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## Quality of and Patient Satisfaction with Primary Health Care for Anxiety Disorders

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### Abstract

**Background**—Most patients with anxiety disorders receive their care from primary care practitioners (PCPs). The purpose of this study was to evaluate quality of and patient satisfaction with primary healthcare for anxiety disorders.

**Methods**—Survey of 1004 outpatients with anxiety disorders referred by their PCP for participation in a therapeutic trial. Quality indicators (referring to the 6 months prior to referral) were self-reported type, dose and duration of anti-anxiety medication and psychotherapy with cognitive-behavioral therapy (CBT) elements.

**Results**—576 patients (57.4%) had received appropriate anti-anxiety medication in the previous 6 months, but only 292 (29.1% of patients) at adequate dose and duration. 465 patients (46.3%) had received some counseling, but only 213 (21.2%) with a CBT focus. Overall, 416 patients (41.4%) had received quality pharmacotherapy and/or psychotherapy. Few patients (44.8%) were at least somewhat satisfied with their mental health care. Receipt of quality psychotherapy was the sole positive predictor (adjusted odds ratio = 2.71, 95% CI [1.94–3.80],  $p < 0.0005$ ) of satisfaction with mental healthcare for anxiety. Moreover, there was a dose-response relationship between the number of CBT elements consistently delivered and satisfaction with care; test for trend,  $z = 4.06$ ,  $p < 0.0005$ .

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#### Disclosure of Interest Statement

Drs. Stein, Roy-Byrne and Bystritsky report consulting fees and/or research grants in the past 3 years from several pharmaceutical companies that make antidepressants and/or anxiolytic medications; details available upon request. None of these are felt by these authors to represent competing interest with reference to the present study. The other authors report no competing interests.

**Conclusions**—Despite being recognized and referred by their PCP to an anxiety treatment study, fewer than half of patients had in the 6 months prior received quality pharmacological and/or psychosocial mental healthcare. Receipt of CBT-oriented, quality psychosocial (but not pharmacological) care showed a strong dose-response relationship with satisfaction with mental health care.

### Keywords

Anxiety Disorder; Primary Care; Treatment

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## INTRODUCTION

Anxiety disorders are common, costly, and debilitating.<sup>1–6</sup> Most patients with anxiety disorders seek and receive their mental health care in the primary health care setting,<sup>7;8</sup> but many go unrecognized or inadequately treated.<sup>9–15</sup> Whereas there is some evidence of improvements in rates of care for mental disorders in the US in recent years,<sup>16</sup> including a marked increase in the proportion of affected individuals who seek help for anxiety disorders in the last 10 years,<sup>17</sup> the care received may still be less than optimal, especially when provided by non-specialists.<sup>18</sup>

The purpose of the present study was to systematically look at satisfaction with care, and its relationship to types and quality of care received, among primary care patients with anxiety disorders. We utilized baseline (i.e., referring to the 6 months prior to entry into the study) data from the Coordinated Anxiety Learning and Management (CALM; ClinicalTrials.gov identifier NCT00347269) study, the largest (N = 1004) randomized controlled trial of collaborative care for anxiety disorders conducted to date.<sup>19</sup> Subjects in the CALM study were referred by their PCPs for collaborative management of their anxiety disorder(s), indicating that there was some level of PCP recognition of the presence and seriousness of these conditions. Evaluation of the CALM data therefore provided us with a unique perspective on primary care anxiety management among patients who had been identified as having a problem with anxiety.

It was hypothesized that few patients at baseline (i.e., prior to entering the CALM study) would report having received evidence-based psychotherapies or pharmacotherapies in the 6 months leading up to referral, and that patient satisfaction with care received would mirror the quality of care that had been provided. Moreover, we expected to find racial and ethnic disparities in care received, given suggestions from other recent studies (mostly in depression) that Hispanics receive poorer quality mental health care,<sup>20;21</sup> which may relate to preferences and beliefs about mental health treatments.<sup>22</sup> Other potential determinants of quality care (e.g., gender, comorbidity) and satisfaction with care (e.g., type of treatment provided) were also examined, with the aim of identifying patient and/or treatment characteristics that might be suitable targets for future efforts at quality improvement.

