Title

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Journal

The Journal of Clinical Psychiatry, 79(5)

ISSN

0160-6689

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Publication Date

2018

DOI

10.4088/jcp.18m12145

Peer reviewed

Published in final edited form as:
J Clin Psychiatry. ; 79(5): . doi:10.4088/JCP.18m12145.

A Retrospective Comparative Effectiveness Study of Medications for Posttraumatic Stress Disorder in Routine Practice

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Abstract

Objective: Fluoxetine, paroxetine, sertraline, topiramate, and venlafaxine have consistently shown efficacy for posttraumatic stress disorder (PTSD) in metaanalyses of randomized controlled trials. However, no study has compared the effectiveness of these agents in routine clinical practice. We conducted a retrospective comparative effectiveness study of these five medications using electronic medical record data.

Method: We identified 2,931 Department of Veterans Affairs outpatients initiating treatment for PTSD between fiscal years 2004 and 2013 who received one of the five medications at an adequate

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The authors report no conflicts of interest.

Previous Presentations: None

dose and duration, combined with baseline and endpoint PTSD checklist (PCL) measurements. Patients were identified based on clinical diagnoses of PTSD. We weighted participants in order to balance pretreatment characteristics. We compared continuous changes on total PCL score, symptom cluster scores, and sleep items, as well as categorical changes including reliable improvement and loss of PTSD diagnosis using weighted regression analyses. We conducted exploratory analysis to determine whether any patient characteristics or service use variables predicted loss of PTSD diagnosis.

Results: Patients improved by a mean of 5–6 points on the PCL over approximately six months of treatment. While half of patients had a reliable improvement of 5 points or more on the PCL, less than a fifth achieved loss of PTSD diagnosis. There were no differences between medications. The only significant predictor of loss of PTSD diagnosis was concurrent treatment with evidence-based psychotherapy.

Conclusion: Available evidence-based medications for PTSD are equally effective in clinical practice. Although effective, our data suggest that patients choosing medication treatment for PTSD should consider concurrent treatment with evidence-based psychotherapy in order to maximize their chances of meaningful improvement.

INTRODUCTION

Posttraumatic stress disorder (PTSD) is a serious condition that can follow exposure to a traumatic event, characterized by intrusive re-experiencing of the trauma in the form of flashbacks and nightmares, avoidance of trauma reminders, negative alterations in cognitions and mood, and increased arousal and reactivity.[1] PTSD has a lifetime prevalence of almost 8% in the United States.[2] Over 10% of Veterans receiving care in the Department of Veterans Affairs (VA) health care system have PTSD, and the VA has a caseload of almost 600,000 Veterans receiving PTSD treatment.[3]

Randomized controlled trials (RCTs) show that effective treatments for PTSD include both pharmacologic and psychotherapeutic approaches.[4,5] There have been multiple meta-analyses examining the effectiveness of medications to treat PTSD, which have differed in their methods and conclusions. Watts et al.'s meta-analyses of all RCTs of PTSD treatment conducted through 2012 showed results consistently favoring four antidepressants (fluoxetine, paroxetine, sertraline, and venlafaxine), one anticonvulsant (topiramate), and one antipsychotic (risperidone) when compared directly to placebo.[5] A similar review by Hoskins et al. favored fluoxetine, paroxetine, and venlafaxine, but not sertraline, topiramate, or risperidone.[6] A meta-analysis by Lee et al. that included RCTs of medications for PTSD published through 2015 suggested superior efficacy for sertraline, venlafaxine, and nefazodone compared to other medications.[7] Two studies used network meta-analysis to make indirect comparisons between medications.[8] First, a 2013 Agency for Healthcare Research and Quality (AHRQ) network meta-analysis of published RCTs concluded that paroxetine and topiramate were most effective, but that fluoxetine, sertraline, and venlafaxine were also effective.[4] Second, Cipriani et al. concluded that phenelzine was superior to other medications for PTSD when considering both efficacy and dropouts.[9] Data supporting the phenelzine finding came from one small RCT,[10] and Cipriani et al. called for further study rather than prioritizing phenelzine in clinical practice.[9] Given available data,

the preponderance of metaanalyses suggest fluoxetine, sertraline, paroxetine, topiramate, and venlafaxine as treatments for PTSD.

While several medications have demonstrated efficacy for PTSD in clinical trials, there have been few head-to-head comparisons and no large trials. Furthermore, while multiple medications for PTSD have shown superiority to placebo in RCTs, little is known about their effectiveness in routine clinical practice. There are several reasons to question whether medications found efficacious in highly controlled clinical studies are beneficial in typical clinical practice. First, patients with comorbidities such as substance abuse are common in the population,[11] yet are routinely excluded from efficacy trials of PTSD treatments.[12] Second, RCTs of psychotropic medications for PTSD typically prohibit patients from undergoing concurrent psychotherapy,[5] whereas these interventions are often delivered together in practice.[13] Given advancements in data, including increasing availability of patient reported outcome data in the electronic medical record (EMR) ,[14] and the need for large numbers to support research on more personalized medicine,[15] observational studies are a logical extension of CER research on psychotropic medications for PTSD.

We conducted a retrospective comparative effectiveness study of medications for PTSD using VA EMR data. We examined medications already determined as effective for PTSD in multiple meta-analyses, including fluoxetine, paroxetine, sertraline, topiramate, and venlafaxine. Based on the AHRQ network meta-analytic results, we expected that participants receiving paroxetine and topiramate might have superior symptomatic outcomes. However, given limitations both about the applicability of RCT results to the clinical population and the relatively limited evidence for topiramate, it was not possible to make a formal prediction. We elected not to examine medications whose efficacy was supported in a single meta-analysis or single study since, in most cases, these medications have been used too infrequently in VA practice to yield reliable results.[16] Lastly, we examined predictors of response to medication treatment generally as well as to each of the agents individually.

Method

Data Sources

We used the VA Corporate Data Warehouse (CDW) to identify VA users with new PTSD treatment episodes from fiscal years 2004 through 2013 and obtain information on services use, clinical diagnoses, pharmacy data, and standardized measures of PTSD symptoms. This study was approved by the Veterans Institutional Review Board (IRB) of Northern New England, which is the IRB of record for the White River Junction VAMC. .

Participants

Participants were drawn from a large retrospective cohort of VA users with new PTSD treatment episodes between fiscal years 2004 and 2013 that has been described elsewhere.[11,17] This parent cohort included VA users who received a primary diagnosis of PTSD at two or more outpatient encounters, at least one of which occurred in a mental health setting, over the course of 90 days.[18,19] Participants meeting this criterion during the prior two years were

excluded. We examined one year of treatment receipt following the first encounter with a qualifying diagnosis of PTSD. The study sample was further restricted to those who had an adequate medication trial (AMT, defined below), received baseline PTSD symptom measurement at the start of treatment (up to two months prior and two weeks after the start of an AMT), and received follow-up PTSD symptom measurement (greater than eight weeks and less than six months after initiating an AMT). To minimize heterogeneity and confounding, participants who received two or more AMTs concurrently were excluded. When patients had two or more AMTs sequentially, we examined only the first. Due to increasing use of standardized measurement of PTSD symptoms in clinical practice in more recent years,[20,21] participants in this analysis were treated in fiscal year 2008 and later.

