

Purchased Behavioral Health Care Received by Military Health System Beneficiaries in Civilian Medical Facilities, 2000–2014

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ABSTRACT Introduction: Behavioral health conditions are a significant concern for the U.S. military and the Military Health System (MHS) because of decreased military readiness and increased health care utilization. Although MHS beneficiaries receive direct care in military treatment facilities, a disproportionate majority of behavioral health treatment is purchased care received in civilian facilities. Yet, limited evidence exists about purchased behavioral health care received by MHS beneficiaries. This longitudinal study (1) estimated the prevalence of purchased behavioral health care and (2) identified patient and visit characteristics predicting receipt of purchased behavioral health care in acute care facilities from 2000 to 2014. Materials and Methods: Medical claims with Major Diagnostic Code 19 (mental disorders/diseases) or 20 (alcohol/drug disorders) as primary diagnoses and TRICARE as the primary/secondary payer were analyzed for MHS beneficiaries ($n = 17,943$) receiving behavioral health care in civilian acute care facilities from January 1, 2000, to December 31, 2014. The primary dependent variable, receipt of purchased behavioral health care, was modeled for select mental health and substance use disorders from 2000 to 2014 using generalized estimating equations. Patient characteristics included time, age, sex, and race/ethnicity. Visit types included inpatient hospitalization and emergency department (ED). Time was measured in days and visits were assumed to be correlated over time. Behavioral health care was described by both frequency of patients and visit type. The University of South Carolina Institutional Review Board approved this study. Results: From 2000 to 2014, purchased care visits increased significantly for post-traumatic stress disorder, adjustment, anxiety, mood, bipolar, tobacco use, opioid/com-bination opioid dependence, nondependent cocaine abuse, psychosocial problems, and suicidal ideation among MHS beneficiaries. The majority of care was received for mental health disorders (78.8%) and care was most often received in EDs (56%). Most commonly treated diagnoses included mood, tobacco use, and alcohol use disorders. ED visits were associated with being treated for anxiety (excluding post-traumatic stress disorder; Adjusted odds ratio [AOR]: 9.14 [95% confidence interval (CI): 8.26, 10.12]), alcohol use disorders (AOR = 1.67 [95% CI: 1.53, 1.83]), tobacco use (AOR = 1.16 [95% CI: 1.06, 1.26]), nondependent cocaine abuse (AOR = 5.47 [95% CI: 3.28, 9.12]), nondependent mixed/unspecified drug abuse (AOR = 7.30 [95% CI: 5.11, 10.44]), and psychosis (AOR = 1.38 [95% CI: 1.20, 1.58]). Compared with adults age 60 yr and older, adolescents (ages 12–17 yr), and adults under age 60 yr were more likely to be treated for suicidal ideation, adjustment, mood, bipolar, post-traumatic stress disorder, nondependent cocaine, and mixed/unspecified drug abuse. Adults under age 60 yr also had increased odds of being treated for tobacco use disorders, alcohol use disorders, and opioid/com-bination opioid dependence compared with adults age 60 yr and older. Conclusions: Over the past 15 yr, purchased behavioral health care received by MHS beneficiaries in acute care facilities increased significantly. MHS beneficiaries received the majority of purchased behavioral health care for mental health disorders and were treated most often in the ED. Receiving behavioral health care in civilian EDs raises questions about access to outpatient behavioral health care and patient-centered care coordination between civilian and military facilities. Given the influx of new Veterans Health Administration users from the MHS, findings have implications for military, veteran, and civilian facilities providing behavioral health care to military and veteran populations.

The Military Health System (MHS) is a global, integrated health delivery system providing services to 9.6 million

beneficiaries, including service members, retirees, and family members from all branches of military service under the authority of the Department of Defense.^{1,2} Military retirees and their dependents comprise 57% of MHS beneficiaries, and active duty members and their dependents represent 18% and 25%, respectively.³ The primary mission of the MHS is to ensure a healthy, deployable military force and, unlike civilian health care systems, is congressionally mandated, operates within a capitated budget, and is not dependent on reimbursement.² Since 2003, the number of patients and demand for military health care increased significantly.⁴ During the Iraq and Afghanistan wars, more than 52,000 service members wounded in action have been treated by the MHS.¹

Health care in the MHS is administered by TRICARE regional networks composed of 380,000 civilian and military

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health care providers under three major programs – TRICARE Prime, TRICARE Standard, and TRICARE Extra.⁴ Approximately 4.8 million MHS beneficiaries use TRICARE Prime, which is similar to a health maintenance organization in that enrollees choose a primary care manager who is responsible for coordinating their health care.^{1,5} All active duty members are TRICARE Prime enrollees. All MHS beneficiaries except active duty service members are eligible for TRICARE Standard, formerly known as CHAMPUS (Civilian Health and Medical Program of the Uniformed Services), which is a non-network benefit that requires an annual deductible and cost sharing. MHS beneficiaries eligible for Medicare Part B are covered by TRICARE Standard for services not covered by Medicare. TRICARE Extra is the network benefit for TRICARE Standard eligible beneficiaries who pay the same deductible as TRICARE Standard enrollees, but their cost share is 5% less than TRICARE Standard.^{1,5} At the end of FY2016, 1.9 million beneficiaries were enrolled in TRICARE Standard or Extra.⁵ TRICARE For Life is for MHS beneficiaries who have both Medicare Part A and B. They do not pay any TRICARE enrollment fees, only Medicare Part A and B monthly premiums.⁶ At the end of FY2016, 2.1 million beneficiaries were enrolled in TRICARE For Life.⁵ With almost 364,000 enrollees in FY2016,⁵ TRICARE Reserve Select is a premium-based plan available to Reserve and National Guard members who are not on active duty orders or covered under the Transitional Assistance Management Program or Federal Employees Health Benefits. With over 7,000 enrollees in FY2016,⁵ TRICARE Retired Reserve is a premium-based plan available for retired Reserve and National Guard members who are under age 60 and not eligible for an active duty retirement or Federal Employees Health Benefits.⁶ TRICARE Young Adult allows adult children of military members to purchase TRICARE coverage after their military dependent coverage ends at age 21 (or age 23 if enrolled in college). Eligibility for TRICARE Young Adult is available until age 26 for an unmarried adult child. TRICARE Young Adult had over 38,000 enrollees in FY2016.^{5,7}

The MHS is divided into two components – direct care and purchased care – handling a weekly average of 20,000 inpatient admissions and 1.9 million outpatient visits.¹ Direct care is provided in 669 military treatment facilities (MTFs), including 54 hospitals, 363 medical clinics, and 282 dental clinics.² Active duty members have priority access to military health care and are entitled to treatment in a MTF. TRICARE Prime beneficiaries have the next highest priority for care over TRICARE Standard and TRICARE Extra beneficiaries.¹ A supplement to direct care, purchased care is contracted fee-for-service health care received in civilian (i.e., non-MHS) medical facilities from civilian providers approved through TRICARE regional networks and paid for by the MHS.² The purchased care component includes TRICARE North (Health Net Federal

