0022-3018/98/1864-223$03.00/0
THE JOURNAL OF NERVOUS AND MENTAL DISEASE
Vol. 186, No. 4
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Printed in U.S.A.

Effects of Compensation-Seeking on Treatment Outcomes among Veterans with Posttraumatic Stress Disorder

ALAN FONTANA, PH.D.,[1] AND ROBERT ROSENHECK M.D.[1]

The desire to acquire or increase financial compensation for a psychiatric disability is widely believed to introduce a response bias into patients' reports of their symptoms and their work performance. The hypothesized effects of compensation-seeking in inhibiting improvement from treatment are examined. Data from outpatient (N = 455) and inpatient (N = 553) programs for the treatment of posttraumatic stress disorder and associated disorders in the Department of Veterans Affairs were used to compare outcomes for veterans who were and were not seeking compensation. Outcome was measured as pre/post improvement in symptoms and work performance over the course of 1 year after the initiation of treatment. No compensation-seeking effect was observed among outpatients, but a significant effect was found for some inpatients. The effect for inpatients was manifested essentially by patients in a program type which was designed to have an extremely long length of stay, thus triggering a virtually automatic increase in payments. Like outpatients, inpatients in programs with a moderate length of stay did not manifest a compensation-seeking effect on improvement. Although not permitting a definitive explanation, the preponderance of the evidence favors the overstatement of symptoms rather than either the severity or the chronicity of the disorder as the most likely explanation for the compensation-seeking effect that was observed. For patients treated in standard outpatient and short-stay inpatient programs, compensation does not seem to affect clinical outcomes adversely.

— *J Nerv Ment Dis* 186:223–230, 1998

One of the hallmarks of a civilized society is that it takes care of its disabled members (Berkowitz, 1987). This is particularly true when the disability has been incurred in the service of the society itself as in the case of fighting its wars (Adkins, 1967; Skocpol, 1992). Programs providing financial compensation for disability reflect society's desire to act on its values of responsibility, restitution, and compassion for its disabled members. The federal government, through the Department of Veterans Affairs (VA), is a major payor of financial compensation to veterans who have been certified as disabled due to one or more disorders incurred in the course of their military service. In VA terminology, this certification makes veterans "service-connected" for those disorders. Associated with the certification is a rating of the degree of disability ranging from 0 to 100%.

Despite their legitimate intentions, however, disability programs create incentives for patients to obtain and maximize monetary payments by overstating reports of illness and functional limitation (Berkowitz, 1987; Skocpol, 1992). Psychiatric disorders are defined largely in terms of disturbances in thoughts, emotions, and behaviors, features that are not detectable reliably or easily by an external observer directly. Assessment of psychiatric disorders including their improvement, therefore, depends heavily on patients' reports. The dual reality that veterans must actively pursue financial compensation for disability themselves and that disability implies a treatment-resistant disorder has led to many warnings that biases in veterans' responses threaten to invalidate assessments for making diagnoses (Atkinson et al., 1982), conducting research (Denny et al., 1987), and evaluating treatment outcome (Byrne and Valdiserri, 1982; Frueh et al., 1996; Richman et al., 1994). The actual extent to which the federal government's disability program for veterans has adverse consequences for psychiatric treatment programs is unknown, because the empirical literature on this topic is limited.

Empirical work that has been done to date on response biases in the reporting of symptoms has focused on the implications for the validity of diagnosis, and most of this work has focused on assessments made with the Minnesota Multiphasic Personality Inventory (MMPI). Choice of the MMPI

[1] Northeast Program Evaluation Center (182), Evaluation Division of the VA National Center for PTSD, VA Connecticut Healthcare System, 950 Campbell Avenue, West Haven, Connecticut 06516. Send reprint requests to Dr. Fontana.
We thank David Read Johnson, Ph.D., for his helpful comments on an earlier draft of this paper.

is understandable, because it has well-developed validity scales for response biases, including overstatement (the F scale) specifically (Hathaway and McKinley, 1967, 1989). Studies have found that veterans with posttraumatic stress disorder (PTSD) overstate their symptoms on many of the scales of the MMPI, including the F scale (Hyer et al., 1987, 1989). One of the possible reasons that the authors of these studies offered for the exaggeration is compensation-seeking. The fact that compensation-seeking was not determined specifically in these studies, however, makes their results and interpretation equivocal regarding this point.

