain training: marriage and family therapist	Page 4, item 8	Continuous
Factor 15	Finding out how much the therapist would charge and whether my insurance would cover it	Page 4, item 8	Continuous
Factor 16	Finding transportation	Page 4, item 8	Continuous
Factor 17	Finding childcare	Page 4, item 8	Continuous
Factor 18	Getting time off from work	Page 4, item 8	Continuous
AVG. FACTORS		Average of above 18 scores	
	Compliance items		
Comply 1	Today, if your doctor strongly recommended that you see a therapist, how likely is it that you would follow that recommendation?	Page 4, item 9	Continuous
Comply 2	If your doctor told you that a therapist could help you deal with emotional or relationship problems, how likely is it that you would go and see a therapist?	Page 4, item 10	Continuous
Comply 3	If your doctor told you that it is necessary for you to see a mental health therapist in addition to his/her care, how likely is it that you would accept your doctor's recommendation that you see a therapist?	Page 4, item 11	Continuous
COMPLY		Sum of scores on above 3 items	Continuous
Comply 4	Some people would <u>not</u> see a therapist, even if their doctor wanted them to. Is this true for you?	Page 4, item 12	Categorical
	Reasons for not complying items: If you said "yes," which of these (you may choose more than one) are the most important reasons for <u>not</u> seeing a therapist?		
No1	I don't believe in "shrinks"	Page 4, item 12	Categorical
No 2	I don't want medications that affect my mind	Page 4, item 12	Categorical

No 3	I know someone who had a bad experience	Page 4, item 12	Categorical
No 4	Religious beliefs	Page 4, item 12	Categorical
No 5	It takes too much time	Page 4, item 12	Categorical
No 6	Costs too much	Page 4, item 12	Categorical
No 7	My insurance wouldn't cover it	Page 4, item 12	Categorical
No 8	I'm afraid of what would happen	Page 4, item 12	Categorical
No 9	I do not think it would help me	Page 4, item 12	Categorical
No 10	It is a family problem not a personal problem	Page 4, item 12	Categorical
No 11	The problem isn't serious enough for me to need help	Page 4, item 12	Categorical
No 12	I don't think my doctor is correct	Page 4, item 12	Categorical
No 13	My doctor doesn't know me well enough to make that recommendation	Page 4, item 12	Categorical
No 14	No one can help me	Page 4, item 12	Categorical
No 15	Other:_____	Page 4, item 12	Categorical
Any no		Indication of at least one of the 15 above items	Categorical
	Items not included in analysis		
	Your occupation? (Please be as specific as possible)	Page 1, item 6	Write in
	You current spouse/partner's occupation?	Page 1, item 6	Write in
	I'm not a patient (Participants endorsing this item were excluded from the sample)	Page 2, item 10	Categorical
	Who is today's visit for? (Participants not endorsing "me" on this item were excluded from the sample)	Page 2, item 11	Categorical
	None	Page 2, item 2	Categorical
	Groups, such as	Page 2, item 2	Categorical
	If no, you didn't because	Page 3, item 6	Write in

Note. Items in the "variable short names" column that are in all capitals indicate that the abbreviated variable name is used in the text or tables of the results section.

Table 1
Descriptive Data for Demographic Items

	Sample		Noncompliers		Compliers	
Item	*M (SD)*	*n*	*M (SD)*	*n*	*M (SD)*	*n*
Age	41.88 (15.12)	102	36.07 (12.74)	15	42.89 (15.32)	87

