Patient and Facility Characteristics Associated With Benzodiazepine Prescribing for Veterans With PTSD

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Objective: **Practice guidelines used in the Veterans Health Administration (VHA) caution against benzodiazepine use by veterans with posttraumatic stress disorder (PTSD) because of inefficacy and safety concerns. Although use has declined, the VHA prescription rate is ≥30% nationally. To inform intervention design, this study examined patient- and facility-level correlates of benzodiazepine prescribing.** ***Methods:*** **This cross-sectional study used 2009 national administrative VHA data to identify veterans with PTSD, benzodiazepine prescriptions, and various patient and facility characteristics. Correlates of benzodiazepine prescribing were determined with multivariable hierarchical logit models.** ***Results:*** **Among 137 VHA facilities, 495,309 veterans with PTSD were identified, and 150,571 (30.4%) received a benzodiazepine prescription. Patient characteristics independently associated with benzodiazepine use included female gender, age ≥30 years, rural residence, service-connected disability ≥50%, Vietnam-era service, duration of PTSD diagnosis, and a comorbid anxiety disorder. However, case-mix adjustment for these variables accounted for <1% of prescribing variation. Facility characteristics independently associated with higher use included lower PTSD visit volume, higher rates of duplicate prescribing (concurrent use of more than one drug from a class), and lower rates of trazodone prescribing. These findings were corroborated in replication analyses.** ***Conclusions:*** **The ultimate goal is to ensure consistent access to guideline-concordant PTSD treatment across the VHA. This study furthered this objective by identifying characteristics associated with benzodiazepine prescribing. Findings suggest that interventions could be designed to target individual high-volume prescribers or influence prescribing culture at the facility level. (*Psychiatric Services* 64:149–155, 2013; doi: 10.1176/appi.ps.201200267)**

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Ensuring safe and effective care for posttraumatic stress disorder (PTSD) is a priority for the Veterans Health Administration (VHA). In support of this mission, the U.S. Department of Veterans Affairs (VA) and the U.S. Department of Defense (DoD) jointly developed a clinical practice guideline for PTSD, which was originally issued in 2004 and updated in 2010 (1,2). Among several recommendations concerning medication use, the VA/DoD guideline strongly advises against the use of benzodiazepines, because of the lack of demonstrated efficacy in treating PTSD and the risk of adverse outcomes. Potential adverse consequences include abuse potential among patients with substance use disorders and disinhibition effects among patients with traumatic brain injury; both conditions are common and frequently underrecognized among veterans with PTSD (3). An additional concern is the development of tolerance and physiologic dependence, which occurs even with appropriate therapeutic use and can produce severe withdrawal reactions and dramatic rebound anxiety upon discontinuation (4). Finally, there is growing concern regarding benzodiazepines' potential to reduce the effectiveness of exposure-based psychotherapy, which is a mainstay of evidenced-based treatment of veterans with PTSD (5–7).

Given these important safety concerns, minimizing benzodiazepine

exposure represents an excellent first step toward the goal of ensuring access to guideline-concordant PTSD treatment across the VHA. Prior work has demonstrated that national benzodiazepine use declined in this population from 36.7% in 1999 to 30.6% in 2009, and daily dosages decreased nearly 15% (8). Although these trends are headed in the right direction, more than 30% of veterans with PTSD continue to receive benzodiazepines. To put this in perspective, benzodiazepine prescribing was more common among veterans with PTSD in 2009 than prescribing of second-generation antipsychotics (24.3%), trazodone (23.0%), nonbenzodiazepine hypnotics (12.8%), and prazosin (9.1%) (9). Benzodiazepine prescribing was second only to selective serotonin reuptake inhibitors (SSRIs) (52.5%), the sole therapeutic class containing medications approved by the U.S. Food and Drug Administration to treat PTSD. It is important to acknowledge that the current level of benzodiazepine prescribing does not mean that veterans with PTSD are receiving low-quality care; rather, there is a significant opportunity to achieve further improvements in medication safety.

The design and implementation of effective interventions to minimize benzodiazepine exposure will require a better understanding of the factors driving benzodiazepine use. Therefore, the primary objective of this study was to examine patient- and facility-level correlates of benzodiazepine prescribing for veterans with PTSD. The secondary objective was to use these models to determine the extent to which facility-level prescribing variation is explained by case mix—that is, by differences across VHA facilities in the distribution of patient characteristics that influence benzodiazepine prescribing.

