Perceived Access to General Medical and Psychiatric Care Among Veterans With Bipolar Disorder

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Objectives. We examined associations between patient characteristics and self-reported difficulties in accessing mental health and general medical care services.

Methods. Patients were recruited from the Continuous Improvement for Veterans in Care–Mood Disorders study. We used multivariable logistic regression analyses to assess whether predisposing (demographic characteristics), enabling (e.g., homelessness), or need (bipolar symptoms, substance abuse) factors were associated with difficulties in obtaining care, difficulties in locating specialty providers, and forgoing care because of cost.

Results. Patients reported greater difficulty in accessing general medical services than in accessing psychiatric care. Individuals experiencing bipolar symptoms more frequently avoided psychiatric care because of cost (odds ratio [OR]=2.43) and perceived greater difficulties in accessing medical specialists (OR=2.06). Homeless individuals were more likely to report hospitalization barriers, whereas older and minority patients generally encountered fewer problems accessing treatment.

Conclusions. Need and enabling factors were most influential in predicting self-reported difficulties in accessing care, subsequently interfering with treatment dynamics and jeopardizing clinical outcomes. Efforts in the Department of Veterans Affairs to expand mental health care access should be coupled with efforts to ensure adequate access to general medical services among patients with chronic mental illnesses. (*Am J Public Health.* 2009;99:720–727. doi: 10.2105/AJPH.2007.131318)

Bipolar disorder is a chronic mental illness associated with substantial functional impairment, health care costs, and premature mortality.[1,2] Patients afflicted with this psychiatric disorder, which is uniquely characterized by alternating periods of mania, psychosis, and depression, require intensive pharmacological and psychosocial management.[3,4] Nearly 70% of the costs associated with treating bipolar disorder are attributable to disproportionately high prevalence rates of co-occurring general medical disorders, foremost including hypertension, alcohol abuse, and diabetes.[5,6] The individual and societal costs of the illness may be considerably underestimated given the related social and occupational instability, stigma, and caregiver burden.[7]

Unfortunately, recent evidence suggests that patients with bipolar disorder and other serious mental illnesses have substantial unmet medical needs or fail to obtain necessary procedures.[8,9] However, little research has explored how these patients, whose treatment is managed primarily within mental health specialty clinics, perceive their level of access to appropriate care for general medical conditions.

Despite the availability of effective therapies, bipolar disorder is often inadequately treated because of other neglected medical conditions along with financial, cultural, or other barriers.[10] Limited access, coupled with poor adherence to treatment,[11] results in a downward-spiraling obstacle to appropriate care through disruptions in regular treatment, deteriorating symptoms, and numerous adverse clinical events. Past examinations have shown that a variety of factors play a role in the access problems experienced by patients with serious mental illnesses, including demographic characteristics, social support, homelessness, comorbidities or illness severity, behavioral and lifestyle choices, cultural values regarding mental illness, health beliefs, and perceptions about treatment convenience or availability.[12–16] Yet, few studies have quantified the effects of these potential barriers to mental health and general medical care, and, until recently, most research efforts focused on schizophrenia rather than bipolar disorder.[17,18]

Health service researchers, medical sociologists, and policy evaluators have used several conceptual models to frame the issue of treatment access and potential barriers. In their seminal work, Penchansky and Thomas described the 5 "A's" of access—affordability, acceptability, accommodation, accessibility (geographic), and availability—to illustrate dimensions of the overall fit between patients and providers.[19] Accessibility and availability are especially relevant in maintaining longitudinal treatment retention among patients with serious mental illnesses, an essential link between access and subsequent outcomes.[20] Becker's Health Belief Model incorporated attitudes about disease susceptibility and treatment benefits, a theoretical foundation frequently employed in access studies.[21] The Institute of Medicine defined access itself as a formal benchmark outcome for health organizations, particularly with respect to members of ethnic minority groups and other patients at risk of encountering access barriers.[22]

Numerous factors influence objective measurements of health care use as well as individual perceptions of access to health care services. In recognition of the complex interplay of patient factors and health beliefs, we employed another conceptual framework, the Andersen–Aday Behavioral Model of Health Care Use,[23] in our study. In the Andersen–Aday model, patient characteristics are categorized into 3 domains, beginning with *predisposing factors*, which are most commonly demographic characteristics or other fixed characteristics. Second, *enabling factors*, i.e., variables that can assist or motivate a patient to seek treatment, including social support, insurance coverage, and a regular source of care, are identified. Finally, *need factors*,

which represent dimensions such as illness severity and the extent of comorbid psychiatric or medical conditions, are defined.

The Andersen–Aday model also recognizes that nonpatient influences, such as health system or environmental factors, are potentially associated with outcomes. When the model was adapted to vulnerable homeless patients, variables were expanded to include ability to navigate a health system and the notion of balancing competing health care demands.[24] Used in studies of various health conditions and populations,[25–27] the Andersen–Aday model is applicable to health service use, treatment adherence, and potential access problems. Enabling factors generally account for the majority of access problems experienced by patients, although demographic characteristics and need factors also play significant roles in determining access among patients with psychiatric conditions.[28]

The prevalence of bipolar disorder in the United States has remained stable at approximately 1% to 2% over the past 2 decades,[29,30] although inclusion of the clinically important bipolar disorder spectrum pushes this rate up to 6%.[31] More significant, there was a 56% increase in the number of patients hospitalized with a primary diagnosis of bipolar disorder from 1996 to 2004,[32] with attitudes toward seeking mental health care substantially improving over time.[33] These trends support the importance of reducing access barriers to psychiatric and medical care across all health care systems.