Two studies closer to the point examined the relationship of service-connection to symptom-reporting on the MMPI. Schneider (1979) reported that the higher the service-connected disability rating, the higher were symptom scores, including those on the F scale. Of course one would expect that veterans who had been judged to be more disabled would be more symptomatic. In this regard, Schneider pointed out that the F scale is correlated highly with the pathology scales, so that it is "as much a measure of psychopathology as of test-taking attitude" (p. 263). Another study found that service-connected veterans did not report higher symptom levels on the MMPI (including the F scale) than veterans who were not service-connected (Jordan et al., 1992). This study, however, did not examine degree of service-connection, nor was service-connection limited to psychiatric disorders. Both of these studies are limited further by the fact that they relied solely upon existing compensation-status and did not determine current compensation-seeking.

Current compensation-seeking was made an explicit part of the design of three studies. In one study, there was no significant difference on any MMPI scale (including the F scale) between veterans with PTSD who were intending to seek compensation compared with those who were not intending to do so (Quinn et al., 1993). In a second study of veterans with PTSD, Smith and Frueh (1996) classified veterans as symptom "exaggerators" and "nonexaggerators" on the basis of their F-K scores (the difference between scores on the MMPI F and K scales). Compensation-seeking was not over represented significantly among symptom exaggerators. Finally, Frueh, Smith and Barker (1996) found that compensation-seeking veterans scored significantly higher than noncompensation-seeking veterans on several MMPI scales (including the F scale) as well as on several associated pathology scales, including the Mississippi Scale for Combat-Related PTSD (Keane et al., 1988). Veterans with PTSD were represented equally in the two groups.

No doubt one of the major reasons studies have not addressed the relationship of compensation-seeking to treatment outcome, despite repeated warnings of the potential exaggeration of symptom reports, is that treatment outcome studies addressing this issue require large numbers of patients, some of whom would be applying for compensation and some not. The present study uses data from two relatively large-scale outcome studies of veterans who received specialized treatment for PTSD and related stress disorders from the VA. PTSD is an especially apt condition in which to study the effect of compensation-seeking status because PTSD is one of the few conditions for which one can continue to apply for benefits long after leaving the military.

This study compares outcome between two groups of patients. The first group was composed of veterans who were not receiving compensation at the time of admission, who reported that they did not plan to apply for compensation, and who did not receive compensation during the follow-up period. This group could be expected to have minimal motivation to overstate symptom reports due to compensation issues. The second group included veterans who were either already receiving compensation at the time of admission or who were planning to apply for compensation. This group could be expected to have substantial motivation to overstate symptom reports in the service of either obtaining, maintaining, or increasing compensation.

The present study is also able to examine whether there is a differential impact of compensation issues on treatment improvement among inpatients and outpatients. This distinction is likely to be important because hospitalization is generally regarded as signifying greater severity of a disorder than is attendance at an outpatient clinic. More importantly, however, when service-connected veterans are hospitalized for 21 days or more, they receive payments at the rate of 100% disability for the duration of their hospital stay, and sometimes for a posthospitalization convalescence period. Finally, in addition to symptoms, employment is included as an outcome domain. This is a particularly relevant addition because VA compensation has been shown to be associated with modest reductions in labor force participation (Rosenheck et al., 1995).

We hypothesize the following relationships to be statistically significant if compensation issues introduce a substantial bias on the change in reported symptoms and/or employment over the year after the beginning of treatment: a) Veterans who were

already receiving compensation or who were applying for compensation would report less of an improvement in symptoms and/or work than veterans who were neither receiving nor applying for compensation. b) Among veterans who were already receiving or who were applying for compensation, the increase in disability rating over the year would be related negatively to the improvement in reported symptoms and/or work during this period. c) The preceding relationships between change in disability rating and change in outcomes would be stronger among inpatients than among outpatients. d) Veterans who were applying for or seeking to maintain their compensation status would be rated by their clinicians as less committed to working in therapy. These veterans' interest in pursuing their compensation goals could be expected to detract from their clinicians' impression of their interest in working on solving their problems. e) Veterans who were applying for or seeking to maintain their compensation status would stay in treatment longer in the hope of convincing their clinicians and others thereby that they were more disturbed.

