Clinic-Level Predictors of Psychotherapy Dosage in the Military Health System

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Objective: This study aimed to describe the demand for, supply of, and clinic processes associated with behavioral health care delivery in the Military Health System and to examine the clinic-level factors associated with receipt of a minimally adequate dosage of psychotherapy.

Methods: This retrospective study used administrative behavioral health data from eight military treatment facilities (N=25,433 patients; N=241,028 encounters) that were participating in a larger implementation study of evidence-based psychotherapy for posttraumatic stress disorder. Minimally adequate dosage of psychotherapy was defined in two ways: at least three sessions within a 90-day period and at least six sessions within a 90-day period. The authors then used a path model to examine clinic-level factors hypothesized to predict psychotherapy dosage, including care demand, supply, and processes.

Results: Patients had an average of 2.5 psychotherapy appointments per quarter. Wait times for intake, between intake and the first psychotherapy session, and between follow-up sessions all averaged 17 days or longer. Path modeling showed that a higher patient-to-encounter ratio was associated with a longer wait time between follow-up psychotherapy appointments. In turn, a longer wait time between appointments was associated with a lower probability of receiving an adequate dosage of psychotherapy. However, a greater proportion of care delivered in groups was associated with a greater probability of receiving at least six sessions of psychotherapy.

Conclusions: Receipt of a minimally adequate dosage of psychotherapy in the Military Health System is hindered by clinic staffing and workflows that increase wait times between follow-up psychotherapy appointments.

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The demand for behavioral health care far exceeds the available supply of providers throughout the United States (1). In the wake of the COVID-19 pandemic, demand for care increased (2) without a commensurate increase in the behavioral health workforce. In the Military Health System (MHS), a similar increase in the demand for behavioral health care has occurred, likely driven by long-standing efforts to destigmatize behavioral health care and by the pandemic (3). Ensuring that service members seeking care have timely access to high-quality behavioral health care is a priority for the Department of Defense (DoD), and one important aspect of high-quality behavioral health care is the dosage of care received. Dosage of care is related to clinical outcomes (4, 5), and a minimally adequate dosage of care is necessary to deliver evidence-based psychotherapies (EBPs). An agreed-on definition of minimally adequate dosage of care does not currently exist, and optimal doses vary across behavioral health conditions and specific psychotherapies. Definitions of dosage of care must also consider the timing of care, because more time between sessions is associated with weaker therapeutic response (6–8). EBPs recommended in the clinical practice guidelines

HIGHLIGHTS

- In a large sample of patients receiving behavioral health care in the Military Health System, the average number of psychotherapy appointments was 2.5 per quarter.
- Wait times for intake, between intake and the first psychotherapy session, and between follow-up sessions all averaged 17 days or longer.
- A higher ratio of patients to encounters was associated with a longer wait time between appointments, which, in turn, was associated with a lower probability of receiving an adequate dosage of psychotherapy.

issued by the Department of Veterans Affairs (VA) and DoD generally have optimal dosages ranging from six to 15 sessions, delivered weekly (9, 10).

The Defense Health Agency (DHA) defines "minimal initial care" for posttraumatic stress disorder (PTSD) or major depressive disorder as at least three behavioral health follow-up visits within 90 days of diagnosis (11). To our knowledge, no published data indicate the proportion of patients receiving minimal initial care in the MHS. Researchers at RAND examined whether service members given a diagnosis of PTSD or major depressive disorder receive at least seven psychotherapy visits or at least two medication management visits within 8 weeks (12). With this definition, 22% of service members with PTSD and 27% of those with depression received minimally adequate care in the MHS between 2016 and 2017. This finding suggests that individual, provider, and organizational barriers inhibit service members' access to behavioral health care, all of which affect the capacity to implement EBPs. Understanding the factors that predict dosage of care can inform efforts to deliver high-quality behavioral health care in the MHS.

Clinic-level factors that predict dosage of care are not well understood, although some studies have examined the role of staffing and wait times. In VA primary care, higher staff-to-patient ratios were predictive of more patients with major depressive disorder diagnoses receiving at least three psychotherapy sessions (13). In civilian studies, longer wait times have been associated with lower dosages of care. Specifically, a longer wait for the first psychotherapy session has been linked with lower session attendance (14, 15), and a longer wait between sessions has been associated with lower dosages of care (7, 16). We are not aware, however, of any similar research in the military setting.