The Veterans Health Administration (part of the Department of Veterans Affairs [VA]) provided care to nearly 80 000 veterans with bipolar disorder in 2004, up nearly 40% from 1999.[34] The VA, the nation's largest integrated health care system, offers preferential care to disadvantaged patients, and traditionally access and treatment cost barriers have been less restrictive in general than in other health systems. The deinstitutionalization efforts of the mid-1990s greatly expanded outpatient treatment sites,[35] widely considered successful in increasing access to essential care.[36,37] As such, the VA can be viewed as a natural laboratory for studies pertaining to access.

A recent article documented increasing rates of psychiatric disorders among Iraq veterans, patients also suffering from serious physical ailments.[38] Although providing timely access to mental health treatment in primary care settings remains a high VA priority, ensuring appropriate general medical care for a rapidly growing cohort of veterans with chronic mental illnesses is a major emerging issue. Our primary objectives here were to examine self-reported access barriers to mental health and general medical care among patients with bipolar disorder and to explore patient factors associated with these perceptions.

METHODS

We recruited participants from the Continuous Improvement for Veterans in Care–Mood Disorders (CIVIC-MD) study. This naturalistic cohort study, which involved patients undergoing treatment for bipolar disorder at a large urban VA mental health facility in western Pennsylvania from July 2004 through July 2006, examined patient and provider factors associated with treatment quality and outcomes.[39] After providing written informed consent, patients completed a baseline survey with a trained interviewer. To be included, patients were required to have a diagnosis of bipolar disorder, cyclothymia, or schizoaffective disorder–bipolar subtype based on chart review and a confirmatory diagnosis from their provider. The primary exclusion criterion was having an unstable medical condition or cognitive impairment precluding completion of the surveys or provision of informed consent.

We used self-reported data, including patient characteristics, symptomatology, substance use, behavioral factors, and treatment adherence, in conducting our analyses. Also, we assessed patients' perceptions of issues associated with access to mental health and general medical care.

Measures

Dependent variables. We adapted 9 questions from the Cunningham et al. survey[40] to examine difficulties in accessing VA psychiatric and general medical care services, our central outcomes. The Cunningham et al. instrument, derived from the Medical Outcomes Study, addresses several dimensions of access to and perceived difficulties in obtaining care when needed. Patients rated 6 of the items on a 5-point Likert scale (ranging from strongly agree to strongly disagree); for the other 3 questions, patients provided information about appointment wait times, lags between scheduled visits, and whether they had recently been able to access treatment when it was needed.

Patients were asked identical questions regarding access to general medical and mental health treatment. The former was defined as visits to primary care or medical specialists, admissions to the hospital, or emergency department visits for accidents or injuries. The latter included behavioral care provided by a psychiatrist or psychologist, a hospital or urgent care admission with a mental health diagnosis, and substance abuse treatment. Examples of access survey items included whether patients could easily access specialist providers, whether they had difficulty in being admitted to a hospital or urgent care facility when necessary, or whether they occasionally avoided treatment as a result of cost.

In the case of the Likert items, the dependent variables were dichotomized; patients were categorized as having experienced an access problem if they indicated either strong agreement or agreement with a given statement. For the remaining 3 items, poor access was defined as an appointment waiting time of more than 30 minutes, a lag of more than 4 weeks between visits, and failure to receive care within the preceding 6 months.

Independent variables. We selected salient predictive variables, based on the literature and our past work with this sample and focusing on patient-level dynamics, that characterized each of the 3 Andersen–Aday model domains. Representing key predisposing variables were age, gender, and ethnicity. Age was classified into 10-year categories, which improved the interpretability of our estimated odds ratios (ORs) and closely reflected the distribution of a continuous variable. Self-reported patient race/ethnicity was collapsed into 3 categories: White, African American (the predominant minority group in the CIVIC-MD study), and "other." Three enabling factors potentially influencing access perceptions were being homeless within the preceding month, living alone, and relying on either public or VA transportation for scheduled appointments.

Medical or psychiatric need factors included admission for any reason within the preceding year, substance abuse, and current affective disorder symptomatology. Substance abuse

was defined as use in the past year of marijuana, cocaine, stimulants, or other illicit drugs or consumption of 5 or more drinks on a single occasion within the preceding month (as measured via the Alcohol Use Disorders Identification Test[41]). The Internal State Scale, which produces a summary score based on 15 symptoms validated for the identification of manic, depressive, mixed, and euthymic mood states among patients with bipolar disorder, was used to determine the presence of an affective disorder episode.[42]

Study Design and Analysis

The study was cross-sectional in design, and our analyses focused on patients who met the inclusion criteria and were seeking care. We gathered information on the percentage of patients reporting access problems per the Cunningham items, including potential barriers to accessing health care such as distance and travel time to the medical center, and patient characteristics. We used multivariable logistic regression models to predict the probability of perceiving poor access in both the mental health and general medical care domains for each item on the Cunningham et al. instrument. The Hosmer–Lemeshow test (in which the null hypothesis equates to a good model fit) and the area under the receiver-operating curve (the *c* statistic) were used to assess model fit. We used SAS 9.2 (SAS Institute Inc, Cary, NC) to conduct all analyses.