Methods

Sample

Subjects were drawn from outpatient (Rosenheck and Fontana, 1996) and inpatient (Fontana and Rosenheck, 1997) studies of treatment outcome for PTSD in VA programs. A total of 554 veterans were enrolled in the outpatient study and 831 in the inpatient study. Complete data including a follow-up interview were obtained on 455 outpatients and 553 inpatients, representing successful follow-up rates of 82% for outpatients and 67% for inpatients. A formal clinical diagnosis of PTSD based on DSM III-R criteria (American Psychiatric Association, 1987) was given to 87.2% of the outpatients and 98.5% of the inpatients.

The means and *t*-tests for sociodemographic and wartime traumatic variables comparing veterans who were included in the study with those who were excluded due to incomplete data are presented in Table 1. Among outpatients, veterans who were included differed from those who were excluded by being approximately 2 years older, more often married and less often divorced, more often of African-American ethnicity, and less often diagnosed with alcohol abuse and personality disorder comorbidities. Among inpatients, veterans who were included differed from those who were excluded by being more often married and less often divorced, and less often of African-American ethnicity. Not differing between included and excluded veterans among either outpatients or inpatients were educational level, Hispanic ethnicity, diagnosed drug abuse comorbidity, combat exposure (Keane et al., 1989), and participation in abusive violence (Fontana and Rosenheck, 1993).

Design

All veterans were interviewed by specially trained evaluation assistants who were not part of the treatment staff. Data used for this study were obtained from baseline interviews and 1-year follow-up interviews. When follow-up data were not available at 1 year, an 8-month interview was substituted.

Measures

For this study, only service-connection for PTSD or for another psychiatric disorder was considered. Service-connection for a physical condition was considered to be largely irrelevant to motivations for overstating psychiatric symptoms. Very few veterans indicated any plans to apply for a physical disability.

Compensation-Seeking. At admission, veterans were asked if they had a psychiatric service-connected disability, and, if so, what the percentage was. They were also asked if they were planning to apply for service-connection or for an increase in disability rating for PTSD. Those who were not service-connected and were not planning to apply for service-connection were classified as not compensation-seeking. Veterans' reports of their disability rating at follow-up indicated that one outpatient and five inpatients in this group eventually did receive service-connection during this period. We took this as evidence that they either gave misleading responses at the time of the admission interview, or more likely, that they changed their plans in the course of treatment. In either event, we deleted them from the data set. Veterans who were applying for compensation or for an increase in disability rating and those who were already certified as service-connected were classified as compensation-seeking. Preliminary analyses indicated that the symptom and employment reports did not differ significantly between those who were and were not currently applying among the compensation-seeking group of veterans. In the outpatient sample, there were 74 (16%) veterans in the not compensation-seeking group and 381 (84%) veterans in the compensation-seeking group. The numbers among inpatients were 21 (4%) in the not compensation-seeking and 532 (96%) in the compensation-seeking group.

In addition to the questions at admission, veterans were asked at follow-up whether there had been a

TABLE 1
Demographic and Traumatic Variables for Veterans in and out of Study[a]

Variable	Outpatient			Inpatient		
	In (N=455)	Out (N=99)	Significance	In (N=553)	Out (N=278)	Significance
Age	46.08	44.12	.010	45.22	45.23	NS
	(8.90)	(6.15)		(3.25)	(3.12)	
African-American ethnicity	.23	.16	NS	.14	.20	.050
	(.42)	(.37)		(.34)	(.40)	
Latin-American ethnicity	.001	.00	NS	.04	.06	NS
	(.01)	(.00)		(.20)	(.23)	
Married	.54	.35	.001	.43	.30	.001
	(.50)	(.48)		(.50)	(.46)	
Divorced	.27	.41	.005	.38	.45	.050
	(.44)	(.50)		(.49)	(.50)	
Years of education	12.85	12.84	NS	12.95	13.06	NS
	(2.52)	(2.30)		(1.93)	(2.12)	
Alcohol abuse diagnosis	.38	.54	.005	.43	.42	NS
	(.48)	(.50)		(.50)	(.50)	
Drug abuse diagnosis	.19	.25	NS	.24	.28	NS
	(.39)	(.44)		(.42)	(.45)	
Personality disorder diagnosis	.17	.30	.005	.20	.17	NS
	(.38)	(.46)		(.40)	(.37)	
Combat exposure	27.55	28.22	NS	30.53	29.51	NS
	(9.47)	(8.86)		(7.91)	(7.65)	
Participation in abusive violence	.29	.32	NS	.54	.50	NS
	(.45)	(.32)		(.50)	(.50)	