Services), TRICARE South (Humana Military), TRICARE West (United Health Care Military and Veterans), and TRICARE Overseas and is comprised of TRICARE-authorized civilian providers, medical facilities, pharmacies, and suppliers.¹ In FY2013, the purchase care network included approximately 478,000 civilian providers and 3,310 acute care hospitals¹ and increased to 554,439 civilian providers and 3,789 acute care hospitals in FY2016.⁵ In FY2014, the purchased care workload included 401,000 inpatient dispositions and 31.6 million outpatient encounters.⁵

The MHS differs from the Veterans Health Administration (VHA) in that the MHS is administered by the DoD and the VHA is administered by the Department of Veterans Affairs. They are two different health care systems with different eligibility criteria. Military service members, retirees, and their family members are eligible MHS beneficiaries, whereas VHA beneficiaries include active duty members separated under any condition other than dishonorable, military members discharged because of a disability, and any active, Reserve, or National Guard member with a compensable VA service-connected disability of 10% or more.^{1,8} There are also minimum military service requirements for VHA care as well as enhanced eligibility criteria (e.g., prisoner of war). The VHA has an annual enrollment process to manage the provision of health care and to assign enrollees to one of eight priority groups, which prioritizes access to VHA care. The highest, priority group 1, includes veterans with VA service-connected disability ratings of 50% or more and veterans unemployable due to VA service-connected conditions. The lowest, priority group 8, includes veterans with a gross household income above VA and geographically-adjusted income limits for their residence who agree to pay copayments.⁸

When service members separate from military service or retire, they may be eligible for health care in both the MHS and the VHA as a result of meeting military service requirements, enhanced eligibility criteria, and/or having a VA service-connected condition.^{6–8} These dual-eligible beneficiaries are covered by both TRICARE and VHA benefits. Whether TRICARE or VHA is the main source of coverage is determined by whether care is sought for a service-connected or nonservice-connected condition. However, most VHA facilities are TRICARE-authorized facilities and eligible for reimbursement through MHS purchased care.⁷

Behavioral Health Care in the MHS

Behavioral health conditions are a significant concern for the U.S. Military and the MHS because of decreased military readiness and increased health care burden,^{9–11} including decreased work productivity, early attrition from military service, and increased health service utilization.^{9,12,13} During the Iraq and Afghanistan wars (2001 to present), behavioral health conditions accounted for the greatest increase in ambulatory visits, hospitalizations, and bed-days in the

MHS, with Army and Marine Corps members over age 30 receiving the majority of care.¹⁴ In 2014, behavioral health conditions accounted for 44% of hospital bed-days, 18.8% of medical encounters, and 21.7% of lost work time among active duty members.¹⁵ Anxiety, adjustment, and mood disorders accounted for the majority of medical encounters for all mental disorders and substance abuse was one of the top four conditions resulting in lost work time.¹⁵ Mood and substance use disorders (SUDs) accounted for over 25% of all hospital bed-days in 2015.^{15,16}

Afghanistan and Iraq deployments are also associated with increased MHS purchased care, specialist office visits, and use of antidepressants and anti-anxiety medications in military spouses and children.¹⁷ Based on outpatient visits from direct and purchased care records, women with spouses who were deployed for up to 11 mo received more diagnoses of mood, sleep, anxiety, acute stress, and adjustment disorders than women whose spouses were not deployed between 2003 and 2006.¹⁸ Military children are more likely to have behavioral health problems than their same-aged peers¹⁹ and parental deployment was associated with increased outpatient visits for adjustment and mood disorders, and acute stress reaction between 2003 and 2006.²⁰

A disproportionate majority of purchased care is used by MHS beneficiaries compared with direct care. Inpatient (15,000 vs. 5000 admissions), behavioral health outpatient (282,000 vs. 61,000 visits), and emergency department (ED) services (149,000 vs. 28,000 visits) are primarily received in civilian medical facilities.¹ However, challenges exist regarding the assessment of purchased compared with direct care, including limited health quality data on purchased care making evaluations of access to care and quality measures difficult.¹ Current purchased care evidence is from the MHS,¹ but, to our knowledge, no studies on purchased care have used civilian health systems' data. This study examined behavioral health care received by MHS beneficiaries in civilian acute care facilities from 2000 to 2014 using South Carolina (SC) Health Systems data. The study aims were to (1) describe demographic characteristics of MHS beneficiaries who received acute behavioral health care, (2) estimate the prevalence of acute care for select behavioral health diagnoses, and (3) identify patient and visit characteristics predicting receipt of behavioral health care in civilian acute care facilities from 2000–2014.

Characterizing purchased behavioral health care identifies military behavioral health service needs addressed in civilian facilities, which can facilitate increased access to quality care for military and veteran populations. MHS beneficiaries transitioning to VHA increased by 22% from FY2006 to FY2015 and 51% of new VHA users most likely served in Afghanistan or Iraq.²¹ Given the influx of new VHA users from the MHS, quantifying behavioral health care received by MHS beneficiaries in civilian facilities is critical as the VHA increases timely access to quality care in civilian facilities via the Veterans Access, Choice and Accountability Act

(VA Choice).²² VA Choice authorizes veterans to receive care from eligible non-VHA facilities or providers and aims to increase access to quality health care among veterans recently discharged from the military who are unable to schedule a VHA appointment within 30 d of the clinically appropriate date for care or based on their place of residence.²²

MATERIALS AND METHODS

This longitudinal study analyzed data from the SC Revenue and Fiscal Affairs Office (SC RFA), which maintains medical claims from all SC Health Systems, including all EDs; hospital inpatient, ambulatory care, and outpatient surgery facilities; and free medical clinics in SC. Per the RFA data use agreement, patients and medical facilities were de-identified. The University of South Carolina Institutional Review Board approved this study.

Setting

SC has the tenth largest military population in the United States.²³ In 2013, approximately 391,660 military veterans resided in SC and 28.7% were living with a disability compared with 16.5% of non-veterans.²³ As of FY2014, 243,202 MHS beneficiaries resided in SC, of which 125,059 were TRICARE Prime and 8,556 were TRICARE Reserve Select enrollees.²⁴ MHS and VHA facilities in SC include two MTFs and three outpatient facilities, two Veterans Administration Medical Centers, 12 VA Community-Based Outpatient Clinics, and four Vet Centers. Given large military and veteran populations in SC, examining purchased behavioral health care in civilian acute care facilities can provide insight into the behavioral health diagnoses for which MHS beneficiaries are receiving acute care and increase empirical evidence on the MHS purchased care component.

Sample

The sample population included medical claims from all military personnel, veterans, retirees, and dependent family members who visited an ED, hospital, or inpatient facility from January 1, 2000, to December 31, 2014; Major Diagnostic Category (MDC) 19 (mental diseases and disorders) or 20 (alcohol/drug use or induced mental disorders) was the primary diagnosis; and TRICARE was the primary or secondary payer on the medical claim. To assess data quality, the Agency for Research on Healthcare Quality Clinical Classification Codes algorithm for MDC 19 and MDC 20 was ran, which eliminated all missing values ($n = 18,979$). Initially, the sample included 30,566 behavioral health encounter records and 18,000 unique patients. A total of 108 encounters (0.35%) and 57 (0.32%) patients were excluded from analyses due to missing values for patient identification, gender, race, age, admission/discharge dates, primary diagnosis, or visit type. A total of 17,943 unique patients with a combined 30,458 behavioral health visits

were included in the analytic sample. Both patients and visits were units of analysis.