RESULTS

Descriptive Findings

Table 1 summarizes the characteristics of the study population (N=435). Patients' mean age was 49.4 years (SD=10.6); 14% of the participants were women, and 23% were members of ethnic minority groups (including 13% African Americans). Levels of social support, measured according to marital status and living alone, were low. Twelve percent of patients had recently been homeless, and 16% lived more than 50 miles (80 km) from a VA medical center (Table 2). More than two thirds of the sample had attended some college, and 17% had obtained a degree. Substance abuse was quite prevalent, with 28% of the patients reporting drug use in the preceding year, and 21% reporting a recent binge-drinking episode; 55% of the sample experienced affective disorder symptoms.

TABLE 1—Sample Characteristics: Continuous Improvement for Veterans in Care–Mood Disorders Study, 2004–2006

Characteristic	No. (%)
Women[a]	62 (14.3)
Race/ethnicity[a]	
White	336 (77.3)
African American	58 (13.3)
Other	41 (9.4)
Educational level	
Some college	299 (68.7)
College degree	75 (17.3)
Income, $	
< 10 000	134 (31.6)
10 000–20 000	120 (28.3)
20 001–30 000	74 (17.5)
30 001–40 000	52 (12.3)
> 40 000	44 (10.4)
Homeless during past 4 weeks[b]	53 (12.2)
Married	131 (30.2)
Receives non-VA care	206 (47.3)
Lives alone[b]	154 (35.4)
Uses public or VA transportation[b]	129 (29.6)
Current affective disorder episode[c]	240 (55.2)
Substance abuse	
Recent binge drinking episode or past-year drug use[c]	91 (20.9)
Binge drinking or any drug use in past year	123 (28.3)
Admitted within past year[c]	98 (22.5)

Note. VA = Department of Veterans Affairs. The mean age (predisposing factor) of the sample (N = 435) was 49.4 years (SD = 10.6).
[a]Predisposing factor used in multivariable analyses.
[b]Enabling factor used in multivariable analyses.
[c]Need factor used in multivariable analyses.

The profile of our sample was representative of all VA patients with bipolar disorder per the National Psychosis Registry[34]; overall, VA patients' average age is 51 years, 13% are women, 12% are African American, 34% are married, 11% are homeless, 15% travel more than 50 miles for VA care, and the substance abuse prevalence rate is 31%. Study cohort and registry differences in overall inpatient days, psychiatric days, outpatient visits, and medication use were also minimal. The majority of our study population served in the Vietnam War era, suffered from chronic bipolar disorder, and had received VA treatment for many years.

Table 2 shows the percentages of patients experiencing access problems, reporting distance and transportation barriers, and reporting perceived difficulties in obtaining care when needed. About one third of the patients traveled more than an hour to receive care, approximately 30% required public transportation or a VA shuttle to access services, and another 20% relied primarily on friends or family members to drive them. Across treatment domains, 8% to 69% of patients acknowledged problems accessing specific mental health or general medical services, including difficulty in being admitted for a medical reason (10%), lack of access to psychiatric (23%) or medical (21%) specialists, difficulty locating convenient treatment sites for their mental health condition (15%), and forgoing medical care because of cost (16%). As documented previously,[43] patients' perceptions of their access to general medical care were significantly worse overall than were their perceptions of access to mental health treatment.

Access Problems and Predisposing, Enabling, and Need Factors

In the multivariable models, several patient factors were significantly associated with difficulties in obtaining necessary care; results are summarized in Tables 3 and 4. The overall fit of the model to the data proved to be good ($c = 0.729–0.838$), with highly insignificant Hosmer–Lemeshow values.

With respect to mental health care services, demographic characteristics (i.e., predisposing factors) played a minimal role in perceived access problems; age, gender, and ethnicity were significant in only 3 of the 9 outcomes. With 2 exceptions, the patients potentially at greater risk of experiencing difficulties—older and minority patients—generally fared better than did younger and White patients, respectively. For example, older veterans were less likely to avoid treatment because of cost (OR=0.68; 95% confidence interval

TABLE 2—Self-Reported Difficulties in Accessing Mental Health and General Medical Care: Continuous Improvement for Veterans in Care–Mood Disorders Study, 2004–2006

Perceived Access Problem	No. (%)
Distance and travel barriers	
Relies on public or VA transportation	129 (29.6)
Lives more than 50 mi (80 km) from VA clinic	71 (16.3)
Needs to travel more than 1 h for VA appointment	152 (34.9)
Mental health	
Once you get to this clinic, how long do you usually have to wait to see a provider? (Responding "yes" to >30 min)	78 (18.7)
On average, how long is it between your clinic visits at the VA? (Responding "yes" to >4 wk)	232 (57.0)
If I need care, I cannot get admitted to the hospital without trouble. (Agree/Strongly agree)	35 (8.1)
It is hard for me to get care in an emergency. (Agree/Strongly agree)	38 (8.8)
Sometimes I go without the care I need because it is too expensive. (Agree/Strongly agree)	48 (11.1)
I don't have easy access to the treatment specialists I need. (Agree/Strongly agree)	98 (22.6)
Places where I can get care are not easy to get to. (Agree/Strongly agree)	66 (15.2)
I am not able to get care whenever I need it. (Agree/Strongly agree)	56 (12.9)
During the last 6 mo, did you ever need care but could not get it? (Agree/Strongly agree)	75 (17.4)
General medical	
Once you get to this clinic, how long do you usually have to wait to see a provider? (Responding "yes" to >30 min)	94 (23.0)
On average, how long is it between your clinic visits at the VA? (Responding "yes" to >4 wk)	270 (69.1)
If I need care, I cannot get admitted to the hospital without trouble. (Agree/Strongly agree)	45 (10.4)
It is hard for me to get care in an emergency. (Agree/Strongly agree)	77 (17.8)
Sometimes I go without the care I need because it is too expensive. (Agree/Strongly agree)	70 (16.2)
I don't have easy access to the treatment specialists I need. (Agree/Strongly agree)	91 (21.0)
Places where I can get care are not easy to get to. (Agree/Strongly agree)	70 (16.2)
I am not able to get care whenever I need it. (Agree/Strongly agree)	79 (18.3)
During the last 6 mo, did you ever need care but could not get it? (Agree/Strongly agree)	91 (21.0)