Dosage of care may be influenced by interacting structural, organizational, and performance factors, including staffing and wait times. The present study used administrative behavioral health data from eight military treatment facilities (MTFs) to describe the demand for, supply of, and clinic processes associated with behavioral health care delivery and to examine clinic-level factors associated with receipt of a minimally adequate dosage of psychotherapy. We examined two different levels of minimally adequate dosage: receiving at least three sessions within 90 days, which corresponds to the DHA procedural instructions for treatment dosage for patients diagnosed as having PTSD or major depressive disorder (11), and receiving at least six sessions within 90 days, which is closer to recommendations for EBPs across behavioral health conditions. We examined clinic-level factors hypothesized to predict dosage, including demand (number of patients seeking care), supply (number of psychotherapy appointments per quarter), and processes (number of days between appointments and the proportion of psychotherapy encounters that were group therapy), in a path model. On the basis of prior research (13–16), we hypothesized that a higher demand for care, less supply of care, and longer wait times for care would each be negatively associated with the proportion of patients receiving a minimally adequate dosage of behavioral health care. We also hypothesized that the proportion of psychotherapy encounters that were group psychotherapy, an efficient modality of care, would be positively associated with the number of patients receiving minimally adequate care.

METHODS

Study Sites

Study sites were MTFs that agreed to participate in an implementation trial testing strategies to increase provision of EBPs for PTSD. Data for the current study were drawn from this parent trial (17). Inclusion criteria for participating MTFs were having ≥25 new PTSD cases per year, according to DHA administrative reports; the site staff comprising at least eight behavioral health providers; and the site not being involved in another study targeting PTSD treatment. Sites were identified through the study team's network of military contacts and through data and contacts provided by DHA. Sites were recruited between November 1, 2017, and February 1, 2019. Four Army sites, three Air Force sites, and one Navy site agreed to participate. Data were collected from April 2018 to January 2022. To ensure completeness, we excluded data from the first and last quarters. Therefore, analyses were conducted by using data from July 2018 to December 2021, yielding a total of 25,433 patients and 241,028 psychotherapy encounters.

Procedures and Measures

Study procedures were approved by the institutional review boards of Stanford University, the University of Texas Health Sciences Center at San Antonio, NDRI-USA, Regional Health Command Central, and the David Grant U.S. Air Force Medical Center. Regulatory reviews and approvals were overseen by the U.S. Army Medical Research and Development Command's Office of Human Research Oversight. Administrative data from behavioral health clinics were extracted and delivered without patient identifiers by using a secure file transfer protocol hosted by the DHA Program Executive Office, Defense Healthcare Management Systems, under an approved data sharing agreement. Data on the number and type of behavioral health providers and the dates and CPT codes for all behavioral health encounters were extracted. Demand for, supply of, and processes of care were calculated per calendar quarter. The dosage variables were calculated for a 90-day period by using patients' intake as the index date.

Demand for care. To measure demand for care, we examined the number of intake appointments that were either the first intake in a patient's history or the first intake after a gap of at least 6 months from the previous psychotherapy visit. We also analyzed the number of unique psychotherapy

patients (i.e., patients with at least one psychotherapy encounter), both for each site and by provider type.

Supply of care. To measure the supply of care, we examined the total number of psychotherapy encounters (including group and individual; see Appendix A in the online supplement to this article) available for each site. Number of encounters (rather than number of providers) was used as the primary indicator of capacity because active duty, civilian, and contract providers working in military clinics had varying proportions of time allocated to direct clinical care.

We also analyzed the number of providers with psychology or social work specialty codes who provided psychotherapy, including active duty, contract, civilian, and other (e.g., reserve) personnel. These categories were used to describe staffing at the participating sites.

Processes of care. We characterized processes of care by examining the use of group therapy and mean wait times for intake appointments, between intake and the first psychotherapy session, and between follow-up sessions. Use of group therapy was measured as the proportion of all psychotherapy encounters that had a group psychotherapy CPT code. Mean wait times assessed the mean number of days between the date that each intake (i.e., initial) appointment was booked and the date that the intake took place, the mean number of days between each intake appointment and the first subsequent psychotherapy encounter, and the mean number of days between appointments (coded with any nonintake psychotherapy CPT code) that occurred within 6 months of an intake appointment. The last interval was calculated backward from the time of each follow-up visit in the quarter.