## SUBJECTS AND METHODS

### Sample

Data come from the baseline assessment (i.e., retrospective assessment of the 6 months of care prior to beginning the intervention trial) of 1004 primary care patients with panic disorder (PD), social anxiety disorder (SAD), generalized anxiety disorder (GAD) or posttraumatic stress disorder (PTSD) enrolled between June 2006 and April 2008 in the Coordinated Anxiety Learning and Management (CALM) study<sup>19</sup>. Participating research institutions were: University of Washington (Seattle), University of California at San Diego and Los Angeles, and the University of Arkansas for Medical Sciences (Little Rock,

Arkansas). A total of 17 clinics (3 of which were University-affiliated) were purposively selected based on a number of considerations, including provider interest, space availability, size and diversity of the patient population, and insurance mix. Primary care providers directly referred potential subjects. At some sites, a simple five-question anxiety screener was used to facilitate identification of patients with anxiety disorders<sup>23</sup>, but information was not collected on whether or not the screener was used in advance of a referral.

Referred subjects met with a specially trained study clinician (usually a nurse or a social worker) to determine eligibility for CALM. An eligible subject had to be a patient at a participating clinic, 18–75 years old, meet DSM-IV criteria for one or more of GAD, PD, SAD, or PTSD based on the Mini International Neuropsychiatric Interview<sup>24</sup> and score at least 8 (moderate but clinically significant anxiety symptoms on a scale ranging from 0–20) on the Overall Anxiety Severity And Impairment Scale (OASIS).<sup>25</sup> Co-occurring major depression, expected to be common among anxious outpatients, was permitted.<sup>26</sup>

Exclusion criteria were few and were intended to exclude persons who would be unlikely to benefit (or be at increased risk) from the intervention. They included unstable medical conditions, marked cognitive impairment, active suicidal intent or plan, psychosis, or bipolar I disorder. Alcohol and/or marijuana abuse (but not dependence) were permitted, but other drug abuse was exclusionary. Subjects already receiving ongoing cognitive behavioral therapy (N = 7) were excluded. Finally, persons without routine access to a telephone, or who could not speak English or Spanish were excluded. All subjects gave informed, written consent to participate in this study, which was approved by each institution's Institutional Review Board.

### Quality of Care and Satisfaction Indicators

Eligible subjects were contacted by telephone, usually within 1 week (median = 7 days; mean = 9.6 sd 8.4 days) of enrollment to provide information about previous care received and satisfaction with that care.

Respondents were asked about the care they had received during the previous 6 months (i.e., prior to enrolling in the CALM study). These questions were modeled after those from our prior study<sup>12</sup> augmented with questions about satisfaction with care. Using patient reports of the name and daily dosage of each prescribed medication they had “taken several times a week for at least a month in the last 6 months”, we derived separate indicators of (a) use of any psychotropic medication, (b) use of any anti-anxiety medication (i.e., antidepressant or benzodiazepine; or buspirone for GAD), (c) use of any anti-anxiety medication in an appropriate daily dosage for any duration, and (d) use of any anti-anxiety medication in appropriate daily dosage for at least 2 months. The latter was considered to meet the minimal criterion for “quality pharmacotherapy”. Determination of what was an anti-anxiety medication, and what was an appropriate daily dosage was made *a priori* by consensus of the psychiatrist investigators in the study, based on consensus statements and their collective knowledge of the evidence-based pharmacotherapy literature for anxiety.<sup>27</sup>

Using patient responses to questions about the content of outpatient visits with any provider in the prior 6 months, we derived separate indicators of (a) receipt of any psychotherapy, (b) receipt of psychotherapy with a CBT focus, i.e., at least 3 of 6 possible CBT elements (1: practice dealing with things that made you afraid; 2: teach you methods of relaxation; 3: helped you look at your thoughts more realistically; 4: help you see mistakes in your thinking; 5: help you understand how your thoughts and feelings are related; 6: ask you to do homework or practice between sessions) reported as covered at least “sometimes”, and (c) receipt of psychotherapy with an intensive CBT focus (i.e., at least 3 of 6 possible CBT elements reported as covered at least “usually”). Receipt of psychotherapy with a CBT focus

(rather than the more rigorous definition involving an *intensive* CBT focus) was considered to meet the minimal criterion for “quality psychotherapy”.

Satisfaction with overall health care was assessed by asking respondents “How dissatisfied or satisfied were you with the health care available to you in the past 6 months?”

Satisfaction with mental health care was assessed by asking “How dissatisfied or satisfied were you with the health care available to you *for personal or emotional problems* in the past 6 months?” Response choices for both questions were: very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, or very satisfied. The latter two responses were considered to reflect satisfaction with care for purposes of this report and the analyses described herein.

