

# Diagnosis of PTSD by Army Behavioral Health Clinicians: Are Diagnoses Recorded in Electronic Health Records?

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**Objective:** The study sought to identify the extent to which posttraumatic stress disorder (PTSD) diagnoses are recorded in the electronic health record (EHR) in Army behavioral health clinics and to assess clinicians' reasons for not recording them and treatment factors associated with recording or not recording the diagnosis.

**Methods:** A total of 543 Army mental health providers completed the anonymous, Web-based survey. Clinicians reported clinical data for 399 service member patients, of whom 110 (28%) had a reported PTSD diagnosis. Data were weighted to account for sampling design and nonresponses.

**Results:** Of those given a diagnosis of PTSD by their clinician, 59% were reported to have the diagnosis recorded in the EHR, and 41% did not. The most common reason for not recording was reducing stigma or protecting the service

member's career prospects. Psychiatrists were more likely than psychologists or social workers to record the diagnosis.

**Conclusions:** Findings indicate that for many patients presenting with PTSD in Army behavioral health clinics at the time of the survey (2010), clinicians did not record a PTSD diagnosis in the EHR, often in an effort to reduce stigma. This pattern may exist for other diagnoses. Recent Army policy has provided guidance to clinicians on diagnostic recording practice. An important implication concerns the reliance on coded diagnoses in PTSD surveillance efforts by the U.S. Department of Defense (DoD). The problem of underestimated prevalence rates may be further compounded by overly narrow DoD surveillance definitions of PTSD.

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Studies have linked combat duty in Operation Iraqi Freedom and Operation Enduring Freedom with the development of postdeployment health problems, particularly posttraumatic stress disorder (PTSD). In studies involving soldiers in infantry units that engaged in combat, an average of 13% met criteria for PTSD, with higher prevalence rates in some units depending on the level of combat exposure (1,2). However, among soldiers who experience PTSD symptoms post-deployment, only about half are estimated to receive mental health care (3).

Furthermore, researchers have speculated that the PTSD diagnostic code (*ICD-9* 309.81) might not be recorded in the electronic health record (EHR) for soldiers who receive treatment for PTSD in military treatment facilities (4). For example, some service members who receive treatment may fear that the diagnosis will harm their careers or lead to a medical discharge. Soldiers may not want the diagnosis to be visible to medics and primary care doctors embedded in their units who have access to their EHR. In addition, military clinicians are encouraged to use less stigmatizing diagnostic

codes (for example, V70.5\_6 for “post-deployment related encounter”) in certain health encounters to normalize these reactions and avoid overmedicalizing responses to stressors that are experienced as part of duties. Clinicians may record the diagnosis of PTSD in the narrative note section of the EHR to support a treatment plan but may choose to enter a less stigmatizing code in the diagnosis section that is visible to all other Army health professionals with access to the EHR. Also, health professionals working in military mental health treatment settings are less constrained by insurance reimbursement for specific diagnoses, and V codes are used to a greater extent in military than civilian settings (5). In one study of military mental health service utilization, approximately a third of all primary diagnoses used in mental health clinics were V codes (4).

Despite data documenting a high use of V codes in military settings (5), no studies have directly asked military clinicians about their patterns of diagnosing PTSD. This study attempted to address this gap by surveying Army behavioral health clinicians to determine the extent to which patients

being treated for PTSD do not have the diagnosis recorded officially in their EHR and reasons why. We also examined clinician and patient factors associated with recording or not recording the PTSD diagnosis.

## METHODS

### Sample

**Clinician selection.** We obtained e-mail contact information for all available 2,310 uniformed and civilian Army behavioral health care clinicians (including psychiatrists, psychologists, social workers, and others—for example, psychiatric nurses) from the Office of the Surgeon General of the Army. Data were collected from May 2010 to September 2010 by using electronic practice-based research methods detailed in previous publications involving this data set (6,7). All clinicians were contacted and given a password and an address of a secure Web site where they could provide consent and complete the survey anonymously. The Army Surgeon General supported the study by permitting clinicians to allot one hour of work time to completing the survey.

Clinicians were told that this was a study examining characteristics of routine practice. Nonresponders were contacted up to three times after first contact. Of those on the original list, 154 had undeliverable e-mail addresses, and 52 reported that they were not behavioral health clinicians. Of the remaining 2,104 clinicians, surveys were obtained from 543, for a response rate of 26%, which represents about a quarter of all Army behavioral health clinicians at the time. Responders were comparable to nonresponders, and previous studies have suggested that the survey responses were representative of Army-wide practice patterns (6,7). All methods were approved by the institutional review boards of the Walter Reed Army Institute of Research and the American Psychiatric Institute for Research and Education.