[a]Standard deviations in parentheses.

change in their psychiatric disability status and, if so, what the percentage was at that time. Means and standard deviations can be found for the admission and follow-up time-points in Table 2.

Symptoms. Symptoms were measured for PTSD in particular and other psychiatric disorders in general. In both samples, PTSD symptoms were measured by the Mississippi Scale for Combat-Related PTSD (Keane et al., 1988), and general psychiatric symptoms were measured by the psychiatric composite of the Addiction Severity Index (McLellan et al., 1985) and the Brief Symptom Inventory (Derogatis and Melisaratos, 1983). In addition, PTSD was measured in the inpatient sample by the Clinician-Administered PTSD Scale (Blake, 1994; Weathers and Litz, 1994). Means and standard deviations for these variables can be found in Table 2.

Work. Work was measured in both the outpatient and inpatient samples as the number of days employed for pay during the previous month. Means and standard deviations can be found in Table 2.

Changes in symptoms and work over the course of the year were calculated so that a positive difference signified improvement. For symptoms, then, the follow-up level was subtracted from the admission level; for work, the admission level was subtracted from the follow-up level.

Commitment to Working in Therapy and Duration of Time in Treatment. Clinicians were asked to rate veterans' commitment to working in therapy on a five-point scale, ranging from 0 = "Not at all" to 4 = "Maximally." Ratings were made 2 months into outpatient treatment and at the time of discharge for inpatients. The average rating was 2.63 (SD = 1.03) for outpatients and 2.72 (SD = .90) for inpatients. Duration of time in treatment was measured in months for outpatients (mean = 7.7, SD = 5.1) and days of hospitalization for inpatients (mean = 61.1, SD = 49.6).

Data Analyses

The large difference in size between the not compensation-seeking and compensation-seeking groups dictated that a weighting procedure be included in the analyses so that possible differences between the groups would not be masked by the disproportionate influence of the larger group. Each group was weighted by the reciprocal of its size to the total for its sample in order to give each group equal weight. This procedure adjusts the sums of squares but does not affect the degrees of freedom or the number of observations in the analyses (SAS Institute, 1989).

Results

Comparison of Compensation-Seeking across the Samples

Compensation-seeking differed significantly across the outpatient and inpatient samples (chi-

TABLE 2
Mean Outcome Scores and Disability Ratings[a]

Measure	Outpatient (N=455) Admission	1 Year	Change[b]	Inpatient (N=553) Admission	1 Year	Change[b]
Mississippi scale	122.41	120.98	+1.53	135.51	137.79	−2.28
	(23.94)	(24.82)		(15.29)	(16.57)	
CAPS				93.56	88.08	+5.48
				(18.92)	(18.80)	
ASI psychiatric composite	.53	.52	+.01	.66	.62	+.04
	(.22)	(.24)		(.16)	(.17)	
Brief symptom inventory	2.09	2.13	−.04	2.45	2.61	−.16
	(.87)	(.92)		(.66)	(.69)	
Days worked	6.13	6.85	+.72	2.36	1.95	−.41
	(9.29)	(9.22)		(6.34)	(5.38)	
% service connected	34.70	66.80	+32.10	55.30	73.70	+18.40
% disability rating for	30.42	38.20	+8.20	34.34	55.00	+20.66
those service connected	(27.10)	(26.70)		(32.30)	(32.00)	

[a]Standard deviations in paretheses.
[b]Change is calculated as admission minus 1 year for symptoms, and 1 year minus admission for work and disability.