	Sample		Noncompliers		Compliers	
Item	Freq.	(%)	Freq.	(%)	Freq.	(%)
Gender						
Male	25	(22)	4	(22)	21	(22)
Female	87	(78)	14	(78)	73	(78)
Total	112		18		94	
Marital						
Never married	14	(13)	3	(17)	11	(12)
Married	53	(47)	7	(39)	46	(49)
Divorced/separated	32	(29)	5	(28)	27	(29)
Widowed	3	(3)	2	(11)	1	(1)
Partnered/living with	10	(9)	1	(6)	9	(10)
Total	112		18		94	
Children						
0	28	(25)	4	(22)	24	(26)
1	19	(17)	3	(17)	16	(17)
2	33	(30)	8	(44)	25	(27)
3	19	(17)	2	(11)	17	(18)
4	7	(6)	1	(6)	6	(6)
5	3	(3)	0		3	(3)
6+	3	(3)	0		3	(3)
Total	112		18		94	
Children at home						
0	51	(49)	7	(41)	44	(50)
1	27	(26)	6	(35)	21	(24)
2	17	(16)	2	(12)	15	(17)
3	8	(8)	1	(6)	7	(8)
4	2	(2)	1	(6)	1	(1)
5	0		0		0	
6+	0		0		0	
Total	105		17		88	
Ethnicity						
White	98	(89)	16	(84)	82	(90)
Black	0		0		0	
Indian	2	(2)	0		2	(2)
Hispanic	5	(5)	2	(11)	3	(3)
Asian	3	(3)	0		3	(3)
Multi	2	(2)	1	(5)	1	(1)
Other	0		0		0	
Total	117		19		91	

Table 2
Descriptive Data for Socioeconomic Status and Insurance Items

Item	Sample Freq.	(%)	Noncompliers Freq.	(%)	Compliers Freq.	(%)
Income						
0-10k	22	(21)	4	(24)	18	(21)
10-20k	18	(17)	4	(24)	14	(16)
20-30k	15	(14%)	2	(12)	13	(15)
30-40k	16	(15)	2	(12)	14	(16)
40-50k	6	(6)	0		6	(7)
50-60k	3	(3)	0		3	(3)
60-70k	10	(10)	4	(24)	6	(7)
70-80k	5	(5)	0		5	(6)
80-90k	4	(4)	0		4	(5)
90k+	6	(6)	1	(6)	5	(6)
Total	105		17		88	
Education						
Grade school	2	(2)	0		2	(2)
High school	19	(17)	3	(17)	16	(18)
Some college	32	(29)	7	(39)	25	(28)
Vocational cert.	12	(11)	1	(6)	11	(12)
Bachelor's degree	28	(26)	4	(22)	24	(26)
Graduate degree	16	(15)	3	(17)	13	(14)
Total	109		18		91	
Partner ed						
Grade school	1	(1)	0		1	(2)
High school	15	(21)	3	(25)	12	(20)
Some college	24	(33)	4	(33)	20	(33)
Vocational cert.	7	(10)	1	(8)	6	(10)
Bachelor's degree	16	(22)	3	(25)	13	(21)
Graduate degree	10	(14)	1	(8)	9	(15)
Total	73		12		61	
Insurance						
Private	52	(49)	9	(53)	43	(48)
Medicaid/care	32	(30)	4	(24)	28	(31)
CRDP	13	(12)	3	(18)	10	(11)
None	3	(3)	0		3	(3)
Other	7	(7)	1	(6)	6	(7)
Total	107		17		90	
Deductible						
None	50	(49)	7	(41)	43	(50)
Under 1000	27	(26)	3	(18)	24	(28)
1000-3000	9	(9)	2	(12)	7	(8)
Over 3000	1	(1)	1	(6)	0	
I don't know	16	(16)	4	(24)	12	(14)
Total	103		17		86	
Copay						
None	36	(34)	6	(35)	30	(34)
1-10	24	(23)	5	(29)	19	(21)
11 +	41	(39)	6	(35)	35	(39)
Percentage	4	(4)	0		4	(5)
I don't know	1	(1)	0		1	(1)
Total	106		17		89	

Table 3

Descriptive Data for Relationship with Physician Items

	Sample		Noncompliers		Compliers	
Item	*M (SD)*	*n*	*M (SD)*	*n*	*M (SD)*	*n*
YEARS PT	6.27 (9.42)	93	2.80 (3.23)	15	6.94 (10.07)	78
Years doc	3.22 (4.27)	86	1.85 (3.00)	13	3.47 (4.43)	73

	Sample	Noncompliers	Compliers
Item	Freq. (%)	Freq. (%)	Freq. (%)
First visit			
Yes	15 (13)	5 (26)	10 (10)
No	102 (87)	14 (74)	88 (90)
Total	117	19	98
No assigned doc			
Yes	24 (21)	7 (37)	17 (17)
No	93 (80)	12 (63)	81 (83)
Total	117	19	98