Methods

Data sources

National administrative VHA data were obtained for three fiscal years (FYs). FY 2009 data were used for the primary analysis, and identical replication analyses were conducted with FY 2003 and FY 2006 data. Inpatient discharge data sets and outpatient encounter data sets were obtained from the VA Austin Information Technology Center (AITC). Prescription drug records were obtained from AITC and the VA Pharmacy Benefits Management Services. This study was approved by the University of Iowa Institutional Review Board and the Iowa City VA Research and Development Committee.

Patient selection

Veterans with PTSD were identified by using the *ICD-9* code 309.81. We selected all veterans with at least one inpatient discharge or outpatient encounter coded for PTSD during the given fiscal year. This case definition has been used in several prior studies examining the use of benzodiazepines and other psychiatric medications by veterans with PTSD (8–11).

Benzodiazepine use

The outcome variable of interest across all analyses was any outpatient use of benzodiazepines, which included the following medications: alprazolam, chlordiazepoxide, clonazepam, clorazepate, diazepam, estazolam, flurazepam, halazepam, lorazepam, oxazepam, prazepam, quazepam, temazepam, and triazolam. We did not require a minimum quantity or days' supply in this analysis. However, most veterans (94%) with any benzodiazepine use received ≥30 days' supply, and approximately two-thirds received more than 90 days of continuous benzodiazepine treatment (8).

Patient characteristics

Demographic variables included gender, age, and rural versus urban residence. Rural or urban residence was determined by zip codes according to Rural-Urban Commuting Areas (RUCA); the classifications of large rural towns, small rural towns, and isolated rural towns were combined to designate rural residence (12). Military service variables included level of service-connected disability and service era, categorized as prior to, during, and post-Vietnam era. Clinical variables included time since diagnosis of PTSD by a VHA clinician and the presence of a comorbid anxiety disorder. Time since PTSD diagnosis was categorized as a new diagnosis, a one- to two-year history, or a history of three or more years; these categories have previously been shown to be a significant correlate of benzodiazepine use (8). Anxiety disorders were identified by *ICD-9* codes by using the same case definition as for PTSD; they included panic disorder, generalized anxiety disorder, obsessive-compulsive disorder, and social phobia.

Facility characteristics

Patients were assigned to a single VHA facility on the basis of the station where the veteran received the majority of his or her PTSD-coded encounters. Several measures of patient volume were used, including total outpatient visits and specific individual counts for primary care, psychotherapy, treatment of PTSD, substance use disorder treatment, and general mental health visits. Information regarding the availability of specialty PTSD clinical programs was obtained from the VA National Center for PTSD.

Two additional variables were calculated to represent facility-level prescribing quality: therapeutic duplication and drug-drug interaction. Therapeutic duplication was defined as concurrent use of more than one medication from a modified VHA drug class, where within-class polytherapy is generally considered inappropriate or unnecessary (13,14). Examples of the most commonly observed therapeutic duplications in the VHA include concurrent use of two antiulcer medications and two or more sedative-hypnotics. Drug-drug interaction was defined as concurrent use of two medications with the potential to produce a clinically significant interaction (15). Concurrent medication use was established for both indicators according to a validated algorithm (16). The presence of these indicators was first determined at the patient level and then summarized at the facility level as the proportion of patients meeting the indicator criterion. It is important to note that these quality indicators were calculated for all veterans receiving primary care services at each facility and not just for veterans with PTSD.

Additional facility-level measures included prescribing frequencies for

several potential therapeutic alternatives to benzodiazepines, with a particular emphasis on sleep management. These included nonbenzodiazepine hypnotics (zolpidem, eszopiclone, zaleplon, and ramelteon), low-dose trazodone (≤300 mg per day), low-dose quetiapine (<300 mg per day), and prazosin. Thresholds for trazodone and quetiapine were selected on the basis of dosages at which these agents are generally considered effective for their primary indication. When prescribed for sedative-hypnotic properties, trazodone and quetiapine are generally limited to dosages below these thresholds. These prescribing frequencies were determined only among veterans with PTSD, in contrast to the prescribing quality measures which were determined among all primary care patients.