Dosage of care. Adequate dosage of care was measured as the proportion of patients who received at least three sessions of individual or group psychotherapy within a 90-day period and at least six sessions of individual or group psychotherapy within a 90-day period. In addition to clinic-level administrative variables, we included the following variables in the study: the COVID-19 period (defined as January 2020 through September 2021) and the four seasons, with winter months as the reference category.

Data Analysis

Descriptive results are reported for staffing availability and for care supply, demand, processes, and dosage at study sites, averaged across time periods. Next, we constructed a path model to identify significant relationships among these variables. Analyses were conducted within sites (random effect) across 14 quarters.

Because MTFs varied in size, the numbers of psychotherapy patients and encounters were highly correlated. We corrected for this correlation by dividing the number of patients by the supply of encounters to yield a ratio of demand to supply. Wait times from intake to the first psychotherapy appointment were highly correlated with wait times between follow-up appointments, so the two were combined into a single indicator.

To avoid overlap and potential confounding of outcome variables within the model, we created a dosage variable (i.e., receiving three to five sessions) to be mutually exclusive with receiving at least six sessions. The patient-to-encounter ratio (demand-to-supply) and use of group therapy were examined as exogenous variables, whereas mean time between appointments was examined as an intermediate variable. Other exogenous variables in the model were the number of patient intake visits, the COVID-19 period, and seasons.

Initially, we developed a saturated model of all available paths, including paths from wait time between nonintake visits, for the dosage of care variables. The model was clustered by study site. Nonsignificant paths were subsequently removed, and the reduced model was iteratively refined until only statistically significant paths remained.

Descriptive analyses were conducted by using SAS, version 9.4, and the path model was constructed by using the lavaan package (18) in R (19), version 4.4.1. Statistical significance was assessed at $p<0.05$.

RESULTS

Table 1 presents an overview of care supply, demand, and processes overall and by site. Patients received a mean±SD of 2.49±0.19 sessions per quarter. Wait times for intake, intake to the first psychotherapy session, and between sessions ranged from 17.03±1.61 to 19.34±2.30 days. The proportion of patients receiving at least three sessions in 90 days was 17.25%±3.10%, and 4.91%±1.31% received at least six sessions. (Results of a post hoc analysis comparing Army versus Air Force sites on key model variables are available in Appendix B in the online supplement.)

Table 2 shows path coefficients, p values, and goodness-of-fit statistics for each model iteration. Figure 1 depicts the final path model that incorporates care supply, demand, and processes to predict dosage of psychotherapy. The results indicated a direct association between the patient-to-encounter ratio and the wait time between follow-up appointments ($\beta=0.808$). Wait time, in turn, was inversely related to the proportion of patients receiving three to five sessions ($\beta=-0.750$) and at least six encounters ($\beta=-0.654$). Furthermore, use of group therapy showed a direct association with receipt of at least six sessions ($\beta=0.430$).

DISCUSSION

We examined clinic-level factors related to receipt of a minimally adequate dosage of psychotherapy in military behavioral health clinics. As hypothesized, a higher ratio of patients to available sessions was associated with a lower

TABLE 1. Characteristics regarding the supply of, demand for, and processes of care, by study site[a]

