Probability and Predictors of First Treatment Contact for Anxiety Disorders in the United States: Analysis of Data From the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)

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ABSTRACT

Background: Despite the high prevalence of anxiety disorders and the demonstrated efficacy of their treatment, most individuals with anxiety disorders never utilize mental health services.

Objective: To identify predictors of treatment-seeking for *DSM-IV* anxiety disorders from a range of sociodemographic factors and comorbid mental disorders.

Design: Survival analysis with time-varying covariates was performed using data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC).

Setting: Face-to-face interviews conducted in the United States.

Participants: 34,653 respondents, aged 18 years and older, from the 2004–2005 Wave 2 NESARC.

Main Outcome Measure: The cumulative probability of treatment-seeking (assessed by the Alcohol Use Disorder and Associated Disabilities Interview Schedule–*DSM-IV* version, Wave 2 version) across the anxiety disorders in 1 year, 10 years, and lifetime and the median delay to the first treatment contact.

Results: Most individuals with panic disorder sought treatment within the same year of disorder onset, whereas the median delays to first treatment contact for generalized anxiety disorder, specific phobia, and social anxiety disorder were 1 year, 13 years, and 16 years, respectively. Several personality disorders and earlier age at anxiety disorder onset decreased the probability of treatment contact. By contrast, younger cohort membership, a recent change in marital status, treatment for a psychiatric disorder other than substance use disorder, and comorbid anxiety disorders increased the lifetime probability of treatment contact.

Conclusions: Treatment-seeking rates for most anxiety disorders are low, are associated with long delays, and sometimes are hindered by co-occurrence of other psychopathology. These patterns highlight the complex interplay of personal characteristics, individual psychopathology, and social variables in the treatment-seeking process.

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Despite the high prevalence of anxiety disorders[1] and the demonstrated efficacy of their treatment,[2–5] most individuals with anxiety disorders never utilize mental health services.[6,7] Because the quality of life of adults with anxiety disorders equals or falls below that associated with several chronic general medical diseases,[8] identifying factors that promote treatment-seeking for anxiety disorders is a matter of considerable public health concern.

A few prior studies[9–15] have examined the probability and predictors of treatment-seeking for anxiety disorders. According to the National Comorbidity Survey, substantial variation exists in the cumulative lifetime probability of treatment-seeking among anxiety disorders, ranging from social anxiety disorder and specific phobias (31%) to panic disorder (73%).[9] There was also substantial variation in the probability of treatment contact in the year after disorder onset. For example, individuals with panic disorder (50%) are far more likely than those with phobias (10%) to seek treatment in the year after disorder onset. A decade later, results from the National Comorbidity Survey Replication revealed similar variation in treatment-seeking across anxiety disorders.[10]

Prior studies have also identified several sociodemographic predictors of treatment-seeking, including female gender,[11–13] higher educational attainment,[11] white race,[14] and widowed, separated, or divorced marital status.[12] Belonging to younger cohorts[9,10,12,13] also increased the probability of treatment contact, whereas having an early onset of the disorder was associated with longer delays in treatment-seeking.[15]

Little is known about the role of psychiatric comorbidity in the probability and timing of mental health treatment-seeking among individuals with anxiety disorders. Prior studies[13,16,17] have suggested that comorbidity may influence the time to first treatment contact and that co-occurring anxiety disorders, specific phobia, panic disorder, and generalized anxiety disorder may shorten the time to first treatment for other psychiatric disorders including major depressive disorder and prescription opioid use disorder. However, whether comorbid psychiatric disorders influence time to first treatment contact for anxiety disorders is unknown. A greater understanding of these relationships will help to focus outreach efforts on individuals at especially high risk for long delays in treatment-seeking for their anxiety disorders. We sought to build on prior findings by examining the effects on the lifetime cumulative probability of first treatment contact of a broad range of sociodemographic characteristics and to extend this line of

research to include a focus on the role of comorbid *DSM-IV* Axis I and II disorders. We draw on data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a large nationally representative sample of US adults. We hypothesized that, consistent with prior studies, later age at onset, younger cohorts, female gender, psychiatric comorbidity, and not belonging to a racial or ethnic minority would emerge as predictors of treatment-seeking.

- There is broad variation in time to first treatment contact for anxiety disorders, ranging from 1 year for panic disorder to 16 years for social anxiety disorder.
- Early onset of a disorder and presence of comorbid personality disorders are frequently associated with longer delays in treatment-seeking for anxiety disorders.
- Prior mental health treatment, but not prior substance abuse treatment, increases the probability of treatment-seeking for anxiety disorder, indicating problems with the integration of treatment of anxiety and substance use disorders.