Statistical analysis

The primary analysis was based on FY 2009 data. Identical analyses were conducted with FY 2003 and FY 2006 data as replication analyses to confirm the stability of FY 2009 findings. Three sensitivity analyses were conducted to determine whether modifying key design parameters would influence our findings. These included requiring at least a 90-day supply of benzodiazepine to be dispensed to define exposure, requiring PTSD to be coded as a primary diagnosis, and requiring PTSD to be coded on at least one inpatient encounter or at least two outpatient encounters. The parameter estimates generated by these sensitivity analyses did not differ from the primary analysis in any statistically or clinically meaningful way and are not included here. Univariate comparisons of benzodiazepine frequency were made across patient characteristics by using chi square tests. Multivariable analyses examined the independent contributions of both patient- and facility-level characteristics as predictors of benzodiazepine exposure by using a generalized linear mixed model with a logit link and random intercepts for facility to account for the clustering of patient within facilities.

An examination of the influence of case-mix adjustment on facility-level variation in benzodiazepine prescribing frequency was conducted by using the same multivariable hierarchical model (that is, random facility intercepts), with all patient-level characteristics included in the model. The proportion of variation in facility-level benzodiazepine prescribing explained by patient characteristics was estimated by the percentage change in the covariance parameter estimate for the random facility intercept between models run with and without the inclusion of patient-level characteristics. The purpose of case-mix adjustment was to determine the extent to which variation in benzodiazepine prescribing frequencies was explained by underlying differences in patient characteristics across facilities, such as differences in the rate of comorbid anxiety disorders. If case-mix differences were important, then the ranked position of a given facility should shift between unadjusted and adjusted rankings. Therefore, facilities were first ranked according to unadjusted benzodiazepine frequency and again after case-mix adjustment. Differences between unadjusted and adjusted rankings for all 137 facilities were then summarized.

Results

Patient-level correlates of benzodiazepine use

Among 137 VHA facilities, a total of 495,309 veterans with PTSD were identified in FY 2009, and 150,571 (30.4%) received a benzodiazepine prescription. In univariate comparisons, all patient characteristics included in the analysis were significantly associated with benzodiazepine use in FY 2009 (Table 1). Receipt of a benzodiazepine prescription was significantly more frequent among female veterans (38.3%) than among male (29.8%) (odds ratio [OR]=1.47, 95% confidence interval [CI]=1.43–1.50). Time since first PTSD diagnosis by a VHA clinician was also an important correlate of benzodiazepine use; frequencies were 20.3% for a new diagnosis, 26.9% for a one- to two-year history of PTSD, and 36.0% for a history of three or more years.

Other patient characteristics with relatively large differences in absolute benzodiazepine prescribing frequency (>10%) included age and service-connected disability: age ≥30 years and service-connected disability <50% were associated with a reduced likelihood of benzodiazepine use. Patient characteristics associated with modest elevations in benzodiazepine prescribing (≤5%) included rural residence and Vietnam-era service. Comorbid anxiety disorders were infrequent (≤4%) but were strongly associated with benzodiazepine prescribing. The frequency of benzodiazepine use was 65.5% among veterans with comorbid panic disorder, compared with 29.0% among those without this comorbidity (OR=4.66, CI=4.52–4.80). Smaller but clinically significant differences were observed for each of the remaining comorbid anxiety disorders.

Multivariable analysis including facility characteristics

Benzodiazepine prescribing frequencies varied across 137 VHA facilities in FY 2009, with an interquartile range spanning from 25.8% to 34.9% and an overall range of 14.7%–56.8%. The independent association of patient- and facility-level characteristics on the likelihood of benzodiazepine prescribing is summarized in Table 2. All patient-level characteristics were significant independent correlates of benzodiazepine use in the primary analysis (FY 2009), and in replication analyses (FY 2003 and FY 2006). The direction and magnitude of these effects were consistent with univariate findings. Facility-level characteristics that were significantly associated with benzodiazepine use in the primary analysis were PTSD-coded visit count, frequency of therapeutic duplication (concurrent use of more than one medication from a modified VHA drug class), and trazodone prescribing frequency. Patients receiving care at facilities with larger PTSD visit volumes were less likely to receive a benzodiazepine. Veterans with PTSD were more likely to be prescribed a benzodiazepine if they received care at a facility with higher overall rates of duplicate therapeutic prescribing in its primary care population.