PTSD Symptoms

We measured PTSD symptoms using the PTSD Checklist (PCL), which is administered in clinical practice and recorded in the VA EMR. During the time period we examined, the VA used the version of the PCL corresponding to PTSD diagnostic criteria in the fourth version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).[22,23] The PCL is a 17-item measure with each item rated on a five-point Likert-type scale with total scores ranging from 17 through 85. Minimal symptomatic criteria for PTSD using the PCL include 1 re-experiencing symptom, 3 avoidance and numbing symptoms, and 2 hyperarousal symptoms, all rated “moderately” or higher. Participants are asked to rate symptoms over the last month. Previous research in Veterans shows that a change of five points cannot be attributed to measurement error,[24] so we used a five-point drop as our threshold for reliable improvement. A meaningful change in PTSD symptoms plus no longer meeting diagnostic criteria for PTSD has been shown to be an important marker of improved quality of life.[25] Therefore we also employed no longer meeting DSM-IV criteria for PTSD as measured by the PCL, plus a clinically meaningful drop of 10 points,[26] as our threshold for loss of diagnosis.

In addition to examining overall change in symptoms, we evaluated change in sub-scores for PTSD symptoms clusters as well as sleep difficulties using the sum of two items: nightmares and insomnia. Diagnostic criteria for PTSD changed in May 2013 with the publication of DSM-5.[1] A key change in the criteria is replacement of the “avoidance and numbing cluster” with “avoidance” and “negative alterations in cognitions and mood” clusters. To approximate this distinction, we divided “avoidance” and “numbing” symptoms. Our symptom clusters consisted of five reexperiencing items, two avoidance items, five emotional numbing items, and five hyperarousal items.

Psychotropic Medication Receipt

We developed algorithms to measure whether participants received an AMT of sertraline, fluoxetine, paroxetine, venlafaxine, or topiramate, defined as eight weeks of a daily dose at least as high as the dose used in the efficacy trials supporting the treatment recommendation.[4,5] While the length of efficacy trials of psychotropic medications for PTSD varies, the VA practice guideline in use during the time period we examined recommended medication trials of at least eight weeks.[27] Therefore, participants receiving continuous treatment of one of the following medications daily for eight weeks or more were considered to have received

an AMT: fluoxetine 20 mg or more daily, paroxetine 20 mg or more daily, sertraline 100 mg or more daily, topiramate 100 mg or more daily, and venlafaxine 150 mg or more daily.

Independent Variables

Participant variables included demographics, military service characteristics, commonly occurring medical and mental health disorders, and baseline PCL score. Health system variables included the type of VA facility and the prescribing clinician's service section. Service use characteristics during the year following the index PTSD diagnosis included concurrent psychotropic medication, total number of psychotherapy encounters, number of psychotherapy encounters where participants received evidence-based psychotherapy (EBP) for PTSD, defined as prolonged exposure (PE)[28] or cognitive processing therapy (CPT),[29] and counts of medication management encounters, primary care encounters, and outpatient visits. We measured PE and CPT use with a natural language processing (NLP) algorithm that classifies psychotherapy notes in individual (I) and group (G) delivery formats.[30] In our pilot NLP work, we attempted to identify other evidence based psychotherapies for PTSD including Eye Movement Desensitization and Reprocessing (EMDR) and Stress Inoculation Therapy (SIT).[31] Despite manual review of over 7,500 notes written about patients attending PTSD clinics, we were unable to detect any examples of these therapies in routine clinical practice in VA. Therefore, their use was not included in further analysis steps.

Analysis

To understand how participants selected for this analysis differed from the rest of the parent cohort during the relevant fiscal years, we compared patient characteristics using χ^2 analysis and t-tests, as appropriate. We compared these same characteristics among participants who received each of the five medications within the smaller analytic cohort using pairwise testing with step-down Bonferroni-adjusted p-values.

To account for baseline differences among participants who received each of the five medications, we used the RAND Toolkit for Weighting and Analysis of Nonequivalent Groups (TWANG).[32] The TWANG package supports causal modeling of observational data through the estimation and evaluation of propensity scores and associated weights. In our application, the propensity score represented the probability that a particular patient would receive each medication.[33] We estimated propensity scores with multinomial logistic regression using generalized booster effects,[34] in which the dependent variable is an indicator for each psychotropic medication and the independent variables are an anti-parsimonious specification of variables that have a plausible correlation with the outcome.[33,34] Using these propensity scores, we weighted participants in order to balance the pretreatment covariate distributions.

We compared continuous and categorical outcomes among the five groups with regression analyses using psychotropic medication received as the sole independent variable. In general, weighted means can have greater sampling variance than unweighted means. Therefore, we used survey commands, which account for the weights, to perform the outcomes analyses when comparing the weighted groups. For continuous outcomes, we used linear regression analysis, whereby the coefficient of the variable tests the hypothesis that

each of the five psychotropic medications has the same mean change in PTSD symptoms. For categorical outcomes, we used logistic regression analysis, whereby the coefficient of the variable tests the hypothesis that each of the five psychotropic medications results in the same percentage of patients achieving reliable improvement or loss of PTSD diagnosis. Finally, we conducted exploratory univariate logistic regression analyses to determine whether any independent variables predicted achievement of our categorical response criteria of loss of PTSD diagnosis by pooling all five groups together and using the unweighted data. Because there were 50 independent variables, we used a Bonferroni-corrected value of $p<0.001$ for significance in these exploratory analyses. Analyses were performed using R, Version 3.2.0.

Results

While 29.0% (142,276) of 491,040 VA users meeting our criteria for a new episode of PTSD care between fiscal years 2008 and 2013 had a qualifying medication trial, only 0.6% (2,931) also received outcome measurement within our specified time frames. The 2,931 participants included in our analyses differed from patients with AMT who did not have PCL measurement in almost every measurable way in terms of demographics, service use, comorbidity, or concurrent medication use (Table 1). Many of these differences were statistically significant but of unclear clinical relevance. In some ways the analytic sample differed in ways that were likely clinically meaningful. Most notably, compared to the general population with PTSD, the analytic sample contained younger participates (on average 8 years younger) more likely to be Operations Enduring Freedom/Iraqi Freedom/New Dawn (OEF/OIF/OND) Veterans (69.2% vs. 34.9%), with higher rates VA disability (68.2% vs. 55.6%). The analytic sample also differed in important ways regarding their mental health services use: they were more likely to receive medications from a mental health clinician (86.7% vs. 38.3%), had more individual psychotherapy visits (mean of 16.2 vs. 6.6), and more likely to receive group psychotherapy (61.9% vs. 34.8%).