Characteristic	All sites	Site A	Site B	Site C	Site D	Site E	Site F	Site G	Site H
Supply of care									
Psychotherapy provider									
Active duty	4.76±2.59	2.00±.78	8.36±2.13	2.93±1.07	3.64±2.13	6.71±.73	4.07±.83	5.36±2.24	5.00±2.86
Civilian	7.55±7.67	8.00±2.60	1.14±1.61	3.07±.92	10.36±3.63	.79±.43	.00±.00	17.36±2.10	19.71±5.08
Contractor	1.22±1.35	.00±.00	2.79±.97	2.86±.86	.00±.00	1.36±.63	2.36±.84	.00±.00	.43±.51
Other	.38±.57	.00±.00	.21±.43	.93±.62	.00±.00	.57±.76	.07±.27	.36±.63	.86±.36
Psychotherapy encounters	1,688.13±1,221.93	1,050.21±326.52	1,047.57±156.61	1,499.64±535.06	1,728.50±410.10	705.64±61.57	555.07±78.59	3,877.29±795.12	3,041.07±1,023.04
Demand for care									
New patient intakes	277.95±159.85	224.29±28.91	211.57±34.24	360.36±54.49	276.64±84.49	151.07±24.51	72.21±15.36	559.57±134.86	367.86±121.80
Psychotherapy patients	676.80±462.44	417.79±105.23	429.93±59.68	641.14±119.05	719.71±205.27	299.90±325.72	213.43±26.64	1,525.36±256.45	1,167.14±357.90
Patients per provider									
Active duty	29.64±3.95	21.70±14.72	30.92±5.85	49.59±23.27	28.79±18.49	32.21±5.25	27.25±7.77	35.79±8.47	13.35±6.61
Civilian	61.56±6.32	48.05±7.86	55.67±18.60	83.85±21.89	65.45±17.68	56.00±8.89	.00±.00	76.55±10.21	52.12±6.68
Contractor	48.15±7.19	.00±.00	41.84±8.24	71.48±12.61	.00±.00	27.35±13.62	38.81±15.86	.00±.00	50.67±35.97
Other	37.34±14.48	.00±.00	9.67±2.08	54.82±31.19	.00±.00	10.58±8.48	24.00±.00	37.50±11.62	28.25±21.27
Sessions per patient	2.49±.19	2.50±.34	2.45±.25	2.28±.49	2.44±.24	2.36±.15	2.61±.30	2.53±.23	2.57±.33
Processes of care									
Use of group therapy, %[b]	11.29±6.34	5.86±6.05	4.30±4.46	21.02±13.13	17.26±9.19	.07±.09	4.05±5.31	11.75±9.44	9.31±6.98
Days' wait for intake	17.60±2.51	12.75±3.50	16.27±4.52	26.63±6.93	14.85±2.57	14.73±3.68	12.40±3.49	12.52±3.13	21.79±6.26
Days from intake to first session	19.34±2.30	17.92±2.94	19.07±4.08	28.11±5.46	20.53±1.96	15.47±2.84	17.77±2.75	17.12±2.59	19.85±3.98
Days between sessions	17.03±1.61	16.93±1.80	18.25±2.00	22.49±6.45	16.28±1.38	18.71±2.13	18.43±2.05	15.61±1.91	16.97±2.92
Patients receiving ≥3 sessions, %	17.25±3.10	16.96±3.86	16.71±3.26	10.31±5.28	16.56±4.60	19.03±3.46	18.14±3.23	22.21±3.99	15.82±5.54
Patients receiving ≥6 sessions, %	4.91±1.31	4.13±1.90	4.51±1.35	2.84±2.06	5.51±2.08	3.72±1.98	4.27±1.58	6.97±2.54	4.39±1.97

[a] All values are M±SD. All variables were calculated per quarter. "Sessions" refers specifically to psychotherapy sessions.
[b] The proportion of all psychotherapy encounters coded as group therapy.

TABLE 2. Path analysis statistics and goodness-of-fit indexes for all path iterations

Path	Iteration 1[a]			Iteration 2[b]			Iteration 3[c]			Final iteration[d]		
	β	SE	p	β	SE	p	β	SE	p	β	SE	p
Paths predicting ≥6 sessions in 90 days												
N of intake appointments	.055	.078	.485									
Ratio of psychotherapy patients to psychotherapy encounters	−.068	.125	.588									
Use of group therapy	.333	.073	<.001	.377	.067	<.001	.428	.050	<.001	.430	.051	<.001
Pre–COVID-19 period	.118	.076	.122									
Days until the next follow-up session	−.452	.123	<.001	−.557	.062	<.001	−.646	.044	<.001	−.654	.045	<.001
Spring season	.172	.088	.052									
Summer season	−.010	.092	.915									
Fall season	.083	.092	.369									
Paths predicting 3–5 sessions in 90 days												
N of intake appointments	.074	.075	.328									
Ratio of psychotherapy patients to psychotherapy encounters	.118	.120	.325									
Use of group therapy	−.090	.073	.218									
Pre–COVID-19 period	.169	.074	.022	.111	.081	.169						
Days until the next follow-up session	−.802	.112	<.001	−.731	.052	<.001	−.747	.039	<.001	−.750	.039	<.001
Spring season	.115	.076	.130									
Summer season	.137	.079	.083									
Fall season	.080	.080	.316									
Paths predicting days until the next follow-up session												
N of intake appointments	−.145	.069	.034	−.159	.066	.017	−.120	.066	.067			
Ratio of psychotherapy patients to psychotherapy encounters	.771	.048	<.001	.759	.042	<.001	.777	.036	<.001	.808	.029	<.001
Use of group therapy	−.025	.072	.729									
Pre–COVID-19 period	−.060	.076	.426									
Spring season	.025	.071	.729									
Summer season	−.131	.071	.065									
Fall season	−.098	.072	.175									