Findings were mixed concerning the facility-level prescribing frequencies of medications that are potential

Table 1

Univariate analyses of patient-level correlates of receipt of a benzodiazepine prescription by veterans with posttraumatic stress disorder (PTSD) in fiscal year 2009

Characteristic	% of sample (N=495,309)	% with a prescription (N=150,571)	OR	95% CI
Gender				
Female	7.5	38.3	1.47	1.43–1.50
Male (reference)	92.5	29.8	1.00	
Age				
<30 years	11.0	21.0	.58	.57–.59
≥30 years (reference)	89.0	31.6	1.00	
Residence				
Urban	73.1	29.4	.84	.83–.85
Rural (reference)	26.9	33.2	1.00	
Service-connected disability				
≥50%	55.0	35.5	1.72	1.70–1.75
<50% (reference)	45.0	24.2	1.00	
Service era				
Pre-Vietnam	6.6	30.6	.92	.90–.95
Vietnam (reference)	56.2	32.3	1.00	
Post-Vietnam	37.2	27.5	.79	.78–.81
Time since PTSD diagnosis				
New	22.0	20.3	.45	.45–.46
1–2 years	23.3	26.9	.66	.65–.67
≥3 years (reference)	54.7	36.0	1.00	
Comorbid anxiety disorder				
Panic disorder	3.9	65.5	4.66	4.52–4.80
No panic disorder (reference)	96.1	29.0	1.00	
Generalized anxiety disorder	4.0	52.1	2.60	2.53–2.68
No generalized anxiety disorder (reference)	96.0	29.5	1.00	
Obsessive-compulsive disorder	.8	48.2	2.14	2.01–2.28
No obsessive-compulsive disorder (reference)	99.2	30.3	1.00	
Social phobia	.3	49.2	2.22	2.00–2.47
No social phobia (reference)	99.7	30.4	1.00	

therapeutic alternatives to benzodiazepines. In the primary analysis (FY 2009), only the facility-level prescribing of low-dose trazodone was significantly associated with benzodiazepine use. That is, patients who received care at facilities with higher rates of trazodone prescribing were significantly less likely to be prescribed a benzodiazepine (OR=.56, CI=.33–.92). However, this relationship was not confirmed in the replication analyses (FY 2003 and FY 2006). The prescribing frequency of nonbenzodiazepine hypnotics was not significantly associated with benzodiazepine prescribing in the primary analysis (FY 2009), and therefore it is not included in Table 2. However, significant relationships were observed in exploratory analyses for both FY 2003 (OR=.61, CI=.45–.81) and FY 2006 (OR=.61, CI=.46–.81). Benzodiazepine use was not significantly associated with facility-level prescribing of prazosin or low-dose quetiapine in any analyses.

Impact of case-mix adjustment

To account for variation in patient-level characteristics across facilities, the impact of case-mix adjustment on facility-level rankings of benzodiazepine prescribing frequency was characterized. For most facilities (N=88, 64%), adjustment for patient characteristics had no influence on the facility's ranked position within the 137 VHA facilities. A further 30 (22%) shifted one position, 13 (10%) shifted two positions, and three (2%) shifted three positions. The largest shift in rank was five positions, which was observed for the remaining three facilities (2%). Expressed as a proportion, differences in patient characteristics accounted for .5% of the variation in benzodiazepine prescribing frequencies across facilities.

Discussion

Several important correlates of benzodiazepine prescribing were identified. Patient characteristics associated with increased risk of benzodiazepine exposure included female gender, age ≥30 years, rural residence, service-connected disability ≥50%, Vietnam-era service, duration of PTSD diagnosis, and anxiety disorder comorbidity. However, case-mix adjustment for these variables accounted for <1% of the variation in benzodiazepine prescribing across VHA facilities. Several facility-level characteristics were statistically significant correlates of increased benzodiazepine prescribing, including lower volume of PTSD visits, higher rates of duplicate prescribing, and lower rates of trazodone prescribing. These main findings were corroborated in replication analyses with data from two additional years.