Measures

Patient characteristics included age group (0–4, 5–11, 12–17, 18–25, 26–39, 40–59, 60+ yr), sex (male/female), and race [White, Black, Hispanic, and other (i.e., Asians, Native American/Pacific Islanders, and multiracial/multiethnic)]. Visit type was categorized as inpatient hospitalization (IP) and ED visits, which were ED services that resulted in a hospitalization in the same facility. Outpatient ED visits were those in which patients received ED services and were discharged home from the ED without being admitted into the hospital. ED visits and outpatient ED visits were combined into the ED visit variable.

Behavioral Health Care

The primary dependent variable was receipt of behavioral health care for select primary behavioral health diagnoses (MDC 19 and/or MDC 20) on a medical claim except tobacco use disorder, suicidal ideation, and psychosocial problems, which were identified by diagnoses in any position given that they may be coded as primary or secondary diagnoses on a medical claim. This resulted in 28,841 mental health and 7,897 SUD observations in the analytic sample of 30,458 behavioral health visits.

MDC 19 and 20 identified visits with behavioral health diagnoses, including mental health or SUDs. MDCs are formed by dividing all possible primary diagnoses, defined by the International Classification of Diseases, 9th Revision (ICD-9) codes, into 25 mutually exclusive diagnostic categories, which are primarily a claims and administrative data element unique to the U.S. medical reimbursement system. MDC 19 was defined by ICD-9 codes: 290.x, 293.x–302.x, 306.x–315.x (excluding tension headache, 307.81), and 317.x–319.x. MDC 20 was defined by ICD-9 codes: 291.x, 292.x, and 303.x–305.x. Mental health disorders included post-traumatic stress disorder (PTSD) (309.81), adjustment (309.x), anxiety (300.x; excluding PTSD), mood and bipolar disorders (296.x, 300.4, and 311), psychosis (297.x, 298.x, 293.81, and 293.82), suicidal ideation (V62.84), and psychosocial problems (V40.xx, V61.0x, V61.1x, V61.2x, V62.8–V62.82, V62.84–V62.85, and 995.8x). SUDs included alcohol use disorders (AUDs), including alcohol abuse (305.x) and alcohol dependence (303.9x), and drug use disorders (DUDs), including opioid/combination opioid-type dependence (304.0x and 304.7x); sedative, hypnotic, or anxiolytic dependence (304.1x); cocaine dependence (304.2x); cannabis dependence (304.3x); and combinations of drug dependence excluding opioid type (304.8x), tobacco use disorder (305.1), nondependent cannabis abuse (305.2x), nondependent cocaine abuse (305.6x), and nondependent mixed/unspecified drug abuse (305.9x). A diagnostic case was defined using algorithms from surveillance

case definitions of the Armed Forces Health Surveillance Center²⁵ that are used in epidemiological studies on physical and mental health conditions among military service members.

Statistical Analyses

Demographic characteristics included sex, age group, race/ethnicity, and select primary behavioral health diagnoses, including mental health and SUDs (i.e., a primary diagnosis of MDC 19 and MDC 20 on separate visits). Mental health and SUDs were described by both frequency of patients and visit type. In multivariate models, age group was collapsed to 5–11, 12–17, 18–39, 40–59, 60+ yr. Preschool children (ages 0–4) were excluded from all models and school-aged children (ages 5–11) from SUD models because of low cell counts. Generalized estimating equations (GEE), with an exchange correlation structure, modeled predictors of receipt of behavioral health care for select primary behavioral health diagnoses from 2000 to 2014. Seven mental health disorder models, in addition to psychosocial problems and suicidal ideation, and eight SUD models were examined with time, sex, race/ethnicity, age group, and visit type (IP vs. ED) as covariates. Time was measured in days and visits were assumed to be correlated over time for patients who had multiple visits during the study period. GEE models on receipt of behavioral health treatment for comorbid drug dependence, nondependent cannabis abuse, cocaine dependence, cannabis dependence, and sedative, hypnotic, or anxiolytic dependence did not converge. All statistical analyses were performed using SAS 9.4 and an alpha level of 0.05 determined significance.

RESULTS

Table 1 summarizes demographic characteristics of MHS beneficiaries ($N = 17,943$) receiving purchased behavioral health care in acute care facilities in SC. Adults (84.4%, $N = 15,149$) comprised a higher proportion of patients compared with children (15.6%, $N = 2794$) and Whites (74.6%) compared with racial/ethnic minorities. (See Supplemental Tables 1 and 2 for demographic characteristics of adult and child MHS beneficiaries, respectively.) Women were the majority (57.7%) of all patients, including mental health (61.3%) and patients treated for primary diagnoses of both mental health and SUDs (57.6%) on separate visits, whereas men were the majority (59.5%) of SUDs patients. An overwhelming majority (78.8%) of behavioral health care was received for mental health disorders and over half (56%) of the care was received in EDs.

Table 2 presents purchased mental health treatment for select mental health disorders by prevalence of total unique patients, visit type, and hospital bed-days. Mood disorders (41.3%; including bipolar disorder) were the most frequently treated mental health disorders, followed by psychosocial problems (18.3%), anxiety disorders (14.8%; including

TABLE I. Sociodemographics of MHS Beneficiaries Receiving Purchased Behavioral Health Care, 2000–2014.

Sociodemographic Characteristics	Mental Health Treatment (MDC 19), <i>N</i> = 14,145 (78.8% of Total)	Substance Use Treatment (MDC 20), <i>N</i> = 2904 (16.2% of Total)	Mental Health and Substance Use Treatment (MDC 19 & MDC 20), ^a <i>N</i> = 894 (5.0% of Total)	Behavioral Health Treatment Total, <i>N</i> = 17,943 ^b
Gender				
Male	5,479 (38.7)	1,727 (59.5)	379 (42.4)	7,585 (42.3)
Female	8,666 (61.3)	1,177 (40.5)	515 (57.6)	10,358 (57.7)
Race/ethnicity				
White	10,458 (73.9)	2,205 (75.9)	721 (80.7)	13,384 (74.6)
Black	2,863 (20.2)	545 (18.8)	139 (15.6)	3,547 (19.8)
Hispanic	271 (1.9)	59 (2.0)	8 (0.9)	338 (1.9)
Other ^c	553 (3.9)	95 (3.3)	26 (2.9)	674 (3.8)
Age group				
0–4	38 (0.3)	3 (0.1)	0 (0)	41 (0.2)
5–11	461 (3.3)	2 (0.1)	9 (1.0)	472 (2.6)
12–17	1,973 (14.0)	193 (6.7)	115 (12.9)	2,281 (12.7)
18–25	3,658 (25.9)	933 (32.1)	170 (19.0)	4,761 (26.5)
26–39	2,208 (15.6)	518 (17.8)	177 (19.8)	2,903 (16.2)
40–59	2,491 (17.6)	652 (22.5)	276 (30.9)	3,419 (19.1)
≥60	3,316 (23.4)	603 (20.8)	147 (16.4)	4,066 (22.7)

MDC 19 = mental health disorders/diseases as primary diagnosis. MDC 20 = alcohol/drug use or induced mental disorders as primary diagnosis.