The number of participants in the analytic cohort receiving each medication ranged from 1,376 who received sertraline to 105 who received topiramate (Table 2). The number of eligible participants grew across treatment years, with the majority of participants in the analytic sample treated in fiscal years 2012 and 2013. While there were notable differences among the medication treatment groups, our weighting procedure allowed us to balance almost all covariates (Table 2, Table 3). The exception was whether baseline PCL occurred during medication titration period. For medications that commonly require a lengthier titration period – sertraline, topiramate, and venlafaxine – baseline PCL score occurred during the titration period more often than for fluoxetine and paroxetine, where both treatments generally start at full dose. We did not further adjust for this difference because it is more likely related to medication characteristics than to participant characteristics. The mean AMT length was 254.1 (SD=119.5) days when including continuation of treatment beyond the index year. Relative to the start of the AMT, participants' baseline PCLs were administered at 9.7 (SD=11.8) days prior to the start of the AMT and end-point PCLs were administered a 174.7 (SD=99.5) days after the start of the AMT. In the unweighted model, mean baseline PCL scores indicated a high burden of symptoms, ranging from 61.5 to 62.5 (Table 2, Table 4).

All five of the medications that were studied demonstrated a significant effect on PTSD symptoms. The mean improvement in PTSD symptoms measured by the PCL scores ranged from 5.0 to 6.3 points, indicating statistically reliable but modest improvements; between 41.9% and 52.9% of participants achieved a an improvement of 5 points or more. As inclusion in the cohort was based on encounter-based diagnostic information (2 PTSD diagnoses within 90 days, at least one of which was in a mental health clinic), 12.4% (n=363) patients did not meet PCL-based diagnostic criteria at baseline. However, there were no overall or pairwise differences among agents at baseline. Among those who met PCL-based diagnostic criteria for PTSD at baseline, between 13.6% and 20.4% of participants achieved our threshold for loss of diagnosis, an outcome associated with substantial clinical improvement. As measured by the PCL, there was a very limited range of baseline PTSD symptom clusters and sleep item scores and changes on these scores. There were no significant differences between medications in any outcome using the unweighted model. Weighted model adjusting for differences between the medication treatment groups was very similar to the unadjusted analysis and there continued to be no differences in outcomes (Table 5), meaning that the five medications performed about equally in reducing PTSD symptoms, even after adjusting for differences between treatment groups.

In our exploratory univariate logistic regression models, the only significant ($p<0.001$) patient-level predictors of loss of diagnosis were related to receipt of EBP for PTSD, including PE and CPT, delivered in an individual format (EBT-I). Across all treatment groups, the number of sessions of EBT-I during the index year of treatment predicted improvement (OR=1.07), and the effect was greater if the sessions occurred during the AMT (OR baseline-midpoint=1.14; OR midpoint-end=1.13). There were four predictors not achieving the of loss of PTSD diagnosis, including TBI and other cognitive disorders (OR=0.65), male gender (OR=0.63), OEF/OIF/OND Veteran status (OR=0.71), and non-psychotherapy mental health visits (OR=0.98). No additional variables or patterns of variables emerged as predictors of response when examining participants who received individual medications.

Discussion

We compared the effectiveness of five evidence-based medications for PTSD in routine clinical practice and found that they performed similarly. During an average of six months of treatment, participants experienced a five- to six-point improvement in PCL scores. Approximately half of participants achieved a reliable improvement of five points or more on the PCL. Our findings are consistent with meta-analytic findings that have suggested that fluoxetine, paroxetine, sertraline, topiramate, and venlafaxine are effective treatments for PTSD.[4,5] However, less than a fifth of participants achieved our more stringent improvement criterion: loss of PTSD diagnosis. None of the medications led to superior outcomes in individual PTSD symptom clusters or sleep items.

The only independent variables that predicted loss of PTSD diagnosis were related to concurrent treatment with EBP-I for PTSD. Therefore, while fluoxetine, paroxetine, sertraline, topiramate, and venlafaxine appear to be equally effective in clinical practice, our findings do not support the idea that patient characteristics can guide the selection of the

medication most likely to be effective.[35] Instead, it appears that there is clinical equipoise and the choice of individual agent should be up to patients who elect to take a medication for PTSD.[36] However, to maximize improvement, patients should also be encouraged to consider concurrent EBP-I. Prior analysis in the parent cohort from which this analytic sample was derived demonstrated that men and OEF/OIF/OND Veterans are less likely to complete psychotherapy for PTSD.[37] While studies have clearly demonstrated that patients with TBI can tolerate and benefit from evidence-based PTSD treatment,[38–41] this evidence is largely derived from specialized residential settings and may not generalize to the outpatient care studied in this analysis. Thus, it is not particularly surprising that men, OEF/OIF/OND Veterans, and those with a history of TBI or other cognitive disorders had poorer treatment outcomes given the importance of concurrent EBP-I. That more non-psychotherapy mental health visits are also a negative predictor of treatment response is not surprising, as these visits may indicate that participants had a greater variety of mental health treatment needs and comorbid mental health conditions.

There are several major limitations to our study. First, participants meeting inclusion criteria for our analytic cohort differed from the general VA PTSD treatment population in many ways. The patient sample in the analysis were younger, more likely veterans of recent wars, and received more mental health services. Because of this it is unclear if these findings generalize to older veterans of earlier service eras receiving less mental health services. Moreover, we have no clear understanding of whether these finds would apply to non-veterans with PTSD in general. Second, were unable to measure all related aspects of care. As an example, we could not measure medication adherence or psychotherapy protocols that are less frequently in the VA such as EMDR. However, the mean length of treatment was six months, indicating that participants typically exhausted their initial fill (which can last up to 90 days) and requested refills. Lastly, we only considered PTSD outcomes. Depression and quality of life measures were not available, but they may have enriched our exclusive focus on PTSD outcomes.

While we found that all of the medication treatments for PTSD that we studied were effective in clinical practice, their effect seemed reduced compared to that seen in the clinical trials. Such comparisons are difficult to make precisely in all cases because various studies use different measures and allowed various concurrent treatments. However, as an example Berlant et al.'s open-label study of topiramate for PTSD and found a mean change in PCL scores of 21 points (we found a 5-point change) and 34% with loss of diagnosis (we found 16%).[42] The reasons for possible reduction in effectiveness are unknown. One possibility is that drug trials have more stringent criteria for inclusion, subsequently not generalizing to the typical veteran population seen in clinic (e.g., no substance use disorders, suicidality, etc.). It is also possible that VA patients are more treatment-resistant than patients enrolling in RCTs. Future work using our methods should attempt to examine patients' treatment history longitudinally rather than cross-sectionally to address this concern.