Clinical Points

METHOD

Sample

This study used data from the 2004–2005 Wave 2 NESARC.[18] The target population was the civilian, noninstitutionalized population in the United States, aged 18 years and older, and residing in households and group quarters (eg, college quarters, group homes, boarding houses, and nontransient hotels). In Wave 2, attempts were made to conduct face-to-face reinterviews with all 43,093 respondents to the Wave 1 interview. Excluding respondents ineligible for the Wave 2 interview (eg, deceased), the Wave 2 response rate was 86.7%; thus, 34,653 respondents completed Wave 2 interviews. Wave 2 responders contributed to Wave 1 and 2. Sample weights were developed to additionally adjust for Wave 2 nonresponse.[19] Comparisons between Wave 2 respondents and the target population (comprising Wave 2 respondents and eligible nonrespondents) indicated that there were no significant differences in terms of a number of baseline (Wave 1) sociodemographic measures or the presence of any lifetime substance, mood, anxiety, or personality disorder.[20]

Assessment

Data were collected using the National Institute on Alcohol Abuse and Alcoholism's Alcohol Use Disorder and Associated Disabilities Interview Schedule–*DSM-IV* Version (AUDADIS-IV),[21] Wave 2 version.[22] The AUDADIS-IV is a structured diagnostic interview, developed to advance measurement of substance use and mental disorders in large-scale surveys.[23,24]

On the basis of *DSM-IV* criteria, social anxiety disorder was diagnosed by the presence of a marked and persistent fear of one or more social or performance situations in which the respondent is exposed to unfamiliar people or to the possible scrutiny of others. Diagnosis required that exposure to the feared situation(s) almost invariably provoked anxiety, that the respondent recognized the fear as excessive or unreasonable, and that social anxiety was associated with avoidance of the feared situations or resulted in intense anxiety or distress. Generalized anxiety disorder was diagnosed when excessive and uncontrollable anxiety and worry were present more days than not for at least 6 months, accompanied by at least 3 of 6 symptoms of restlessness, fatigue, impaired concentration, irritability, muscle tension, or sleep disturbance, as outlined by *DSM-IV*. Panic disorder was diagnosed when the respondent endorsed a recurrence of unexpected discrete periods of intense fear or discomfort, during which times 4 or more *DSM-IV* panic symptoms developed abruptly and reached a peak within 10 minutes. Symptoms had to be accompanied by a persistent concern about having additional attacks, worry about the implications of the attacks, or significant behavioral change related to the attacks. Specific phobia (*DSM-IV*) was diagnosed when the respondent endorsed the presence of a marked or persistent fear that was cued by the presence or anticipation of a specific object or situation. Exposure to the feared object or situation had to invariably provoke an immediate and excessive or unreasonable anxiety response, and the respondent had to recognize that the fear was excessive or unreasonable.

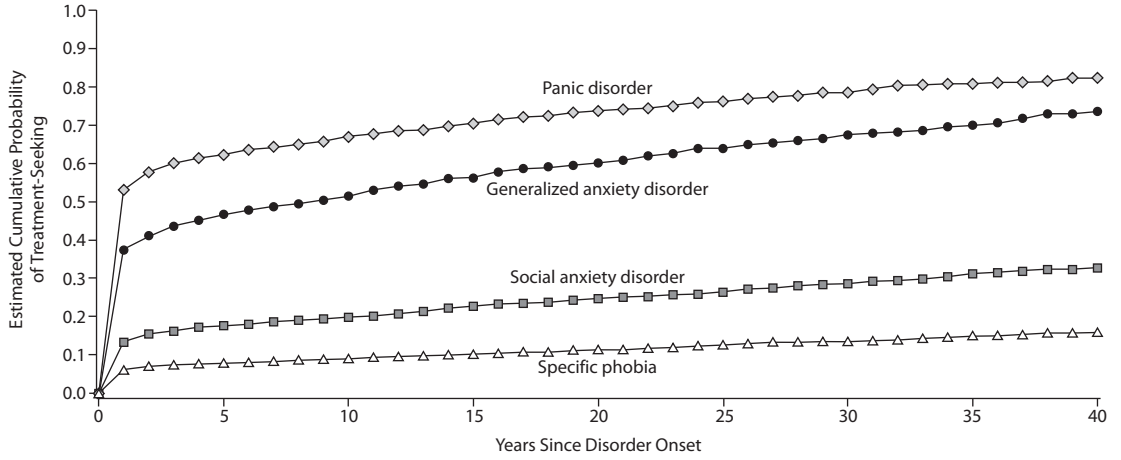
For each anxiety disorder, diagnosis required the *DSM-IV* clinical significance criterion in addition to sufficient symptom endorsements. The AUDADIS-IV also evaluated all potential diagnostic rule-outs in accord with *DSM-IV* (eg, symptoms due to direct physical effects of a substance or general medical condition, or better accounted for by another mental disorder). Respondents were considered to have sought treatment if they reported having ever gone to any kind of counselor, therapist, doctor, psychologist, or any other service provider to receive help for their anxiety symptoms.