^aPatients who were admitted with both a primary diagnosis of MDC 19 and a primary diagnosis of MDC 20 on separate visits between January 1, 2000, and December 31, 2014.

^bTotal number of unique patients seen in civilian acute care facilities in SC for purchased behavioral health care between January 1, 2000, and December 31, 2014.

^cOther = Asian, multiracial/multiethnic, Native American/Pacific Islander.

TABLE II. Purchased Mental Health Treatment for Select Mental Health Disorders Among MHS Beneficiaries, 2000–2014.

Characteristics	Purchased Mental Health Treatment								
	Adjustment Disorder	Anxiety Disorder	Mood Disorder	Bipolar Disorder	Schizophrenia	PTSD	Psychosis	Psychosocial Problems ^{a,b}	Suicidal Ideation ^b
Patients ^c	1,378 (7.7)	3,242 (18.1)	6,445 (35.9)	1,523 (8.5)	464 (2.6)	283 (1.6)	1,253 (7.0)	3,867 (21.6)	2,151 (12.0)
Mental health visits ^d	1,532 (5.3)	3,929 (13.6)	9,258 (32.1)	2,641 (9.2)	1,309 (4.5)	353 (1.2)	1,573 (5.5)	5,289 (18.3)	2,957 (10.4)
ED visits	725 (47.3)	3,639 (92.6)	3,429 (37.0)	698 (26.4)	565 (43.2)	141 (39.9)	989 (62.9)	2,219 (42.0)	1,096 (37.1)
IP	807 (52.7)	290 (7.4)	5,829 (63.0)	1,943 (73.6)	744 (56.8)	212 (60.1)	584 (37.1)	3,070 (58.0)	1,861 (62.9)
Hospital bed-days ^e (m, sd)	6.0 (5.5)	5.4 (4.7)	7.9 (12.1)	9.3 (18.2)	18.4 (44.6)	8.0 (8.4)	10.8 (25.7)	8.9 (14.5)	8.2 (5.7)
≤7 d	645 (79.9)	230 (79.3)	3,769 (64.7)	1,071 (55.1)	2,71 (36.4)	140 (66.0)	274 (46.9)	1,744 (56.8)	1,083 (58.2)
8–14 d	134 (16.6)	49 (16.9)	1,641 (28.2)	659 (33.9)	239 (32.1)	55 (25.9)	203 (34.8)	1,010 (32.9)	632 (34.0)
≥15 d	28 (3.5)	11 (3.8)	419 (7.2)	213 (11.0)	234 (31.5)	17 (8.0)	107 (18.3)	316 (10.3)	146 (7.9)

^aPsychosocial problems = problems defined by V-codes related to relationships, family, maltreatment, life circumstances, and substance abuse counseling.

^bBased on a diagnosis in the primary or secondary positions.

^cNumber and percent of total patients with select mental health disorders.

^d28,841 total visits for mental health disorders, including IP and ED visits in any position on a medical claim for psychosocial problems and suicidal ideation.

^eExcludes all ED visits.

PTSD), and suicidal ideation (10.3%). Bipolar (73.6%) and other mood (63.0%) disorders, suicidal ideation (62.9%), PTSD (60.1%), psychosocial problems (58.0%), schizophrenia (56.8%), and adjustment disorders (52.7%) were most frequently treated during hospitalizations, whereas anxiety disorders (92.6%; excluding PTSD) and psychosis (62.9%) were most often treated in the ED. Hospitalizations for mental health disorders were often for 7 d or less. Of all select mental health disorders, schizophrenia (18.4 d, *sd* = 44.6,

psychosis (10.8 d, *sd* = 25.7), and bipolar disorder (9.3 d, *sd* = 18.2) had the highest mean bed-days. Total mean bed-days for mental health hospitalizations from 2000 to 2014 was 9.7 d (*sd* = 70.7). Figure 1 displays prevalence of mental health visits for select mental health disorders from 2000 to 2014.

Table 3 presents purchased substance use treatment (SUT) for select SUDs by prevalence of total unique patients, visit type, and hospital bed-days. Tobacco use

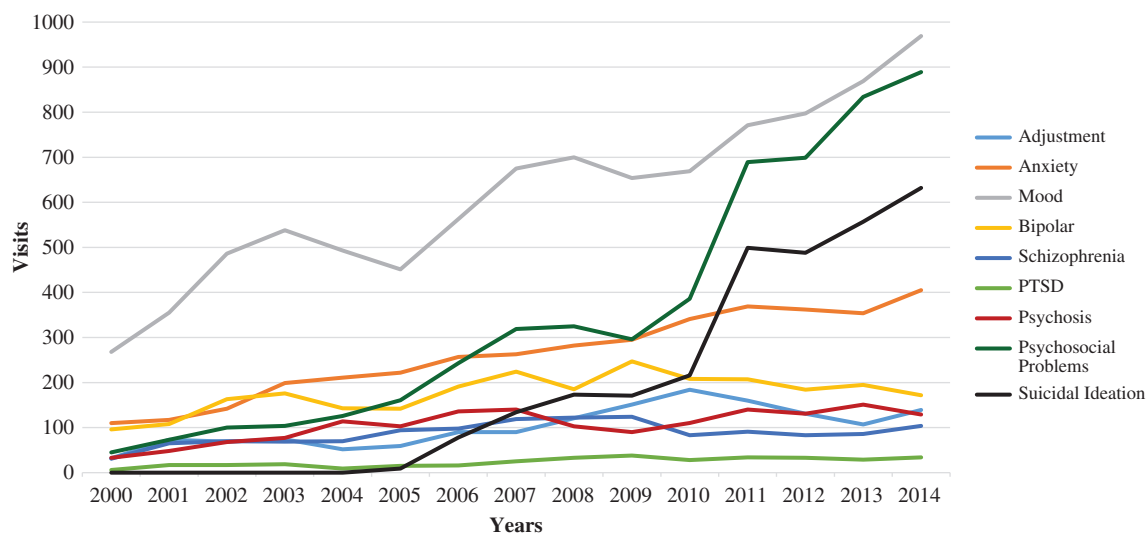


FIGURE 1. Purchased mental health treatment for select mental health disorders by MHS beneficiaries in civilian acute care facilities, 2000–2014.

TABLE III. Purchased SUT for Select SUDs Among MHS, 2000–2014.