**Patient selection.** Each clinician was randomly assigned one of 21 start days and times and asked to select the first service member patient treated after that start time during the most recent typical work week and to provide data, without identifying information, about that patient. Of the 543 clinician respondents, 92% (N=501) reported treating patients during their most recent typical work week; 73% (N=399) of these clinicians provided clinically detailed data on one systematically selected service member, resulting in a total patient sample of 399 service members. Of these patients, 110 (28%) were reported by the clinician to have a *DSM-IV* PTSD diagnosis. The responses from clinicians who reported on a service member patient with PTSD, along with the clinical information provided for these patients, provided the data analyzed in this report.

**Sampling weights.** In order to account for the sampling design and nonresponses, weights were assigned to the clinicians and patients by using previously described procedures (6,7). Clinician weights were calculated as the inverse probability of

selection in four specialty strata (psychiatrist, psychologist, social worker, and psychiatric nurse or other mental health clinician). Patient weights were calculated as the inverse of the product of the probability of selection of the clinician and the probability of patient selection within each clinician's practice (that is, 1 divided by the clinician's patient caseload size).

### Measures

The study data collection instrument asked clinicians to provide clinical data on one systematically selected patient, including demographic data, the patient's years in the military, the length of time the patient had been in treatment, and the number of months the patient had been deployed. Clinicians were asked to record all the patient's diagnoses, including diagnoses recorded in the EHR and diagnoses not recorded in the EHR, for all five axes and V codes according to the *DSM-IV-TR* (8), with a clarifying comment that "Clinicians practicing in military treatment settings may treat individuals for diagnoses and V codes that are not officially recorded in the (EHR) note" for a variety of reasons. Clinicians were asked about their specialty, their confidence in treating PTSD, and their years of experience treating mental illness and military personnel. Clinicians were asked to complete the survey while the EHR of the patient was open to increase accuracy. Finally, clinicians who reported that the patient had diagnoses that were current problems but were not listed in the EHR were asked to identify reasons why the diagnoses were not recorded from a list of choices, or they could enter their own reason.

### Analytic Plan

Data were analyzed by using methods that accounted for the sampling weights to reflect the sampling design and provide standard errors reflecting the overall composition of the original sample list provided and the size of the clinicians' caseloads. Descriptive statistics detailed the characteristics of the clinicians and patients and the diagnostic practices of clinicians. To identify key factors associated with diagnostic patterns, logistic regression was used to explore the associations of specialty, clinician training and experience, and confidence treating PTSD with entering a diagnosis of PTSD in a patient's EHR. Patient factors, including age, military rank, gender, and years in the military, were also examined. Finally, characteristics of those who did or did not use V code diagnoses for their patients were compared. All analyses were conducted with Stata, version 10 (for Windows). Standard errors were estimated using Taylor series linearization.

## RESULTS

### Demographic Characteristics

Table 1 provides weighted data on characteristics of the subsample of 110 clinician respondents who reported on a patient with a study diagnosis of PTSD. The most common specialty of these clinicians was social work (43%), followed by psychology (35%) and psychiatry (15%). Among the 110 clinicians, 59% were women, and 61% were civilians. The

**TABLE 1. Characteristics of 110 Army clinicians who reported treating a service member with PTSD**

Characteristic	% or M±SD <sup>a</sup>
Specialty	
Psychiatrist	15
Psychologist	35
Social worker	43
Other	7
Military status	
Civilian	61
Active duty	20
Contractor	16
Other	3
Gender	
Male	41
Female	59
Age (M±SD)	49.8±12.0
Experience treating mental illness (M±SD years)	18.3±10.3
Experience treating military personnel (M±SD years)	8.8±7.4

<sup>a</sup> Values are weighted.

distribution of specialty and civilian status of this study sample was not significantly different from that of the entire population of Army behavioral health clinicians (personal communication, Army Office of the Surgeon General, 2010). These clinicians had an average of nearly nine years of experience treating military personnel, and most were confident or highly confident about their knowledge and skills in treating PTSD (91%).