Statistical Analyses

Among respondents with lifetime anxiety disorders, weighted cross-tabulations were used to calculate the proportion who had ever sought treatment for anxiety disorders overall and by respondent sociodemographic and clinical characteristics by using a Cox proportional hazard regression model with time-varying covariates.

To assess the effects of sociodemographic and clinical characteristics on time to first anxiety disorder treatment contact, survival analysis models with time-varying covariates were performed. Retrospective follow-up time started at age of anxiety disorder onset and terminated at age of first treatment contact. The probability of treatment-seeking for each anxiety disorder was first modeled separately for each individual sociodemographic and diagnostic predictor and again in a single model that controlled for the potentially confounding effects of sex, race or ethnicity, nativity, age at anxiety disorder onset, education years, marital status, and each of the other Axis I and II psychiatric diagnostic categories. Comorbid mental disorders, respondent age,

Figure 1. Probability of Treatment-Seeking for Anxiety Disorders Since Onset of Diagnosis



marital status, and educational level were also added as variables varying over time.

Personality disorders were coded as lifetime disorders with onset at age 18. Results are reported as adjusted hazard ratios with associated 95% CIs. Standard errors and 95% CIs for all analyses were estimated using SUDAAN software (Research Triangle Institute; Research Triangle Park, North Carolina) to adjust for the complex design of the NESARC.

RESULTS

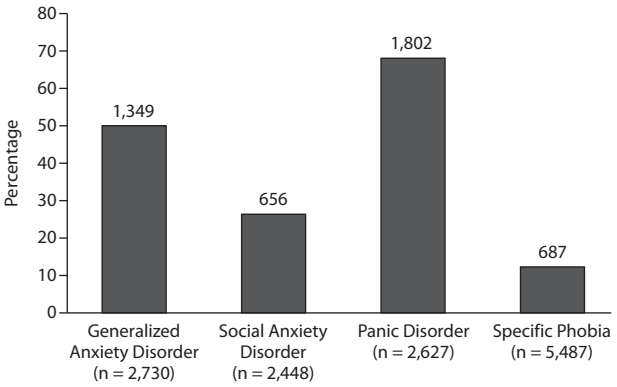
Speed to Initial Treatment-Seeking

The cumulative probability of treatment-seeking varied across the anxiety disorders. Panic disorder was associated with the fastest, and specific phobia the slowest, speed to treatment (Figure 1). In the first year following disorder onset, individuals with panic disorder (53%) were nearly 9 times more likely than those with specific phobia (6%) to have sought treatment. Treatment-seeking in the first year following disorder onset was intermediate for generalized anxiety disorder (38%) and social anxiety disorder (14%). Among those who ever sought treatment, more than half of individuals with panic disorder sought treatment within the year of disorder onset, whereas the median delays to first treatment contact for generalized anxiety disorder, specific phobia, and social anxiety disorder were 1 year, 13 years, and 16 years, respectively (see Figure 1). The percentages of people who had sought treatment by the date of the interview varied by disorder: panic disorder (67.51%), generalized anxiety disorder (49.84%), social anxiety disorder (26.02%), and specific phobia (12.51%) (Figure 2).

Demographic Correlates of Treatment-Seeking

Regarding sociodemographic characteristics, men with generalized anxiety disorder had longer delays than women to first treatment contact, but there were no other gender or racial/ethnic differences in rates of treatment-seeking for any other anxiety disorder. Later age at onset was associated with shorter treatment delays for all the anxiety disorders. Respondents with fewer years of education were less likely

Figure 2. Percentage of Individuals Who Had Sought Treatment at the Time of Interview, Shown by Each Anxiety Disorder



to seek treatment for all the anxiety disorders except for panic disorder, for which no significant differences were found between the different levels of formal education. Widowed, separated, or divorced marital status decreased the likelihood of seeking treatment for generalized anxiety disorder, whereas married individuals were more likely to seek treatment for social anxiety disorder but were less likely to seek treatment for panic disorder. Individuals with anxiety disorders who had any change in their marital status within a year from the interview were more likely to seek treatment. Having received treatment for a mental disorder other than a substance use disorder strongly predicted help-seeking for all anxiety disorders (Table 1).

