Treatment of Depression in Voluntary Versus Mandated Physicians

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Few if any publications discuss the effectiveness of voluntary versus mandated treatment for impaired physicians. This retrospective case-control study compared the recovery rates of physicians whose treatment was mandated or coerced by either licensure boards or employers (mandated physicians) with the rates for physicians admitted voluntarily (voluntary physicians) to the Menninger Clinic's Professionals in Crisis program from 2009 through 2012. Beck Depression Inventory (BDI)-II scores served as the primary outcome measure. At the time of admission, voluntary physicians were more depressed, but the improvement rates in the voluntary and mandated groups did not differ significantly. In addition, the two groups differed neither in rates of return to the healthy range of BDI-II scores, nor in whether BDI-II scores had decreased by at least two standard deviations by the time of discharge. These findings suggest that state physician health programs can continue to mandate physicians into treatment despite concerns that mandatory treatment may be less efficacious than voluntary treatment.

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> I observe the physician with the same diligence as the disease.[1]

It should surprise no one, least of all themselves, that physicians fall prey to the same mental illnesses and substance addictions as their patients.[2] Current estimates are that approximately 15 percent of physicians experience impairment at some point in their careers.[3] When such an eventuality occurs, they may be compelled to seek treatment for their condition to prevent harm to their patients (mandated physicians). In this context, we sought to determine whether physicians compelled into treatment for their psychiatric impairments fared differently from those who seek treatment willingly (voluntary physicians).

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With regard to psychotherapy, the literature is relatively uniform in suggesting that mandated patients generally enter treatment with less motivation to change and greater resistance to therapy than those who enter voluntarily.[4–6] It has commonly been believed that a patient's motivation to change is necessary for successful treatment.[7,8] In addition, some authors have expressed doubt that patients mandated to treatment could obtain results as favorable as voluntary patients because of resistance and lack of internal motivation.[9] In the area of substance abuse, lower motivation to change, presumably more likely in mandated patients, has been associated with poorer outcomes.[10] In one study, legally coerced clients were more likely to withdraw from substance abuse treatment than voluntary clients.[11] However, other substance abuse studies have found mandated versus voluntary patients to have similar outcomes.[12–14] Yet, research is still lacking regarding the treatment of mandated versus voluntary impaired physicians.[15] Therefore, given the relative dearth of research and the importance of finding the most effective means of treating impaired physicians, we sought to address this question to guide policy makers at the state and local levels. Comparing depression severity outcome between physicians mandated to treatment (case group) with physicians voluntarily admitted to the hospital (control group) may provide

valuable insights into the differential responses to treatment in inpatient settings. We hypothesized that physicians mandated to treatment (mandated physicians) would show slower rates of improvement than those voluntarily admitted (voluntary physicians).

Methods

Procedures

To make group assignments, two team members performed independent reviews of deidentified data obtained from patient charts. Raters coded charts to distinguish physicians who were forced or coerced into treatment by external regulatory agencies or employers from those who sought treatment of their own volition. Any discrepancies were reconciled by discussion and consensus.

Data were collected as part of the hospital's Adult Outcomes Project, described in detail elsewhere.[16] Assessments were conducted via a hospital-wide web survey on laptop computers. This project was a clinical outcomes project, conducted with all patients; thus, no patients declined participation, as it was part of their routine clinical care. Use of the project's data was approved by Baylor College of Medicine's Institutional Review Board (IRB). Baseline measures were collected within 72 hours of admission, followed by readministration of selected measures.

Participants

Participants were 105 physicians (mandated to treatment by a licensing board or an employer, $n = 62$; voluntary admission, $n = 43$) admitted to the Menninger Clinic's Professionals in Crisis program from January 2009 through July 2012. The average length of hospitalization was 36 days (SD 15.7). Thirty-eight of the screened physicians were admitted before the initiation of hospital-wide outcome assessments (described in detail below) and therefore lacked BDI data and were unavailable for primary statistical comparisons. Analysis of variance revealed no significant differences between physicians with and without BDI data in age ($F = 0.43$; $p = .51$) or length of hospitalization ($F = 0.55$; $p = .46$). Chi-square analyses showed no significant differences between physicians, with and without BDI data, with regard to gender ($\chi^2 = 1.7$; $p = .20$), prevalence of major mood disorders ($\chi^2 = 0.43$; $p = .51$), anxiety disorders ($\chi^2 = 0.33$; $p = .57$), substance use disorders ($\chi^2 = 2.3$; $p = .09$), bipolar spectrum disorders ($\chi^2 = 1.3$; $p = .24$), or final discharge disposition ($\chi^2 = 1.7$; $p = .89$). The final sample consisted of 29 voluntary and 22 mandated physicians, for whom both admission and discharge BDI-II scores were obtained.