### Statistical Analyses

We evaluated the kinds of care received, the main quality indicators, and the satisfaction indices across a number of sociodemographic and diagnostic factors to determine if any of these were associated with a differential likelihood of receipt of care or satisfaction. These comparisons used multivariate logistic regression procedures wherein presence or absence of particular care types of (or satisfaction with) care was the dependent variable, and the model included the following predictors: study site (dummy coded), age, sex, ethnicity, education, income (below the poverty line *vs.* at or above it), chronic physical disease burden (consisting a count of reported chronic physical illnesses) and, in some models, presence or absence of major depression, and/or overall anxiety-associated impairment. These analyses enabled us to determine if there were substantive differences in care received or satisfaction with care on the basis of presence or absence of particular sociodemographic or diagnostic characteristics.

For the multivariate logistic regression analyses, although a formal Bonferroni correction was not used, we *a priori* considered predictors significant at the  $p \leq 0.005$  level to be statistically significant, and we interpret the results in this statistical context. Adjusted odds ratios (AOR) for the predictors, derived from the multivariate logistic regression analyses, are presented, along with 95% confidence intervals (CI).

## RESULTS

Demographic and diagnostic characteristics of the patients are shown in Table 1. The sample was predominantly female, relatively well educated, middle-aged or younger (mean 43.5, sd 13.4 [range 18–75] years), and ethnically diverse. Many patients had one or more chronic physical conditions (median = 2 [range 0–11]). Generalized anxiety disorder (GAD) was the most prevalent anxiety disorder, followed by panic disorder, social anxiety disorder, and posttraumatic stress disorder. The modal number of anxiety disorders per patient was one, but approximately 60% of patients had two or more anxiety disorders. Nearly two-thirds of patients had comorbid major depression.

### Provider Visits for Mental Health Problems

992 patients (98.8%) reported that they had at least 1 visit with their PCP in the previous 6 months where they discussed personal or emotional problems; the modal number of such visits was 2 (range 0–30). 181 patients (18.0%) had at least 1 visit with a psychiatrist (range 0–40). 351 patients (35.0%) had a least 1 visit with a “psychologist, social worker, psychotherapist, psychiatric nurse or other counselor or therapist” (range 0–45). The next section describes the types and quality of care received by the patient, integrated across any and all providers.

## Types and Quality of Care Received

576 patients (57.4%) reported that they had been taking a prescription medication to help with anxiety, depression or sleep in the previous 6 months: 462 (46.0%) had taken an antidepressant, 252 (25.1%) had taken a benzodiazepine, and 48 (4.8%) had taken another type of prescription anti-anxiety medication (e.g., buspirone).

Whereas 576 patients (57.4%) took any of the above types of medications, only 460 patients (46.3%) had taken any of the above for at least 2 months. Also, only 292 patients (29.1%) had taken any of the above for at least 2 months at a minimally effective dose (i.e., our indicator of quality pharmacotherapy) (Table 2).

929 patients (92.5%) reported receiving some counseling from their PCP or a therapist (e.g., psychiatrist, psychologist, social worker) in the previous 6 months. 465 patients (46.3%) reported that their counseling included at least 1 element consistent with cognitive behavioral therapy (CBT) principles at least some of the time. 213 (21.2%) of patients reported that 3 or more elements consistent with CBT were included at least some of the time (i.e., our indicator of quality psychotherapy). 45 patients (4.5%) reported that 3 or more CBT elements were included usually (i.e., we considered this to be an indicator of care that exceeded the minimal requirement for quality psychotherapy) (Table 2).

Using either the provision of counseling with 3 or more CBT elements at least some of the time, *or* appropriate pharmacotherapy at minimally adequate dose and duration as indicative of quality care, 416 (41.4%) of patients had received care in the previous 6 months that met this criterion. 81 (8.1%) of patients had received care that met the quality criteria for *both* pharmacotherapy and psychotherapy.