Note. VA = Department of Veterans Affairs. Denominators are less than 435 because of missing or nonapplicable data (between 1 and 7 cases per access item).

[CI]=0.48, 0.92), and African Americans were less likely to experience lags between visits (OR=0.48; 95% CI=0.25, 0.92). No gender differences existed in terms of mental health access, nor were any specific factors associated with emergency department services or ability to obtain care when needed.

Enabling and need factors, however, were more commonly associated with poor access. In particular, recent homelessness and current affective disorder symptoms, along with recent hospitalization, were often significant predictors. The most important access barrier for homeless veterans was being admitted when needed (OR=2.90; 95% CI=1.28, 5.82), although cost-related problems (OR=2.27; 95% CI=1.04, 4.83) and overall inability to obtain necessary mental health care (OR=2.07; 95% CI=1.05, 4.28) were also significant. The presence of current affective disorder symptoms was significantly associated with 6 of the mental health outcomes, most notably forgoing care because of cost (OR=2.43; 95% CI=1.03, 4.76), difficulty in locating convenient treatment sites (OR=2.35; 95% CI=1.18, 4.49), and inability to access needed care within the preceding 6 months (OR=1.99; 95% CI=1.02, 2.12).

A greater number of the conceptual model factors influenced perceived access to general medical care. Older age and African American or "other" race/ethnicity were associated with better self-reported access in several models. Gender was significant only with respect to 2 outcomes; one was access to medical specialists, in which women reported difficulty twice as often as did men (OR=2.06; 95% CI=1.11, 3.86). All 6 enabling and need factors were again associated with access problems, although substance abuse was somewhat positively associated with lag between appointments and ability to locate convenient treatment sites.

As with mental health care services, the dominant influences predicting limitations in obtaining needed general medical care were homelessness, living alone, an inpatient stay, and current affective-disorder symptomatology. The strongest associations included those between homelessness and medical admissions (OR=3.06; 95% CI=1.28, 6.37), homelessness and ability to obtain emergency care when needed (OR=2.37; 95% CI=1.13, 4.90), current affective-disorder symptoms and access to specialists (OR=2.06; 95% CI=1.18, 3.74), and living alone and convenient treatment locations (OR=1.76; 95% CI=1.03, 3.07).

DISCUSSION

Because the VA assigns priority to individuals with the greatest needs and the fewest resources or treatment alternatives, provision of adequate care to vulnerable patients has long been one of the VA health system's greatest strengths. Unfortunately, the perceptions of our study participants with respect to their ability to obtain essential care did not coincide with this notion. Among our patients undergoing VA treatment for bipolar disorder, 15% to 20% experienced difficulties in accessing different forms of health care when needed.

Self-reported problems were more common in the case of general medical services, but it was rather disheartening to note that a sizable segment of our sample experienced difficulty in locating mental health specialists or convenient treatment sites. Individuals with enabling or need risk factors faced even greater challenges in obtaining essential care. Coupled with multifaceted and possibly injurious health beliefs, financial limitations, and other personal circumstances that interfere with care-seeking behaviors, this scenario raises multiple concerns. However, our findings can be used to help identify patients at risk for access problems, simultaneously encouraging new

TABLE 3—Multivariable Models Predicting Poor Access to Mental Health Care: Continuous Improvement for Veterans in Care–Mood Disorders Study, 2004–2006

Model Outcome and Significant Predictors	OR (95% CI)	*P*	Goodness-of-Fit	
			c Statistic	Hosmer–Lemeshow Test
Wait >30 min for appointment			0.759	0.789
Inpatient within past year	2.42 (1.35, 4.34)	.003		
Current affective episode	1.87 (1.09, 2.97)	.046		
Time between visits >4 weeks			0.752	0.611
Age, per decade	1.29 (1.05, 1.60)	.021		
African American	0.48 (0.25, 0.92)	.045		
Lives alone	0.68 (0.44, 1.05)	.097		
Current affective-disorder episode	0.68 (0.43, 1.08)	.099		
Difficulty being admitted when needed			0.811	0.359
Homeless in past month	2.90 (1.28, 5.82)	.036		
Difficulty obtaining care in an emergency[a]			0.735	0.790
Sometimes forgoes care because of cost			0.756	0.899
Age, per decade	0.68 (0.48, 0.92)	.026		
Lives alone	2.64 (1.35, 3.88)	.005		
Homeless in past month	2.27 (1.04, 4.83)	.046		
Current affective-disorder episode	2.43 (1.03, 4.76)	.048		
Poor access to specialists			0.741	0.339
Age, per decade	0.82 (0.65, 1.08)	.098		
Current affective-disorder episode	1.63 (0.92, 2.84)	.086		
Difficulty locating places to receive care			0.740	0.595
Current affective disorder episode	2.35 (1.18, 4.49)	.036		
Difficulty obtaining care when needed[a]			0.812	0.229
Inability to access needed care during past 6 months			0.809	0.525
Homeless in past month	2.07 (1.05, 4.28)	.049		
Inpatient in past year	2.31 (1.28, 3.84)	.005		
Current affective-disorder episode	1.99 (1.02, 2.12)	.048		