square = 44.20, 1 *df*, $p < .0001$). A greater percentage of inpatients (96%) compared with outpatients (84%) were classified as compensation-seeking. At admission, 55.3% of inpatients and 34.7% of outpatients were service-connected. Disability ratings for those who were service-connected were remarkably similar (inpatient mean = 34.3%, SD = 32.3%; outpatient mean = 30.42%, SD = 27.1%). The percent receiving disability increased over the year to 73.7% among inpatients and to 66.8% among outpatients. Disability ratings among veterans who were already service-connected or who were newly service-connected (the only ones for whom a change was applicable) increased to a mean of 55.0% (SD = 32.0%) for inpatients (F = 208.56, 1,279 *df*, $p < .0001$) and 38.2% (SD = 26.7%) for outpatients (F = 19.61, 1,98 *df*, $p < .0001$). The amount of increase was not significantly different between the inpatient and outpatient samples (t = .62, 377 *df*, $p > .50$).

Relationship of Compensation-Seeking Motivation to Treatment Outcomes within Each Sample

Before comparing compensation-seeking groups to each other, the sociodemographic and traumatic variables presented in Table 1 were examined, first, for their relation to compensation-seeking group and, then, for their relation to outcomes to determine whether any of them should be included as covariates. None of the variables were related significantly to outcomes when a Bonferroni correction was made for the total number of comparisons. We concluded, therefore, that statistical control for covariates was not warranted in the subsequent analyses.

The first approach to determining the relationship between compensation-seeking and outcomes was to conduct multivariate repeated measures analyses of variance (MANOVAs), in which the two compensation-seeking groups were crossed by the two timepoints (admission and one year), on the outcome measures as a group for each of the samples.

The MANOVA for the outpatient sample produced a significant main effect for group (F = 85.97, 1,453 *df*, $p < .0001$), but not for time (F = .25, 1,453 *df*, $p < .60$). Most importantly for the present purposes, there was a significant interaction between group and time (F = 4.16, 1,453 *df*, $p < .05$). The pattern of means, however, was opposite to that hypothesized; namely, veterans who were compensation-seeking improved more than veterans who were not compensation-seeking. Univariate analyses of variance that were performed separately for each outcome identified the Mississippi Scale as the one individual measure showing this pattern to a significant extent (F = 8.75, 1,453 *df*, $p < .005$). The means for the interactions are presented in Table 3.

For the inpatient sample, the MANOVA yielded significant main effects for group (F = 29.62, 1,551 *df*, $p < .0001$) and time (F = 27.58, 1,551 *df*, $p < .0001$). In addition, there was a significant interaction between group and time (F = 9.48, 1,551 *df*, $p < .003$), which produced a pattern of means that was consistent with that which was hypothesized. Veterans who were seeking compensation either improved less or deteriorated compared with veterans who were not seeking compensation. Work was an exception to this pattern in that veterans who were not seeking compensation deteriorated more. This anomalous result might have been due largely to a floor effect, because the follow-up mean for each group was only 1.95 days worked. Univariate analyses of variance performed for each outcome sep-

TABLE 3
Outcome Means for the Interaction of Compensation-Seeking by Time[a]

Outcome measure	Compensation-seeking group	Outpatient				Inpatient			
		N	Admission	1 Year	Change[b]	*N*	Admission	1 Year	Change[b]
Mississippi scale	Not comp-seeking	74	100.88	102.84	−1.96	21	131.24	131.55	−.31
			(27.55)	(31.83)			(16.03)	(16.28)	
	comp-seeking	381	126.60	124.51	+2.09	532	135.67	138.03	−2.36
			(20.77)	(21.56)			(15.26)	(16.55)	
CAPS	Not comp-seeking					21	89.10	78.43	+10.67
							(20.94)	(22.50)	
	comp-seeking					532	93.73	88.46	+5.27
							(18.84)	(18.56)	
Psych. comp. - ASI	Not comp-seeking	74	.36	.36	.00	21	.68	.56	+.12
			(.26)	(.28)			(.16)	(.18)	
	comp-seeking	381	.57	.55	+.02	532	.66	.62	+.04
			(.20)	(.22)			(.16)	(.17)	
BSI	Not comp-seeking	74	1.42	1.52	−.10	21	2.46	2.38	+.08
			(.94)	(1.08)			(.60)	(.70)	
	comp-seeking	381	2.22	2.24	−.02	532	2.45	2.62	−.17
			(.80)	(.84)			(.66)	(.69)	
Work	Not comp-seeking	74	8.26	8.16	−.10	21	3.48	1.95	−1.53
			(10.20)	(9.80)			(7.09)	(5.45)	
	comp-seeking	381	5.72	6.59	+.87	532	2.31	1.95	−.36
			(9.06)	(9.10)			(6.31)	(5.39)	