Among patient characteristics predicting benzodiazepine use, the largest odds ratios were observed for anxiety disorder comorbidity. Although benzodiazepines are a potential treatment option for many anxiety disorders, the presence of an anxiety disorder does not mean that benzodiazepine use is unconditionally appropriate. Guideline recommendations against benzodiazepine use by veterans with PTSD are fundamentally related to safety and secondarily to a lack of demonstrated efficacy. A comorbid anxiety disorder may shift the balance of risk and benefit, but it does not eliminate important safety concerns. Regardless of therapeutic controversies, patients with comorbid anxiety disorders clearly constitute an important subgroup that needs to be considered in designing interventions to minimize benzodiazepine prescribing. Another important cluster of variables were age, period of service, and duration of PTSD care in the VHA. Although clearly interrelated, these factors all exerted independent effects in multivariable models. Taken together, these variables suggest that VHA prescribers choose first-line options such as SSRIs over

Table 2

Multivariable analyses of patient- and facility-level characteristics as independent correlates of receipt of a benzodiazepine prescription by veterans with posttraumatic stress disorder (PTSD)

	Primary analysis (fiscal year 2009)		Replication analyses: Fiscal year 2003		Replication analyses: Fiscal year 2006	
Characteristic	OR	95% CI	OR	95% CI	OR	95% CI
Patient						
Female (reference: male)	1.55	1.52–1.59	1.35	1.30–1.41	1.50	1.45–1.55
Age <30 years (reference: ≥30)	.77	.75–.79	.67	.61–.75	.76	.73–.79
Urban residence (reference: rural)	.92	.90–.93	.87	.85–.89	.91	.89–.92
Service-connected disability ≥50% (reference: <50%)	1.46	1.44–1.48	1.42	1.39–1.45	1.41	1.39–1.44
Service era (reference: Vietnam era)						
Pre-Vietnam	.94	.92–.97	1.02	.99–1.05	.98	.95–1.00
Post-Vietnam	.93	.92–.95	.93	.91–.96	.96	.94–.98
Time since PTSD diagnosis (reference: ≥3 years)						
New diagnosis	.54	.53–.55	.44	.43–.45	.49	.48–.51
1–2 years	.74	.73–.75	.65	.63–.66	.69	.67–.70
Panic disorder (reference: none)	4.52	4.37–4.67	3.67	3.50–3.85	4.06	3.89–4.23
Generalized anxiety disorder (reference: none)	2.51	2.44–2.59	2.38	2.29–2.48	2.38	2.29–2.47
Obsessive-compulsive disorder (reference: none)	1.68	1.56–1.80	1.45	1.32–1.61	1.72	1.58–1.87
Social phobia (reference: none)	1.63	1.46–1.84	1.22	1.04–1.42	1.32	1.14–1.53
Facility[a]						
PTSD-coded visits (per 10,000)	.93	.87–.99	.90	.80–1.01	.85	.77–.94
Therapeutic duplication frequency in primary care[b]	2.85	1.28–6.31	2.29	.86–6.09	2.79	1.15–6.80
Prescription frequency of low-dose trazodone[c]	.56	.33–.92	.68	.39–1.21	.89	.52–1.51

[a] Additional facility-level characteristics that were considered in the primary analysis but that were not statistically significant in the final adjusted model included total outpatient visits, primary care visits, general mental health visits, substance use disorder visits, psychotherapy visits, PTSD clinical team, other PTSD specialty program, drug-drug interaction frequency, and the prescribing frequencies of nonbenzodiazepine hypnotics, low-dose quetiapine, and prazosin.

[b] Proportion of patients seen in primary care at a given facility with concurrent use of more than one medication from a modified VA class.

[c] Prescribing frequency at the facility level among veterans with PTSD receiving care at that facility. Low-dose trazodone use was defined as <300 mg per day.

benzodiazepines early in the course of PTSD treatment. However, benzodiazepines may be employed later in the course of therapy, perhaps among patients who do not tolerate or gain insufficient symptom relief from first-line therapies. Future research characterizing the longitudinal treatment course of veterans with PTSD would provide a much richer understanding of the prescribing pathway preceding benzodiazepine use. The potential reasons for elevated benzodiazepine prescribing among rural veterans and female veterans with PTSD are unclear, but they also have implications for the design of treatment interventions.

Several facility characteristics were also identified as significant correlates of benzodiazepine prescribing. The only significant measure of service utilization in the primary analysis was the number of PTSD-coded visits, which indicated that patients seen at facilities with more experience in managing PTSD were less likely to be prescribed a benzodiazepine. Other utilization measures, such as primary care volume, number of psychotherapy visits, and the availability of PTSD specialty programs, were not associated with benzodiazepine prescribing. Our results do not mean that these factors are irrelevant to the overall quality of PTSD care delivered to individual patients; rather, they mean that these factors do not influence benzodiazepine prescribing at the facility level.