**Factors Associated with Types and Quality of Care Received**—Patients who saw a psychiatrist at least once in the previous 6 months were more likely to have received an anxiolytic (AOR = 1.92, 95% CI [1.34–2.75],  $p < 0.0005$ ). There were no significant differences in likelihood of receiving an anxiolytic medication on the basis of age, sex, education, ethnicity, chronic physical disease burden, poverty, presence of comorbid major depression, number or type of anxiety disorder, or study site. The only other predictor of receipt of an anxiolytic medication was extent of anxiety-related disability: for each 1-point increase on the Sheehan Disability Inventory,<sup>28</sup> (higher scores indicate greater disability) the odds of receiving anxiolytic medication increased by 4% (AOR = 1.04, 95% CI [1.02–1.07],  $p < 0.0005$ ).

Patients who saw a psychiatrist at least once in the previous 6 months were more likely to have received quality pharmacotherapy for their anxiety (AOR = 2.21, 95% CI [1.55–3.16],  $p < 0.0005$ ). Extent of disability as measured by the Sheehan Disability Inventory was also associated with increased odds of receiving quality pharmacotherapy for anxiety (AOR = 1.04, 95% CI [1.02–1.06],  $p = 0.001$ ), suggesting that physicians were cognizant of the need to treat such patients. Hispanics were about half as likely as non-Hispanics to be recipients of quality pharmacotherapy (AOR = 0.53, 95% CI [0.34–0.80],  $p = 0.003$ ).

Patients who saw a psychologist or other non-medical therapist in the previous 6 months were more likely to have received psychotherapy with at least 1 CBT element (AOR = 2.67, 95% CI [2.02–3.51],  $p < 0.0005$ ), as were patients with some college education (AOR = 1.66, 95% CI [1.19–2.31],  $p = 0.003$ ).

The only factor significantly associated with a differential likelihood of receiving quality psychotherapy (i.e., 3 or more CBT elements delivered at least some of the time) for anxiety

was having seen a psychologist or other non-medical therapist in the previous 6 months (AOR 4.37, 95% CI [3.16–6.06],  $p < 0.0005$ ).

### Satisfaction with Care Received

667 patients (66.6%) reported being satisfied or very satisfied with their overall health care. Only 432 (44.8%) of patients reported being satisfied or very satisfied with their mental health care.

#### Factors Associated with Satisfaction with Mental Health Care Received—

Results of simultaneous multivariate logistic regression analysis of factors associated with satisfaction with mental health care are shown in Table 3. Receipt of quality pharmacotherapy was not significantly associated with satisfaction with mental health care that had been received in the previous 6 months. Neither was age, sex, ethnicity, chronic physical illness burden, or presence of comorbid major depression. Higher education (some college or more) and greater anxiety severity (as indicated by more anxiety-related disability on the Sheehan Disability Inventory) were significantly associated with lower likelihood of being satisfied or very satisfied with mental health care that had been received.

The only positive predictor of satisfaction with mental health care was receipt of quality psychotherapy. Moreover, there was a dose-response relationship between “dose” of CBT and likelihood of satisfaction with mental health care: If at least 1 CBT element was delivered at least some of the time, odds of satisfaction were about twice as high as if no CBT elements were delivered (AOR = 1.94, 95% CI = 1.47–2.56,  $p < 0.0005$ ). If 3 or more CBT elements were delivered at least some of the time (i.e., our indicator of quality psychotherapy, shown in Table 3) the odds of satisfaction were higher (AOR = 2.71, 95% CI [1.94–3.80],  $p < 0.0005$ ), and if 3 or more CBT elements were delivered consistently, the odds of satisfaction were higher still (AOR = 5.25, 95% CI [2.51–10.98,  $p < 0.0005$ ); test for trend,  $z = 4.06$ ,  $p < 0.0005$ . These associations were not attenuated by the inclusion in the models of number (or presence or absence) of mental health visits to a PCP, psychiatrist, and/or psychologist (data not shown).

## DISCUSSION

Most individuals with anxiety disorders receive their mental health care from primary care providers.<sup>7;17</sup> Many patients seen in primary care receive little or no treatment for their anxiety disorders.<sup>18</sup> When care is received, it has often been noted to be suboptimal in terms of quality.<sup>12;29</sup> Whereas an outpatient trend toward increased use of antidepressants and decreased use of psychotherapy for anxiety disorders was noted in the late 1990s<sup>30</sup> it is uncertain to what extent there has been an overall trend toward quality improvement.