Psychiatric Comorbidity Correlates of Treatment-Seeking

After adjusting for the effects of other covariates, we found that several comorbid mental disorders independently affected the probability of treatment-seeking for anxiety disorders. Several personality disorders decreased the probability of treatment-seeking. Individuals with avoidant personality disorder were less likely to seek treatment for

Table 1. Effects of Sociodemographic Variables on Treatment Contact in Individuals With Each Anxiety Disorder[a]

	Generalized Anxiety Disorder (n = 2,624)				Social Anxiety Disorder (n = 2,367)				Panic Disorder (n = 2,524)				Specific Phobia (n = 5,352)			
			Adjusted				Adjusted				Adjusted				Adjusted	
Variable	HR	95% CI	HR[b]	95% CI	HR	95% CI	HR[b]	95% CI	HR	95% CI	HR[b]	95% CI	HR	95% CI	HR[b]	95% CI
Sex																
Male	**0.69**	**0.55–0.86**	**0.78**	**0.66–0.93**	0.86	0.68–1.10	1.12	0.89–1.42	0.90	0.71–1.14	1.11	0.96–1.30	0.84	0.65–1.08	0.90	0.70–1.16
Female	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00
Race/ethnicity																
White	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00
Black	0.87	0.66–1.15	0.84	0.68–1.04	1.27	0.94–1.71	0.87	0.64–1.19	1.02	0.80–1.31	0.84	0.68–1.03	**0.63**	**0.46–0.88**	**0.73**	**0.53–0.99**
Native American	1.08	0.61–1.90	1.01	0.71–1.45	0.96	0.57–1.62	1.00	0.62–1.63	0.92	0.55–1.53	1.01	0.72–1.41	1.12	0.61–2.04	1.09	0.64–1.86
Asian	0.93	0.36–2.37	1.13	0.55–2.29	1.46	0.56–3.82	1.25	0.59–2.64	**0.45**	**0.21–0.97**	0.73	0.45–1.19	0.69	0.26–1.82	1.06	0.44–2.54
Hispanic	0.88	0.69–1.12	0.82	0.66–1.03	1.44	0.98–2.12	1.08	0.75–1.56	1.13	0.86–1.47	1.03	0.83–1.28	1.02	0.73–1.41	1.04	0.74–1.46
Nativity																
US born	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00
Foreign born	0.94	0.66–1.33	1.20	0.92–1.57	1.09	0.70–1.67	0.99	0.69–1.44	**0.71**	**0.52–0.95**	0.80	0.61–1.05	0.74	0.51–1.09	0.71	0.50–1.01
Age at onset	**1.15**	**1.12–1.17**	**1.12**	**1.10–1.14**	**1.10**	**1.09–1.12**	**1.06**	**1.05–1.07**	**1.15**	**1.13–1.17**	**1.13**	**1.11–1.15**	**1.09**	**1.08–1.10**	**1.06**	**1.05–1.07**
Years of education																
0–11	**0.65**	**0.46–0.91**	**0.69**	**0.54–0.88**	**0.64**	**0.43–0.96**	0.78	0.54–1.12	0.81	0.58–1.14	1.00	0.78–1.27	**0.64**	**0.45–0.91**	**0.65**	**0.46–0.91**
12	0.82	0.64–1.07	**0.79**	**0.65–0.97**	**0.71**	**0.52–0.98**	0.75	0.57–1.00	0.91	0.70–1.18	1.04	0.85–1.26	**0.68**	**0.51–0.91**	**0.59**	**0.44–0.78**
13–15	0.92	0.72–1.18	0.94	0.79–1.11	0.84	0.62–1.15	**0.67**	**0.50–0.90**	1.09	0.85–1.41	1.02	0.86–1.22	0.86	0.66–1.12	0.64	0.50–0.82
≥ 16	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00
Cohort																
1976–1985	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00
1966–1975	0.85	0.58–1.24	1.04	0.72–1.52	**0.55**	**0.36–0.83**	**0.71**	**0.48–1.03**	0.88	0.64–1.22	1.00	0.78–1.29	**0.44**	**0.28–0.72**	**0.57**	**0.35–0.94**
1956–1965	**0.64**	**0.43–0.95**	1.01	0.70–1.46	**0.23**	**0.14–0.35**	**0.43**	**0.28–0.66**	**0.64**	**0.46–0.90**	0.84	0.64–1.11	**0.23**	**0.13–0.39**	**0.46**	**0.26–0.81**
1946–1955	**0.41**	**0.27–0.63**	0.82	0.55–1.21	**0.09**	**0.05–0.14**	**0.27**	**0.16–0.44**	**0.32**	**0.22–0.46**	**0.53**	**0.39–0.72**	**0.10**	**0.05–0.19**	**0.29**	**0.16–0.55**
1936–1945	**0.23**	**0.14–0.35**	0.75	0.50–1.13	**0.02**	**0.01–0.05**	**0.15**	**0.07–0.30**	**0.17**	**0.10–0.26**	**0.43**	**0.30–0.62**	**0.02**	**0.01–0.05**	**0.16**	**0.08–0.35**
1901–1935	**0.09**	**0.04–0.17**	**0.52**	**0.28–0.99**	**0.00**	**0.00–0.01**	**0.04**	**0.02–0.10**	**0.11**	**0.06–0.19**	**0.40**	**0.24–0.68**	**0.00**	**0.00–0.01**	**0.06**	**0.02–0.17**
Marital status																
Married/living with someone as if married	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00	1.00	1.00–1.00
Widowed/separated/divorced/ stopped living with someone as if married	1.00	0.81–1.23	0.85	0.71–1.02	**1.63**	**1.24–2.15**	0.95	0.71–1.27	1.12	0.91–1.38	0.95	0.81–1.11	**1.39**	**1.08–1.81**	0.77	0.59–1.00
Never married	0.97	0.79–1.21	0.92	0.76–1.11	**2.24**	**1.68–2.98**	**1.39**	**1.06–1.82**	1.04	0.85–1.27	0.90	0.77–1.06	1.30	0.96–1.76	0.80	0.61–1.07
Marital transition (any change in marital status)	**1.88**	**1.61–2.20**	**1.18**	**1.01–1.37**	**3.47**	**2.88–4.17**	**1.27**	**1.05–1.54**	**1.80**	**1.57–2.07**	1.12	0.99–1.27	**3.74**	**2.99–4.67**	**1.57**	**1.24–1.98**
Past substance use treatment[c] (including alcohol use disorder and drug use disorder)	1.23	0.91–1.66	1.11	0.87–1.41	**3.11**	**2.22–4.36**	0.95	0.72–1.25	**1.56**	**1.18–2.05**	1.08	0.88–1.32	**3.22**	**2.33–4.44**	1.12	0.84–1.49
Past mental health treatment[c] (including mood disorder, anxiety disorder [excluding posttraumatic stress disorder], and attention-deficit/hyperactivity disorder)	**4.80**	**3.96–5.82**	**3.86**	**3.24–4.60**	**16.11**	**12.21–21.24**	**7.00**	**5.24–9.34**	**2.93**	**2.42–3.55**	**2.39**	**2.06–2.77**	**11.27**	**8.85–14.35**	**4.63**	**3.48–6.16**