Table 2 provides weighted data on characteristics of the subsample of 110 service members who were given a diagnosis of PTSD by their clinicians. Most were in the 25–29 age group (42%), most were male (85%), and most were seen in outpatient settings (87%). They had been in the military for an average of eight years. Compared with the total sample of patients, the patients with a PTSD diagnosis tended to fall in higher age groups and ranks, but they were similar in other demographic characteristics.

### Diagnostic Patterns

Of the 110 patients given a diagnosis of PTSD by their clinician, 59% (N) were reported to have the diagnosis recorded in the EHR; the diagnosis was not recorded in the EHR for the remaining 41%. Among those who did not have a PTSD diagnosis recorded, the most common diagnosis in the EHR was adjustment disorder (19%) (Table 3). Only one of the clinician factors examined, clinician specialty, had an independent association with an increased likelihood of recording the PTSD diagnosis in the EHR. Psychiatrists were the most likely to record the diagnosis in the EHR (83%; odds ratio=5.0, 95% confidence interval, [CI]=1.3–19.6; reference group was social workers). Rates of recording for the other groups were as follows: social workers, 50%; psychologists, 67%; and other specialties, 29%. None of the patient factors were found to be independently associated with an increased likelihood of the clinician's recording the diagnosis in the EHR.

**TABLE 2. Characteristics of 110 service members with a diagnosis of PTSD who were being treated by Army clinicians**

Characteristic	% or M±SD <sup>a</sup>
Age	
18–24	30
25–29	42
30–39	19
≥40	9
Military rank	
E1–E4	40
E5–E9	46
Officer or warrant officer	11
Don't know	2
Gender	
Male	85
Female	15
Probable personality disorder	8
Receiving evidence-based psychotherapy for PTSD	86
Receiving SSRI or SNRI <sup>b</sup>	35
Receiving either evidence-based psychotherapy for PTSD or SSRI or SNRI	90
Years in the military (M±SD)	8.0±6.2

<sup>a</sup> Values are weighted.

<sup>b</sup> SSRI, selective serotonin reuptake inhibitor; SNRI, serotonin-norepinephrine reuptake inhibitor

We also investigated use of V codes to test the hypothesis that clinicians who did not record the PTSD diagnosis in the EHR would be more likely to use a V code instead. We found no evidence for this; no significant differences were noted in the use of V codes between those who recorded a PTSD diagnosis in the EHR and those who did not, nor were there any patient or clinician factors independently associated with the use of V codes. About 11% of patients who had a diagnosis of PTSD that was not recorded in the EHR also had a V code recorded, and 17% of patients with a diagnosis of PTSD in the EHR also had a V code listed.

The sample of patients with no PTSD diagnosis recorded was relatively small (N=30). However, the most common reason clinicians gave for not recording a diagnosis was to reduce stigma or protect the service member's military and future career prospects (27%) (Table 4).

Although this study was focused on diagnostic patterns related to PTSD, as a comparison we also examined the rate at which major depression diagnoses were recorded in the EHR. Of the 75 patients given a diagnosis of major depression by their clinician, over two-thirds (67%) were reported to have the diagnosis recorded in the EHR; for the remaining 33%, the diagnosis was not recorded.

## DISCUSSION

This study was the first to directly assess military clinicians' PTSD diagnostic recording patterns. We found that a substantial proportion (41%) of patients with a diagnosis of PTSD did not have that diagnosis recorded in the EHR. The most common reason clinicians gave for not recording the diagnosis was because of stigma or to protect the service

**TABLE 3. Alternative diagnoses recorded by Army clinicians for patients (N=45) whose PTSD diagnosis was not recorded in their electronic health record**

Diagnosis	% <sup>a</sup>
Adjustment disorder	19
Anxiety disorder, not otherwise specified	9
Partner relational problem	5
Personality disorder, not otherwise specified	4
Alcohol abuse	4

<sup>a</sup> Values are weighted.

member's career prospects. Unexpectedly, it did not appear that V codes were used as a proxy for PTSD diagnoses in this sample. We did not find that the use of V codes was higher in cases in which the PTSD diagnosis was not recorded in the EHR. It was expected that the considerable use of V codes in military settings could be explained by their use as a less stigmatizing alternative to a PTSD diagnosis, but our results did not support this idea. It may be that clinicians in military settings are more likely to use V codes compared with clinicians in civilian settings, but this appeared to be independent from the decision to assign a PTSD diagnosis. Rather, clinicians were more likely to give a diagnosis of an adjustment disorder to patients for whom they chose not to record the PTSD diagnosis.