The present study suggests that there remains a lot of room for improvement in the quality of care delivered to primary care outpatients with anxiety disorders. This study is neither a nationally representative sample, nor is it a longitudinal study, so direct comparison to other studies or to earlier times is not possible. However, the data show that less than half of outpatients in this relatively large sample ( $N = 1004$ ) received guideline concordant care. This observation is particularly interesting (and worrisome) in that all patients had been recognized by their PCP as having a problem with anxiety by virtue of their referral to this study. In particular, although nearly 1/3 of patients received quality pharmacotherapy, only approximately 1/5 received quality psychotherapy. These data are consistent with prior studies that have pointed to particularly low rates of psychotherapy utilization and/or quality among primary care outpatients with anxiety disorders.<sup>12;18;30</sup> But they also extend the findings by suggesting that awareness by the PCP of a current anxiety problem (though not necessarily its precise diagnostic type or severity) seems to have had little impact on quality

of care (although more disabled patients were more likely to get better pharmacotherapy). The inference is that identification alone (i.e., making PCPs aware of their patient's diagnosis and/or need for anxiety treatment) is unlikely to have a positive impact on quality of care for anxiety disorders.

Meta-analysis of knowledge transfer methods for improvement of primary care anxiety treatment shows that conventional educational strategies (e.g., conferences or passive dissemination of guidelines) have minimal impact on clinical practice and patient outcomes, whereas collaborative care approaches are much more promising.<sup>31</sup> Our data point to several potential targets for improving such care in the future.

First, we noted the possible existence of particular sociodemographic disparities in the provision of quality care. Hispanic patients were less likely than other ethnic groups to receive quality pharmacotherapy. It is difficult to be certain about the origins of this disparity, which may, at least in part, reflect reduced preference for pharmacotherapy (e.g., with antidepressants) among certain minority groups.<sup>22</sup> Although rates of anti-anxiety medication use were not lower among Hispanic patients, the lower rate of quality anti-anxiety pharmacotherapy may nonetheless reflect more subtle attitudinal factors consistent with lower preference for pharmacotherapy that could influence patient adherence (e.g., reluctance to increase dosage or to stay on the medication for adequate duration). This is an area that clearly requires more study, especially in light of other recent reports of ethnic disparities in mental healthcare for anxious and depressed outpatients.<sup>20;21</sup>

Second, we noted that persons with less education were significantly less likely to receive psychotherapy. Although this did not carry over to a significantly lower likelihood of receiving quality psychotherapy (perhaps because these rates were so low overall that a difference could not be detected), the fact that less educated persons were less likely to receive psychotherapy is a disparity that must be addressed in future research.

Third, we found higher rates of quality pharmacotherapy and psychotherapy when patients received some or all of their mental health care in specialty settings (e.g., seen by psychiatrists or psychologists, respectively). These observations underscore the notion that it is reasonable to expect that specialists can often (though not always)<sup>18</sup> provide more intensive or higher quality care than can reasonably be provided by PCPs, who must juggle many medical priorities in each time-limited visit. The fact that mental health specialists can bring added value does strongly suggest, however, that their integration into the primary healthcare equation cannot be overlooked. The challenge is how to most efficiently and cost-effectively incorporate their expertise.

The most striking finding to emerge from this study pertained to satisfaction with care, and its relationship to the provision of quality care. Patients who received quality psychotherapy (defined on the basis of the inclusion of elements consistent with evidence-based CBT for anxiety disorders) were the most satisfied with their mental health care. In fact, this was the only positive predictor of satisfaction. Moreover, a dose-response relationship was evident: the more CBT elements provided, and the greater the consistency of their delivery, the greater was the satisfaction with care. This relationship was not explained by the number of visits. On the contrary, it was the specific content of the visits, and not the number of visits, that tracked with satisfaction. Interestingly, the delivery of quality pharmacotherapy was not associated with satisfaction with care.

How are these findings pertaining to satisfaction to be interpreted? It seems readily apparent that patients both detect and value psychotherapies that target their principal complaint(s) in a direct fashion. Although it is improbable that many patients in this study were aware of the evidence in favor of CBT as a treatment for anxiety disorders, they nonetheless reported

satisfaction with therapies that included CBT components, and especially when these components were provided consistently throughout the course of therapy. These data are consistent with the expressed treatment preferences of primary care patients with anxiety disorders for psychotherapies<sup>32</sup> which may be an additional reason to increase their availability. In contrast, patients did not seem to value quality pharmacotherapy in the same way, possibly – at least in part – because it would have been difficult for them to know whether or not the medication provided was at optimal dose or duration.