[a]Standard deviations in parentheses.
[b]Change is calculated as admission minus 1 year for symptoms, and 1 year minus admission for work and disability.

arately yielded significant interactions for the CAPS (F = 11.42, 1,551 *df*, $p < .001$), the psychiatric composite of the Addiction Severity Index (F = 21.80, 1,551 *df*, $p < .0001$), the Brief Symptom Inventory (F = 15.82, 1,551 *df*, $p < .0001$), and work (F = 4.32, 1,551 *df*, $p < .05$). The means for the interactions are presented in Table 3.

The second approach to determine whether there was a compensation-seeking effect on treatment outcomes was to correlate the increase in disability percentage over the year with improvement in outcomes over the year. This comparison was only relevant for the veterans who were seeking compensation, because they were the only ones who were already certified for service-connection or were seeking certification and/or an increase in disability rating. Veterans who already had a disability rating of 100% at admission were deleted from the analyses because their percentage could not be increased. None of the Pearson correlations was significant for veterans in the outpatient sample. Among inpatients, however, there were significant negative correlations between the increase in disability rating on the one hand and improvement on the other. These results were observed for PTSD as measured by the CAPS (r = −.16, 381 *df*, $p < .003$) and for work (r = −.10, 381 *df*, $p < .05$). These relationships are consistent with hypotheses that the amount of improvement would be related negatively to the amount of gain in disability rating among veterans seeking compensation.

Further analyses were conducted post hoc in an attempt to better understand the preceding findings for the inpatient sample. Programs in the inpatient sample were divided into two subsamples. One was composed of four Specialized Inpatient PTSD Units, which were designed to have long lengths of stay for all patients (mean = 104.17 [SD = 43.78] days). The other subsample was composed of three Evaluation and Brief Treatment Units, which were designed to have moderate lengths of stay, and three general psychiatric units, which had moderate lengths of stay as determined by the assessed needs of individual patients on a case by case basis (mean = 33.14 [SD = 27.41] days). The MANOVAs were repeated within the long-stay and moderate-stay subsamples separately. The interaction between compensation-seeking group and time was not significant for the moderate-stay subsample (F = 2.36, 1,322 *df*, $p > .10$), but it was significant for the long-stay subsample (F = 39.31, 1,227 *df*, $p < .0001$). We will return to these results below.

Relationship of Compensation-Seeking Motivation to Commitment to and Duration of Treatment

Analyses of variance produced no significant differences among compensation-seeking groups with regard to commitment to working in therapy for either outpatients (F = .61, 1,394 *df*, $p > .40$) or inpatients (F = 2.57, 1,536 *df*, $p > .10$). Neither did compensation-seeking groups differ significantly in

their duration of time in treatment for either outpatients ($F = 1.42$, 1,453 *df*, $p > .20$) or inpatients ($F = .21$, 1,551 *df*, $p > .60$).

Discussion

The results of this study suggest that seeking to obtain or maintain compensation status does not have an inhibiting effect on improvement in treatment among outpatients or among most inpatients. Among inpatients in programs which are designed programmatically to provide an extremely long length of stay (100 days on average), however, the motivation to apply for or to maintain compensation status does appear to inhibit improvement. Veterans in programs whose length of stay averaged approximately 30 days did not show an inhibiting effect. That the effect should be manifested within the extremely long-stay programs, specifically, is supported by the implication that the longer the hospitalization the more severe is the pathology and by the specific regulations that hospitalization of more than 21 days entitles veterans to receive a disability payment at the rate of 100% for the length of their hospitalization. In addition to these two factors, it is possible that programmatically long stays foster dependency on the staff. Further, staff in long-stay programs may display a heightened sympathy for veterans' legitimate claims, which may encourage veterans' use of the program for advocacy purposes.