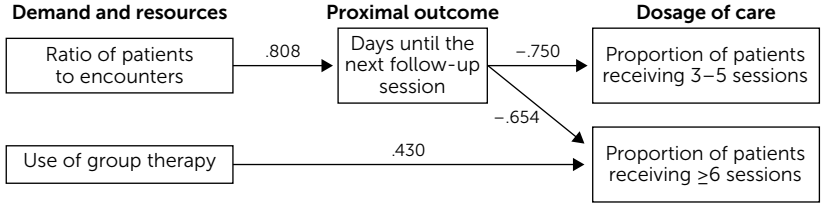
[a] Goodness-of-fit statistics: comparative fit index (CFI)=0.959, Tucker-Lewis index (TLI)=0.876, root-mean-square error of approximation (RMSEA)=0.255.
[b] Goodness-of-fit statistics: CFI=0.952, TLI=0.909, RMSEA=0.265.
[c] Goodness-of-fit statistics: CFI=0.998, TLI=0.995, RMSEA=0.075.
[d] Goodness-of-fit statistics: CFI=0.993, TLI=0.984, RMSEA=0.087.

proportion of patients receiving a minimally adequate dosage of care. This relationship was fully mediated by the average wait time for the next follow-up session, indicating that a greater demand for care (i.e., number of patients) relative to the supply of psychotherapy sessions was associated with a greater delay between sessions. In turn, longer wait times between sessions were associated with a lower likelihood of patients receiving a minimally adequate dosage of care.

The average wait time between psychotherapy sessions was 17 days, a span that is incompatible with use of EBPs, which have been validated only when used weekly or more frequently. Having appointments spaced 2–3 weeks apart likely limits therapeutic momentum, which may be why longer wait times between sessions have been associated with a greater risk for dropout and poor outcomes (6, 7, 20). Moreover, our estimate was averaged across all behavioral health patients and included patients at high risk (e.g., for suicide) who are required to be seen at least weekly. Thus, the average wait time between appointments for patients who are not at high risk is likely longer than 17 days.

Fewer than one in four psychotherapy patients received minimally adequate care of three or more sessions, as defined by DHA (11), and only one in 20 behavioral health patients received six or more sessions. Although we did not examine EBP provision in this study, the low average number of sessions and low rate of receipt of minimally

FIGURE 1. Path model predicting psychotherapy dosage[a]



[a] Predicts psychotherapy dosage from the demand for care and clinic resources, with mediating effects of the number of days between follow-up (i.e., nonintake) sessions. Statistics are standardized beta weights. A dosage variable (i.e., receipt of three to five sessions) was created for the path model so that the outcomes would be mutually exclusive.

adequate care suggest that very few behavioral health patients receive a full dose of an EBP, which typically requires six to 15 sessions. Given the limited supply of care (an average of 2.5 sessions per patient per quarter) and the time between appointments, it is not surprising that only a small proportion of patients received a minimally adequate dosage of care. Our findings for the proportion of patients receiving three to five sessions over 90 days were roughly similar to those previously reported (22% for PTSD and 27% for major depressive disorder), even though the definitions and sampling processes were different (12). Again, the proportion of patients receiving at least three sessions over 90 days was likely even lower among patients who were not at high risk.

The results partially support our hypothesis that use of group therapy would be associated with a higher proportion of patients receiving a minimally adequate dosage of care. Group therapy, which approximately one in 10 patients received, was positively associated with receiving at least six psychotherapy sessions. Group therapy is an effective modality for many common behavioral health conditions and allows more patients to be seen per provider hour, increasing the efficiency of care (21). Routing patients with lower-severity cases to group treatment could increase capacity and potentially free up more appointments for timely individual therapy for more patients with more severe cases. Although our data showed a clear relationship between use of group therapy and receipt of at least six psychotherapy sessions, the relationship between group therapy and receipt of at least three sessions was not statistically significant. This relationship may be more evident for individuals with more clinically severe cases, who thus would naturally need to have more sessions. Clinical severity was not evaluated and should be considered for future studies.