This study has a number of limitations that influence its interpretation. As noted earlier in this discussion, although it included a large, diverse, sample of anxious outpatients in 17 clinical settings spread across 4 regions in the US, it was purposively selected and cannot be expected to be representative of US outpatients with anxiety disorders. The fact that patients were referred by their PCPs suggests that this group may have been biased towards being more difficult to treat, and the generalizability of our findings should be considered in that context. Although this can be viewed as a limitation, that kind of sample is probably more relevant from a public health point of view since the spontaneous remitters or rapid responders are unlikely to occupy clinician time and service delivery resources.

Our methods for assessing quality of pharmacotherapy and psychotherapy, though built upon our prior work in this area<sup>12</sup> are still subject to possible response biases and to errors in reporting. In future work, it would be useful to have available objective measures of quality (e.g., from direct review of medical records) that do not rely on patient self-reporting. It could also be argued that our definition of quality psychotherapy was either too narrow or too broad. It is clear from our data that the mere act of seeing a therapist did not increase satisfaction with care. Although we based our quality indicators on the reported inclusion of particular CBT elements in therapy, critics might argue that other more subtle (e.g., sense by the patient that the therapist was empathic) or less CBT-specific indicators of quality – taking into consideration the possibility that other forms of psychotherapy may be useful for anxiety disorders<sup>33</sup> – should also have been included. Accordingly, additional research is needed to map out the various means by which quality and satisfaction can be increased.

Regardless of the explanation for the finding that CBT provision was strongly associated with satisfaction, the finding is robust and leads to the obvious recommendation that CBT should be included more often if the aim is to improve satisfaction with outpatient care for anxiety disorders. This recommendation would be even stronger if it is shown that the inclusion of CBT leads not only to greater satisfaction, but to improved symptomatic and functional outcomes. We are hopeful that future results from the CALM study, which included the option of a brief, computer-assisted form of CBT for primary care outpatients with anxiety disorders<sup>19;27;34</sup> will further inform this recommendation.

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## References

1. Kessler RC, Chiu WT, Demler O, et al. Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 2005; 62:617–627. [PubMed: 15939839]
2. Alonso J, Angermeyer MC, Bernert S, et al. Disability and quality of life impact of mental disorders in Europe: results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project. *Acta Psychiatr Scand*. 2004; (Suppl):38–46. [PubMed: 14674957]
3. Rapaport MH, Clary C, Fayyad R, et al. Quality-of-Life Impairment in Depressive and Anxiety Disorders. *Am J Psychiatry*. 2005; 162:1171–1178. [PubMed: 15930066]
4. Saarni SI, Suvisaari J, Sintonen H, et al. Impact of psychiatric disorders on health-related quality of life: general population survey. *Br J Psychiatry*. 2007; 190:326–332. [PubMed: 17401039]
5. Sareen J, Jacobi F, Cox BJ, et al. Disability and poor quality of life associated with comorbid anxiety disorders and physical conditions. *Arch Intern Med*. 2006; 166:2109–2116. [PubMed: 17060541]
6. Stein MB, Roy-Byrne PP, Craske MG, et al. Functional Impact and Health Utility of Anxiety Disorders in Primary Care Outpatients. *Med Care*. 2005; 43:1164–1170. [PubMed: 16299426]
7. Wang PS, Demler O, Olfson M, et al. Changing profiles of service sectors used for mental health care in the United States. *Am J Psychiatry*. 2006; 163:1187–1198. [PubMed: 16816223]
8. Wang PS, Aguilar-Gaxiola S, Alonso J, et al. Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO world mental health surveys. *Lancet*. 2007; 370:841–850. [PubMed: 17826169]
9. Roy-Byrne PP, Russo J, Dugdale DC, et al. Undertreatment of panic disorder in primary care: role of patient and physician characteristics. *J Am Board Fam Pract*. 2002; 15:443–450. [PubMed: 12463289]
10. Harman JS, Rollman BL, Hanusa BH, et al. Physician office visits of adults for anxiety disorders in the United States, 1985–1998. *J Gen Intern Med*. 2002; 17:165–172. [PubMed: 11929501]
11. Stein MB. Attending to anxiety disorders in primary care. *J Clin Psychiatry*. 2003; 64 (Suppl 15): 35–39. [PubMed: 14658989]
12. Stein MB, Sherbourne CD, Craske MG, et al. Quality of care for primary care patients with anxiety disorders. *Am J Psychiatry*. 2004; 161:2230–2237. [PubMed: 15569894]
13. Kroenke K, Spitzer RL, Williams JB, et al. Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. *Ann Intern Med*. 2007; 146:317–325. [PubMed: 17339617]
14. Liebschutz J, Saitz R, Brower V, et al. PTSD in urban primary care: high prevalence and low physician recognition. *J Gen Intern Med*. 2007; 22:719–726. [PubMed: 17503105]
15. Fernandez A, Haro JM, Martinez-Alonso M, et al. Treatment adequacy for anxiety and depressive disorders in six European countries. *Br J Psychiatry*. 2007; 190:172–173. [PubMed: 17267936]
16. Kessler RC, Demler O, Frank RG, et al. Prevalence and treatment of mental disorders, 1990 to 2003. *N Engl J Med*. 2005; 352:2515–2523. [PubMed: 15958807]
17. Wang PS, Lane M, Olfson M, et al. Twelve-month use of mental health services in the United States: results from the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 2005; 62:629–640. [PubMed: 15939840]
18. Weisberg RB, Dyck I, Culpepper L, et al. Psychiatric Treatment in Primary Care Patients With Anxiety Disorders: A Comparison of Care Received From Primary Care Providers and Psychiatrists. *Am J Psychiatry*. 2007; 164:276–282. [PubMed: 17267791]
19. Sullivan G, Craske MG, Sherbourne C, et al. Design of the Coordinated Anxiety Learning and Management (CALM) study: innovations in collaborative care for anxiety disorders. *Gen Hosp Psychiatry*. 2007; 29:379–387. [PubMed: 17888803]
20. Blanco C, Patel SR, Liu L, et al. National trends in ethnic disparities in mental health care. *Med Care*. 2007; 45:1012–1019. [PubMed: 18049340]
21. Stockdale SE, Lagomasino IT, Siddique J, et al. Racial and ethnic disparities in detection and treatment of depression and anxiety among psychiatric and primary health care visits, 1995–2005. *Med Care*. 2008; 46:668–677. [PubMed: 18580385]