Characteristics	Purchased SUT						
	Alcohol Use Disorder	Tobacco Use Disorder ^a	Opioid or Comorbid Opioid Dependence ^b	Comorbid Drug Dependence ^c	Nondependent Cannabis Abuse	Nondependent Cocaine Abuse	Nondependent Mixed/Unspecified Drug Abuse ^d
Patients ^e	2,195 (12.2)	2,386 (13.3)	197 (1.1)	77 (0.4)	84 (0.5)	108 (0.6)	297 (1.7)
Substance use visits ^f	2,913 (36.9)	3,301 (41.8)	234 (3)	83 (1)	88 (1.1)	148 (1.9)	340 (4.3%)
ED visits	1,972 (67.7)	1,983 (60.1)	48 (20.5)	5 (6.0)	72 (81.8)	131 (88.5)	305 (89.7)
IP	941 (32.2)	1,318 (39.9)	186 (79.5)	78 (94.0)	16 (18.2)	17 (11.5)	35 (10.3)
Hospital bed-days ^g (m, sd)	7.1 (8.6)	7.1 (5.4)	8.0 (6.5)	7.9 (5.1)	25.1 (39.4)	9.0 (14.9)	10.3 (21.9)
≤7 d	702 (74.6)	889 (67.5)	123 (66.1)	48 (61.5)	9 (56.3)	14 (82.4)	25 (71.4)
8–14 d	164 (17.4)	314 (23.8)	44 (23.7)	26 (33.3)	1 (6.3)	1 (5.9)	7 (20.0)
≥15 d	75 (8.0)	115 (8.7)	19 (10.2)	4 (5.1)	6 (37.5)	2 (11.8)	3 (8.6)

^aBased on a diagnosis in the primary or secondary positions.

^bOpioid-type dependence or combinations of opioid-type dependence with other drugs.

^cCombinations of drug dependence excluding opioid type.

^dNondependent mixed or unspecified drug abuse.

^eNumber and percent of total patients with select SUDs.

^f7,897 total visits for SUDs, including IP and ED visits in any position on a medical claim for tobacco use disorder (all visits not shown in this table).

^gExcludes all ED visits.

(41.8%) and AUDs (36.9%) were the most frequently treated SUDs. Comorbid drug dependence (94.0%); sedative, hypnotic, or anxiolytic dependence (85.7%); opioid/combination opioid dependence (79.5%); cannabis dependence (69.7%); and cocaine dependence (61.5%) were most frequently treated during hospitalizations, whereas nondependent mixed/unspecified drug abuse (89.7%), nondependent cocaine abuse (88.5%), nondependent cannabis abuse (81.8%), AUDs (67.7%), and tobacco use disorder (60.1%) were most frequently treated in the ED. All SUD hospitalizations, except those for cannabis dependence, were often 7 d or less. Of all select SUDs, nondependent cannabis abuse (25.1 d, *sd* = 39.4), nondependent mixed/unspecified drug abuse (10.3 d, *sd* = 21.9), and nondependent cocaine abuse (9.0 d, *sd* = 14.9) had the highest mean bed-

days for SUD hospitalizations from 2000 to 2014 was 16.2 d (*sd* = 410.9). Figure 2 displays prevalence of SUD visits for select SUDs from 2000 to 2014.

Table 4 displays GEE models of purchased mental health treatment for select mental health disorders. Mental health visits for all select mental health disorders, except schizophrenia and psychosis, increased significantly from 2000 to 2014. Females had increased odds of being treated for anxiety (Adjusted odd ratio [AOR] = 2.13 [95% CI: 1.95, 2.33]), bipolar (AOR = 1.59 [95% CI: 1.40, 1.80]), and mood (AOR = 1.42 [95% CI: 1.34, 1.52]) disorders compared with males, but had reduced odds of being treated for adjustment disorder, schizophrenia, PTSD, psychosis, and psychosocial problems. Compared with Whites, racial/ethnic minorities had increased odds of being treated for adjustment disorder.

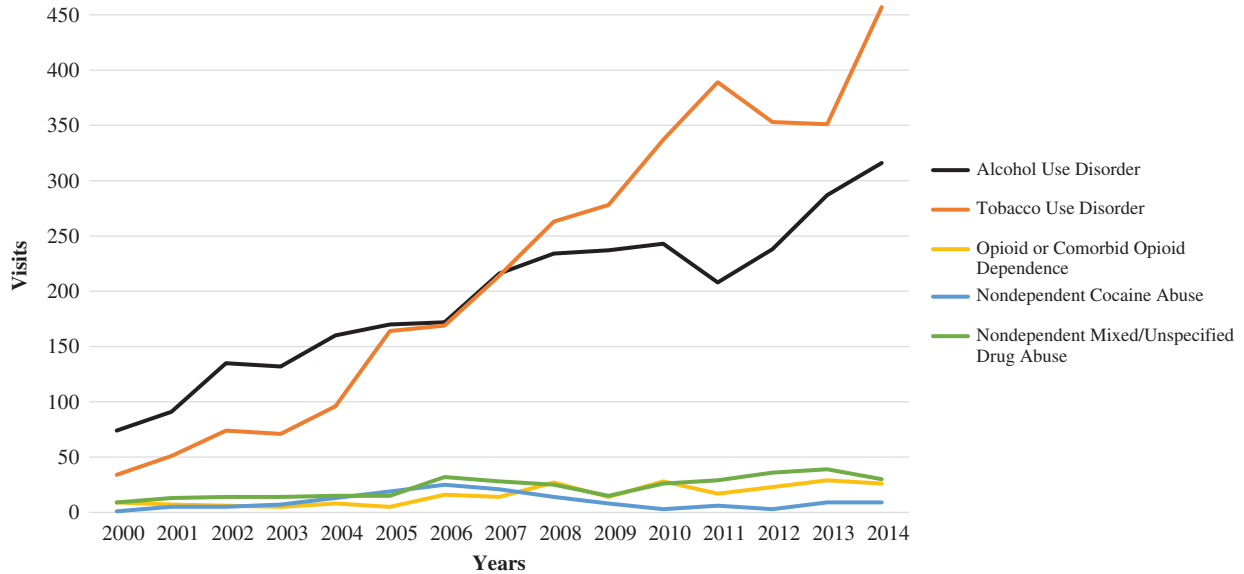


FIGURE 2. Purchased SUT for select SUDs by MHS beneficiaries in civilian acute care facilities, 2000–2014.

Blacks and other minorities (excluding Hispanics) had increased odds of being treated for PTSD (AOR = 1.36 [95% CI: 1.02, 1.82] and AOR = 1.72 [95% CI: 1.06, 2.79], respectively) and schizophrenia (AOR = 4.43 [95% CI: 3.00, 6.54] and AOR = 4.11 [95% CI: 2.01, 8.06], respectively) compared with Whites. Blacks also had increased odds of being treated for psychosis (AOR = 1.46 [95% CI: 1.23, 1.73]), but reduced odds of being treated for mood disorders and suicidal ideation compared with Whites.

Compared with those age 60 and older, all MHS beneficiaries under age 60 had increased odds of being treated for adjustment, mood, bipolar, PTSD, psychosocial problems, and suicidal ideation, but reduced odds of being treated for psychosis. Young adults (ages 18–25) had significantly higher odds of being treated for adjustment disorder (AOR = 4.19 [95% CI: 3.40, 5.15]), and MHS beneficiaries ages 12–59 had more than three (ages 26–59) or four (ages 12–25) times the odds of being treated for suicidal ideation compared with those age 60 and older. MHS beneficiaries ages 12–59 also had increased odds of being treated for PTSD compared with those age 60 and older. Young children (ages 5–11) had increased odds of being treated for adjustment disorder (AOR = 2.24 [95% CI: 1.54, 3.26]) and suicidal ideation (AOR = 1.74 [95% CI: 1.20, 2.52]) compared with adults age 60 yr and older. Compared with hospitalizations, ED visits were associated with increased odds of being treated for anxiety disorders (excluding PTSD; AOR = 9.14 [95% CI: 8.26, 10.12]) and psychosis (AOR = 1.38 [95% CI: 1.20, 1.58]).