The explanation that guided this study from the beginning is that any inhibiting effect on outcomes is likely due to veterans' overstatement of their reports. There is no way of determining from the present data the extent to which overstatement of symptoms is due to conscious or unconscious forces. Although conscious faking of symptom reports may be the case in some instances, we believe that in most cases veterans believe and feel that they are as symptomatic as they report. The fact that compensation-seeking did not lead to a discernible difference in veterans' commitment to working in therapy or in the length of time that they spent in treatment suggests that veterans, by and large, were not consciously manipulating the system with their reports. Rather, we believe that unconscious forces such as a hypochondriacal focus on symptoms are more likely to be the causes.

The evidence does not permit a definitive choice of the overstatement explanation over alternative explanations, but the preponderance of evidence favors the former. The two main alternatives are the severity or the chronicity of the disorder among nonimproving veterans. The findings arguing in favor of overstatement are that inpatient veterans who were applying for or seeking to maintain their compensation status improved less in outcomes than those who were not applying for or seeking to maintain their compensation status; and that the amount of improvement among inpatient veterans who were applying for or seeking to maintain their compensation varied inversely with the amount of increase in their disability ratings. On the other hand, while these findings are consistent with expectations from overstatement, they are not evidence of overstatement itself.

The applicability of severity or chronicity as an alternative explanation for the present results is challenged by the outpatient findings that veterans who were applying for or seeking to maintain their compensation status manifested improvement over the ensuing year. Thus, applying for or seeking to maintain compensation status is not, in and of itself, a sufficient condition for inhibiting improvement, veterans' pathology and chronicity notwithstanding. The difference between the outpatient and inpatient results is not a major problem for the overstatement explanation, because that explanation is based upon patients' presumed motivations for applying for or seeking to maintain compensation (that is, the implications of hospitalization in general and of 21 days of treatment on benefit amounts in particular). The severity and chronicity explanations, however, are based upon the characteristics of the disorder itself, which would be expected to be manifested similarly within both outpatient and inpatient status.

The finding that veterans who were in outpatient programs and were seeking to obtain or maintain compensation improved in treatment was unexpected. This finding suggests the possibility that disability payments may contribute to better treatment outcomes through diminishing the stress of economic hardship. If replicable as a general effect, this finding would be of considerable clinical importance, and for this reason, it warrants further investigation.

The present results have programmatic implications for clinical practice. They coincide with those drawn from analyses which compared the costs and outcomes among these inpatient programs themselves (Fontana and Rosenheck, 1997). These other analyses showed that the extremely long-stay programs were not only more costly than the shorter-stay programs, but that the former had poorer outcomes as well. The present results suggest that compensation-seeking was one of the reasons for the poorer outcomes. Avoidance of extremely long-stay programs, therefore, would seem to eliminate most of the understatement of outcomes due to compen-

sation-seeking specifically as well as to control costs generally. At the same time, it certainly can be expected that some patients will understate their improvement in the service of pursuing compensation, regardless of the structure of their treatment program. The present results suggest, however, that these patients are in the minority. Although it is important to the treatment of these individuals that their motivations be addressed, clinicians should not be distracted from their overall task of providing effective treatment by looking to patients' compensation-seeking as a general explanation of treatment success or failure. For patients treated in standard outpatient and short-stay inpatient programs, compensation does not seem to affect clinical outcomes adversely. There would seem to be many more important, if undiscovered, reasons for the success or failure of treatment, and the discovery and understanding of these reasons should have the primary claim on our attention and energies.

References

Adkins R (1967) *Medical care for veterans.* Washington, DC: US Government Printing Office.

American Psychiatric Association (1987) *Diagnostic and statistical manual of mental disorders* (3rd ed, revised). Washington, DC: Author.

Atkinson RMS, Henderson RG, Sparr LF, Deale S (1982) Assessment of Viet Nam veterans for posttraumatic stress disorder in Veterans Administration disability claims. *Am J Psychiatry* 139:1118–1121.

Berkowitz E (1987) *Disabled policy.* Cambridge, UK: Cambridge University Press.

Blake DD (1994) Rationale and development of the Clinician-Administered PTSD Scales. *PTSD Res Quart* 5 (No. 2):1–2.

Byrne JP, Valdiserri EV (1982) Psychotherapeutic issues in a Veterans Administration outpatient clinic. *Am J Psychother* 36:547–553.