22. Givens JL, Houston TK, Van Voorhees BW, et al. Ethnicity and preferences for depression treatment. *Gen Hosp Psychiatry*. 2007; 29:182–191. [PubMed: 17484934]
23. Means-Christensen AJ, Sherbourne CD, Roy-Byrne PP, et al. Using five questions to screen for five common mental disorders in primary care: diagnostic accuracy of the Anxiety and Depression Detector. *Gen Hosp Psychiatry*. 2006; 28:108–118. [PubMed: 16516060]
24. Sheehan DV, Lecrubier Y, Sheehan KH, et al. The Mini-International Neuropsychiatric Interview (M.I.N.I.): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiatry*. 1998; 59 (Suppl 20):22–33. [PubMed: 9881538]
25. Campbell-Sills L, Norman SB, Craske MG, et al. Validation of a brief measure of anxiety-related severity and impairment: the Overall Anxiety Severity and Impairment Scale (OASIS). *J Affect Disord*. 2009; 112:92–101. [PubMed: 18486238]
26. Rush AJ, Zimmerman M, Wisniewski SR, et al. Comorbid psychiatric disorders in depressed outpatients: demographic and clinical features. *J Affect Disord*. 2005; 87:43–55. [PubMed: 15894381]
27. Roy-Byrne P, Veitengruber JP, Bystritsky A, et al. Brief intervention for anxiety in primary care patients. *J Am Board Fam Med*. 2009; 22:175–186. [PubMed: 19264941]
28. Leon AC, Olfson M, Portera L, et al. Assessing psychiatric impairment in primary care with the Sheehan Disability Scale. *Psychopharmacology Bulletin*. 1996; 32:474.
29. Young AS, Klap R, Sherbourne CD, et al. The quality of care for depressive and anxiety disorders in the United States. *Arch Gen Psychiatry*. 2001; 58:55–61. [PubMed: 11146758]
30. Olfson M, Marcus SC, Wan GJ, et al. National trends in the outpatient treatment of anxiety disorders. *J Clin Psychiatry*. 2004; 65:1166–1173. [PubMed: 15367042]
31. Smolders M, Laurant M, Roberge P, et al. Knowledge transfer and improvement of primary and ambulatory care for patients with anxiety. *Can J Psychiatry*. 2008; 53:277–293. [PubMed: 18551849]
32. Lang AJ. Mental health treatment preferences of primary care patients. *J Behav Med*. 2005; 28:581–586. [PubMed: 16228695]
33. Leichenring F, Salzer S, Jaeger U, et al. Short-term psychodynamic psychotherapy and cognitive-behavioral therapy in generalized anxiety disorder: a randomized, controlled trial. *Am J Psychiatry*. 2009; 166:875–881. [PubMed: 19570931]
34. Craske MG, Rose RD, Lang A, et al. Computer-assisted delivery of cognitive behavioral therapy for anxiety disorders in primary-care settings. *Depress Anxiety*. 2009; 26:235–242. [PubMed: 19212970]