Treatment Setting

Typical lengths of stay in the Professionals in Crisis program range from four to eight weeks. The treatment protocol is administered to all patients, irrespective of psychiatric or mandated status. Interventions include treatment team rounds with medication management (two times per week), individual and group psychotherapy (each, two times per week), daily psychoeducation groups, and social activities in the context of a therapeutic milieu that promotes expression and understanding of emotional reactions as well as the thoughts that contribute to depression. Those with substance use disorders participate in individual and group substance abuse counseling and attend in-house and off-campus Alcoholics Anonymous (AA)/narcotics anonymous (NA) meetings. The therapeutic milieu is essential to the treatment, in that it promotes interactions and emotional confiding among peers in structured and unstructured contexts. Mentalization-based psychoeducational groups[17,18] and dialectical behavior therapy[19] skills training directly address problems in emotion regulation, impulsive behavior, and interpersonal functioning.

Measures

Demographic variables and history of psychiatric service usage were assessed using a standardized patient information survey.[16] The Beck Depression Inventory (BDI)-II[20] is a 21-item measure widely used to assess depressive symptoms and severity. It was chosen as the sole outcome measure because it is a well-validated evaluation of depression severity and correlates highly with other forms of cross-cutting psychopathology including suicide-related and self-harm behaviors,[21] as well as an array of anxiety disorders and co-occurring psychiatric conditions.[22] Recent study results indicate that the BDI-II is not a viable screening measure for major depressive disorders,[23] but instead may be more indicative of general psychiatric distress in adult inpatient samples.

Prior research provides evidence for its internal consistency ($\alpha = .91$–$.93$), test-retest reliability ($r = 0.93$), and convergent and discriminant validity.[20,24]

Interpretive guidelines for the BDI-II are as follows: minimal, <14; mild, 14–19; moderate, 20–28; and severe, 29–63, depressive symptoms.

Psychiatric diagnoses[25,26] were made based on a psychiatrist's review of the in-person psychiatric evaluation, including psychiatric history, collateral information from the family, psychosocial assessment, and nursing assessment. This process employed the ecologically valid Longitudinal Evaluation using all Available Data (LEAD) diagnostic approach.[27]

Data Analysis

Analyses were conducted with SPSS for Windows, version 21 (IBM, Armonk NY). A series of analyses of variance (ANOVA) was performed to compare baseline demographic data and primary outcomes of BDI. Subsequently, a univariate analysis of covariance was performed to examine the interaction between the admission BDI score and the physician's status (voluntary versus mandated). The *post hoc* analysis of variance was used to assess potential differences in length of hospitalization and age, and chi-square analyses were used to assess potential confounds of gender, prevalence of diagnostic clusters, and discharge disposition between mandated and voluntary physicians.

Although mean change scores are the primary summary score in most efficacy and effectiveness trials, comparing mean aggregate average pre- to posttreatment changes across all patients obscures patient-level rates of change and deterioration. In addition, presenting raw pre-post changes can be somewhat misleading and unreliable because of measurement error in the form of poor test-retest reliability and sample artifacts, such as regression to the mean in highly symptomatic patient samples. To address these potential shortcomings, reliable change index (RCI) scores, and remission rates were calculated for each patient. In brief, the RCI relates to individual patient functioning that is statistically reliable such that change between pre- and posttreatment scores reflects true change rather than an artifact of measurement error. Although there are several formulas for computing RCI, the Edwards-Nunnally[23] formula is a conservative method that corrects for regression toward the mean. The Edwards-Nunnally RCI formula requires the following computations: adjustment for regression to the mean by computing adjusted pretreatment mean (X_{adjpre} = test-retest reliability * [individual's score − mean of group] + mean of group); standard error of measurement (SE = SD $\sqrt{1}$ − test-retest reliability); standard error of the difference between the two test scores ($S_{diff} = \sqrt{2}$ [SE^2]); reliable change index (RCI = $X_{post} - X_{adjpre}/S_{diff}$), where X_{adjpre} = the adjusted pretest score, X_{post} = the posttest score, and S_{diff} = the SE of the difference between the two test scores. Test-retest reliability reported by Beck and colleagues[17] ($r = .93$) was used in the RCI computations. An RCI score equal to or greater than 1.96 indicates statistically reliable change. Remission is indicated when patient functioning returns to the normal range (BDI <14).