Clinician specialty was the only factor examined that was shown to be associated with the likelihood of recording a PTSD diagnosis in the EHR, with psychiatrists more likely than clinicians from other specialties to do so. One possible explanation is related to the policy regarding the Army disability evaluation processes in place when this study was conducted. At that time, psychiatrists were the only specialty authorized to initiate a medical disability board evaluation for a soldier, which would require the diagnosis to be recorded. This policy has been changed since 2010, and specialty may no longer be associated with the likelihood of recording PTSD in the EHR.

We found a similar, if less pronounced, tendency to not record major depression diagnoses in the EHR for a substantial minority of patients with that diagnosis (33%). It may be that many of the factors related to not recording PTSD, and the conclusions drawn from our findings about PTSD diagnostic patterns, are applicable to depression and other diagnoses. Further research that closely studies clinical diagnostic recording decisions for a range of clinical diagnoses would be useful in determining differences in these practices.

Caution is advised in drawing conclusions concerning whether diagnostic practice documented in this study met standards of clinical care. It may seem remarkable that military clinicians (with an average of 18 years of clinical experience) reported refraining from assigning a PTSD diagnosis in 41% of PTSD cases. However, the military health care system operates within a unique occupational setting (9). In addition, one of the most important concerns throughout the Iraq and Afghanistan wars has been the low utilization of mental health services and high treatment

**TABLE 4. Reasons given by Army clinicians (N=30) for not recording a PTSD diagnosis in the electronic health record (EHR) of patients with PTSD**

Reason	% <sup>a</sup>
Reduce stigma; protect service member's military and future career prospects	27
Technical difficulties with EHR, such as the time required to enter more than 1 diagnosis	17
Not sure of diagnosis code	9
Couldn't find the diagnosis on the EHR list	6
Patient does not want commander's involvement in alcohol or other substance abuse treatment	5
Clinical error	2

<sup>a</sup> Values are weighted.

dropout related to stigma, barriers, and other factors (3). We found that stigma was the most common reason clinicians gave for not recording the diagnosis. Thus it appears that clinicians were prioritizing patients' wishes for confidentiality regarding their diagnosis. Maintaining such confidentiality may have provided benefits in fostering continued engagement in care (3). Clinicians may have documented symptoms and impairment, or even the diagnosis itself, in the narrative section of the EHR, which is not as readily accessed by other health care providers. Electronic mental health records in the military have an additional layer of auditing protection, compared with other health records, to prevent unauthorized access. Clinicians may well have avoided recording the diagnosis in the diagnosis section of the EHR but may still have provided clear documentation in their narrative note to support their treatment.

A recent Army health care policy on PTSD diagnosis and treatment acknowledged the findings of this study and provided clarifying guidance to mental health clinicians. The policy states, "Although clinicians have broad discretion with regard to which diagnoses they record in the EHR, or include on the problem list visible to all clinicians . . . , they must thoroughly document symptoms, functional impairment, differential diagnosis, and clinical decision making processes in the body of the EHR notes, and ensure that other clinicians can readily understand their diagnosis and treatment decisions" (10). Further research with Army clinicians that examines the decision-making process regarding diagnosis, the resulting actions regarding documentation, and the impact of the Army's new PTSD diagnosis policy is necessary so that these issues can be better understood. In addition, because the leading reason for not recording a PTSD diagnosis was stigma or protecting a service member's career prospects, research is needed that examines the impact of a PTSD diagnosis on a soldier's career. This type of work should be extended to other diagnoses, because our data suggest that decisions not to document the presenting diagnosis in the EHR may not be limited to PTSD.

The most important implication of the finding that 41% of patients with PTSD did not have the diagnosis recorded is that U.S. Department of Defense (DoD) health care surveillance and services research efforts, which rely on coded diagnoses,

will result in underestimates of the treated prevalence of PTSD. The Army PTSD policy supports clinician judgment in diagnostic decisions, effectively prioritizing clinician decision making over accuracy of surveillance efforts. However, DoD surveillance definitions for PTSD also compound the problem with underreporting. DoD currently requires that the PTSD diagnosis be recorded for at least two outpatient encounters for it to be counted as a new case (11). Thus, in addition to the possibility that upwards of 40% of treated cases are not recorded at all (per this study), DoD excludes all PTSD cases in which patients drop out of care after the initial diagnostic visit. Many studies have shown that the modal number of mental health visits is one. Thus it is probable that DoD surveillance reports on PTSD throughout the Iraq and Afghanistan wars have underestimated the prevalence of diagnosed or treated PTSD.