We conclude that available evidence-based medications for PTSD are equally effective in clinical practice. Although effective, our data suggest that patients choosing medication

treatment for PTSD should consider concurrent treatment with EBP-I for PTSD in order to maximize their chances of meaningful improvement.

Clinical Points:

-Five medications for PTSD with consistent efficacy in metaanalyses of randomized controlled trials—including fluoxetine, paroxetine, sertraline, topiramate, and venlafaxine—are also effective in routine clinical practice.

-It does not appear that any one of these agents is more effective than the others for PTSD, so patient preference should weigh heavily when choosing among these medications.

-Patients who elect to take one of these mediations for PTSD should consider undergoing concurrent treatment with evidence-based psychotherapy delivered in an individual format, such as prolonged exposure or cognitive processing therapy.

Additional Information:

The VA Corporate Data Warehouse (CDW) contains electronic medical record data compiled from individual VA facilities and is described at http://www.hsrd.research.va.gov/for_researchers/vinci/cdw.cfm. Data are stored on geographically dispersed server farms. To access the CDW, researchers generally need to have an employment relationship with the VA. After local institutional review board approval, requests for data are submitted to VA National Data Systems using the Data Access Request Tracker. Datasets are then built and analyzed in secure virtual project workspaces within the VA Informatics and Computing Infrastructure environment. Researchers with VA network access can obtain descriptions of CDW data at http://vaww.virec.research.va.gov/.

Podcast Text:

In this study, which used the treatment records of all patients treated in the Veterans Health Administration over more than a decade, authors determined that five medications that had been shown effective to treat PTSD in research studies also appear to work in real world clinical use. The medications fluoxetine, paroxetine, sertraline, topiramate, and venlafaxine all led to improvements in PTSD symptoms. The medications were about equally effective. It did appear that using any of these medications combined with evidence based psychotherapy for PTSD led to the greatest benefit for patients with PTSD.

Disclosures and acknowledgements:

Development of the study cohort was funded by a Department of Veterans Affairs Health Services Research and Development Career Development Award (CDA11–263), VA Office of Research and Development, Washington, DC (Dr. Shiner). Development of additional variables identifying the use of evidence-based psychotherapy for PTSD was funded by the Department of Defense Joint Warfighter Medical Research Program (JW140056), Congressionally Directed Medical Research Program, Fort Dietrich, MD (Dr. Maguen). Development of the analytic dataset and comparative effectiveness analyses were funded by the Department of Defense Peer Reviewed Medical Research Program (PR160203), Congressionally Directed Medical Research Program, Fort Dietrich, MD (Dr. Shiner). The sponsors did not have any role in the study design, methods, analysis, and interpretation of results, or in preparation of the manuscript and the decision to submit it for publication. The views expressed in this article are those of the authors and do not necessarily represent the position or policy of the US Department of Veterans Affairs or US Department of Defense.

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Table 1:

VA Users with New Episodes of PTSD Care from 2008 to 2013, by Receipt of an Adequate Trial of an Effective Mediation for PTSD and by Availability of Time-constrained Outcome Measurement as Measured with the PTSD Checklist

	Overall (491,040)	Qualifying Trial 29.0% (142,276)	Plus Measurement 0.6% (2,931)
Demographic Characteristics			
Age, M (SD)	48.5 (16.0)	48.4 (15.1) **	40.2 (12.8) ##
Men, % (n)	90.7 (445,583)	89.5 (127,282) **	87.9 (2,577) #
Married, % (n)	52.7 (258,764)	54.2 (77,177) **	56.6 (1,660) #
White Non-Hispanic, % (n)	63.5 (311,756)	65.5 (93,154) **	64.0 (1,876) #
Black Non-Hispanic, % (n)	19.1 (93,666)	18.1 (25,799) **	16.7 (490)
Hispanic, % (n)	8.1 (39,827)	7.9 (11,303) *	11.1 (322) ##
OEF/OIF/OND Veteran, % (n)	34.9 (171,364)	33.9 (48,228) **	69.2 (2,028) ##
Rural, % (n)	35.0 (171,644)	36.7 (52,202) **	35.0 (1,025) #
Homeless, % (n)	5.4 (26,574)	5.8 (8,295) **	5.0 (148)
Combat Exposure, % (n)	28.6 (140,344)	27.7 (39,458) **	28.8 (845)
Sexual Trauma while in Military, % (n)	9.3 (45,803)	10.6 (15,091) **	12.4 (362) #
VA Disability Level 70 or greater, % (n)	55.6 (273,242)	60.4 (85,925) **	68.2 (1,998) ##
Service Use Characteristics			
Plurality of Care at a VA Medical Center, % (n)	60.4 (296,563)	60.5 (86,069)	65.4 (1,916) ##
Plurality of Care at a Community Based Outreach Clinic, % (n)	30.8 (151,106)	30.6 (43,585)	23.4 (686) ##
Medication was from a primary care prescriber, % (n)	4.2 (20,436)	8.8 (12,671) **	7.4 (216) #
Medication was from a mental health prescriber, % (n)	38.3 (187,999)	84.6 (120,387) **	86.7 (2,541) ##
Primary Care Visits, M (SD)	3.3 (3.2)	3.6 (3.3) **	3.7 (3.0)
Any Individual Psychotherapy, % (n)	86.5 (424,983)	89.8 (127,761) **	98.5 (2,886) ##
All Individual Psychotherapy Visits, M (SD)	6.5 (7.9)	7.6 (8.6) **	16.2 (11.6) ##
Individual Evidence Based Therapy Sessions, M (SD)	0.6 (2.3)	0.6 (2.3)	3.4 (5.0) ##
Has any Group Psychotherapy, % (n)	34.8 (170,816)	36.9 (52,478) **	61.9 (1,815) ##
All Group Psychotherapy Visits, M (SD)	5.2 (15.5)	6.2 (17.5) **	13.7 (26.6) ##
Group Cognitive Processing Therapy, M (SD)	0.6 (2.6)	0.7 (2.7) **	2.4 (4.6) ##
Other Mental Health Visits, M (SD)	8.5 (10.1)	10.6 (10.8) **	15.4 (13.8) ##
Substance Abuse/Detox Visits, M (SD)	1.8 (11.1)	2.2 (12.1) **	3.8 (16.4) ##