Table 5 displays GEE models of purchased SUT for select SUDs. SUD visits for tobacco use disorder, opioid/combination opioid dependence, and nondependent cocaine abuse increased significantly from 2000 to 2014. All MHS beneficiaries under age 60 were more likely to be treated any

SUD compared with those age 60 and older. Compared with men, females had increased odds of being treated for opioid/combination opioid dependence (AOR = 1.48 [95% CI: 1.06, 2.08]), but reduced odds of being treated for AUDs, tobacco use disorder, and nondependent mixed/unspecified drug abuse. Compared with Whites, Blacks had more than twice (AOR = 2.14 [95% CI: 1.39, 3.30]) the odds of being treated for nondependent cocaine abuse, but reduced odds of being treated for AUDs, tobacco use disorder, opioid/combination opioid dependence, and nondependent mixed/unspecified drug abuse. Adult MHS beneficiaries under age 60 had significantly greater odds of being treated for AUDs, tobacco use disorder, opioid/combination opioid dependence, nondependent cocaine abuse, and nondependent mixed/unspecified drug abuse compared with those age 60 and older. Adolescents (ages 12–17) had increased odds of being treated for nondependent cocaine (AOR = 3.74 [95% CI: 1.13, 12.34]) and nondependent mixed/unspecified drug abuse (AOR = 8.39 [95% CI: 4.92, 14.33]) compared with adults aged 60 yr and older. Compared with hospitalizations, ED visits were associated with increased odds of being treated for AUDs (AOR = 1.67 [95% CI: 1.53, 1.83]), tobacco use disorders (AOR = 1.16 [95% CI: 1.06, 1.26]), nondependent cocaine abuse (AOR = 5.47 [95% CI: 3.28, 9.12]), and nondependent mixed/unspecified drug abuse (AOR = 7.30 [95% CI: 5.11, 10.44]).

DISCUSSION AND CONCLUSIONS

Over the past 15 yr, purchased care visits increased significantly for PTSD, adjustment, anxiety, mood, bipolar, tobacco use, opioid/combination opioid dependence, nondependent cocaine abuse, psychosocial problems, and suicidal ideation among MHS beneficiaries seen in acute care facilities in SC.

TABLE IV. GEE Predicting Purchased Mental Health Treatment for Select Mental Health Disorders, 2000–2014.

Characteristics	Purchased Mental Health Treatment for Select Mental Health Disorders OR (95% CI) OR (95% CI)								
	Adjustment Disorder	Anxiety Disorder ^d	Mood Disorder	Bipolar Disorder	Schizophrenia	PTSD	Psychosis	Psychosocial Problems ^{b,c}	Suicidal Ideation ^c
Gender (ref = male)									
Female	0.75 (0.67, 0.84)***	2.13 (1.95, 2.33)***	1.42 (1.34, 1.52)***	1.59 (1.40, 1.80)***	0.59 (0.42, 0.83)**	0.52 (0.40, 0.67)***	0.82 (0.73, 0.93)**	0.91 (0.85, 0.98)*	0.97 (0.88, 1.07)
Race/ethnicity (ref = White)									
Black	1.16 (1.01, 1.33)*	0.95 (0.86, 1.05)	0.74 (0.69, 0.80)***	0.69 (0.59, 0.82)***	4.43 (3.00, 6.54)***	1.36 (1.02, 1.82)*	1.42 (1.22, 1.64)***	1.01 (0.92, 1.11)	0.76 (0.66, 0.86)***
Hispanic	1.82 (1.30, 2.53)**	0.92 (0.68, 1.24)	1.17 (0.96, 1.44)	0.63 (0.40, 0.98)*	1.31 (0.68, 2.53)	0.84 (0.35, 2.00)	1.09 (0.67, 1.77)	1.07 (0.82, 1.39)	1.12 (0.81, 1.56)
Other ^d	1.42 (1.11, 1.82)*	0.96 (0.77, 1.19)	1.05 (0.91, 1.12)	0.91 (0.69, 1.22)	4.02 (2.01, 8.06)***	1.72 (1.06, 2.79)*	0.93 (0.66, 1.32)	1.17 (0.99, 1.39)	1.15 (0.92, 1.44)
Age group (ref = 60+)									
5–11	2.24 (1.54, 3.26)***	0.45 (0.31, 0.64)***	1.11 (0.90, 1.37)	1.43 (0.85, 2.41)	0.03 (0.01, 0.14)***	0.75 (0.24, 2.41)	0.25 (0.16, 0.39)***	0.84 (0.67, 1.06)	1.74 (1.20, 2.52)**
12–17	2.43 (1.92, 3.09)***	0.34 (0.28, 0.40)***	2.94 (2.65, 3.27)***	1.61 (1.27, 2.05)***	0.17 (0.09, 0.34)***	1.73 (1.01, 2.95)*	0.17 (0.13, 0.22)***	1.31 (1.16, 1.47)***	4.92 (4.10, 5.92)***
18–25	4.19 (3.40, 5.15)***	0.82 (0.74, 0.92)**	2.60 (2.37, 2.85)***	1.68 (1.38, 2.03)***	0.52 (0.29, 0.93)*	2.09 (1.31, 3.32)**	0.23 (0.19, 0.28)***	1.09 (0.99, 1.21)	4.19 (3.54, 4.95)***
26–39	2.90 (2.30, 3.65)***	1.08 (0.96, 1.21)	2.08 (1.88, 2.31)***	1.84 (1.50, 2.26)***	0.79 (0.43, 1.48)	3.96 (2.51, 6.26)***	0.24 (0.19, 0.30)***	0.93 (0.82, 1.05)	3.29 (2.73, 3.96)***
40–59	1.80 (1.42, 2.27)***	0.99 (0.88, 1.11)	1.76 (1.60, 1.94)***	1.81 (1.49, 2.21)***	1.38 (0.78, 2.42)	3.35 (2.14, 5.24)***	0.40 (0.34, 0.48)***	1.00 (0.89, 1.12)	3.16 (2.64, 3.78)***
Visit type (ref = IP)									
ED visits	0.66 (0.60, 0.73)***	9.14 (8.26, 10.12)***	0.37 (0.35, 0.39)***	0.31 (0.27, 0.35)***	0.48 (0.38, 0.61)***	0.47 (0.38, 0.58)***	1.38 (1.20, 1.58)***	0.48 (0.45, 0.52)***	0.40 (0.36, 0.44)***
Time (d)	1.0001 (1.0000, 1.0001)**	1.0000 (1.0000, 1.0001)**	1.0000 (1.0000, 1.0001)**	0.9999 (0.9999, 1.0000)**	0.9999 (0.9999, 1.0000)	1.0001 (1.0000, 1.0002)*	1.0000 (0.9999, 1.0000)	1.0005 (1.0005, 1.0005)***	1.0009 (1.0009, 1.0009)***

Ref = referent group, IP = inpatient hospitalization, ED = emergency department.