Note. OR = odds ratio; CI = confidence interval. Only factors reaching statistical ($P < .05$) or trend ($P < .10$) significance levels are presented; full model results are available from the authors.
[a]There were no significant predictors for this outcome.

interventions or outreach efforts to address the situation.

Similar to the findings of earlier studies, enabling factors (as defined by Andersen and Aday) were significant predictors of perceived access problems. Perhaps not surprising, homelessness was a particularly ominous risk factor, one associated with several inpatient and outpatient outcomes (e.g., being admitted when necessary and experiencing cost-related access problems).[44–46] However, living alone also affected how patients viewed their access to health care services, supporting theoretical assumptions and previous research.[47] The most influential model domain was need, with current affective-disorder symptoms appearing to be extremely important with respect to mental health and general medical care access alike. Medical or psychiatric conditions sufficiently serious to warrant recent hospitalizations also influenced several outcomes, increasing the likelihood of self-reported access difficulties by approximately 2-fold.

Transportation issues generally proved insignificant, and predisposing demographic characteristics played a relatively little role in shaping patients' perceptions. This latter finding may help mitigate concerns about potential gender and ethnic disparities in access to care; if anything, in comparison with White patients, minority group patients had better perceptions of their perceived access to VA care. However, as with the somewhat mixed findings for substance abuse, caution is urged in interpreting ORs for gender and ethnicity because they could have been confounded with illness severity or health-seeking behavior rather than solely problems in access to care.

Equally troubling is the issue of patients forgoing treatment because of cost. The average annual income of our bipolar cohort was less than $14 000, compounded by minimal social support[48] or other resources. In 2002, the VA raised copayments for pharmacy and outpatient services, with further increases anticipated. Higher medication copayments dramatically affect use of psychotropic drugs, and evidence suggests that members of minority groups are especially sensitive to such cost-related barriers.[49,50] In our study, minority patients were also more likely to have low incomes, be homeless, live alone, and abuse substances. Accordingly, efforts to continually narrow gaps in access or other disparities should remain a key VA priority area.

Understanding Access Perceptions and Possible Interventions

Possible explanations for access problems begin with the challenge of balancing multiple treatment needs within a complex health care organization. General medical providers may not be comfortable treating patients with serious mental illness; likewise, individuals with bipolar disorder may feel insecure accessing providers outside the mental health realm.[51,52] Presumably, given the VA's integrated primary care system and mental health liaison resources, these issues are less problematic within the VA than they would be within other care systems. However, perhaps such perceptions are relative among patients with bipolar disorder and immense medical needs.

Recognizing how veterans with debilitating psychiatric conditions perceive their level of access to general medical care can inform efforts designed to help balance "competing demands" as patients and providers jointly work toward holistic pursuit of recovery goals and better treatment retention. Such an emphasis on care coordination within a collaborative model framework has proven useful in the treatment of bipolar disorder.[53]

TABLE 4—Multivariable Models Predicting Poor Access to General Health Care: Continuous Improvement for Veterans in Care–Mood Disorders Study, 2004–2006

Model Outcome and Significant Predictors	OR (95% CI)	*P*	Goodness-of-Fit	
			c Statistic	Hosmer–Lemeshow Test
Wait >30 min for appointment			0.729	0.731
Age, per decade	0.82 (0.64, 1.08)	.097		
Inpatient within past year	1.92 (1.10, 3.37)	.022		
Current affective-disorder episode	2.04 (1.15, 3.65)	.016		
Time between visits >4 weeks			0.762	0.509
Substance abuse	0.58 (0.36, 0.94)	.028		
Difficulty being admitted when needed			0.750	0.972
Lives alone	1.83 (0.94, 3.56)	.075		
Homeless in past month	3.06 (1.28, 6.37)	.012		
Current affective-disorder episode	1.87 (0.84, 4.14)	.099		
Difficulty obtaining care in an emergency			0.751	0.244
Age, per decade	0.74 (0.57, 0.92)	.022		
Homeless in past month	2.37 (1.13, 4.90)	.023		
Current affective-disorder episode	1.86 (1.03, 3.51)	.046		
Sometimes forgoes care because of cost			0.838	0.394
Age, per decade	0.76 (0.58, 0.96)	.042		
African American	0.34 (0.12, 0.95)	.029		
Homeless in past month	1.85 (0.85, 4.04)	.091		
Current affective-disorder episode	1.71 (0.89, 3.25)	.093		
Poor access to specialists			0.764	0.310
Female	2.06 (1.11, 3.86)	.025		
Current affective episode	2.06 (1.18, 3.74)	.017		
Substance abuse	1.57 (0.93, 2.64)	.092		
Difficulty locating places to receive care			0.771	0.406
Age, per decade	0.70 (0.53, 0.92)	.010		
Other race/ethnicity[a]	0.81 (0.34, 1.30)	.096		
Lives alone	1.76 (1.03, 3.07)	.047		
Homeless in past month	2.03 (1.04, 4.38)	.050		
Substance abuse	0.61 (0.53, 1.12)	.099		
Difficulty obtaining care when needed			0.761	0.422
Age, per decade	0.76 (0.58, 0.97)	.034		
Inability to access needed care during past 6 months			0.811	0.900
Female	2.01 (0.92, 3.87)	.097		
African American	0.84 (0.52, 0.94)	.030		
Other race/ethnicity[a]	0.77 (0.45, 0.92)	.025		
Inpatient within past year	1.51 (1.04, 3.29)	.045		
Current affective-disorder episode	1.98 (1.06, 3.65)	.048		