	Overall (491,040)	Qualifying Trial 29.0% (142,276)	Plus Measurement 0.6% (2,931)
Comorbid Diagnoses			
Pain Disorder, % (n)	64.9 (318,802)	69.4 (98,764) **	76.0 (2,228) ##
Headache Disorder, % (n)	25.1 (123,441)	28.8 (40,922) **	41.8 (1,224) ##
Psychotic Disorders, % (n)	4.2 (20,682)	4.7 (6,748) **	3.5 (102) ##
Bipolar Mood Disorders, % (n)	6.2 (30,560)	6.5 (9,223) **	5.8 (169)
Depressive Mood Disorders, % (n)	60.3 (296,071)	71.4 (101,557) **	79.6 (2,332) ##
Non-PTSD Anxiety Disorders, % (n)	28.5 (139,779)	33.0 (46,940) **	43.2 (1,267) ##
Traumatic Brain Injury and Cognitive Disorders, % (n)	13.4 (65,834)	14.7 (20,882) **	27.3 (799) ##
Personality Disorders, % (n)	3.9 (18,959)	4.8 (6,873) **	5.0 (148)
Nicotine Dependence, % (n)	39.0 (191,712)	41.9 (59,659) **	44.3 (1,299) #
Alcohol Dependence, % (n)	22.6 (111,027)	24.2 (34,485) **	30.0 (880) ##
Marijuana Dependence, % (n)	3.2 (15,586)	3.6 (5,094) **	4.8 (141) #
Opioid Dependence, % (n)	3.2 (15,903)	3.8 (5,436) **	4.4 (129)
Concurrent Medication Use			
Other Antidepressant, % (n)	63.3 (310,685)	63.5 (90,308)	69.6 (2,041) ##
Other Anticonvulsant, % (n)	24.4 (119,808)	30.1 (42,867) **	34.0 (996) ##
Lithium, % (n)	1.4 (6,848)	1.5 (2,152) **	2.1 (60) #
Antipsychotic, % (n)	20.3 (99,698)	26.8 (38,173) **	27.7 (813)
Sedative/Hypnotics, % (n)	39.6 (194,681)	49.1 (69,886) **	52.8 (1,548) #
Opioids, % (n)	37.0 (181,788)	42.7 (60,687) **	41.0 (1,203) #
Prazosin, % (n)	18.6 (91,543)	25.2 (35,842) **	43.8 (1,285) ##
Stimulants, % (n)	2.5 (12,521)	3.2 (4,482) **	4.4 (129) ##

Note. PTSD=Posttraumatic Stress Disorder, M=mean, SD=standard deviation, OEF/OIF/OND=Operations Enduring Freedom/Iraqi Freedom/New Dawn, VA= Department of Veterans Affairs

* p<0.05

** p<0.001 for Overall versus those with a Qualifying Trial

# p<0.05

p<0.001 for those with a Qualifying Trial with versus without Measurement

Table 2:

Participants with an Adequate Trial of an Effective Medication for PTSD plus Outcomes Measurement, 2008–2013 (Unweighted)

Agent	Fluoxetine	Paroxetine	Sertraline	Topiramate	Venlafaxine	
Total Number	659	328	1,376	105	463	Pairwise Differences
Index Year FY08–9, % (n)	7.1 (47)	7.6 (25)	5.2 (72)	7.6 (8)	5.4 (25)	
Index Year FY10–11, % (n)	32.5 (214)	33.2 (109)	34.0 (468)	41.9 (44)	33.0 (153)	
Index Year FY12–13, % (n)	60.4 (398)	59.1 (194)	60.8 (836)	50.5 (53)	61.6 (285)	
Baseline Symptoms and Alignment of Medication Initiation and Baseline Measurement						
Baseline PCL Score, M (SD)	61.8 (11.8)	62.2 (12.1)	62.0 (11.7)	61.5 (12.6)	62.5 (12.0)	No Differences
Baseline PCL Score before initiation, % (n)	50.7 (334)	50.0 (164)	36.9 (508)	35.2 (37)	29.6 (137)	F≠STV, P≠SV, S≠V
Baseline PCL Score during titration, % (n)	7.1 (47)	7.9 (26)	24.6 (338)	23.8 (25)	18.4 (85)	FP≠STV
Baseline PCL Score full dose, % (n)	42.2 (278)	42.1 (138)	38.5 (530)	41.0 (43)	52.1 (241)	FS≠V
						Demographic Characteristics
Age, M (SD)	39.4 (12.4)	38.7 (13.2)	41.0 (13.2)	38.7 (10.8)	40.2 (12.1)	P≠S
Men, % (n)	88.0 (580)	87.2 (286)	89.8 (1,236)	71.4 (75)	86.4 (400)	FPSV≠T
Married, % (n)	56.3 (371)	52.7 (173)	57.1 (786)	61.9 (65)	57.2 (265)	No Differences
White Non-Hispanic, % (n)	63.9 (421)	66.8 (219)	60.2 (829)	62.9 (66)	73.7 (341)	FS≠V
Black Non-Hispanic, % (n)	17.5 (115)	15.9 (52)	18.8 (258)	17.1 (18)	10.2 (47)	FS≠V
Hispanic, % (n)	9.1 (60)	11.9 (39)	12.1 (166)	13.3 (14)	9.3 (43)	No Differences
OEF/OIF/OND Veteran, % (n)	71.2 (469)	72.0 (236)	68.2 (938)	75.2 (79)	66.1 (306)	No Differences
Homeless, % (n)	5.0 (33)	5.5 (18)	5.1 (70)	2.9 (3)	5.2 (24)	No Differences
Combat Exposure, % (n)	28.5 (188)	36.6 (120)	28.2 (388)	30.5 (32)	25.3 (117)	P≠SV
Sexual Trauma in Military, % (n)	12.0 (79)	13.4 (44)	11.0 (151)	24.8 (26)	13.4 (62)	FSV≠T
VA Disability Level ≥ 70, % (n)	66.3 (437)	67.4 (221)	67.0 (922)	74.3 (78)	73.4 (340)	No Differences
Service Use Characteristics						
Plurality of Care at a VAMC, % (n)	59.9 (395)	65.9 (216)	65.9 (907)	69.5 (73)	70.2 (325)	F≠V
AMT from a MH prescriber, % (n)	88.9 (586)	87.8 (288)	89.9 (1,237)	33.3 (35)	85.3 (395)	FPSV≠T
Primary Care Visits, M (SD)	3.5 (2.9)	3.6 (2.8)	3.5 (3.0)	4.9 (4.1)	4.0 (2.9)	FPS≠T, S≠V
Any Individual Therapy, % (n)	98.5 (649)	98.5 (323)	98.3 (1,353)	98.1 (103)	98.9 (458)	No Differences
Total visits, index year, M (SD)	16.1 (11.1)	15.5 (10.5)	15.8 (11.6)	16.0 (11.6)	18.1 (12.6)	FPS≠V
EBP-I, index year, M (SD)	3.4 (4.9)	3.1 (4.8)	3.6 (5.1)	3.8 (5.2)	3.2 (4.8)	No Differences
EBP-I, baseline-midpoint, M (SD)	0.9 (2.0)	0.7 (1.7)	0.8 (1.8)	1.0 (1.9)	0.7 (1.6)	No Differences
EBP-I, midpoint-end, M (SD)	1.6 (3.0)	1.4 (2.6)	1.7 (3.1)	1.8 (3.2)	1.5 (2.8)	No Differences
Any Group Therapy, % (n)	59.9 (395)	61.6 (202)	62.8 (864)	56.2 (59)	63.7 (295)	No Differences