Several study limitations should be highlighted. First, data were collected from MTFs that had agreed to participate in an implementation study focusing on EBPs for PTSD. Although diverse clinics were represented (e.g., in terms of service branch, size, and geographic region), the findings may not generalize to all MTFs. Second, our data represented behavioral health care received at MTFs and did not include network care, which has become increasingly common because of limited access to care at MTFs. Third, we were not able to disaggregate high-risk patients from patients who needed only routine care; therefore, we could not compare wait times between sessions and dosages of care between these groups. Fourth, we included all behavioral health care patients, whereas metrics for minimally adequate care set by DHA (11) and examined by RAND (12) are specific to patients with diagnoses of PTSD or major depressive disorder, making comparison of our findings with prior work difficult. Finally, patient-level factors that may be related to dosage could not be incorporated into the analyses. For example, some proportion of patients needing routine care who were included in our analyses may not have been seeking psychotherapy but instead may have been requesting one or more appointments for another purpose (e.g., review of screening for special duty assignment or security clearance). The available data did not allow identification and exclusion of this type of case; thus, it is possible that for some proportion of behavioral health care patients, receipt of two to three sessions was clinically appropriate.

CONCLUSIONS

Given the demand for behavioral health services, health care systems may benefit from understanding factors that influence indexes of high-quality care, including dosage of care. Most literature on dosage of care has focused on patient factors, with limited, if any, application to the military setting. This study confirms the importance of considering clinic-level demand for, supply of, and processes of behavioral health care. Findings indicate that a low percentage of patients receive a minimally adequate dosage of care. The path model showed that the relationship between clinic workload and dosage of care was fully mediated by the wait time for psychotherapy appointments and that use of group therapy was positively related to receipt of a minimally adequate dosage of care (i.e., six or more sessions). Current staff structures and workflows in MTFs do not support the routine use of EBPs that often require six to 15 sessions (9, 10). Increasing access to high-quality behavioral health care in the MHS is therefore likely to require policy to support strategies such as reducing wait times for sessions by either changing clinic workflows (22) (e.g., task sharing with behavioral health technicians, increasing behavioral health staffing, or reducing the influx of cases into clinics by using predictive modeling to identify high-risk patients [23]) or triaging patients to behavioral health consultants in primary care (24). Finally, expanding the use of group therapy and prioritizing delivery of brief treatments (e.g., behavioral activation for depression [25] and cognitive-behavioral therapy for insomnia [26]), including those that involve digital delivery of some self-directed components (27), should also help increase system capacity to support EBP delivery. DHA is actively working to manage the influx of patients into specialty care by routing patients with mild cases to other appropriate venues (e.g., primary care) when feasible and to expand the use of group therapy as part of the behavioral health clinical community's targeted care initiative (28). Our findings suggest that these efforts should have a positive effect on access to high-quality behavioral health care in the MHS.