Results

Baseline Patient Characteristics

Diagnostic profiles of the 67 physicians in the final sample for whom an admission BDI-II score was obtained indicate that the majority (57%) had a diagnosed major depressive disorder, 18 percent had an anxiety spectrum disorder, 16 percent had a bipolar spectrum disorder, 9 percent had a substance use disorder, and 3 percent had a psychotic spectrum disorder. Ten percent received a diagnosis of a co-occurring psychiatric disorder and 48 percent had at least one previous psychiatric hospitalization (X = 1.2; SD 1.9). Of the 67 physicians with admission BDI-II data, 43 were men (64%) and 24 were women (36%). Average age was 50.3 years (SD 10.6). There were no significant differences between the mandated and voluntary groups with regard to age, length of hospitalization, treatment sought before hospitalization, or the number of times that an individual had been admitted for either a short- or long-term psychiatric hospitalization (Table 1). Chi-square analyses indicated no significant differences between mandated and voluntarily admitted physicians with regard to the prevalence of major mood disorders ($\chi^2 = 0.18$; $p = .67$), anxiety disorders ($\chi^2 = 0.93$; $p = .33$), substance use disorders ($\chi^2 = 0.10$; $p = .74$), bipolar spectrum disorders ($\chi^2 = 0.35$; $p = .55$), or final discharge disposition ($\chi^2 = 1.4$; $p = .93$). Most of the patients fully met the treatment goals at discharge (mandatory, 24; voluntary, 27) and had identical rates for partially met treatment goals (mandatory, 2; voluntary, 2) and discharge against medical advice (mandatory, 1; voluntary, 1).

Table 1 Descriptive Statistics

Variable	Minimum	Maximum	Mean	SD	*F*	*p*
Length of stay, days						
Mandated (*n* = 32)	4	57	30.3	16.2		
Voluntary (*n* = 35)	1	125	37.1	21.7	2.0	.16
Age, years						
Mandated (*n* = 32)	26	67	49.3	9.92		
Voluntary (*n* = 35)	27	68	48.9	9.43	.02	.89
Outpatient treatments, *n*						
Mandated (*n* = 32)	0	27	5.4	4.9		
Voluntary (*n* = 35)	0	10	4.7	2.6	.57	.45
Short-term hospitalizations, *n*						
Mandated (*n* = 32)	0	7	.69	1.42		
Voluntary (*n* = 35)	0	4	.46	.82	.67	.42
Long-term hospitalizations, *n*						
Mandated (*n* = 32)	0	7	.72	.85		
Voluntary (*n* = 35)	0	4	.63	1.2	.13	.72
Admission BDI						
Mandated (*n* = 32)	1	47	16.4	2.4		
Voluntary (*n* = 35)	1	49	22.6	1.9	4.0	.05

N = 67.

Admission BDI Scores

Of the 32 mandated and 35 voluntary physicians for whom an admission BDI score was obtained (Table 2), differences were noted between the mean admission BDI scores of the two groups ($F = 4.0$; $p = .05$; Cohen's $d = .49$), with the mean admission BDI for the voluntary physicians being 22.6 (moderate) and the mean admission BDI for the mandated physicians being 16.4 (mild), signifying a less severe depression in the mandated group.

Discharge BDI Scores

Counter to our hypothesis, mandated and voluntary patients did not differ in depression severity at discharge. In the 22 mandated and 29 voluntary physicians for whom both an admission and discharge BDI-II score were obtained, the scores were not significantly different ($F = 0.43$; $p = .52$). The mean discharge BDI score for the voluntary physician group was 6.1 (SD 8.2), whereas the mean discharge score for the mandated physician group was 4.8 (SD 5.1), both falling within the category of minimal depressive symptoms.