[a]Data from the National Epidemiologic Survey on Alcohol and Related Conditions, Wave 2. Significant results are in bold type. [b]Adjusted by sex, race, nativity, and age at onset. [c]Time-varying variable with a value of 1 from the first year of treatment contact onward and 0 otherwise.
Abbreviation: HR = hazard ratio.

Table 2. Effects of Comorbidity on Treatment Contact in Individuals With Each Anxiety Disorder[a]

	Generalized Anxiety Disorder (n = 2,624)				Social Anxiety Disorder (n = 2,367)				Panic Disorder (n = 2,524)				Specific Phobia (n = 5,352)			
			Adjusted				Adjusted				Adjusted				Adjusted	
Variable	HR	95% CI	HR[b]	95% CI	HR	95% CI	HR[b]	95% CI	HR	95% CI	HR[b]	95% CI	HR	95% CI	HR[b]	95% CI
Any alcohol use disorder	1.19	0.97–1.46	1.13	0.94–1.36	**1.42**	**1.09–1.86**	1.11	0.85–1.45	**1.26**	**1.04–1.54**	1.08	0.91–1.28	**1.64**	**1.24–2.18**	1.17	0.84–1.62
Any drug use disorder	1.15	0.84–1.56	1.13	0.88–1.45	**2.22**	**1.47–3.35**	0.88	0.64–1.21	1.03	0.75–1.42	0.84	0.65–1.07	**2.90**	**1.91–4.39**	1.20	0.76–1.90
Nicotine dependence	1.23	1.00–1.52	0.94	0.78–1.12	**2.07**	**1.53–2.79**	1.02	0.79–1.32	**1.33**	**1.08–1.64**	0.97	0.84–1.12	**1.81**	**1.40–2.34**	0.81	0.60–1.08
Mood disorders	**2.01**	**1.69–2.38**			**4.34**	**3.45–5.46**			**1.60**	**1.34–1.91**			**4.20**	**3.40–5.18**		
Dysthymia	**1.34**	**1.03–1.73**	0.92	0.75–1.13	**2.71**	**1.86–3.93**	1.30	0.92–1.83	**1.60**	**1.19–2.14**	1.09	0.90–1.33	**3.47**	**2.27–5.32**	1.43	0.90–2.28
Major depressive disorder	**1.73**	**1.42–2.11**	1.03	0.88–1.22	**2.74**	**2.11–3.56**	1.10	0.84–1.43	**1.40**	**1.14–1.72**	0.95	0.82–1.11	**2.47**	**1.93–3.15**	0.83	0.65–1.07
Bipolar disorder	**1.47**	**1.17–1.85**	**1.23**	**1.02–1.49**	**3.77**	**2.87–4.94**	1.21	0.92–1.59	**1.41**	**1.10–1.81**	1.10	0.94–1.30	**4.70**	**3.54–6.23**	**1.43**	**1.07–1.92**
Any anxiety disorder[c]	**1.46**	**1.22–1.74**			**3.76**	**3.02–4.68**			**1.51**	**1.29–1.78**			**5.50**	**4.40–6.89**		
Generalized anxiety disorder	**4.46**	**3.56–5.57**			**7.12**	**5.48–9.25**	**1.71**	**1.37–2.14**	**2.04**	**1.66–2.50**	1.06	0.92–1.23	**7.36**	**5.65–9.59**	**1.69**	**1.32–2.18**
Social anxiety disorder	**1.35**	**1.08–1.67**	1.13	0.95–1.33	**2.78**	**1.94–3.97**			1.11	0.89–1.39	1.06	0.92–1.23	**3.06**	**2.42–3.86**	**1.40**	**1.12–1.73**