Agent	Fluoxetine	Paroxetine	Sertraline	Topiramate	Venlafaxine	
Total Visits, Index Year, M (SD)	11.9 (24.4)	12.0 (22.2)	14.2 (26.2)	11.3 (24.4)	16.9 (33.0)	F≠V
CPT-G, index year, M (SD)	2.1 (4.5)	2.1 (4.0)	2.5 (4.7)	2.5 (4.8)	2.8 (5.1)	No Differences
CPT-G, baseline-midpoint, M (SD)	0.5 (1.9)	0.4 (1.5)	0.6 (2.0)	0.6 (3.2)	0.5 (1.9)	No Differences
CPT-G, mid-endpoint, M (SD)	1.2 (3.2)	1.2 (2.9)	1.2 (3.0)	1.1 (2.6)	1.5 (3.3)	No Differences
EBP visits before AMT, M (SD)	0.2 (0.4)	0.2 (0.4)	0.2 (0.4)	0.2 (0.4)	0.2 (0.4)	No Differences
Other Mental Health Visits, M (SD)	14.1 (11.3)	15.3 (13.1)	15.2 (14.2)	17.0 (16.6)	17.3 (15.6)	FS≠V
Substance Abuse Visits, M (SD)	3.5 (14.4)	3.1 (14.3)	4.1 (17.7)	1.2 (5.8)	4.4 (18.4)	No Differences
Comorbid Diagnoses						
Pain Disorder, % (n)	73.1 (482)	78.0 (256)	75.0 (1,032)	84.8 (89)	79.7 (369)	No Differences
Headache Disorder, % (n)	36.9 (243)	40.2 (132)	39.0 (537)	81.9 (86)	48.8 (226)	FS≠VT, P≠T, T≠V
Psychotic Disorders, % (n)	3.6 (24)	4.0 (13)	3.3 (45)	7.6 (8)	2.6 (12)	No Differences
Bipolar Mood Disorders, % (n)	5.6 (37)	5.5 (18)	5.7 (79)	8.6 (9)	5.6 (26)	No Differences
Depressive Mood Disorders, % (n)	79.4 (523)	77.4 (254)	79.4 (1,093)	69.5 (73)	84.0 (389)	T≠V
Anxiety Disorders, % (n)	41.3 (272)	44.2 (145)	41.1 (565)	41.0 (43)	52.3 (242)	FS≠V
TBI and Cognitive Disorders, % (n)	25.6 (169)	26.5 (87)	26.2 (361)	43.8 (46)	29.4 (136)	FPSV≠T
Personality Disorders, % (n)	5.5 (36)	6.4 (21)	4.3 (59)	2.9 (3)	6.3 (29)	No Differences
Nicotine Dependence, % (n)	42.5 (280)	52.7 (173)	42.6 (586)	32.4 (34)	48.8 (226)	FST≠P, T≠V
Alcohol Dependence, % (n)	33.1 (218)	33.2 (109)	29.0 (399)	18.1 (19)	29.2 (135)	FP≠T
Marijuana Dependence, % (n)	6.2 (41)	4.9 (16)	4.1 (57)	2.9 (3)	5.2 (24)	No Differences
Opioid Dependence, % (n)	4.7 (31)	6.4 (21)	3.7 (51)	2.9 (3)	5.0 (23)	No Differences
						Concurrent Medication Use
Other Antidepressant, % (n)	68.4 (451)	69.8 (229)	69.1 (951)	79.0 (83)	70.6 (327)	No Differences
Other Anticonvulsant, % (n)	32.6 (215)	36.0 (118)	30.5 (419)	39.0 (41)	43.8 (203)	FS≠V
Lithium, % (n)	2.7 (18)	1.2 (4)	1.6 (22)	1.9 (2)	3.0 (14)	No Differences
Antipsychotic, % (n)	25.8 (170)	28.4 (93)	25.8 (355)	30.5 (32)	35.2 (163)	FS≠V
Sedative/Hypnotics, % (n)	52.8 (348)	57.0 (187)	49.0 (674)	61.0 (64)	59.4 (275)	S≠V
Opioids, % (n)	38.8 (256)	45.1 (148)	37.7 (519)	54.3 (57)	49.9 (231)	FS≠VT
Prazosin, % (n)	41.9 (276)	43.0 (141)	44.7 (615)	37.0 (35.2)	46.7 (216)	No Differences
Stimulants, % (n)	5.8 (38)	3.0 (10)	3.3 (46)	5.7 (6)	6.3 (29)	No Differences

Note. PTSD=Posttraumatic Stress Disorder, FY=Fiscal Year, PCL=PTSD Checklist, M=mean, SD=standard Deviation, OEF/OIF/OND=Operations Enduring Freedom/Iraqi Freedom/New Dawn, VA= Veterans Affairs, VAMC=VA Medical Center; AMT=Adequate Medication Trial, MH=Mental Health, EBP-I=Individual Evidence-Based Psychotherapy, CPT-G=Group Cognitive Processing Therapy, TBI=Traumatic Brain Injury

Table 3:

Participants with an Adequate Trial of an Effective Medication for PTSD plus Outcomes Measurement, 2008–2013 (Weighted)