Note. OR = odds ratio; CI = confidence interval. Only factors reaching statistical ($P < .05$) or trend ($P < .10$) significance levels are presented; full model results are available from the authors.
[a]Race/ethnicity other than White or African American.

McCarthy et al. explored the benefits of "chained" outpatient clinic visits (i.e., stacking or scheduling appointments for multiple providers on the same day, such as primary care, podiatry specialist, social worker, and so on, instead of scheduling appointments on several different days) when possible, which could reduce accessibility barriers while further supporting the collaborative care environment.[54] Improving scheduling systems in an effort to avoid lengthy delays or gaps in care, offering telemedicine or telephone consults as appropriate, and engaging in case management efforts such as improved follow-up care may help address access problems before clinical outcomes worsen.

In addition, specialized interventions such as culturally competent care and discussions regarding health beliefs could target the patients most at risk for access problems. Finally, an increased focus on developing sustained, positive patient–provider relationships can encourage treatment retention while minimizing perceived access problems. The benefits of healthy therapeutic alliances within bipolar populations include improved treatment adherence, reduced affective disorder symptomatology, and better overall clinical outcomes.[55,56] Collectively, these efforts are justified as health care organizations strive to integrate and improve the quality of medical care provided to challenging patient populations.

Limitations

We acknowledge several possible limitations of these findings. For example, CIVIC-MD was an observational study focusing on patients recruited from a single urban clinic. Also, veterans are frequently considered different (older, predominantly male) and perhaps sicker than other patients, potentially limiting generalizability outside the VA. However, our study group was quite similar to populations such as Medicaid recipients, and treatment access may be less problematic in urban than in rural settings.[57,58] Because nearly half of our patients used non-VA care to some degree, the access problems reported may have been mitigated by treatment received elsewhere. However, most of the out-of-system use reported involved pharmacy services, and we specifically asked patients about their perceived access to VA care.

Finally, although the Andersen–Aday model fit our data well, undoubtedly future efforts to incorporate external access factors (e.g., cultural environment, health system structure) will improve the analytical models in use and enrich our understanding of access perceptions. Future CIVIC-MD reports will incorporate chart review information and administrative data in an effort to examine further the potential ramifications of poor access, treatment adherence, and satisfaction with VA care. In addition, a

longitudinal follow-up will address issues of causal direction between access perceptions and patients' efforts to obtain necessary treatment.

Wallace Stevens observed that "conceptions are artificial, but perceptions are essential,"[59(p164)] suggesting an important lesson for health systems in their ongoing efforts to provide appropriate care. Notwithstanding the VA's organizational endeavors to enhance access to outpatient services, additional efforts to reconcile these plans with patients' perceptions about their health care environment are essential, particularly in the case of vulnerable patient subpopulations. Recognizing how individuals with bipolar disorder report the availability of psychiatric or general medical treatment and their ability to obtain necessary care should represent a sentinel benchmark for ongoing quality improvement strategies. The objective of minimizing access barriers within a collaborative care system is essential as the VA anticipates a massive influx of returning Gulf War veterans, new enrollees with significant health conditions.

Conclusions

The access problems observed in our study could have been exacerbated by demographic changes, in addition to the aforementioned increase in diagnosed cases of bipolar disorder in the United States. Foremost, a rapidly aging population is a major concern for the VA and other health systems because the numerous competing medical needs experienced by the elderly population demand attention. Notwithstanding the VA system's accomplishments over the past decade with respect to ensuring treatment equity and access among vulnerable patients, the goal of better integrating medical care into mental health specialty settings remains a challenge. It is paramount for a well-integrated system to address psychiatric as well as medical care, because both realms make substantial contributions to a person's overall health status and quality of life. ■

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Contributors

J.E. Zeber originated the study design, helped direct the analyses, and assumed primary responsibility for drafting the article. L.A. Copeland helped guide the statistical analyses and interpretation of results and provided major writing support. J.F. McCarthy provided ideas for the conceptual model and expertise on access to care issues. M.S. Bauer helped structure the clinical implications of psychiatric and medical care management and assisted in the editing of the article. A.M. Kilbourne conducted the analyses, helped interpret the results, and coordinated other efforts pertaining to the article. All of the authors reviewed the results and contributed to the drafting of the article.

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Human Participant Protection

This study was approved by the VA Pittsburgh Medical Center institutional review board. Participants provided written informed consent.