Panic disorder	**2.07**	**1.65–2.60**	**1.25**	**1.05–1.49**	**7.59**	**5.92–9.75**	**2.02**	**1.57–2.61**	**2.42**	**1.96–2.97**			**9.46**	**7.26–12.32**	**2.54**	**1.98–3.24**
Specific phobia	1.18	0.95–1.46	0.94	0.80–1.10	**2.03**	**1.60–2.58**	1.13	0.91–1.40	**1.42**	**1.18–1.71**	1.00	0.87–1.13	**1.46**	**1.08–1.99**		
Posttraumatic stress disorder	**1.48**	**1.17–1.87**	1.00	0.84–1.21	**3.17**	**2.24–4.50**	**0.73**	**0.53–0.99**	**1.94**	**1.47–2.56**	1.12	0.93–1.35	**4.78**	**3.39–6.73**	1.24	0.93–1.65
Any personality disorder	0.98	0.79–1.22			**2.04**	**1.60–2.59**			0.90	0.76–1.07			**1.95**	**1.57–2.43**		
Avoidant	0.86	0.66–1.11	1.01	0.78–1.29	**2.15**	**1.67–2.77**	**1.57**	**1.16–2.12**	0.81	0.61–1.07	**0.77**	**0.62–0.97**	**2.31**	**1.71–3.11**	0.84	0.59–1.21
Dependant	1.32	0.88–1.97	1.00	0.68–1.47	**3.79**	**2.37–6.08**	1.37	0.85–2.20	1.18	0.70–1.97	1.41	0.97–2.04	**3.94**	**2.23–6.98**	1.65	0.98–2.76
Obsessive-compulsive	0.85	0.68–1.07	1.02	0.85–1.23	0.91	0.71–1.17	0.87	0.68–1.11	0.81	0.64–1.02	**0.83**	**0.71–0.97**	0.95	0.71–1.27	**0.72**	**0.53–0.98**
Paranoid	**0.77**	**0.60–0.98**	**0.79**	**0.64–0.97**	**1.49**	**1.12–1.98**	0.90	0.66–1.22	0.81	0.64–1.03	0.84	0.68–1.04	**1.63**	**1.22–2.17**	1.07	0.80–1.42
Schizoid	0.85	0.64–1.13	0.90	0.67–1.20	1.16	0.88–1.55	**0.67**	**0.49–0.92**	0.90	0.64–1.26	1.04	0.84–1.28	**1.51**	**1.11–2.05**	0.83	0.59–1.16
Schizotypal	1.13	0.87–1.46	0.84	0.67–1.04	**2.71**	**2.11–3.48**	1.29	1.00–1.66	1.22	0.97–1.53	0.91	0.74–1.12	**3.09**	**2.28–4.19**	0.93	0.68–1.27
Narcissistic	**1.43**	**1.12–1.82**	1.10	0.91–1.33	**2.77**	**2.05–3.77**	1.17	0.86–1.59	1.12	0.88–1.44	0.90	0.74–1.08	**2.60**	**1.90–3.58**	1.12	0.79–1.61
Borderline	**1.54**	**1.25–1.89**	**1.21**	**1.00–1.47**	**3.81**	**2.92–4.96**	1.12	0.83–1.51	1.24	0.99–1.54	1.10	0.93–1.30	**4.09**	**3.18–5.27**	1.17	0.87–1.57
Histrionic	0.96	0.67–1.37	1.07	0.78–1.46	1.50	0.98–2.30	0.79	0.51–1.23	1.12	0.79–1.60	1.05	0.81–1.37	1.48	0.97–2.27	1.08	0.74–1.57
Antisocial	**0.66**	**0.48–0.93**	**0.67**	**0.49–0.92**	1.40	0.94–2.08	0.88	0.62–1.27	0.84	0.61–1.18	0.87	0.68–1.10	1.29	0.85–1.97	0.65	0.41–1.05
Pathological gambling	0.92	0.28–3.07	0.67	0.22–2.03	1.07	0.26–4.38	1.26	0.26–6.14	1.03	0.41–2.59	0.91	0.50–1.65	1.87	0.68–5.15	0.83	0.24–2.91
Attention-deficit/hyperactivity disorder	1.23	0.89–1.70	0.89	0.71–1.13	**2.50**	**1.64–3.80**	0.84	0.59–1.19	**1.43**	**1.03–1.98**	0.98	0.77–1.24	**2.90**	**1.91–4.41**	0.89	0.62–1.28