^aExcluding PTSD.

^bPsychosocial problems = problems defined by V-codes related to relationships, family, maltreatment, life circumstances, and substance abuse counseling.

^cBased on a diagnosis in the primary or secondary positions.

^dOther = Asian, multiracial/multiethnic, Native American/Pacific Islander.

*** $p < 0.0001$; ** $p < 0.005$; * $p < 0.05$.

TABLE V. GEE Predicting Purchased SUT for Select SUDs, 2000–2014.

Characteristics	Purchased SUT for Select SUDs OR (95% CI)					
	Alcohol Use Disorder	Tobacco Use Disorder ^a	Opioid/Combination Opioid Dependence ^b	Nondependent Cocaine Abuse	Nondependent Mixed/Unspecified Drug Abuse ^c	SUD
Gender (ref = male)						
Female	0.39 (0.36, 0.43)***	0.77 (0.70, 0.84)***	1.48 (1.06, 2.08)*	0.66 (0.43, 1.02)	0.74 (0.58, 0.93)*	0.80 (0.67, 0.97)*
Race/ethnicity (ref = White)						
Black	0.88 (0.79, 0.99)*	0.73 (0.65, 0.82)***	0.44 (0.27, 0.73)**	2.14 (1.39, 3.30)**	0.58 (0.42, 0.81)**	1.00 (0.79, 1.26)
Hispanic	1.28 (0.95, 1.73)	0.60 (0.41, 0.88)*	0.61 (0.19, 1.94)	0.78 (0.13, 4.79)	0.47 (0.15, 1.44)	0.37 (0.14, 0.98)*
Other ^d	1.04 (0.84, 1.28)	0.62 (0.48, 0.82)**	0.55 (0.23, 1.35)	0.56 (0.10, 3.00)	0.22 (0.07, 0.72)*	1.03 (0.68, 1.55)
Age group (ref = 60+)						
12–17	0.64 (0.53, 0.78)***	0.75 (0.61, 0.91)**	0.36 (0.12, 1.08)	3.74 (1.13, 12.34)*	8.39 (4.92, 14.33)***	3.69 (2.35, 5.80)***
18–25	1.78 (1.55, 2.05)***	1.81 (1.58, 2.08)***	3.83 (2.18, 6.72)***	3.78 (1.35, 10.56)*	5.84 (3.50, 9.72)***	4.12 (2.72, 6.24)***
26–39	1.69 (1.45, 1.98)***	2.03 (1.76, 2.36)***	6.14 (3.51, 10.73)***	6.01 (2.15, 16.79)**	5.14 (2.99, 8.83)***	5.67 (3.70, 8.68)***
40–59	1.83 (1.58, 2.13)***	2.18 (1.89, 2.51)***	4.65 (2.66, 8.13)***	7.63 (2.71, 21.48)***	3.25 (1.88, 5.64)***	4.88 (3.21, 7.42)***
Visit type (ref = IP)						
ED visits	1.52 (1.41, 1.63)***	1.12 (1.03, 1.22)*	0.19 (0.13, 0.26)***	6.36 (3.01, 13.40)***	7.53 (5.11, 11.09)***	0.38 (0.32, 0.46)***
Time (d)	1.0000 (1.0000, 1.0001)	1.0003 (1.0003, 1.0003)*	1.0002 (1.0001, 1.0003)**	0.9998 (0.9997, 1.0000)**	1.0001 (1.0000, 1.0001)	1.0001 (1.0000, 1.0001)

Ref = referent group, IP = inpatient hospitalization, ED = emergency department.
^aBased on a diagnosis in the primary or secondary positions.
^bOpioid-type dependence or combinations of opioid-type dependence with other drug.
^cOther = Asian, multiracial/multiethnic, Native American/Pacific Islander.
 *** $p < 0.0001$; ** $p < 0.005$; * $p < 0.05$.

The majority of purchased behavioral health care was received for mental health disorders (78.8%) and care was most often received in EDs (56%). Most commonly treated diagnoses included mood, tobacco use, and AUDs. ED visits were associated with being treated for anxiety (excluding PTSD), tobacco use, AUDs, psychosis, nondependent mixed/unspecified drug, and cocaine abuse. Young children (ages 5–11), adolescents (ages 12–17), and adults under age 60 were more likely to be treated for adjustment disorder and suicidal ideation compared with older MHS beneficiaries. Adolescents and adults under age 60 were also more likely to be treated for mood, bipolar, PTSD, psychosocial problems, nondependent cocaine, and mixed/unspecified drug abuse compared with adults age 60 and older. Study findings build upon MHS purchased care evidence by analyzing medical claims from civilian acute care facilities in SC – a state with large military and veteran populations.

Acute behavioral health care in civilian medical facilities for select mental health and SUDs, psychosocial problems, and suicidal ideation increased significantly from 2000 to 2014. Receipt of acute behavioral health care suggests that MHS beneficiaries received care due to an exacerbation or sudden onset of psychiatric symptoms and/or a danger to self or others. For the majority of this study’s observation period (2000–2014), Afghanistan and Iraq wars were ongoing and many service members were going on multiple combat deployments (i.e., October 7, 2001, to December 28, 2014, for Operation Enduring Freedom [OEF] in Afghanistan and March 19, 2003, to August 31, 2010, for Operation Iraqi Freedom [OIF] in Iraq).²⁶ Thus, this study provides evidence regarding the increase in acute behavioral health care received by military service members, veterans, and their families during these wars.

During OEF/OIF, military children, spouses, and service members experienced behavioral and emotional difficulties, anxiety, mood, suicidal ideation, and substance use problems^{19,27,28,29–31} that increased need and demand for behavioral health care.^{17,32} In this study, adolescents (12–17) and adults under age 60 were more likely to be treated for suicidal ideation and nondependent drug abuse than older adults, which is consistent with previous research, indicating military adolescents and service members experienced high rates of suicidal behaviors and unhealthy substance use during these wars.^{33,29,34} Additionally, adult MHS beneficiaries under age 60 were more likely to be treated for opioid/combination opioid dependence compared with those age 60 and older. Recently, opioid abuse and dependence among military service members and veterans have increasingly become a concern based on increased prescribing of prescription opioids^{35,36} and self-reported use.^{37,38} Prescription drug use has increased since September 11, 2001, among young adult service members,³⁹ with 26.4% of active duty service members receiving at least one opioid prescription in FY2010.⁴⁰ Future research should examine military and deployment factors associated with diagnosis and treatment for opioid dependence and strategies for early identification and treatment of opioid abuse and suicidal behaviors among MHS beneficiaries.