An important limitation of this study was the low response rate. However, this response rate is consistent with those in other Web-based surveys of physicians and other clinicians (12–14). Furthermore, rather than selecting a random sample or subset of clinicians to participate in this study, we created a sample consisting of every Army behavioral health clinician who could be identified by the Army Office of the Surgeon General was approached to participate. In addition, the survey data were weighted by specialty and clinician caseload size to provide estimates more representative of the population. Two previous studies using this data set have provided data useful for understanding practice patterns in treating mental health conditions (6,7). An additional limitation was the reliance on clinician-reported, cross-sectional, observational data, which could lead to response and recall biases. However, this was likely mitigated through assurances that clinicians' responses were truly anonymous through a secure Web site and by having clinicians open the EHR for the patient they selected to ensure accurate reporting.

## CONCLUSIONS

The results of this study suggest that for a large proportion of patients presenting with PTSD in Army behavioral health clinics at the time of this study (2010), clinicians chose not to record the diagnosis in patients' EHR. Often, this decision appeared to be made in an effort to reduce stigma. Psychiatrists were the clinician specialty most likely to record a diagnosis of PTSD in the EHR. Recent Army policy has given guidance to clinicians regarding this practice. The most important implication of this health care policy, compounded by overly narrow surveillance definitions, is the high likelihood that military PTSD surveillance efforts over the course of the Iraq and Afghanistan wars have underestimated the prevalence of this condition.

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## REFERENCES

1. Kok BC, Herrell RK, Thomas JL, et al: Posttraumatic stress disorder associated with combat service in Iraq or Afghanistan: reconciling prevalence differences between studies. *Journal of Nervous and Mental Disease* 200:444–450, 2012
2. Thomas JL, Wilk JE, Riviere LA, et al: Prevalence of mental health problems and functional impairment among active component and National Guard soldiers 3 and 12 months following combat in Iraq. *Archives of General Psychiatry* 67:614–623, 2010
3. Hoge CW, Grossman SH, Auchterlonie JL, et al: PTSD treatment for soldiers after combat deployment: low utilization of mental health care and reasons for dropout. *Psychiatric Services* 65:997–1004, 2014
4. Hoge CW, Auchterlonie JL, Milliken CS: Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan. *JAMA* 295:1023–1032, 2006
5. Garvey Wilson AL, Messer SC, Hoge CW: US military mental health care utilization and attrition prior to the wars in Iraq and Afghanistan. *Social Psychiatry and Psychiatric Epidemiology* 44:473–481, 2009
6. West JC, Wilk JE, Duffy FF, et al: Mental health treatment access and quality in the Army: survey of mental health clinicians. *Journal of Psychiatric Practice* 20:448–459, 2014
7. Wilk JE, West JC, Duffy FF, et al: Use of evidence-based treatment for posttraumatic stress disorder in Army behavioral healthcare. *Psychiatry* 76:336–348, 2013
8. Diagnostic and Statistical Manual of Mental Disorders, 4th Ed, Text Revision (DSM-IV-TR). Washington, DC, American Psychiatric Association, 2000
9. Adler AB, Castro CA: An occupational mental health model for the military. *Military Behavioral Health* 1:41–45, 2012
10. Policy Guidance on the Assessment and Treatment of Post-Traumatic Stress Disorder (PTSD). Pub no 14-094. Fort Sam Houston, Tex, US Department of the Army, United States Army Medical Command, 2014
11. Armed Forces Health Surveillance Center: Selected mental health disorders among active component members, US Armed Forces, 2007–2010. *Medical Surveillance Monthly Report* 17:2–5, 2010
12. Becker CB, Zayfert C, Anderson E: A survey of psychologists' attitudes towards and utilization of exposure therapy for PTSD. *Behaviour Research and Therapy* 42:277–292, 2004
13. Braithwaite D, Emery J, De Lusignan S, et al: Using the Internet to conduct surveys of health professionals: a valid alternative? *Family Practice* 20:545–551, 2003
14. Hollowell CM, Patel RV, Bales GT, et al: Internet and postal survey of endourologic practice patterns among American urologists. *Journal of Urology* 163:1779–1782, 2000