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REFERENCES

1. National Projections of Supply and Demand for Selected Behavioral Health Practitioners: 2013–2025. Rockville, MD, Health Resources and Services Administration, National Center for Health Workforce Analysis, 2016. https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/behavioral-health-2013-2025.pdf
2. McBain RK, Cantor J, Pera MF, et al: Mental health service utilization rates among commercially insured adults in the US during the first year of the COVID-19 pandemic. JAMA Health Forum 2023; 4:e224936
3. Hepner KA, Roth CP, Qureshi N, et al: Improving Behavioral Health Care in the Military Health System: Challenges, Promising Strategies, and Research Directions. Santa Monica, CA, RAND, 2023. https://www.rand.org/pubs/perspectives/PEA2038-1.html. Accessed Dec 1, 2023
4. Robinson L, Delgadillo J, Kellett S: The dose-response effect in routinely delivered psychological therapies: a systematic review. Psychother Res 2020; 30:79–96
5. Lee AA, Sripada RK, Hale AC, et al: Psychotherapy and depressive symptom trajectories among VA patients: comparing dose-effect and good-enough level models. J Consult Clin Psychol 2021; 89:379–392
6. Bruijniks SJE, Lemmens LHJM, Hollon SD, et al: The effects of once- versus twice-weekly sessions on psychotherapy outcomes in depressed patients. Br J Psychiatry 2020; 216:222–230
7. Levinson DB, Halverson TF, Wilson SM, et al: Less dropout from prolonged exposure sessions prescribed at least twice weekly: a meta-analysis and systematic review of randomized controlled trials. J Trauma Stress 2022; 35:1047–1059
8. Erekson DM, Lambert MJ, Eggett DL: The relationship between session frequency and psychotherapy outcome in a naturalistic setting. J Consult Clin Psychol 2015; 83:1097–1107
9. VA/DoD Clinical Practice Guideline for the Management of Major Depressive Disorder. Washington, DC, US Department of Veterans Affairs and US Department of Defense, 2022. https://www.healthquality.va.gov/guidelines/MH/mdd/VADODMDDCPGFinal508.pdf
10. VA/DoD Clinical Practice Guideline for Management of Posttraumatic Stress Disorder and Acute Stress Disorder. Washington, DC, US Department of Veterans Affairs and US Department of Defense, 2023. https://www.healthquality.va.gov/guidelines/MH/ptsd/VA-DOD-CPG-PTSD-Full-CPGAug242023.pdf
11. Clinical Quality Management in the Military Health System, Volume 1: General Clinical Quality Management. Falls Church, VA, Defense Health Agency, 2019. https://www.health.mil/Reference-Center/DHA-Publications/2019/09/01/DHA-PM-6025-13-Volume-1
12. Hepner KA, Brown RA, Roth CP, et al: Behavioral Health Care in the Military Health System: Access and Quality for Remote Service Members. Santa Monica, CA, RAND, 2021. https://apps.dtic.mil/sti/pdfs/AD1126528.pdf
13. Levine DS, McCarthy JF, Cornwell B, et al: Primary care-mental health integration in the VA health system: associations between provider staffing and quality of depression care. Psychiatr Serv 2017; 68:476–481
14. Wang J, Knitter AC, Staab EM, et al: Association between wait time and behavioral health appointment attendance across patient characteristics. Psychol Serv 2023; 20:983–987
15. Loumidis KS, Shropshire JM: Effects of waiting time on appointment attendance with clinical psychologists and length of treatment. Ir J Psychol Med 1997; 14:49–54
16. Gutner CA, Suvak MK, Sloan DM, et al: Does timing matter? Examining the impact of session timing on outcome. J Consult Clin Psychol 2016; 84:1108–1115
17. Rosen CS, Davis CA, Riggs D, et al: Targeted Assessment and Context-Tailored Implementation of Change Strategies (TACTICS) to increase evidence based psychotherapy in military behavioral health clinics: design of a cluster-randomized stepped-wedge implementation study. Contemp Clin Trials 2020; 93:106008
18. Rosseel Y: lavaan: an R package for structural equation modeling. J Stat Softw 2012; 48:1–36
19. R: A Language and Environment for Statistical Computing. Vienna, R Foundation, 2023
20. Sayer NA, Wiltsey Stirman S, Rosen CS, et al: The role of therapy delivery and clinic organizational factors in explaining therapist effects for trauma-focused psychotherapies in the Veterans Health Administration. J Consult Clin Psychol 2023; 91:665–679
21. Yalom ID, Leszcz M: The Theory and Practice of Group Psychotherapy, 6th ed. New York, Basic Books, 2020
22. McLean CP, Cook J, Riggs DS, et al: Policy recommendations for increasing the use of evidence-based psychotherapy for

posttraumatic stress disorder in the military health system. Mil Med 2023; 188:183–186
23. Kearns JC, Edwards ER, Finley EP, et al: A practical risk calculator for suicidal behavior among transitioning US Army soldiers: results from the Study to Assess Risk and Resilience in Servicemembers–Longitudinal Study (STARRS-LS). Psychol Med 2023; 53:7096–7105
24. Ray-Sannerud BN, Dolan DC, Morrow CE, et al: Longitudinal outcomes after brief behavioral health intervention in an integrated primary care clinic. Fam Syst Health 2012; 30: 60–71
25. Funderburk JS, Pigeon WR, Shepardson RL, et al: Brief behavioral activation intervention for depressive symptoms: patient satisfaction, acceptability, engagement, and treatment response. Psychol Serv 2020; 17:443–451
26. Bramoweth AD, Lederer LG, Youk AO, et al: Brief behavioral treatment for insomnia vs. cognitive behavioral therapy for insomnia: results of a randomized noninferiority clinical trial among veterans. Behav Ther 2020; 51:535–547
27. Cuijpers P, Quero S, Dowrick C, et al: Psychological treatment of depression in primary care: recent developments. Curr Psychiatry Rep 2019; 21:129
28. McCoy C: Targeted Care Pilot Aims to Match Demand for Mental Health Care. Falls Church, VA, Military Health System, 2023. https://health.mil/News/Dvids-Articles/2023/05/17/news444960. Accessed Jan 10, 2024