References

1. Murray CJ, Lopez AD. Evidence-based health policy–lessons from the Global Burden of Disease Study. *Science.* 1996;274:740–743.

2. Bauer M, Unutzer J, Pincus HA, Lawson WB. Bipolar disorder. *Ment Health Serv Res.* 2002;4:225–229.

3. Gitlin MJ, Cochran SD, Jamison KR. Maintenance lithium treatment: side effects and compliance. *J Clin Psychiatry.* 1989;50:127–131.

4. Keck PE Jr, McElroy SL, Strakowski SM, Bourne ML, West SA. Compliance with maintenance treatment in bipolar disorder. *Psychopharmacol Bull.* 1997;33:87–91.

5. Kilbourne AM, Cornelius JR, Han X, et al. Burden of general medical conditions among individuals with bipolar disorder. *Bipolar Disord.* 2004;6:368–373.

6. Peele PB, Xu Y, Kupfer DJ. Insurance expenditures on bipolar disorder: clinical and parity implications. *Am J Psychiatry.* 2003;160:1286–1290.

7. Manning JS. Burden of illness in bipolar depression. *Prim Care Companion J Clin Psychiatry.* 2005;7:259–267.

8. McIntyre RS, Soczynska JK, Beyer JL, et al. Medical comorbidity in bipolar disorder: re-prioritizing unmet needs. *Curr Opin Psychiatry.* 2007;20:406–416.

9. Kisely S, Smith M, Lawrence D, Cox M, Campbell LA, Maaten S. Inequitable access for mentally ill patients to some medically necessary procedures. *CMAJ.* 2007; 176:779–784.

10. Bhugra D, Flick GR. Pathways to care for patients with bipolar disorder. *Bipolar Disord.* 2005;7:236–245.

11. Lingam R, Scott J. Treatment non-adherence in affective disorders. *Acta Psychiatr Scand.* 2002;105:164–172.

12. Mojtabai R, Rosenheck RA, Wyatt RJ, Susser ES. Use of VA aftercare following military discharge among patients with serious mental disorders. *Psychiatr Serv.* 2003;54:383–388.

13. Vreeland B. Bridging the gap between mental and physical health: a multidisciplinary approach. *J Clin Psychiatry.* 2007;68(suppl 4):26–33.

14. Snowden LR, Yamada AM. Cultural differences in access to care. *Annu Rev Clin Psychol.* 2005;1:143–166.

15. Palinkas LA, Criado V, Fuentes D, et al. Unmet needs for services for older adults with mental illness: comparison of views of different stakeholder groups. *Am J Geriatr Psychiatry.* 2007;15:530–540.

16. Warren JI, Stein JA, Grella CE. Role of social support and self-efficacy in treatment outcomes among clients with co-occurring disorders. *Drug Alcohol Depend.* 2007; 89:267–274.

17. Kilbourne AM, McCarthy JF, Post EP, et al. Access to and satisfaction with care comparing patients with and without serious mental illness. *Int J Psychiatry Med.* 2006; 36:383–399.

18. Elinson L, Houck P, Pincus HA. Working, receiving disability benefits, and access to mental health care in individuals with bipolar disorder. *Bipolar Disord.* 2007; 9:158–165.

19. Penchansky R, Thomas JW. The concept of access: definition and relationship to consumer satisfaction. *Med Care.* 1981;19:127–140.

20. McCarthy JF, Blow FC, Valenstein M, et al. Veterans Affairs Health System and mental health treatment retention among patients with serious mental illness: evaluating accessibility and availability barriers. *Health Serv Res.* 2007;42:1042–1060.

21. Becker MH, Maiman LA. Sociobehavioral determinants of compliance with health and medical care recommendations. *Med Care.* 1975;13:10–24.

22. Institute of Medicine. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care.* Washington, DC: National Academy Press; 2002.

23. Andersen R, Aday LA. Access to medical care in the U.S.: realized and potential. *Med Care.* 1978;16:533–546.

24. Gelberg L, Andersen RM, Leake BD. The behavioral model for vulnerable populations: application to medical care use and outcomes for homeless people. *Health Serv Res.* 2000;34:1273–1302.

25. Lemming MR, Calsyn RJ. Utility of the behavioral model in predicting service utilization by individuals suffering from severe mental illness and homelessness. *Community Ment Health J.* 2004;40:347–364.

26. McCusker J, Karp I, Cardin S, Durand P, Morin J. Determinants of emergency department visits by older adults: a systematic review. *Acad Emerg Med.* 2003; 10:1362–1370.

27. Stein JA, Andersen RM, Koegel P, Gelberg L. Predicting health services utilization among homeless adults: a prospective analysis. *J Health Care Poor Underserved.* 2000;11:212–230.

28. Stuart H. Access to physician treatment for a mental disorder: a regional analysis. *Soc Psychiatry Psychiatr Epidemiol.* 2000;35:61–70.

29. Kessler RC, McGonagle KA, Zhao S, et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: results from the National Comorbidity Survey. *Arch Gen Psychiatry.* 1994;51:8–19.

30. Merikangas KR, Akiskal HS, Angst J, et al. Lifetime and 12-month prevalence of bipolar spectrum disorder in the National Comorbidity Survey replication. *Arch Gen Psychiatry.* 2007;64:543–552.