**Table 1**

Demographic and Diagnostic Characteristics of the Sample (N=1004)

	N (%)	
Sex	Males	290 (28.9)
	Females	714 (71.1)
Age	Over 50	317 (31.6)
	50 or younger	687 (68.4)
Education	Some college or more	782 (78.0)
	Less than college	220 (22.0)
Race	Caucasian (non-Hispanic)	568 (56.6)
	Hispanic	196 (19.5)
	African American	116 (11.6)
	Other or Unspecified	124 (12.4)
Chronic Illnesses	2 or more	422 (42.0)
	1 or none	582 (58.0)
Generalized Anxiety Disorder	Yes	756 (75.3)
Panic Disorder	Yes	475 (47.3)
Social Anxiety Disorder	Yes	405 (40.3)
Posttraumatic Stress Disorder	Yes	181 (18.0)
Number of Anxiety Disorders	1	421 (41.9)
	2	387 (38.6)
	3	162 (16.1)
	4	34 (3.4)
Comorbid Major Depression	Yes	648 (64.5)

Table 2

## Indicators of Quality of Care for Anxiety

	Any Anxiety Disorder (N=1004)	Panic Disorder (N=475)	Social Anxiety Disorder (N=405)	Posttraumatic Stress Disorder (N=181)	Generalized Anxiety Disorder (N=756)
Any psychotropic	63.3%	66.7%	65.4%	62.4%	61.9%
Any appropriate anti-anxiety medication	57.4%	60.2%	59.3%	57.5%	56.5%
Any appropriate anti-anxiety medication at adequate dose	46.3%	47.4%	44.5%	48.0%	46.3%
<b>Any appropriate anti-anxiety medication at adequate dose for 2+ months*</b>	<b>29.1%</b>	<b>28.1%</b>	<b>30.2%</b>	<b>34.4%</b>	<b>29.3%</b>
Any counseling	92.9%	94.1%	93.9%	92.2%	93.5%
Counseling with at least 1 CBT element	46.3%	50.1%	46.2%	50.8%	47.9%
<b>Counseling with 3+ CBT elements**</b>	<b>21.2%</b>	<b>22.1%</b>	<b>21.5%</b>	<b>23.8%</b>	<b>22.8%</b>
Counseling with 3+ CBT elements delivered consistently	4.5%	4.6%	4.0%	7.2%	4.4%
<b>Counseling with 3+ CBT elements, or appropriate anti-anxiety medication at adequate dose for 2+ months***</b>	<b>41.4%</b>	<b>41.8%</b>	<b>43.7%</b>	<b>50.6%</b>	<b>43.8%</b>

\* Indicator of quality pharmacotherapy for anxiety

\*\* Indicator of quality psychotherapy for anxiety

\*\*\* Indicator of overall quality care for anxiety

**Table 3**

Factors Associated with Satisfaction with Mental Health Care Provided

<b>Factor</b>	<b>Odds Ratio</b>	<b>P value</b>	<b>[95% Conf. Interval]</b>
Female	1.34	0.060	[0.99 – 1.82]
Age (years)	0.99	0.185	[0.98 – 1.00]
Married	0.83	0.203	[0.62 – 1.11]
College education	0.50	0.000	[0.36 – 0.71]
Hispanic ethnicity	1.04	0.816	[0.73 – 1.50]
2 or More Chronic Illnesses	0.92	0.577	[0.68 – 1.23]
Comorbid Depression	1.18	0.309	[0.86 – 1.61]
Sheehan Disability Index	0.96	0.000	[0.94 – 0.98]
Quality Pharmacotherapy	1.00	0.979	[0.74 – 1.35]
Quality Psychotherapy	2.71	0.000	[1.94 – 3.80]