[a]Data from the National Epidemiologic Survey on Alcohol and Related Conditions, Wave 2. Significant results are in bold type. [b]Adjusted by sex, race, nativity, and age at onset. [c]Excluding the corresponding anxiety disorder.
Abbreviation: HR = hazard ratio.

panic disorder, whereas those with obsessive-compulsive personality disorder were less likely to seek treatment for specific phobia. Individuals with paranoid personality disorder were less likely to seek treatment for generalized anxiety disorder and panic disorder, while those with schizoid personality disorder were less likely to seek treatment for social anxiety disorder. Furthermore, antisocial personality disorder was associated with lower odds of treatment-seeking for generalized anxiety disorder and specific phobia.

By contrast, some other comorbid mental disorders increased the probability of treatment-seeking. Bipolar disorder significantly increased the probability of treatment-seeking for generalized anxiety disorder (Table 2), whereas generalized anxiety disorder increased the probability of treatment for individuals with social anxiety disorder and specific phobia. Somewhat unexpectedly, having social anxiety disorder increased the likelihood of treatment for specific phobia, whereas, consistent with its prompt speed to treatment, panic disorder increased the likelihood of treatment contact for each of the other anxiety disorders. Among individuals with social anxiety disorder, comorbid avoidant personality disorder or schizotypal personality disorder increased the likelihood of seeking treatment for social anxiety disorder in relation to those without these comorbidities (see Table 2).

DISCUSSION

In a large nationally representative sample of US adults, the lifetime probability of treatment-seeking was highest for panic disorder, followed by generalized anxiety disorder, social anxiety disorder, and specific phobia. Delays to first treatment contact were within a year for panic disorder, a year for generalized anxiety disorder, 13 years for specific phobia, and 16 years for social anxiety disorder. These large differences are most likely due to substantial differences in perceived need or urgency for treatment across anxiety disorders. Several personality disorders and earlier onset of the anxiety disorder decreased the probability of treatment contact for anxiety disorders. By contrast, belonging to a younger cohort, having a recent change in marital status, having had treatment for a psychiatric disorder other than a substance use disorder, or having a comorbid anxiety disorder all increased the lifetime probability of treatment contact. Female gender predicted shorter time until first treatment contact for generalized anxiety disorder, but not for the other anxiety disorders.

Our study is the first to examine in detail the effects of psychiatric comorbidity on patterns of treatment-seeking for anxiety disorders. Our results indicate that having paranoid, antisocial, schizoid, or obsessive-compulsive personality disorder is associated with longer delays in treatment-seeking for generalized anxiety disorder, social anxiety disorder, panic disorder, and specific phobia, in line with the effects of these disorders on treatment-seeking for major depressive disorder.[17] Due to their profound interpersonal difficulties, individuals with paranoid and schizoid personality disorders may be reluctant to engage in the close emotional contact often associated with psychiatric treatment-seeking or may have more difficulty mobilizing their social network to help them obtain treatment. Taken together, these results suggest that personality disorders associated with lower levels of personal attachment tend to interfere with treatment-seeking for internalizing disorders and indicate that higher illness severity, as indexed by the presence of additional psychopathology, does not automatically lead to increased treatment-seeking and can in some cases interfere with the treatment-seeking process. Future studies should examine whether this finding extends to treatment-seeking for substance use disorders and other externalizing disorders.

Some comorbid psychiatric disorders increased the probability of treatment-seeking for anxiety disorders. Among personality disorders, avoidant or schizoid personality disorder increased the probability of treatment-seeking for individuals with social anxiety disorder but not other disorders. This result is consistent with findings that avoidant personality disorder often overlaps with the more severe forms of social anxiety disorder or may even be a more severe variant of social anxiety disorder[25] and suggests that the difficulties in social contact often present in schizoid personality disorder may also exacerbate those of social anxiety disorder and increase the perceived need for treatment. Schizoid personality disorder has previously been hypothesized to be part of a larger spectrum of social anxiety disorders.[26] Among Axis I disorders, the presence of an additional anxiety disorder increased the likelihood of seeking treatment for each of the anxiety disorders except panic disorder, probably due to the ceiling effect of the short time to first treatment contact for this disorder.[13] Comorbid panic disorder and generalized anxiety disorder also predict shorter delays in treatment of major depressive disorder.[17] Overall, these results suggest that panic disorder and generalized anxiety disorder may have a general effect of increasing treatment rates across psychiatric disorders.