Table 4
Descriptive Data for Previous Mental Health Treatment Items

	Sample		Noncompliers		Compliers	
Item	*M (SD)*	*n*	*M (SD)*	*n*	*M (SD)*	*n*
Satisfied	3.39 (1.35)	69	3.50 (1.41)	8	3.38 (1.36)	61
URGED	2.76 (1.42)	46	2.33 (1.75)	6	2.83 (1.38)	40

	Sample		Noncompliers		Compliers	
Item	Freq.	(%)	Freq.	(%)	Freq.	(%)
Previous tx						
No	41	(37)	11	(58)	30	(32)
Yes	71	(63)	8	(42)	63	(68)
Total	112		19		93	
How chosen						
Prof recommendation	32	(46)	4	(44)	28	(46)
Friend/family recommended	14	(20)	2	(22)	12	(20)
Yellow pages	3	(4)	1	(11)	2	(3)
Insurance list	12	(17)	1	(11)	11	(18)
Other	9	(13)	1	(11)	8	(13)
Total	70		9		61	
Needed help						
Yes	52	(56)	6	(38)	46	(60)
No	41	(44)	10	(63)	31	(40)
Total	93		16		77	
Discuss						
Yes	49	(58)	8	(53)	41	(60)
No	36	(42)	7	(46)	29	(41)
Total	85		15		70	
Referred						
Yes	29	(43)	3	(25)	26	(46)
No	39	(57)	9	(75)	30	(54)
Total	68		12		56	
ATTEND						
Once	6	(21)	1	(50)	5	(19)
More than once	22	(79)	1	(50)	21	(81)
Total	28		2		26	
Got names						
Yes	28	(58)	3	(43)	25	(61)
No	20	(42)	4	(57)	16	(39)
Total	48		7		41	
How many names						
One	11	(44)	2	(100)	9	(39)
More than one	14	(56)	0		14	(61)
Total	25		2		23	
Phone numbers						
Yes	29	(63)	3	(43)	26	(67)
No	17	(37)	4	(57)	13	(33)
Total	46		7		39	
Made appointment for you						
Yes	9	(18)	2	(22)	7	(17)
No	41	(82)	7	(78)	34	(83)
Total	50		9		41	

Table 5

Descriptive Data for Perceived Mental Health Problem Items

	Sample			Noncompliers			Compliers		
Problem	*M (SD)*		*n*	*M (SD)*		*n*	*M (SD)*		*n*
Depression	2.51	(1.49)	98	2.07	(1.44)	14	2.58	(1.49)	84
Anxiety	2.16	(1.47)	94	1.81	(1.22)	16	2.23	(1.51)	78
Insomnia	1.96	(1.26)	91	2.00	(1.00)	13	1.95	(1.31)	78
Stress	2.75	(1.49)	104	2.39	(1.54)	18	2.83	(1.51)	86
Somatic symptoms	1.57	(1.15)	90	1.54	(1.20)	13	1.57	(1.15)	77
Alcohol or drugs	1.14	(.52)	93	1.36	(.93)	14	1.10	(.41)	79
AVG MH	1.98	(.92)	87	1.76	(.81)	13	2.02	(.93)	74

Table 6

Descriptive Data for Endorsement of Interest in Treatment Modalities Items

	Sample	Noncompliers	Compliers
Item	Freq. (%)	Freq. (%)	Freq. (%)
Couples	15 (13)	1 (5)	14 (14)
Family	15 (13)	2 (10)	13 (13)
Individual	42 (36)	4 (21)	38 (39)
Other	1 (1)	0	1 (1)
Depression group	16 (14)	1 (5)	15 (16)
Stress group	24 (21)	5 (26)	19 (20)
Medical group	10 (9)	1 (5)	9 (9)
Other group	9 (8)	0	9 (9)
Any interest	63 (54)	9 (47)	54 (56)

Note. n=116 for sample. n=19 for noncompliers. n=97 for compliers.