Agent	Fluoxetine n=659	Paroxetine n=328	Sertraline n=1,376	Topiramate n=105	Venlafaxine n=463	Pairwise Differences
Baseline Symptoms and Alignment of Medication Initiation and Baseline Measurement						
Baseline PCL Score, M (SD)	61.9 (12.0)	62.1 (12.0)	62.0 (12.0)	62.6 (16.2)	62.3 (12.4)	No Differences
Baseline PCL Score before initiation, % (n)	43.4 (334)	45.0 (164)	39.8 (508)	40.2 (37)	37.3 (137)	No Differences
Baseline PCL Score during titration, % (n)	13.6 (47)	12.8 (26)	18.7 (338)	29.3 (25)	17.5 (85)	FP≠STV
Baseline PCL Score full dose, % (n)	43.0 (278)	42.2 (138)	41.5 (530)	30.5 (43)	45.2 (241)	No Differences
						Demographic Characteristics
Age, M (SD)	39.6 (13.1)	39.9 (13.3)	40.4 (12.9)	40.6 (16.0)	39.9 (12.8)	No Differences
Men, % (n)	87.9 (580)	87.0 (286)	89.1 (1,236)	83.4 (75)	88.1 (400)	No Differences
Married, % (n)	57.1 (371)	53.6 (173)	57.1 (786)	64.6 (65)	60.2 (265)	No Differences
White Non-Hispanic, % (n)	64.5 (421)	66.2 (219)	62.4 (829)	57.9 (66)	67.1 (341)	No Differences
Black Non-Hispanic, % (n)	16.6 (115)	16.5 (52)	17.4 (258)	21.6 (18)	13.9 (47)	No Differences
Hispanic, % (n)	9.4 (60)	12.3 (39)	11.6 (166)	9.2 (14)	11.4 (43)	No Differences
OEF/OIF/OND Veteran, % (n)	71.1 (469)	70.1 (236)	69.6 (938)	71.9 (79)	68.5 (306)	No Differences
Homeless, % (n)	4.8 (33)	4.4 (18)	5.1 (70)	1.8 (3)	3.8 (24)	No Differences
Combat Exposure, % (n)	28.3 (188)	31.9 (120)	27.9 (388)	23.5 (32)	27.4 (117)	No Differences
Sexual Trauma in Military, % (n)	12.5 (79)	14.2 (44)	11.3 (151)	16.3 (26)	11.5 (62)	No Differences
VA Disability Level ≥ 70, % (n)	67.6 (437)	67.4 (221)	67.6 (922)	76.6 (78)	70.8 (340)	No Differences
Service Use Characteristics						
Plurality of Care at a VAMC, % (n)	62.7 (395)	66.5 (216)	65.7 (907)	53.5 (73)	67.4 (325)	No Differences
AMT from a MH prescriber, % (n)	88.4 (586)	89.3 (288)	88.1 (1,237)	84.7 (35)	85.9 (395)	No Differences
Primary Care Visits, M (SD)	3.6 (3.2)	3.6 (2.8)	3.6 (3.2)	4.4 (5.5)	3.7 (2.8)	No Differences
Any Individual Therapy, % (n)	98.6 (649)	98.8 (323)	98.5 (1,353)	99.8 (103)	98.9 (458)	No Differences
Total visits, index year, M (SD)	16.1 (12.0)	15.6 (11.1)	15.9 (11.4)	15.0 (14.4)	16.4 (11.1)	No Differences
EBP-I, index year, M (SD)	3.3 (5.1)	3.2 (5.2)	3.5 (5.1)	3.1 (6.8)	3.2 (5.1)	No Differences
EBP-I, baseline-midpoint, M (SD)	0.8 (1.8)	0.8 (1.8)	0.8 (1.8)	0.7 (2.5)	0.7 (1.8)	No Differences
EBP-I, midpoint-end, M (SD)	1.6 (3.2)	1.4 (2.8)	1.6 (3.0)	1.6 (4.3)	1.5 (2.7)	No Differences
Any Group Therapy, % (n)	61.0 (395)	62.0 (202)	61.7 (864)	52.8 (59)	61.2 (295)	No Differences
Total Visits, Index Year, M (SD)	11.7 (23.6)	12.2 (25.1)	13.6 (25.6)	13.4 (54.3)	13.0 (22.4)	No Differences
CPT-G, index year, M (SD)	2.1 (4.5)	2.1 (4.0)	2.5 (4.7)	2.5 (4.8)	2.8 (5.1)	No Differences
CPT-G, baseline-midpoint, M (SD)	0.4 (1.9)	0.4 (2.0)	0.6 (2.4)	0.2 (1.1)	0.5 (2.1)	No Differences
CPT-G, midpoint-end, M (SD)	1.0 (3.6)	1.1 (3.7)	1.2 (4.4)	0.8 (3.3)	1.3 (3.6)	No Differences
EBP visits before AMT, M (SD)	0.2 (0.4)	0.2 (0.4)	0.2 (0.4)	0.1 (0.5)	0.2 (0.4)	No Differences

Agent	Fluoxetine n=659	Paroxetine n=328	Sertraline n=1,376	Topiramate n=105	Venlafaxine n=463	Pairwise Differences
Other Mental Health Visits, M (SD)	14.4 (12.4)	14.6 (11.2)	15.3 (14.8)	17.6 (24.4)	15.1 (11.9)	No Differences
Substance Abuse Visits, M (SD)	2.9 (11.4)	2.8 (12.7)	3.7 (15.4)	1.9 (8.7)	3.4 (14.1)	No Differences
Comorbid Diagnoses						
Pain Disorder, % (n)	74.5 (482)	78.0 (256)	75.8 (1,032)	77.4 (89)	76.9 (369)	No Differences
Headache Disorder, % (n)	40.0 (243)	40.1 (132)	40.6 (537)	56.0 (86)	43.3 (226)	No Differences
Psychotic Disorders, % (n)	3.7 (24)	3.1 (13)	3.4 (45)	5.5 (8)	2.3 (12)	No Differences
Bipolar Mood Disorders, % (n)	5.8 (37)	5.0 (18)	6.2 (79)	13.0 (9)	4.6 (26)	No Differences
Depressive Mood Disorders, % (n)	78.5 (523)	78.3 (254)	79.7 (1,093)	76.7 (73)	81.3 (389)	No Differences
Anxiety Disorders, % (n)	41.3 (272)	44.4 (145)	42.1 (565)	41.9 (43)	45.7 (242)	No Differences
TBI and Cognitive Disorders, % (n)	26.6 (169)	25.4 (87)	27.4 (361)	43.7 (46)	27.1 (136)	No Differences
Personality Disorders, % (n)	5.4 (36)	5.7 (21)	4.6 (59)	2.4 (3)	4.8 (29)	No Differences
Nicotine Dependence, % (n)	42.4 (280)	47.1 (173)	43.7 (586)	30.9 (34)	46.1 (226)	No Differences
Alcohol Dependence, % (n)	31.7 (218)	32.6(109)	29.1 (399)	23.7 (19)	27.4 (135)	No Differences
Marijuana Dependence, % (n)	5.0 (41)	4.2 (16)	4.0 (57)	2.7 (3)	3.9 (24)	No Differences
Opioid Dependence, % (n)	4.7 (31)	5.7 (21)	3.9 (51)	3.5 (3)	3.4 (23)	No Differences
						Concurrent Medication Use
Other Antidepressant, % (n)	68.6 (451)	68.7 (229)	69.3 (951)	70.6 (83)	69.0 (327)	No Differences
Other Anticonvulsant, % (n)	34.0 (215)	35.5 (118)	32.4 (419)	35.9 (41)	36.3 (203)	No Differences
Lithium, % (n)	2.4 (18)	0.7 (4)	1.7 (22)	4.3 (2)	2.3 (14)	No Differences
Antipsychotic, % (n)	26.5 (170)	25.8 (93)	26.3 (355)	32.1 (32)	30.1 (163)	No Differences
Sedative/Hypnotics, % (n)	53.1 (348)	55.6 (187)	51.1 (674)	53.8 (64)	54.8 (275)	No Differences
Opioids, % (n)	39.5 (256)	45.1 (148)	39.8 (519)	50.8 (57)	42.5 (231)	No Differences
Prazosin, % (n)	41.3 (276)	40.9 (141)	44.8 (615)	31.2 (37)	44.9 (216)	No Differences
Stimulants, % (n)	4.6 (38)	2.5 (10)	3.6 (46)	2.4 (6)	5.2 (29)	No Differences