Other findings are consistent with prior literature and confirm some factors as stable predictors of treatment-seeking. In line with some prior studies,[9,10,13,27] we found that the lifetime probability of help-seeking was highest among individuals with panic disorder and lowest among individuals with specific phobia. The distressing symptoms of panic attack, such as tachycardia, chest pain, or shortness of breath may prompt individuals to seek treatment in psychiatric or medical settings including emergency departments[28] and to do so sooner than for other disorders, even though generalized anxiety disorder[29] is associated with the lowest quality of life of the anxiety disorders. The treatment-seeking pattern suggests that perceived need may be more important than objective need in determining an individual's decision to seek treatment.[10] The sudden onset of symptoms in panic disorder may also create a greater sense of urgency than the more indolent course of generalized anxiety disorder, social anxiety disorder, and specific phobia.

Only one-half of individuals with social anxiety disorder ever sought treatment despite the high impact of social anxiety disorder on psychosocial functioning and quality

of life[30,31] and its frequent comorbidity with substance use disorders.[32–34] This pattern is consistent with prior studies[9,10] and may reflect the symptoms of the disorder or the individual's belief that social anxiety is an unmodifiable personality trait. Interventions that may not require direct contact with a clinician, at least initially, such as computer interactive or internet-delivered treatments, may help increase treatment access and therefore treatment rates for this prevalent and impairing but often underrecognized disorder.[35,36]

In line with prior studies,[9,10,15,37] we found that earlier onset of anxiety disorders is associated with longer delays to first treatment contact. At younger ages, individuals depend on adults to recognize their symptoms and help them seek treatment. Although early-onset disorders are often more severe and chronic than later-onset disorders, disorders that are not characterized by disruptive behavior may not reach the required threshold of concern necessary[9] to mobilize family resources for treatment. Competing diagnostic and treatment priorities may also interfere with the ability of pediatricians and other health care professionals who serve young people to recognize and treat this group of disorders. However, given the often persistent course of anxiety disorders, the associated disability, and the frequent comorbidity with other mental disorders and general medical disorders,[38,39] increasing treatment of early-onset anxiety constitutes an important opportunity for quality improvement.

Lower educational attainment was associated with diminished treatment-seeking across all the anxiety disorders.[10,17,40,41] Individuals with lower levels of education may have more difficulty recognizing the symptoms of anxiety, be less informed about the efficacy of psychiatric treatments, or have more difficulty accessing mental health services. The only exception to this pattern was panic disorder. As indicated, the symptoms of panic disorder may be so acute, disturbing, or readily confused with urgent cardiac events that individuals seek treatment regardless of their level of education.

Consistent with findings in major depressive disorder,[17] gender predicted time to first treatment for generalized anxiety disorder but not for the other anxiety disorders, indicating that the influence of gender on time to treatment-seeking varies by disorder.[42,43] The reason might differ depending on the disorder. Lack of gender differences in panic disorder may be related to the short time that generally elapses between disorder onset and first treatment-seeking for both genders. In the case of social anxiety disorder, the pressure to seek treatment that men experience may be counterbalanced by the higher general tendency of women to seek mental health treatment.[10,17] Specific phobia may often be perceived as not sufficiently interfering with daily activities to prompt treatment-seeking behavior.

A novel finding in this study was that transitions in marital status increased the probability of seeking treatment for all the anxiety disorders studied. This finding may reflect efforts to diminish anxiety symptoms that are perceived as contributing to maladaptive patterns within relationships. Alternatively, the finding may reflect an increase in the need for treatment associated with changes in relationships.

A history of mental health treatment was strongly associated with increased rates of help-seeking for all anxiety disorders, particularly among disorders with longer delays such as social anxiety disorder and specific phobia. Prior mental health treatment may confer familiarity with mental health help-seeking and be correlated with less stigma and fewer other attitudinal barriers to mental health care-seeking. An important exception is that prior treatment of a substance use disorder did not increase the probability of treatment-seeking for an anxiety disorder, despite the negative impact of anxiety disorders on the course and outcome of substance use disorders.[44] This result highlights the frequent disconnect of the mental health and substance use treatment systems and its negative impact on treatment access and outcome.[45–47]

The study has several limitations. First, as in previous studies of time to treatment-seeking, information about health insurance coverage, income, and geographic location for each year of the person's life was not available. Second, self-report of health care–seeking may be underreported due to the stigma associated with mental health problems and treatment. Third, disorder onset and past treatment may be recalled as occurring more recently than it actually occurred.[10]

Despite these limitations, our findings underscore important differences in the lifetime probability and time of first treatment contact among anxiety disorders and identify important predictors and impediments of treatment-seeking. It is remarkable that having certain personality disorders decreased the probability of lifetime treatment, along with an earlier age at onset, while membership in a younger cohort, a recent change in marital status, treatment for a psychiatric disorder other than a substance use disorder, and comorbid anxiety disorders increase the lifetime probability of treatment contact. These findings highlight the complex interplay of personal characteristics, individual psychopathology, and social variables in the process of treatment-seeking and will hopefully help to target efforts to accelerate the flow of individuals with anxiety disorders into mental health care.

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