A significant proportion (22.7%) of MHS beneficiaries in this study were age 60 and older and possibly veterans of previous wars. The extensive media coverage of OEF/OIF may have resulted in the re-emergence or new onset of behavioral health symptoms among older veterans. Additionally, the development and implementation of new behavioral health programs^{41,42} may have made behavioral health care more accessible and seem less stigmatizing to older veterans given the influx of OEF/OIF veterans into care. Thus, more service members and war veterans may be seeking behavioral health care. Limited MHS infrastructure and behavioral health providers to support the increased need for behavioral health care in both the MHS and the VHA may have resulted in older MHS beneficiaries seeking care in civilian facilities.^{1,21,43}

From 2000 to 2014, MHS beneficiaries received most purchased behavioral health care in EDs for anxiety, psychosis, tobacco use, AUDs, nondependent cocaine, and mixed/unspecified drug abuse. MHS purchased care data indicate that a significant proportion of ED services is received in civilian EDs compared with MTFs (149,000 vs. 28,000).¹ Recently, MHS beneficiaries' demand for health care has exceeded MTF's capacity resulting in two to five times more outpatient, ED, and inpatient visits being purchased care.¹ Structural and cultural barriers to outpatient behavioral health care in the MHS may also contribute to the high volume of behavioral health care in civilian EDs. MHS patients and providers have reported concerns about provider shortages in MTFs, clinic hours only during duty hours, limited confidentiality because service members need their commander's permission to attend medical appointments during duty hours, and military leadership's negative perceptions about behavioral health care.⁴³ Thus, military service members and families may receive behavioral health care in civilian facilities to avoid stigma and the potential negative career impact. MHS beneficiaries may also receive behavioral health care in civilian facilities to avoid having behavioral health problems documented in their MHS medical record.

Mood, tobacco use, and AUDs were the most commonly treated behavioral health conditions among MHS beneficiaries receiving purchased behavioral health care in acute care facilities from 2000 to 2014, which is consistent with population-level surveillance data on high rates of service utilization in the MHS for these conditions.^{16,44–47} Alcohol and tobacco use are highly prevalent in military and veteran populations,^{48–50} and depression was the second most common diagnosis among OEF/OIF veterans who presented for VA care for the first time between 2001 and 2010.⁵¹ Mood disorders are also associated with unhealthy alcohol use and onset of AUDs in military and veteran populations.^{50,52–54} Alcohol and tobacco use may be considered a part of military culture given their use to cope with military stressors and lower cost on military installations.^{55,56} Although cigarette smoking has declined in the U.S. population,⁵⁷ cigarette smoking among military service members has increased since September 11, 2001, and is higher than in the general population (41.8% vs. 28%).^{57,58} Increased tobacco use, initiation, and dual cigarette and smokeless

tobacco use have also been associated with military deployments.⁵⁹ The longtime acceptance of alcohol and tobacco use in military culture to cope with military and wartime stressors and recent military health promotion initiatives targeting unhealthy drinking and tobacco control may in part account for high-treatment prevalence among MHS beneficiaries over the past 15 yr.⁵⁶ It could also be an artifact of the MHS and VHA's assessment and referral to alcohol abuse and tobacco cessation programs.⁵⁸ Future research should examine individual and organizational factors associated with tobacco cessation and AUD treatment initiation among MHS beneficiaries.

Women MHS beneficiaries received most behavioral health visits for mental health disorders (61.3%) and both mental health and SUDs (57.6%), and were more likely to be treated for anxiety, mood, and bipolar disorders than men. Mood and anxiety disorders are prevalent among women who are service members, veterans, and military spouses.^{53,60,61} Recent evidence found that 18.1% of active duty Army women who returned from Iraq and Afghanistan deployments in FY2010 ($n = 14,633$) received mental health treatment before deployment and 26.2% had a mental diagnosis documented in their MHS record.⁵³ Deployed enlisted Army women with combat exposures also have increased odds of behavioral health problems.⁵³ Military spouses had increased purchased care service utilization, specialty physician visits, and psychotropic medication use during the current wars.¹⁷ Our finding that men were more likely to receive SUT compared with women is consistent with previous findings that active duty Army men were more likely to have a SUD and receive SUT than Army women.⁶²

Study strengths include the use of longitudinal data from a clinical data warehouse maintained by a state with large military and veteran populations that includes medical claims from all health care systems in the state. Although an objective data source, limitations of medical claims data include coding errors, differential coding procedures within and between medical facilities, and a limited number of covariates. In these data, we were also unable to differentiate between service members, dependents, and veterans, or whether MHS beneficiaries were self-referred or referred by a commander or MHS provider for behavioral health care. It is also unknown if the volume of behavioral health visits in civilian acute care facilities is an artifact of the "for-profit" model of TRICARE-approved facilities, which provides little incentive to reduce the volume of behavioral health services in the MHS purchased care component.

Identifying patterns of purchased behavioral health care by MHS beneficiaries assists in planning referrals to outpatient behavioral health clinics and patient-centered care coordination between civilian, VHA, and MTFs. MHS beneficiaries diagnosed with PTSD and/or depression often have other physical and psychological problems and typically have a median of 41 and 30 visits and 14 and 12 providers annually, respectively.⁶³ Patient-centered care decreases health care utilization and costs by maximizing health system resources, using technology to

facilitate patient self-care and disease management, and ensuring timely access to health care for better patient outcomes.^{64,65} Thus, receipt of behavioral health care in civilian EDs by MHS beneficiaries raises questions about patient-centered care coordination between civilian and MTFs and cost effectiveness. MHS purchased care costs increased significantly since 2003,¹ and perhaps better discharge planning and coordination between civilian and MTFs will reduce costly ED visits and hospitalizations for chronic behavioral health conditions that can be efficiently and effectively managed in outpatient settings. Training civilian behavioral health providers to treat military and veterans populations, and about MHS and VHA resources may also facilitate this effort.^{66,67} Future research should examine MHS purchased care costs for behavioral health care and strategies to reduce costly acute care services in civilian facilities.

Given the influx of MHS beneficiaries to the VHA, recent transformation of Moncrief Army Community Hospital at Fort Jackson, SC,⁶⁸ to an outpatient clinic, and implementation of VA Choice,²² findings have implications for access to care and care coordination between civilian, VHA, and MTFs in SC. On June 15, 2016, inpatient surgical and behavioral health care ended at Moncrief Army Community Hospital. Thus, MHS beneficiaries receiving care at Moncrief Army Community Hospital will most likely be hospitalized in civilian facilities when needed. VA Choice²² allows veterans access to health care closer to home if timely appointments are unavailable at a VHA facility. Both policies will result in an increased volume of MHS and VHA patients in civilian medical facilities in SC. VA Choice is a feasible option to increase access to care if civilian providers agree to accept fixed compensation, but current program trends indicate that many providers are unwilling to participate in VA Choice due to low reimbursement. Thus, an unintended consequence may be delayed access to care for MHS and VHA patients and continued use of ED services while awaiting primary care appointments. Future research should examine the impact of these policies on behavioral health care received by MHS beneficiaries in civilian facilities.

From 2000 to 2014, purchased behavioral health care received by MHS beneficiaries in acute care facilities in SC increased significantly. Behavioral health conditions prevalent in military and veteran populations, such as mood and AUDs, PTSD, and prescription drug abuse, are effectively treated with a variety of evidence-based approaches including inpatient, intensive outpatient, and medication management that require an interdisciplinary approach to ensure minimally appropriate care. As MHS beneficiaries receive more acute and inpatient care in civilian facilities, care coordination between civilian, VHA, and MHS providers is essential to ensure quality, patient-centered care for chronic behavioral health conditions.

SUPPLEMENTARY DATA

Supplementary data are available at *Military Medicine* online.

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