Note. PTSD=Posttraumatic Stress Disorder, PCL=PTSD Checklist, M=mean, SD=standard Deviation, OEF/OIF/OND=Operations Enduring Freedom/Iraqi Freedom/New Dawn, VA= Veterans Affairs, VAMC=VA Medical Center; AMT=Adequate Medication Trial, MH=Mental Health, EBP-I=Individual Evidence-Based Psychotherapy, CPT-G=Group Cognitive Processing Therapy, TBI=Traumatic Brain Injury

Table 4:

Outcomes for Participants with an Adequate Trial of an Effective Medication for PTSD plus Outcomes Measurement (Unweighted)

Agent	Fluoxetine n=659	Paroxetine n=328	Sertraline n=1,376	Topiramate n=105	Venlafaxine n=463	Pairwise Differences
Raw Outcomes						
Baseline PCL Score, M (SD)	61.8 (11.8)	62.2 (12.1)	62.0 (11.7)	61.5 (12.6)	62.5 (12.0)	No Differences
Change in PCL, M (SD)	-6.2 (14.0)	-6.2 (15.1)	-6.1 (14.1)	-6.3 (13.8)	-5.0 (13.3)	No Differences
5-Point Drop in PCL, % (n)	51.9 (342)	50.9 (167)	50.1 (689)	42.9 (45)	47.9 (222)	No Differences
10-Pt. Drop plus Loss of Diagnosis, % (n)	17.6 (116)	20.4 (67)	17.2 (237)	16.2 (17)	13.6 (63)	No Differences
						Symptom Clusters
Baseline Reexperiencing, M (SD)	17.7 (4.3)	17.8 (4.2)	17.8 (4.1)	17.9 (4.4)	17.9 (4.2)	No Differences
Change in Reexperiencing, M (SD)	-1.7 (4.8)	-1.8 (4.8)	-1.6 (4.6)	-2.0 (5.1)	-1.2 (4.6)	No Differences
Baseline Avoidance, M (SD)	7.6 (1.9)	7.8 (1.8)	7.7 (1.9)	7.4 (2.0)	7.6 (2.0)	No Differences
Change in Avoidance, M (SD)	-0.7 (2.4)	-0.9 (2.5)	-0.8 (2.4)	-0.6 (2.3)	-0.6 (2.3)	No Differences
Baseline Numbing, M (SD)	17.3 (4.3)	17.0 (4.3)	17.2 (4.3)	16.9 (4.6)	17.5 (4.3)	No Differences
Change in Numbing, M (SD)	-1.8 (4.8)	-1.5 (5.2)	-1.8 (5.0)	-1.7 (4.9)	-1.5 (4.8)	No Differences
Baseline Hyperarousal, M (SD)	19.4 (3.9)	19.5 (4.0)	19.4 (3.8)	19.5 (4.1)	19.6 (3.8)	No Differences
Change in Hyperarousal, M (SD)	-2.0 (4.6)	-1.8 (4.8)	-1.9 (4.5)	-2.1 (4.5)	-1.8 (4.3)	No Differences
Baseline Sleep, M (SD)	7.4 (1.9)	7.6 (1.9)	7.5 (1.9)	7.4 (2.1)	7.6 (1.9)	No Differences
Change in Sleep, M (SD)	-0.8 (2.2)	-0.9 (2.1)	-0.8 (2.1)	-0.8 (2.4)	-0.6 (2.1)	No Differences

Note. PTSD=Posttraumatic Stress Disorder, PCL=PTSD Checklist, M=mean, SD=standard deviation

Table 5:

Outcomes for Participants with an Adequate Trial of an Effective Medication for PTSD plus Outcomes Measurement (Weighted)

Agent	Fluoxetine n=659	Paroxetine n=328	Sertraline n=1,376	Topiramate n=105	Venlafaxine n=463	Pairwise Differences
Raw Outcomes						
Baseline PCL, M (SD)	61.9 (12.1)	62.0 (12.1)	62.0 (11.9)	62.7 (16.0)	62.3 (12.3)	No Differences
Change in PCL, M (SD)	-5.8 (14.4)	-5.6 (15.4)	-6.0 (14.6)	-5.0 (22.1)	-5.1 (14.4)	No Differences
5-Point Drop in PCL, % (n)	51.1 (342)	50.2 (167)	49.7 (689)	40.4 (45)	48.3 (222)	No Differences
10-Pt. Drop plus Loss of Diagnosis, % (n)	17.3 (116)	19.3 (67)	17.3 (237)	15.5 (17)	14.2 (63)	No Differences
						Symptom Clusters
Baseline Reexperiencing, M (SD)	17.7 (4.4)	17.8 (4.2)	17.8 (4.2)	17.5 (7.0)	17.8 (4.4)	No Differences
Change in Reexperiencing, M (SD)	-1.6 (4.9)	-1.6 (5.1)	-1.6 (4.9)	-1.0 (8.6)	-1.2 (5.0)	No Differences
Baseline Avoidance, M (SD)	7.6 (2.0)	7.7 (1.9)	7.6 (2.0)	7.6 (2.7)	7.5 (2.1)	No Differences
Change in Avoidance, M (SD)	-0.7 (2.5)	-0.8 (2.7)	-0.8 (2.6)	-0.6 (3.6)	-0.6 (2.4)	No Differences
Baseline Numbing, M (SD)	17.2 (4.4)	17.0 (4.3)	17.2 (4.5)	18.0 (5.2)	17.4 (4.5)	No Differences
Change in Numbing, M (SD)	-1.6 (5.0)	-1.3 (5.3)	-1.7 (5.2)	-2.0 (8.2)	-1.5 (5.3)	No Differences
Baseline Hyperarousal, M (SD)	19.4 (4.1)	19.4 (4.2)	19.4 (3.8)	19.7 (5.8)	19.6 (4.1)	No Differences
Change in Hyperarousal, M (SD)	-1.8 (4.8)	-1.7 (4.8)	-1.9 (4.7)	-1.7 (7.3)	-1.9 (4.9)	No Differences
Baseline Sleep, M (SD)	7.4 (2.0)	7.6 (1.9)	7.5 (1.9)	7.3 (3.3)	7.5 (2.1)	No Differences
Change in Sleep, M (SD)	-0.7 (2.3)	-0.7 (2.2)	-0.7 (2.3)	-0.4 (3.8)	-0.6 (2.5)	No Differences

Note. PTSD=Posttraumatic Stress Disorder, PCL=PTSD Checklist, M=mean, SD=standard deviation