Table 7

Descriptive Data for Decision-making Factors Items

	Sample		Noncompliers		Compliers	
Item	*M (SD)*	*n*	*M (SD)*	*n*	*M (SD)*	*n*
1	2.14 (1.43)	87	2.00 (1.49)	10	2.16 (1.43)	77
2	1.65 (1.03)	83	1.10 (.32)	10	1.73 (1.07)	73
3	1.92 (1.37)	84	1.91 (1.38)	11	1.92 (1.38)	73
4	1.28 (.80)	79	1.22 (.67)	9	1.29 (.82)	70
5	2.19 (1.57)	83	1.90 (1.29)	10	2.23 (1.61)	73
6	1.75 (1.19)	85	1.36 (.92)	11	1.81 (1.22)	74
7	1.35 (.85)	82	1.20 (.63)	10	1.38 (.88)	72
8	1.81 (1.18)	81	1.20 (.63)	10	1.90 (1.22)	71
9	1.42 (.92)	78	1.00 (.00)	9	1.48 (.96)	69
10	3.29 (1.64)	78	2.29 (1.89)	7	3.39 (1.59)	71
11	3.17 (1.65)	75	2.13 (1.46)	8	3.30 (1.63)	67
12	2.56 (1.62)	73	1.57 (.79)	7	2.67 (1.65)	66
13	1.97 (1.51)	74	1.00 (.00)	8	2.09 (1.56)	66
14	2.75 (1.69)	72	2.13 (1.64)	8	2.83 (1.69)	64
15	4.11 (1.19)	81	3.30 (1.83)	10	4.23 (1.05)	71
16	1.60 (1.19)	80	1.44 (.73)	9	1.62 (1.24)	71
17	1.63 (1.33)	79	1.11 (.33)	9	1.70 (1.49)	70
18	2.08 (1.46)	77	2.11 (1.69)	9	2.07 (1.44)	68
AVG FACTORS	2.07 (.67)	59	1.58 (.58)	5	2.12 (.66)	54

Table 8

Descriptive Data for Compliance Items

	Sample		Noncompliers		Compliers	
Item	*M (SD)*	*n*	*M (SD)*	*n*	*M (SD)*	*n*
Comply 1	3.80 (1.16)	99	2.00 (1.12)	17	4.17 (.75)	82
Comply 2	3.94 (1.18)	96	2.35 (1.50)	17	4.28 (.75)	79
Comply 3	4.07 (1.07)	97	2.38 (1.20)	16	4.41 (.65)	81
COMPLY	11.84 (3.19)	93	6.81 (3.21)	16	12.88 (1.97)	77

	Sample	Noncompliers	Compliers
Item	Freq. (%)	Freq. (%)	Freq. (%)
Comply 4			
Yes (would not see)	8 (8)	8 (44)	0
No (would see)	92 (92)	10 (56)	82 (100)
Total	100	18	82

Table 9

Descriptive Data for Endorsement of Reasons for Not Complying Items

	Sample	Noncompliers	Compliers
Item	Freq. (%)	Freq. (%)	Freq. (%)
No 1	1 (1)	0	1 (1)
No 2	3 (3)	2 (11)	1 (1)
No 3	7 (6)	4 (21)	3 (3)
No 4	2 (2)	1 (5)	1 (1)
No 5	3 (3)	3 (16)	0
No 6	2 (2)	0	2 (2)
No 7	7 (6)	3 (16)	4 (4)
No 8	2 (2)	2 (11)	0
N0 9	3 (3)	2 (11)	1 (1)
N0 10	1 (1)	1 (5)	0
No 11	2 (2)	2 (11)	0
No 12	0	0	0
No 13	3 (3)	2 (11)	1 (1)
No 14	3 (3)	2 (11)	2 (2)
No 15	0	0	0
Any no	19 (16)	10 (53)	9 (9)

Note. n=116 for sample. n=19 for noncompliers. n=97 for compliers.

Table 10

Relationships with COMPLY

Variable	Correlation	Significance
ATTEND	.50	$p<.05$
URGED	.34	$p<.05$
AVG MH	.31	$p<.01$
AVG FACTORS	.28	$p<.05$
YEARS PT	.24	$p<.05$
Referred	-.24	
Previous tx	.19	
Needed help	-.17	
Any no	-.16	
Discuss	-.16	
Age	.14	
Years doc	.11	
Any interest	.11	
Private ins	-.10	
White	-.07	
Satisfied	-.04	
	Chi-square	Significance
Income	79.40	
Marital	48.26	
Children	43.23	
Education	41.51	
Partner ed	39.80	
Gender	13.74	

Note. Significance is only reported when $\alpha \leq .05$.