Change in BDI Scores

There was no significant difference in the rate of BDI score change from admission to discharge, based on reliable change index scores ($F = 0.31$; $p = .58$). There was no significant difference between the two groups in the rate of return to the healthy range of BDI scores: 91 percent of mandated and 83 percent of voluntary physicians attained scores in the healthy range at point of discharge (Table 3). There was no significant difference between the groups with regard to whether their BDI scores had decreased by two standard deviations or more by the time of discharge. The change in mean admission and discharge BDI scores for the two

Table 2 Change in Beck Depression Inventory-II Score

Variable	Mean	SD	*F*	*p*
Admission BDI				
Mandated (*n* = 22)	16.4	13.9	.79	.38
Voluntary (*n* = 29)	22.6	11.5		
Discharge BDI				
Mandated (*n* = 22)	4.7	5.1	.43	.52
Voluntary (*n* = 29)	6.1	8.2		
BDI reliable change index				
Mandated (*n* = 22)	3.9	2.3	.31	.58
Voluntary (*n* = 29)	3.6	2.9		

N = 51. BDI, Beck Depression Inventory.

Table 3 RCI Scores and Clinical Significant Change in Depression Severity, According to BDI-II

	BDI-II		BDI-II	
	Improved	(%)	Deteriorated	(%)
Mandated (*n* = 22)				
RCI >1.96	14	64	0	0
SD >2.0	14	64	0	0
Recovered BDI <14	20	91	0	0
Voluntary (*n* = 29)				
RCI >1.96	24	83	0	0
SD >2.0	24	83	0	0
Recovered BDI <14	24	83	0	0

N = 51. RCI, reliable change index, BDI-II, Beck Depression Inventory-II.

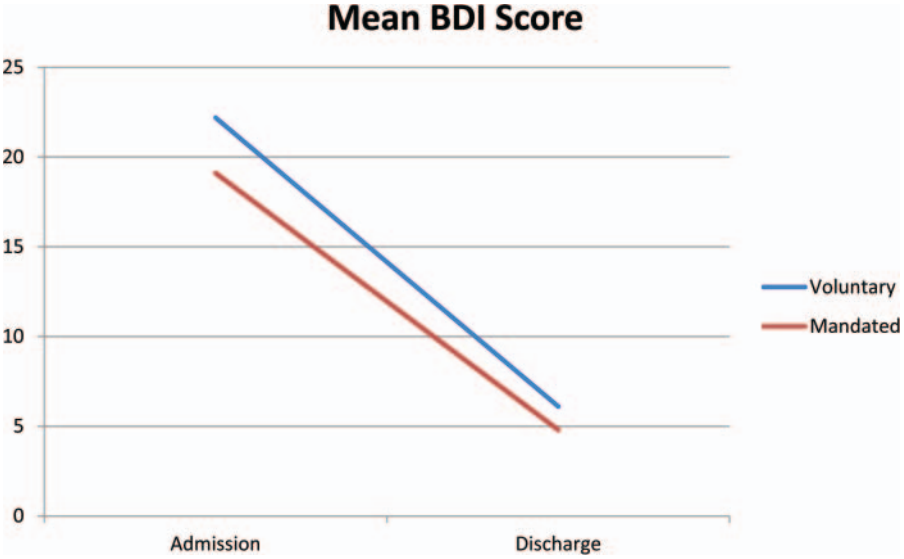

Figure 1. Mean BDI scores for voluntary and mandated physicians ($N = 51$).

groups indicate commonality (Fig. 1). Finally, investigating the relationship between change in depression severity and length of hospitalization across all physicians yielded a nonsignificant association ($r = .04$; $p = .84$), and a scatter plot of the mandated and voluntary physicians (Fig. 2) indicated that most of the physicians in both groups attained significant improvement between 20 and 60 days. However, 13 physicians had modest improvement that did not appear to be dependent on length of hospitalization.