One particularly intriguing finding was that patient-level benzodiazepine prescribing was significantly correlated with the facility-level frequency of therapeutic duplication (concurrent use of more than one medication from a modified VHA drug class) among primary care patients. Therapeutic duplication has been used as a health care quality indicator with significant geographic variation in the VHA (14,17). Veterans with PTSD who received care at a facility with a high level of therapeutic duplication in its primary care population were more likely to be prescribed a benzodiazepine. This suggests that when high-quality prescribing practices are present in the broad base of primary care providers, such practices may extend to the psychiatry clinic. High-quality primary care could also exert a more direct effect. Primary care providers accounted for some proportion of benzodiazepine prescribing among veterans with PTSD, and primary care prescribers at sites with higher-quality primary care may have been less likely to prescribe benzodiazepines. For example, primary care prescribers at high-quality sites may be more knowledgeable about the PTSD clinical practice guideline and

thus more aware that benzodiazepine prescribing should be avoided in this patient population.

Finally, benzodiazepine prescribing was inversely correlated at the facility level with potential therapeutic alternatives for sleep management. In FY 2009, benzodiazepine prescribing was best explained by variations in trazodone prescribing; however, in FY 2003 and FY 2006, it was better explained by prescription of nonbenzodiazepine hypnotics. Although facility-level prescribing rates of quetiapine and prazosin were not significantly associated with benzodiazepine prescribing, it is reasonable to assume that these agents were used as alternatives. Although the PTSD clinical practice guideline recommends against benzodiazepine use, it is not completely clear that commonly used alternatives are safer or more effective. These results reinforce the idea that benzodiazepine prescribing interventions must incorporate recommendations regarding therapeutic alternatives, particularly related to sleep management.

Our study design also allowed us to examine the impact of case-mix adjustment on facility-level variation in benzodiazepine prescribing. Our findings clearly demonstrate that patient characteristics are strongly correlated with the likelihood of receiving benzodiazepines; however, case-mix adjustment for these characteristics left more than 99% of facility-level variation unexplained. This finding suggests that patient characteristics did not vary substantially across facilities or that any underlying differences exerted competing effects on benzodiazepine prescribing. Therefore, it seems unlikely that future research will uncover the existence of unmeasured patient characteristics that justify the extensive variation in benzodiazepine use as rationale prescribing, but this possibility cannot be altogether rejected.

This analysis is subject to important limitations. Our reliance on administrative data restricted the breadth of clinical variables available as correlates of benzodiazepine use. This may be a particular problem for facility-level factors, which are often particularly difficult to capture with administrative data. A second limitation is that we included only veterans receiving care in the VHA system. We were unable to identify use of benzodiazepines or other health services outside the VHA. In addition to the potential for incomplete observation of all PTSD-related care, it is unclear whether our findings can be generalized to nonveterans with PTSD or to health systems outside the VHA.

The underlying goal of this research is to ensure consistent access to guideline-concordant treatment for PTSD across the VA health care system. This study has furthered this objective by identifying important patient characteristics that influence benzodiazepine prescribing. Because the variation in prescribing was not explained by these patient characteristics, it is likely that variation is driven principally by the prescribing philosophies of individual VHA prescribers. However, the fact that facility-level differences emerged from the net prescribing behavior of individual clinicians leaves room to argue that unidentified facility-level factors may contribute meaningfully to the propensity of individual clinicians to prescribe benzodiazepines. For example, professional development activities such as lectures or journal club presentations, as well as informal personal interactions between clinicians, may create a local culture regarding appropriate prescribing practices for PTSD, which could either encourage or discourage benzodiazepine use.

Conclusions

Overall, our findings suggest that interventions to reduce variation in benzodiazepine prescribing could be designed to target individual high-volume prescribers or to influence prescribing culture at the facility level without the need to single out individual clinicians. Because our study was limited to administrative data, an important next step would be to conduct qualitative interviews of VHA prescribers at low- and high-volume benzodiazepine-prescribing facilities, which would offer a better understanding of differences in facility-level prescribing culture and prescriber-level decision-making processes in regard to benzodiazepine use. This information would further enhance our ability to design and implement effective intervention strategies to decrease variation and minimize benzodiazepine use among veterans with PTSD.

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