31. Judd LL, Akiskal HS. The prevalence and disability of bipolar spectrum disorders in the US population: reanalysis of the ECA database taking into account subthreshold cases. *J Affect Disord.* 2003;73:123–131.

32. Blader JC, Carlson GA. Increased rates of bipolar disorder diagnoses among US child, adolescent, and adult inpatients, 1996–2004. *Biol Psychiatry.* 2007;62: 107–114.

33. Mojtabai R. Americans' attitudes toward mental health treatment seeking: 1990–2003. *Psychiatr Serv.* 2007;58:642–651.

34. Blow FC, McCarthy JF, Valenstein M, Austin K, Gillon L. *Care for Veterans with Psychosis in the VHA, FY04: 6th Annual National Psychosis Registry Report.* Ann Arbor, MI: Veterans Affairs Serious Mental Illness Treatment Research and Evaluation Center; 2005.

35. Kizer KW. The "new VA": a national laboratory for health care quality management. *Am J Med Qual.* 1999; 14:3–20.

36. Ibrahim SA. The Veterans Health Administration: a domestic model for a national health care system? *Am J Public Health.* 2007;97:2124–2126.

37. Oliver A. The Veterans Health Administration: an American success story? *Milbank Q.* 2007;85:5–35.

38. Milliken CS, Auchterlonie JL, Hoge CW. Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. *JAMA.* 2007;298:2141–2148.

39. Kilbourne AM, Post EP, Bauer MS, et al. Therapeutic drug and cardiovascular disease risk monitoring in patients with bipolar disorder. *J Affect Disord.* 2007; 102:145–151.

40. Cunningham WE, Hays RD, Williams KW, Beck KC, Dixon WJ, Shapiro MF. Access to medical care and health-related quality of life for low-income persons with symptomatic human immunodeficiency virus. *Med Care.* 1995;33:739–754.

41. Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption II. *Addiction.* 1993;88:791–804.

42. Glick HA, McBride L, Bauer MS. A manic-depressive symptom self-report in optical scanable format. *Bipolar Disord.* 2003;5:366–369.

43. Zeber JE, McCarthy JF, Bauer MS, Kilbourne AM. Datapoints: self-reported access to general medical and psychiatric care among veterans with bipolar disorder. *Psychiatr Serv.* 2007;58:740.

44. Nyamathi A, Sands H, Pattatucci-Aragon A, et al. Perception of health status by homeless US veterans. *Fam Community Health.* 2004;27:65–74.

45. Stein JA, Andersen R, Gelberg L. Applying the Gelberg-Andersen behavioral model for vulnerable populations to health services utilization in homeless women. *J Health Psychol.* 2007;12:791–804.

46. McGuire J, Rosenheck R. The quality of preventive medical care for homeless veterans with mental illness. *J Healthc Qual.* 2005;27:26–32.

47. Guzman JS, Sohn L, Harada ND. Living alone and outpatient care use by older veterans. *J Am Geriatr Soc.* 2004;52:617–622.

48. Kilbourne AM, McCarthy JF, Post EP, Welsh D, Blow FC. Social support among veterans with serious mental illness. *Soc Psychiatry Psychiatr Epidemiol.* 2007;42:639–646.

49. Zeber JE, Grazier KL, Valenstein M, Blow FC, Lantz PM. Effect of a medication copayment increase in veterans with schizophrenia. *Am J Manag Care.* 2007; 13:335–346.

50. Zeber JE, Copeland LA, Miller AL, Kilbourne AM, Velligan D, Mortensen EM. Ethnicity and the impact of higher medication copayments among veterans with schizophrenia. Paper presented at: Veterans Affairs HSR&D Conference; February 16–17, 2006; Washington, DC.

51. Koran LM, Sox HC Jr, Marton KI, et al. Medical evaluation of psychiatric patients: I. Results in a state mental health system. *Arch Gen Psychiatry.* 1989;46:733–740.

52. Faulkner LR, Bloom JD, Bray JD, Maricle R. Medical services in community mental health programs. *Hosp Community Psychiatry.* 1986;37:1045–1047.

53. Sajatovic M, Davies M, Bauer MS, et al. Attitudes regarding the collaborative practice model and treatment adherence among individuals with bipolar disorder. *Compr Psychiatry.* 2005;46:272–277.

54. McCarthy JF, Piette JD, Fortney JC, Valenstein M, Blow FC. Outpatient visit chaining among patients with serious mental illness. *Med Care.* 2006;44:257–264.

55. Zeber JE, Copeland LA, Good CB, Fine MJ, Bauer MS, Kilbourne AM. Therapeutic alliance perceptions and medication adherence in patients with bipolar disorder. *J Affect Disord.* 2008;107:53–62.

56. Strauss JL, Johnson SL. Role of treatment alliance in the clinical management of bipolar disorder: stronger alliances prospectively predict fewer manic symptoms. *Psychiatry Res.* 2006;145:215–223.

57. Weeks WB, Bott DM, Lamkin RP, Wright SM. Veterans Health Administration and Medicare outpatient health care utilization by older rural and urban New England veterans. *J Rural Health.* 2005;21:167–171.

58. Hartley D, Ziller EC, Loux SL, Gale JA, Lambert D, Yousefian AE. Use of critical access hospital emergency rooms by patients with mental health symptoms. *J Rural Health.* 2007;23:108–115.

59. Stevens W. *Opus Posthumous: Poems, Plays, Prose.* New York, NY: Vintage; 1982.