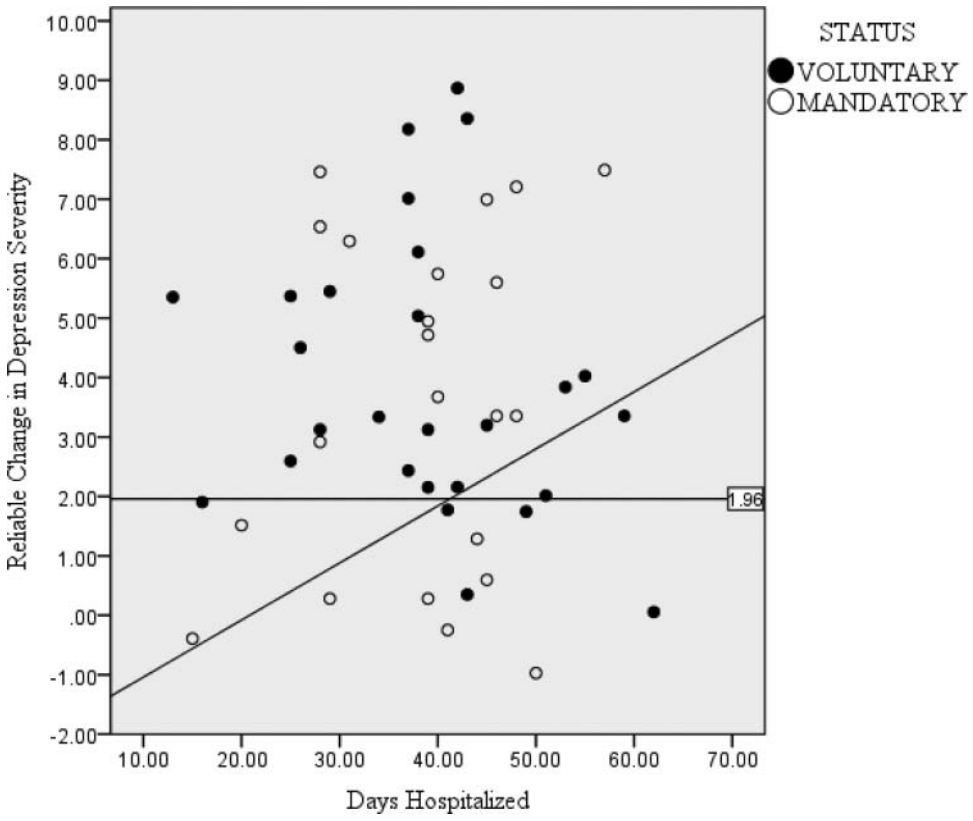

Figure 2. Reliable change scores by length of stay.

Discussion

The primary hypothesis that physicians mandated into treatment would be less cooperative with their treatment plan and therefore would show notably slower progress, was not supported by the results. Although mandated physicians had lower initial BDI severity scores, the degree of improvement and discharge BDI scores between groups was comparable. This outcome suggests that state physicians health programs can continue to mandate physicians into treatment despite concerns that mandatory treatment may be less efficacious than voluntary treatment.

It is also notable that of those physicians for whom an admission BDI was obtained, there was a significant difference in mean BDI scores, with voluntary physicians being more depressed at admission. In contrast, when we examined admission BDI scores only for those physicians who also completed a discharge BDI, we found no significant difference in admission BDI scores (Fig. 1). A possible explanation for the disparity in admission BDI scores in the former group is that the mandated group was more likely to consist of patients admitted for substance use as opposed to depression. However, this was not borne out in *post hoc* analyses.

Of the 32 mandated physicians for whom an admission BDI was obtained, discharge BDIs were obtained for only 22 of them. In contrast, of the 35 voluntary physicians for whom an admission BDI was obtained, discharge BDIs were obtained for 29 of them. This result demonstrates a significantly higher withdrawal rate for those in the mandated category. Hence, we must include the important caveat that the equivalence in improvement between the two groups could be contingent on treatment completion. *Post hoc* analyses failed to detect a difference in discharge disposition of the two groups.

A significant limitation of our study is that our analysis focused on just one outcome variable, depression. Other outcome measures such as quality of life, level of disability, and working alliance may have demonstrated different trajectories and outcomes. A diagnostically heterogeneous sample such as ours may have benefited from the use of multiple outcome measures. In addition, without information regarding medication or therapeutic interventions provided to the patients, it is difficult to conclude that the lack of difference in outcome is because mandated treatment has no effect. The medical records from which this archival project was derived did not provide systematic and standardized information for each subject regarding treatment differences, medication dosages, or types of interventions. Finally, the small number of physicians in our sample may have hampered the power of our statistical analysis. In light of these limitations, future projects should include large case-control designs using propensity score-matching to improve the quality of matching of mandated and voluntary patients, include cross-cutting measures of psychopathology and health-related quality of life measures, and provide better characterization of medical and psychiatric interventions for each group.

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