Denny N, Robinowitz R, Penk W (1987) Conducting applied research on Vietnam combat-related post-traumatic stress disorder. *J Clin Psychol* 43:56–66.

Derogatis LR, Melisaratos N (1983) The Brief Symptom Inventory: An introductory report. *Psychol Med* 13:595–605.

Fontana A, Rosenheck R (1993) A causal model of the etiology of war-related PTSD. *J Traum Stress* 6:474–500.

Fontana A, Rosenheck R (1997) Effectiveness and cost of the inpatient treatment of posttraumatic stress disorder: Comparison of three models of treatment. *Am J Psychiatry* 154:758–765.

Frueh BC, Smith DW, Barker SE (1996) Compensation seeking status and psychometric assessment of combat veterans seeking treatment for PTSD. *J Traum Stress* 9:427–439.

Hathaway SR, McKinley JC (1967) *Minnesota Multiphasic Personality Inventory: Manual for administration and scoring.* New York: Psychological Corporation.

Hathaway SR, McKinley JC (1989) *MMPI-2: Minnesota Multiphasic Personality Inventory-2.* Minneapolis: University of Minnesota Press.

Hyer L, Fallon Jr. JH, Harrison WR, Boudewyns PA (1987) MMPI over reporting by Vietnam combat veterans. *J Clin Psychol* 43:79–83.

Hyer L, Woods M, Harrison WR, Boudewyns P, O'Leary WC (1989) MMPI F-K index among hospitalized Vietnam veterans. *J Clin Psychol* 45:250–254.

Jordan RG, Nunley TV, Cook RR (1992) Symptom exaggeration in a PTSD inpatient population: Response set or claim for compensation. *J Traum Stress* 5:633–642.

Keane TM, Caddell JM, Taylor KL (1988) Mississippi Scale for Combat-Related Post-Traumatic Stress Disorder: Three studies in reliability and validity. *J Consult Clin Psychol* 56:85–90.

Keane TM, Fairbank JA, Caddell JM, Zimering RT, Taylor KL, Mora C (1989) Clinical evaluation of a measure to assess combat exposure. *Psychol Assess J Consult Clin Psychol* 1:53–55.

McLellan AT, Luborsky A, Cacciola J, Griffith J, Evans F, Barr HL, O'Brien CP (1985) New data from the Addiction Severity Index: Reliability and validity in three centers. *J Nerv Ment Dis* 173:412–423.

Quinn S, Knight JA, Weathers F, Keane TM, Ireland LD (1993) *Effects of compensation-seeking status on MMPI profiles of veterans.* Presented at the Ninth Annual Meeting of the International Society for Traumatic Stress Studies. Chicago, IL.

Richman H, Frueh BC, Libet JM (1994) *Therapists' ratings of treatment modality efficacy for combat-related PTSD.* Presented at the Tenth Annual Meeting of the International Society for Traumatic Stress Studies. Chicago, IL.

Rosenheck R, Fontana A (1996) Treatment of veterans severely impaired by posttraumatic stress disorder. In RJ Ursano, AE Norwood (Eds), *Emotional aftermath of the Persian Gulf war* (pp 501–532). Washington, DC: American Psychiatric Press.

Rosenheck R, Frisman L, Sindelar J (1995) Disability compensation and work among veterans with psychiatric and nonpsychiatric impairments. *Psychiatr Serv* 46:359–365.

SAS Institute Inc (1989) *SAS/STAT user's guide* (Version 6, 4th ed, Vol 2). Cary, NC: SAS Institute, Inc.

Schneider SJ (1979) Disability payments for psychiatric patients: Is patient assessment affected? *J Clin Psychol* 35:259–264.

Skocpol T (1992) *Protecting soldiers and mothers: The political origins of social policy in the United States.* Cambridge, MA: Harvard University Press.

Smith DW, Frueh BC (1996) Compensation seeking, comorbidity, and apparent exaggeration of PTSD symptoms among Vietnam combat veterans. *Psychol Assess* 8:3–6.

Weathers FW, Litz BT (1994) Psychometric properties of the Clinician-Administered PTSD Scale, CAPS-1. *PTSD Res Quart* 5(2):2–6.